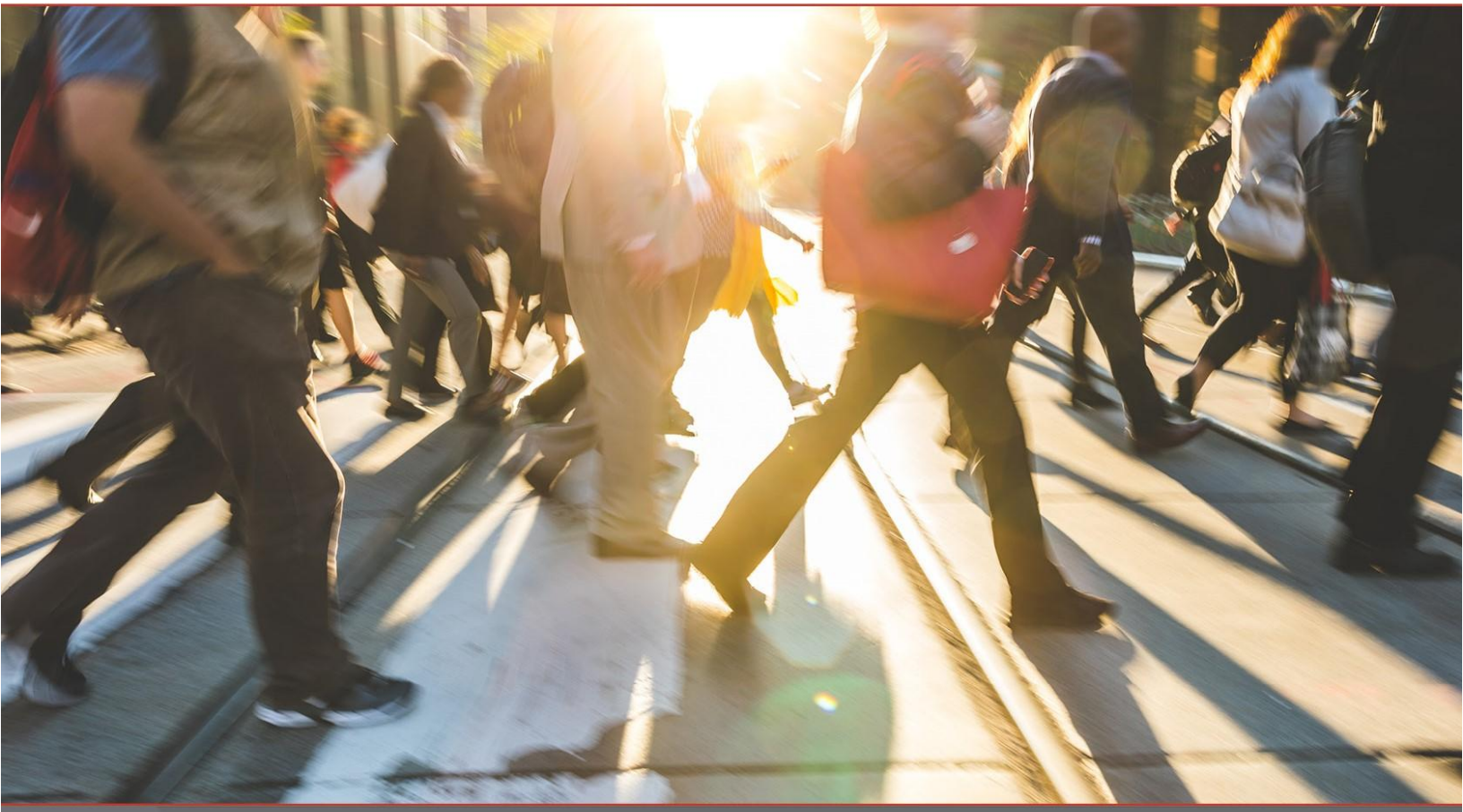
420-468 SOUTH SERVICE ROAD EAST
PROPOSED MIXED-USE DEVELOPMENT

Urban Transportation Considerations
Town of Oakville



Prepared For: South Service Holding Corp.

October 2026

BA Group

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1.0 INTRODUCTION

BA Group has been retained by South Service Holding Corp. (the "**Applicant**") to provide transportation consulting services for a Draft Plan of Subdivision application to permit the redevelopment of 420-468 South Service Road East, in the Town of Oakville (the "**Site**"). The Site location is illustrated in **Figure 1.**

1.1 Existing Site

The Site is located in Midtown Oakville, on the east side of Trafalgar Road, between the Queen Elizabeth Way (QEW) / Highway 403 corridor (referred to herein as the "**QEW**") and the Metrolinx / CN rail corridor, and west of the existing Royal Windsor interchange with the QEW.

The Site is bounded by South Service Road East to the north, the Metrolinx / CN rail corridor to the south, and other industrial uses to the west and east. Vehicle access is currently provided via South Service Road to the north and Davis Road to the west. The Site has an approximate area of 11 ha (110,889 m^2), with an approximate frontage of 374 metres along South Service Road East. The Site was formerly occupied by the GE Lighting Lamp Plant, which was closed in 2010.

The Site remained vacant until earlier in 2024, when temporary land use approvals were granted for an outdoor storage use. A concept plan for the temporary outdoor storage use is provided in **Appendix A**. The outdoor storage includes the following three separate areas:

- An area dedicated to the deployment of prefabricated metal shipping containers (2.5 m wide by 6.1 m long), placed side-by-side and back-to-back to form individual outdoor storage units, forming double-sided rows;
- An area that would accommodate the outdoor storage of passenger-sized vehicles; and
- An area that would accommodate the outdoor storage of larger vehicles such as recreational vehicles (RV's), single unit trucks, personal trailers such as boats trailers or general-purpose trailers.

Access to the Site for the temporary uses is provided via three driveways:

- Two driveways along South Service Road at existing driveway locations, generally located to the west and east of the planned temporary uses.
- An emergency access driveway that is closed during normal operations, at the east end of Davis Road, where Davis Road terminates at the western Site boundary. This does not change the existing conditions on Davis Road.

There is also a small passenger vehicle parking area (15 customer parking spaces that meet the Town of Oakville's Zoning Bylaw dimensions), near the entrance via the western Site access driveway on South Service Road. All areas for the temporary uses that accommodate vehicle maneuvering will be appropriately "hardscaped" to align with the Town of Oakville Zoning Bylaw requirements. The general storage area is an existing hard-surfaced area. Access to the Site will be provided 24 hours a day via the gate-controlled points of entry.

The Site is currently surrounded by a range of uses including existing small scale industrial buildings, an existing hotel and two office buildings. The temporary uses, as noted above, include access from an existing public street system that relies upon the following:

- South Service Road East as its primary point of access to / from Trafalgar Road to the west and Royal Windsor Drive to the east;
- Connections to the QEW via Royal Windsor Drive and other public streets that surround the Ford Assembly Plant to the northeast; and
- Chartwell Road to the east that includes an at-grade crossing of the Metrolinx/CN rail corridor and connects to Cornwall Road to the south.

1.2 Background

The Site is located in Midtown Oakville which has been identified for intensification through the Midtown Oakville Growth Area Review. The Midtown Oakville Context is illustrated in **Figure 2.**

The Midtown Oakville plan includes a series of new, proposed public streets and multi-modal transportation infrastructure that connects Midtown Oakville to north of the QEW corridor, south of the rail corridor, east-west across Trafalgar Road and east to the proposed improved Royal Windsor interchange with the QEW.

An OPA application for the Site was first submitted to the Town of Oakville in November 2024 for a mixed-use master planned community. As part of that application, BA Group prepared a transportation study titled "*420-468 South Service Road East, Proposed Mixed-Use Development, Urban Transportation Considerations*" dated November 2024.

The Site Master Plan was subsequently revised in response to Town, public and other stakeholder comments, and a revised OPA and ZBA application was made to the Town in October 2025. As part of that application, BA Group prepared a report titled "*420-468 South Service Road East, Proposed Mixed-Use Development, Urban Transportation Considerations*" dated October 2025. The Town has since provided comments on the revised application.

On July 7, 2026, Town Council adopted site-specific Zoning By-law 2026-073 and Zoning By-law 2026-074 which amended the in-force Liveable Oakville Plan (OPA 83) and the in-force Town of Oakville Zoning By-law 2014-014, respectively. The site-specific bylaws permit residential and mixed uses on the Site, establish maximum heights (38 stories) and densities, establish future public road right-of-way widths, and introduce site-specific requirements on built form, massing, parkland, vehicle parking, bicycle parking and other policies.

The Site Master Plan has since been revised to respond to the requirements of the site-specific zoning bylaws as well as Town comments. A Draft Plan of Subdivision application is now being made to establish the development blocks, public street network and conceptual phasing plan. The transportation elements of the Site Master Plan generally remain the same as the October 2025 application – including the proposed public street network, block structure, open space network, site accesses, internal site circulation, and parking and loading arrangements. A key change, from a traffic impact perspective, is a reduction in maximum tower heights across the Site from 48 stories to 38 stories, which in turn decreases the total development floor area.

The revised Site Master Plan does not contain a detailed breakdown of unit counts or non-residential GFA, as the site-specific zoning bylaw does not govern the maximum number of units or GFA, but rather the maximum tower heights, built form and massing. Based on information provided by Graziani + Corazza Architects, this traffic impact assessment conservatively assumes an approximately 19.4% reduction in residential units from the October 2025 submission, i.e. from 6,945 to 5,600 units. The non-residential GFA from the October 2025 submission is assumed to remain the same, i.e. 9,118 m^2 of ground floor commercial uses.

As a result of the reduction in the number of residential units, the traffic generation of the development will decrease. This report has been updated to reflect the reduced number of residential units and to address all comments provided by the Town, Region and the Ministry Transportation Ontario (MTO).

A comparison between the October 2025 and the current development proposal is provided in **Table 1**. The proposed Site master plan is illustrated in **Figure 3.** Reduced scale architectural ground floor and parking level plans are provided in **Appendix B**.

A comparison of the October 2025 and proposed Site Master Plans is provided in **Figure 4**.

Key revisions to the master plan include:

- A reduction in maximum tower heights across the Site from 48 stories to 38 stories;
- A reduction in the number of residential units from 6,945 to 5,600;
- A refinement in the placement of towers and podiums across the development blocks; the tower locations remain generally the same;
- A refinement in the arrangement of the open spaces, while maintaining the overall open space strategy;
- A minor shift in proposed driveway locations on Davis Road to respond to the revised arrangement of buildings and open spaces; and
- Moving the existing GE building in the northwest quadrant of the Site south from the 14m MTO setback and into the Site, and introducing a circular driveway to provide emergency vehicle, pick-up/drop-off and servicing access to the building.

Other transportation elements of the Site Master Plan remain the same, including:

- The overall block structure of the Site, including four development quadrants defined by the new public road network;
- The alignment, right-of-way and functional design of the new public street network;
- The proposed site accesses onto the public street network. As discussed above, the locations of the proposed driveways on Davis Road have been slightly shifted to respond to the revised arrangement of buildings and open spaces, but the overall access arrangements remain the same;
- The internal site circulation including pedestrian circulation, pick-up/drop-off and parking access arrangements;
- The loading arrangements; and
- The vehicle and bicycle parking arrangements.

Table 1 Comparison of Development Proposal and October 2025 Submission

Land Use	October 2025 Development Proposal	Current Development Proposal	Net Change
Block 1			
Residential	2,220 units	1,800 units	**-420 units**
Retail	1,550 m²	1,550 m²	**--**
Block 2			
Residential	2,156 units	1,750 units	**-406 units**
Retail	1,550 m²	1,550 m²	**--**
Block 3			
Residential	1,305 units	1,050 units	**-255 units**
Retail	3,293 m²	3,293 m²	**--**
Block 4			
Residential	1,264 units	1,000 units	**-264 units**
Retail	2,808 m²	2,808 m²	**--**
Total Site			
Residential	**6,945 units**	**5,600 units**	**-1,345 units**
Retail	**9,118 m²**	**9,118 m²**	**--**

1.3 Proposed Site Master Plan

The proposed mixed-use development ("Development Proposal" or "Site Master Plan") includes four blocks with an assumed total of 5,600 residential units and 9,118 m² GFA of retail. The adopted breakdown of uses across each development block is summarized in **Table 2**.

Pedestrian access and circulation will be provided throughout all four development blocks, with connectivity to the surrounding street network. This ensures direct and convenient access to and from all new public streets, as well as to planned transit service on the New N-S Arterial Street and Cross Avenue that will connect to the Oakville GO Transit hub. The development blocks will also include private pedestrian linkages throughout for each residential building and non-residential retail spaces within the Site. The retail spaces will be located at-grade, along the frontage of the east-west collector street (Davis Road), through the centre of the mixed-use development. This is consistent with the uses anticipated along "Primary" and "Secondary" main streets in the Midtown area.

Cycling infrastructure is also planned for the Site, including dedicated bicycle parking rooms for long-term bicycle uses (i.e. resident and employee bike parking), with a mix of internal and external bicycle parking for short-term bicycle uses (i.e., resident visitor and non-residential visitor bicycle parking). The provision of convenient and

direct connections for cycling facilities planned within the new public streets in Midtown, will link the Site to the multi-modal transportation network being created throughout Midtown Oakville and the broader Town of Oakville.

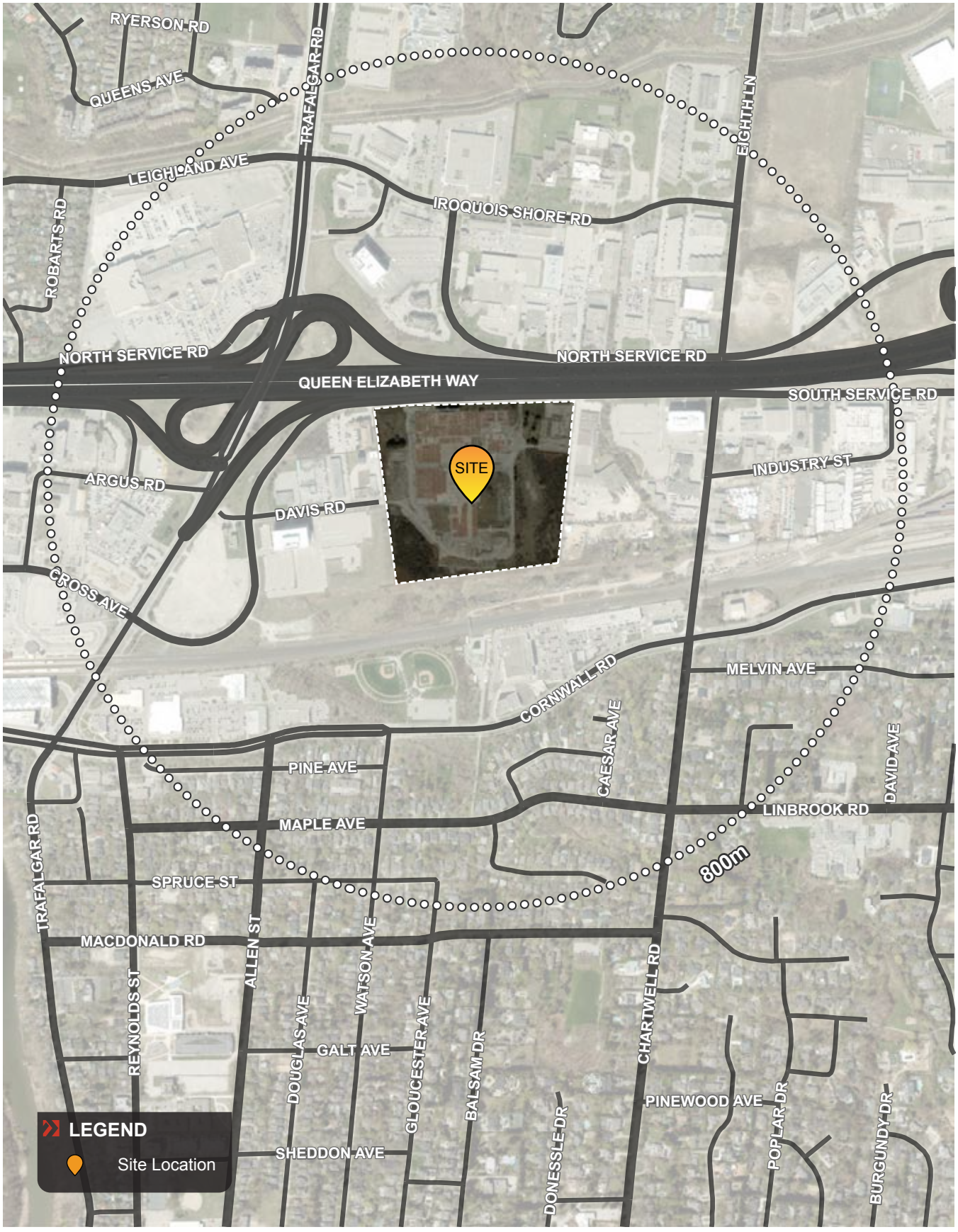
Vehicle parking will be provided within below-grade parking facilities for each residential block. A series of at-grade facilities for pick-up and drop-off, service vehicle loading areas and emergency vehicle access, will also be provided to ensure the Site will be appropriately serviced and connected to the planned public transportation systems within Midtown Oakville.

Table 2 Summary of Current Development Proposal

Land Use / Type	Block 1	Block 2	Block 3	Block 4	Total
Residential (units)	1,800	1,750	1,050	1,000	**5,600 units**
Retail (GFA)	1,503 m²	1,514 m²	3,293 m²	2,808 m²	**9,118 m²**

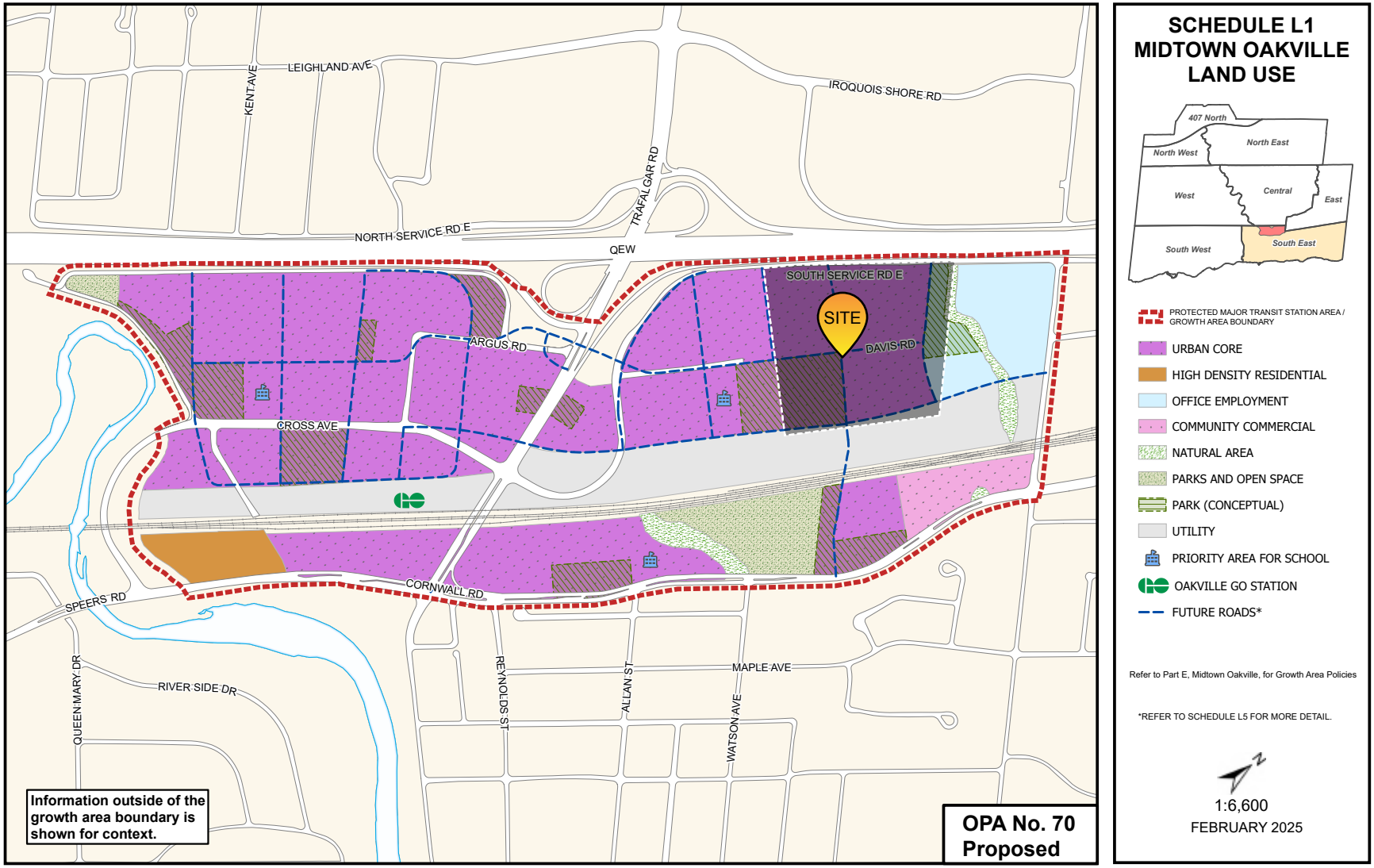
Notes:

1. Site statistics based on site plans prepared by Graziani + Corazza Architects, dated September 18, 2026.



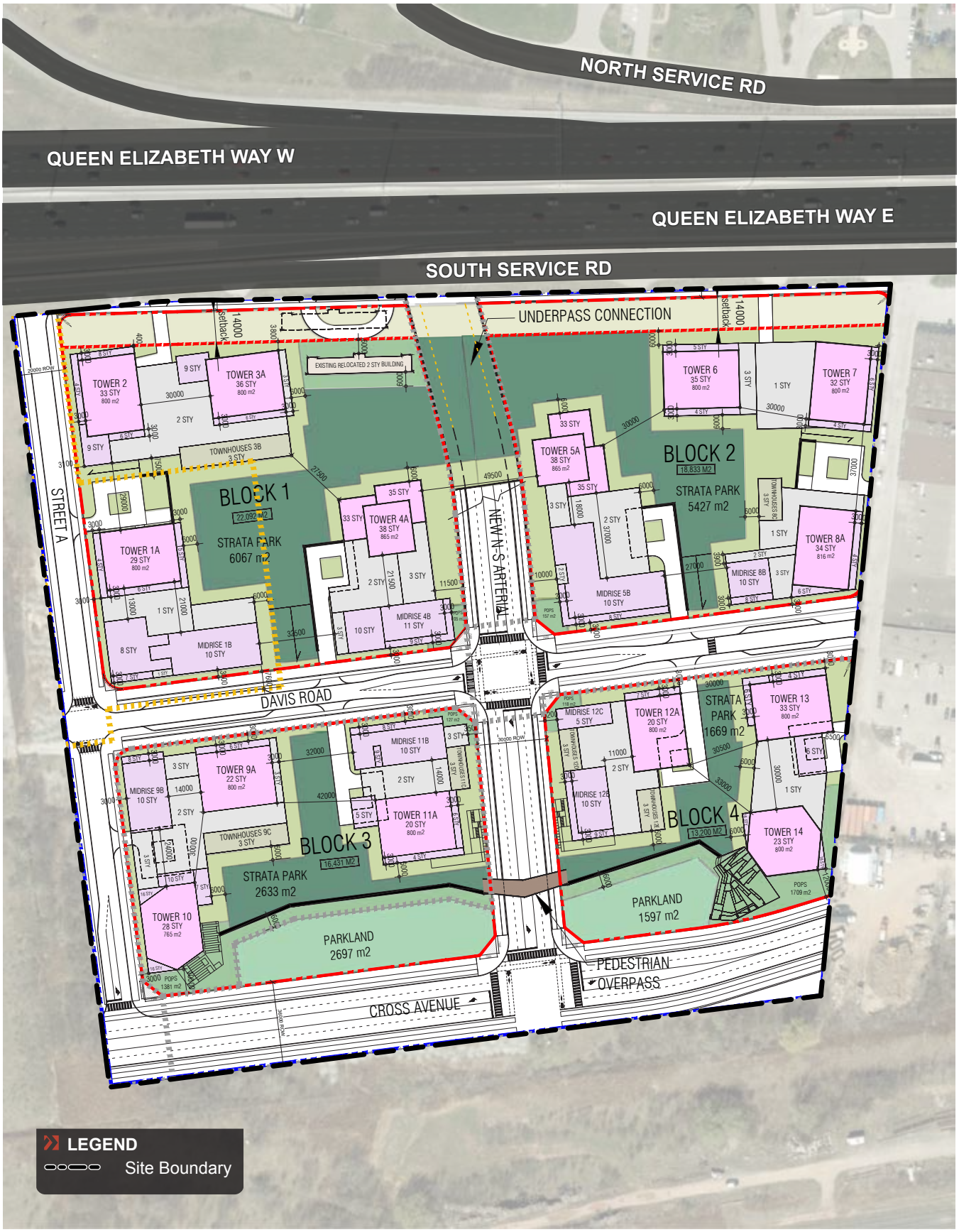
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FIGURE 1 SITE LOCATION



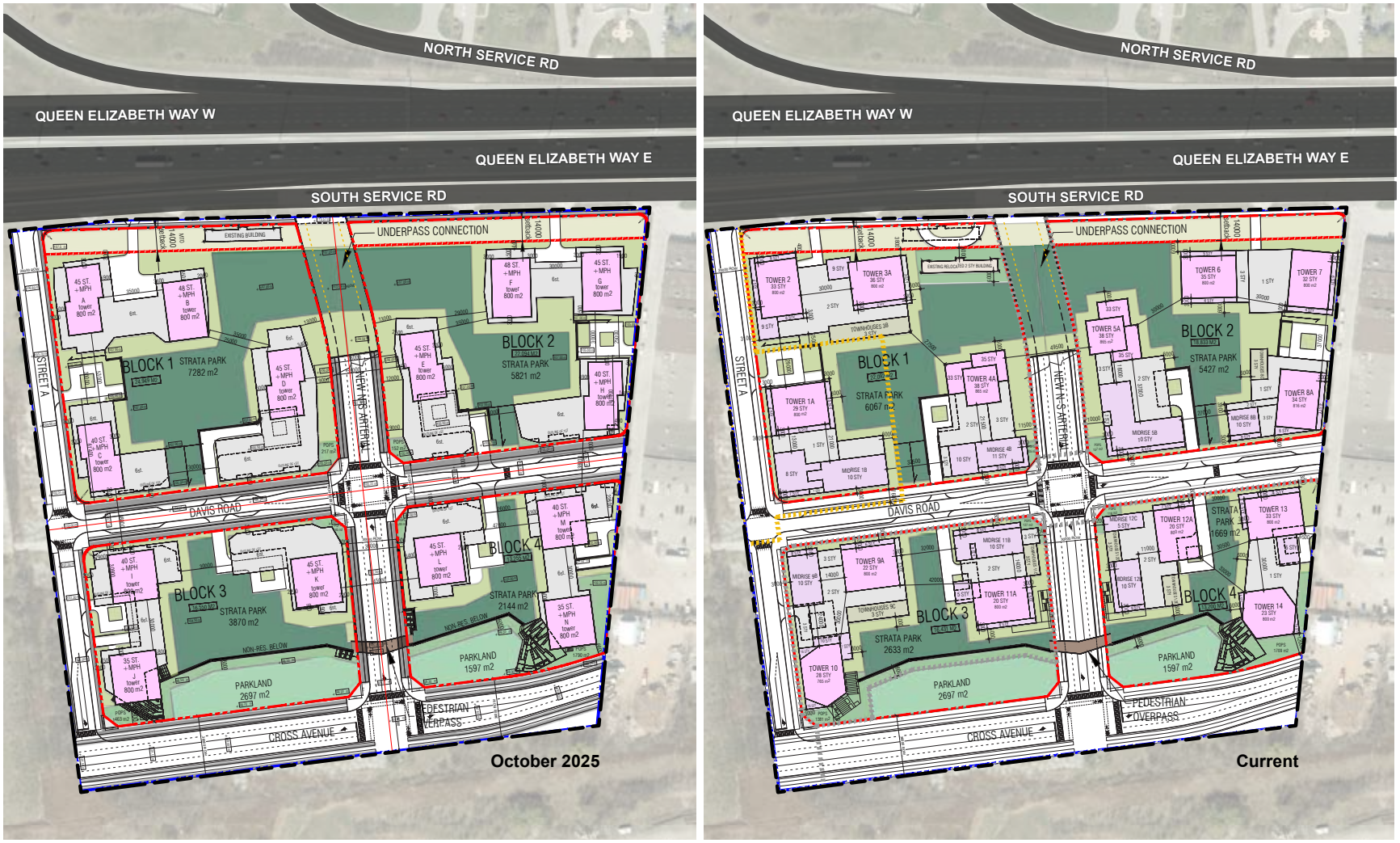
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FIGURE 2 MIDTOWN OAKVILLE CONTEXT



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FIGURE 3 PROPOSED SITE MASTER PLAN



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FIGURE 4 COMPARISON OF CURRENT AND OCTOBER 2025 MASTER PLANS

2.0 TRANSPORTATION NETWORK & POLICY SUMMARY

2.1 Key Policy Updates

2.1.1 Oakville Transportation Master Plan

Oakville Town Council approved the final 2025 Transportation Master Plan on October 6, 2025. The focus of the TMP is to provide a multi-modal transportation network, with a focus active transportation and transit, in order to provide a range of travel options to manage growth and mitigate congestion in the Town.

> "*The TMP will focus on building walkable, cycle and transit friendly neighbourhoods integrated with accessible transportation choices for all residents. The TMP will recommend a comprehensive, updated set of guidelines to enhance the Town's transportation system to address the needs of all stakeholders and establish a path forward for all modes of transportation to support Oakville's vision to be a vibrant and livable community for all*."

The 2025 Oakville TMP recommended street network is illustrated in **Figure 5** (Figure 7-2 in the TMP). Note that the TMP road network includes the extension of Cross Avenue from west of Trafalgar Road to the Royal Windsor Drive interchange at the QEW and the connection of Argus Road to Davis Road, below Trafalgar Road.

2.1.2 Midtown Transportation Plan

The Midtown Transportation Plan, with the Midtown Implementation Program, dated March 19, 2026, was undertaken by R.J. Burnside and Associates. The purpose of the Midtown Transportation Plan is as follows:

> "*to guide infrastructure and policy decisions that will support the growth of Midtown Oakville to 2051. The study area includes the 103-hectare Midtown OPA boundary and an expanded transportation-specific study area encompassing key corridors such as Trafalgar Road, Speers/Cornwall Road, and the Royal Windsor Interchange."*

The Midtown Transportation Plan process informed the Town of Oakville Midtown Official Plan Amendment and confirmed the recommended transportation network, new infrastructure and policies related to the transportation system and land use planning and climate change mitigation implications.

The Midtown Transportation Plan satisfies Phases 1 and 2 of the Municipal Class Environmental Assessment (MCEA) process and will inform future Schedule B and C projects. The previous Midtown Class Environmental Assessment was approved in 2014, hence the Midtown Transportation Plan builds on the 2014 plan and identifies next steps, including requirements related to the Environmental Assessment (EA) process.

The Midtown Transportation Plan developed and evaluated the following 4 alternative solutions, to address Midtown's transportation challenges:

- **Previously Planned / "Business as Usual"**: includes committed and planned projects and serves as a baseline for comparison.
- **Road Expansion Focused**: Prioritizes new road capacity, including additional crossings and widenings.

- **Transit and Active Transportation Focused**: Emphasizes sustainable modes with enhanced transit and active transportation policies.
- **Balanced Solution**: Integrates road, transit and active transportation improvements, to serve all users.

Each option was assessed and evaluated with travel demand modelling and considered transportation service, equity, climate change mitigation, environmental impact and cost. The Midtown Transportation Plan concluded that the preferred option is the "Balanced Solution", as this option will be able to appropriately accommodate the travel demand expected to be generated by the growth in both Midtown area and across the Town, and balances mobility and sustainability. The "Balanced Solution" (Preferred Solution) considers all planned and committed projects from the previous 2014 Midtown Environmental Assessment, Midtown OPA, Oakville Transit Five-Year Business Plan, Metrolinx 2041 Regional Transportation Plan and Halton Region Integrated Master Plan (ongoing).

The recommended road network phasing (Figure E-2 in the Midtown Transportation Plan) is provided in **Figure 6**.

2.1.3 Draft Midtown Oakville Official Plan Amendment (2025)

The Town adopted the 2024 Midtown Oakville Official Plan Amendment (OPA 70) ("Draft Midtown Oakville OPA") at its February 18, 2025 Planning and Development Council meeting. The OPA will be sent to the Ministry of Municipal Affairs and Housing for final review and approval. While the OPA is under review by Ministry, the Town will continue public consultation regarding Midtown policy implementation tools.

The Midtown Implementation Area is illustrated in **Figure 7**. The future transportation network included within the Midtown OPA (Schedule L-5), is illustrated in **Figure 8**.

2.1.4 Broader Midtown Oakville Street Network

The broader Midtown Oakville street network includes considerations for both the Midtown Oakville OPA transportation network, as well as the Midtown EA. In addition to the proposed network included within the Midtown Oakville OPA, the broader Midtown Oakville street network includes the following:

- Cross Avenue extends from Trafalgar Road to Royal Windsor Drive, connecting with the enhanced QEW interchange.
- A direct route from eastbound QEW to Midtown Oakville is provided via a new off-ramp to Cross Avenue at the Royal Windsor Drive interchange. A new westbound QEW off-ramp at Royal Windsor Drive will offer an alternative route to Midtown Oakville and surrounding areas. The new QEW ramps at Royal Windsor Drive will accommodate the additional travel demand from Midtown Oakville's planned intensification and offer relief to the existing Trafalgar Road interchange.

The routing options provided by the planned Midtown Oakville street system will be essential for all modes of travel between future development blocks, external point of access and egress related to Midtown Oakville and the Protected Major Transit Station Area (PMTSA) (the Oakville GO Station Hub), that includes Metrolinx's GO Rail and GO Bus stations and the Oakville Transit Terminal.

Note that the traffic analysis undertaken for this report considers the broader Midtown Oakville street network. Given the long-term perspective of the Midtown OPA approval review and the long-term future study horizon (2044), the QEW ramp network improvements have been assumed to be in place as part of the future conditions

for the traffic analysis within this report. Similarly, the planned full local, collector and arterial street network has been assumed to be in place for the traffic analysis, in order to assess the long-term travel demand impacts for the area.

Although the Midtown Oakville EA notes that the planned roadway improvements will provide relief to the existing and future traffic operations, it is recognized that capacity constraints will continue to remain the overall vehicle transportation network.

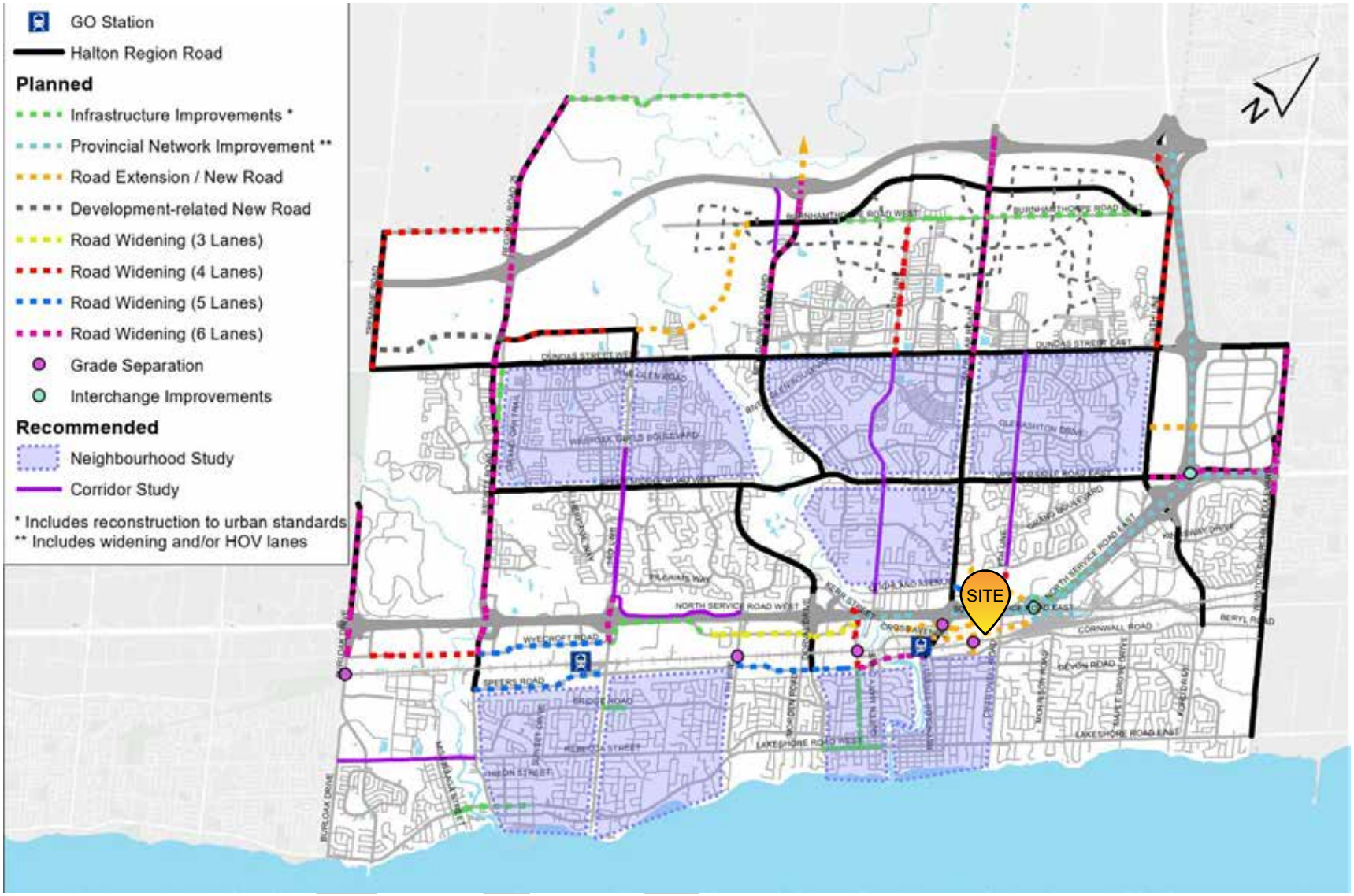
The planned Midtown Oakville street network that was presented in the Midtown Implementation Program PIC Panels in 2025 is illustrated **Figure 9**. The adopted broader street network for this report, inclusive of the Royal Windsor Drive interchange at the QEW, is illustrated in **Figure 10.**

The future lane configurations and traffic control considered for the traffic analysis undertaken for this report, are illustrated in **Figure 13.**

2.2 Additional Key Transportation Figures

To provide the appropriate background information for this updated report, and to assist with the review of the updated traffic analysis, the following additional figures have been included in this section:

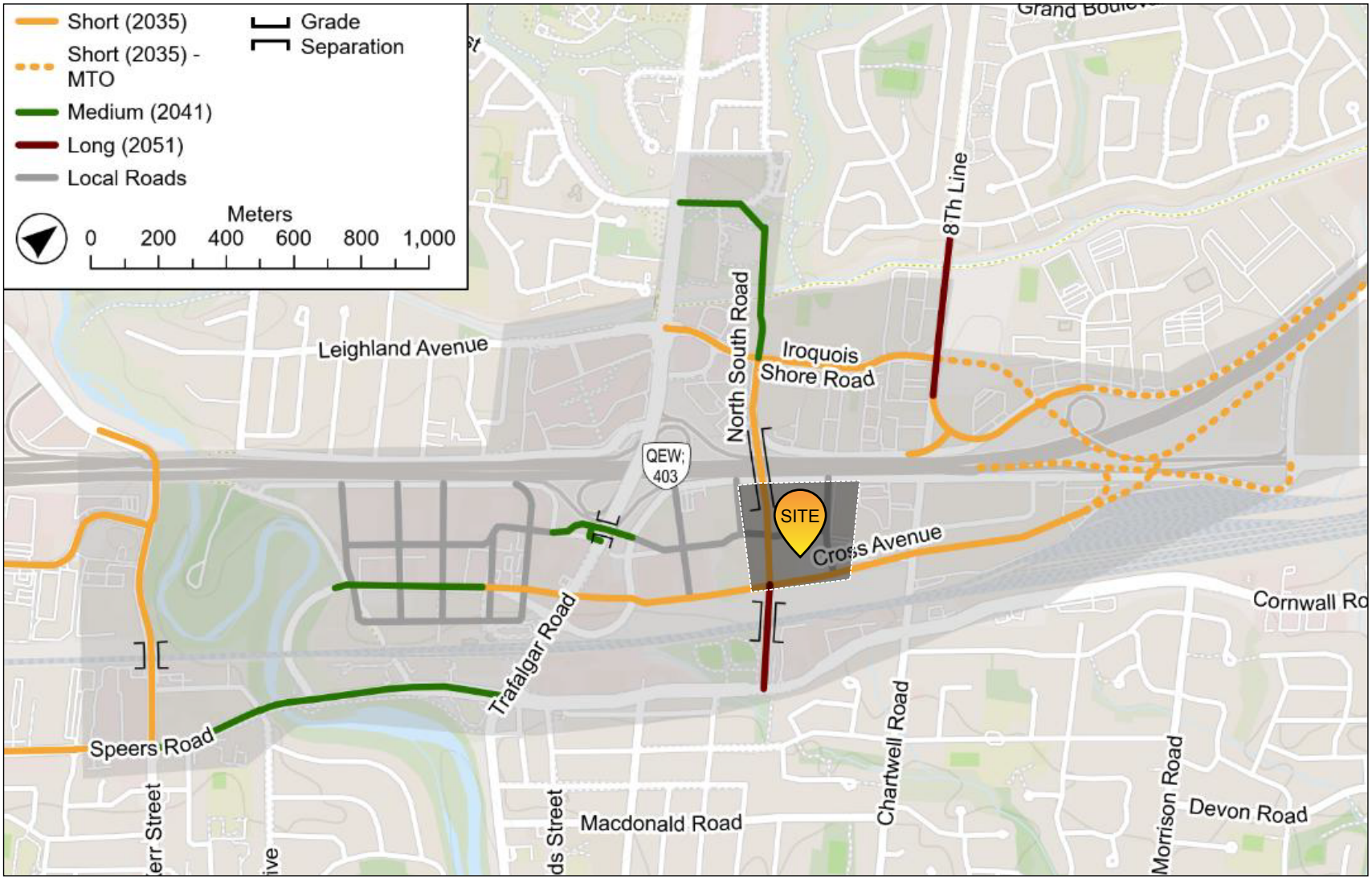
- **Figure 11** – Existing Street Network
- **Figure 12** – Existing Lane Configuration and Traffic Control
- **Figure 13** – Future Lane Configuration and Traffic Control
- **Figure 14** – Future Recommended Transit Network (TMP)
- **Figure 15** – Recommended Active transportation Network (Midtown Oakville Schedule L-6)



Source: Oakville Transportation Master Plan, April 2025

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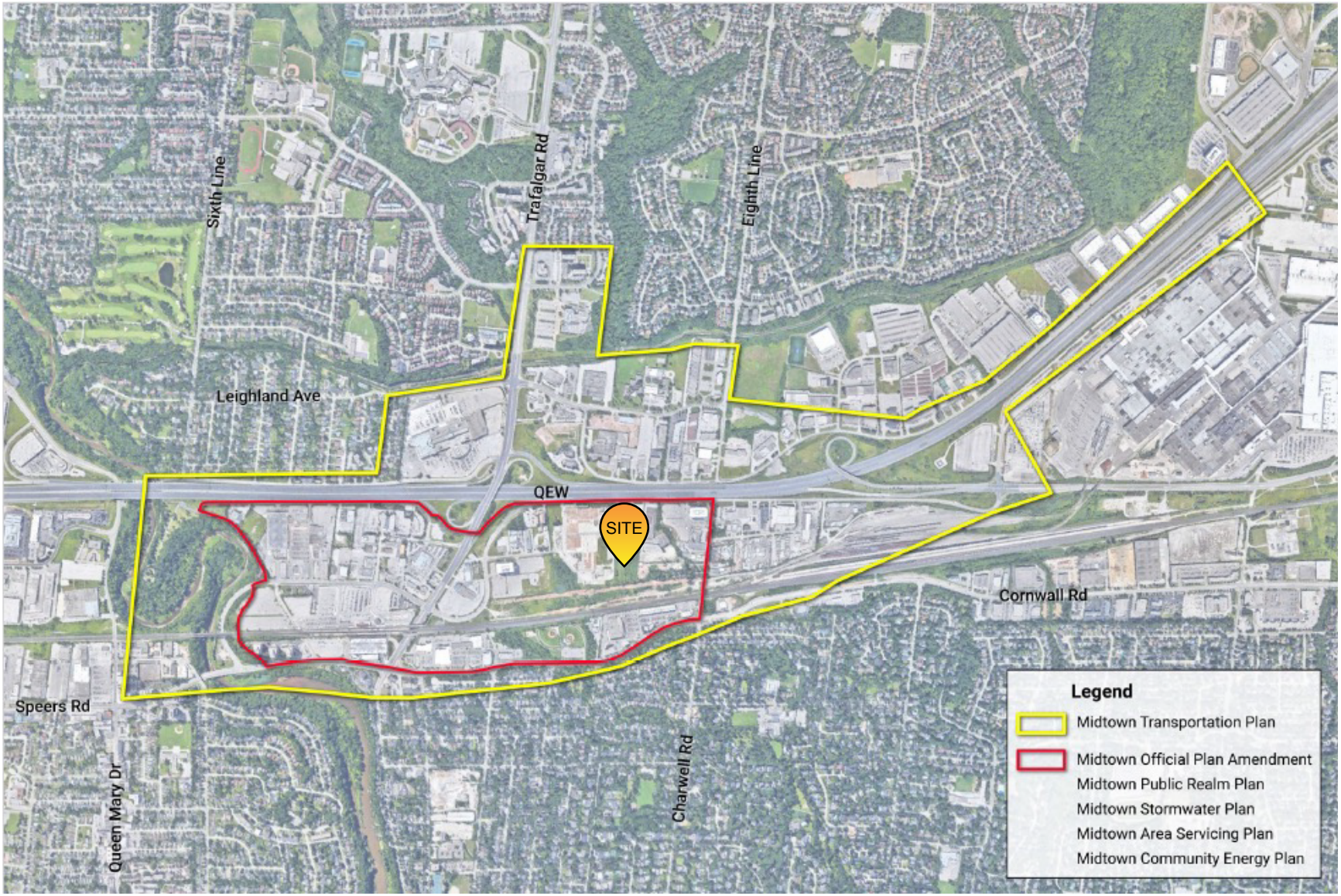
FIGURE 5 OAKVILLE TMP RECOMMENDED STREET NETWORK (FIGURE 7-2 IN TMP)



Source: Midtown Oakville Transportation Plan, March 2026

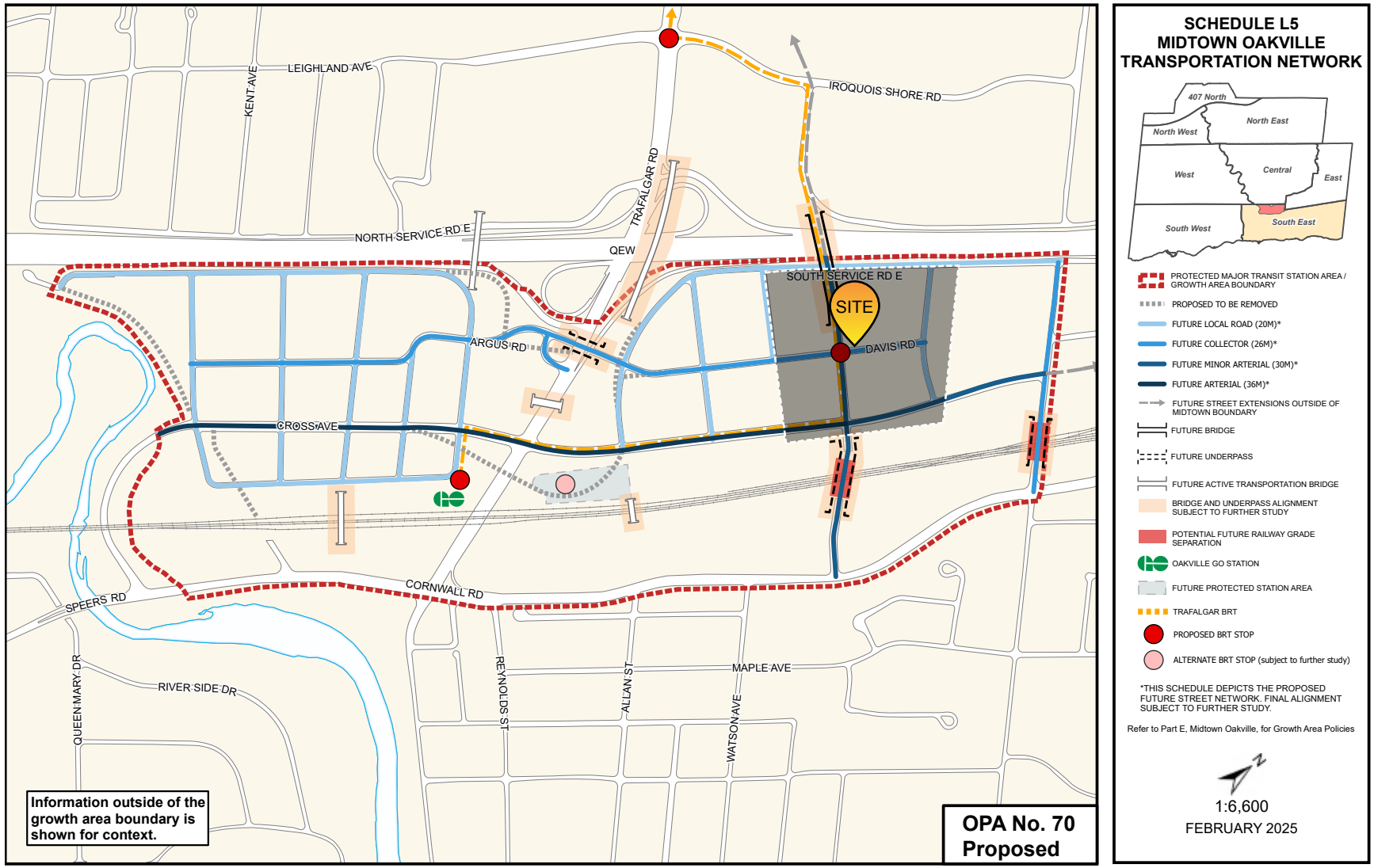
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FIGURE 6 RECOMMENDED ROAD NETWORK PHASING (FIGURE E-2 IN MIDTOWN TRANSPORTATION PLAN)



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FIGURE 7 MIDTOWN IMPLEMENTATION STUDY AREA



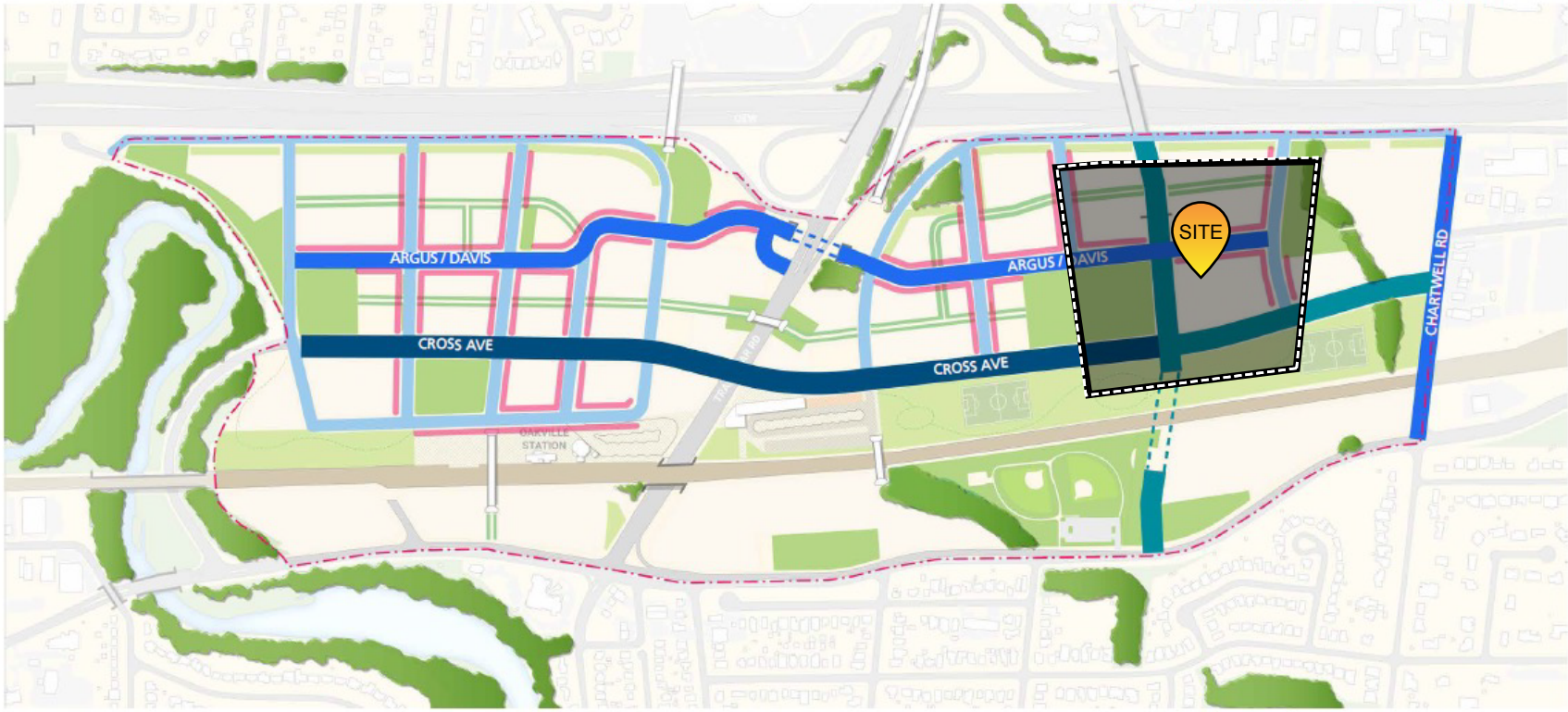
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FIGURE 8 MIDTOWN OAKVILLE OPA PROPOSED TRANSPORTATION NETWORK (SCHEDULE L5)

MOBILITY

STREETS FRAMEWORK

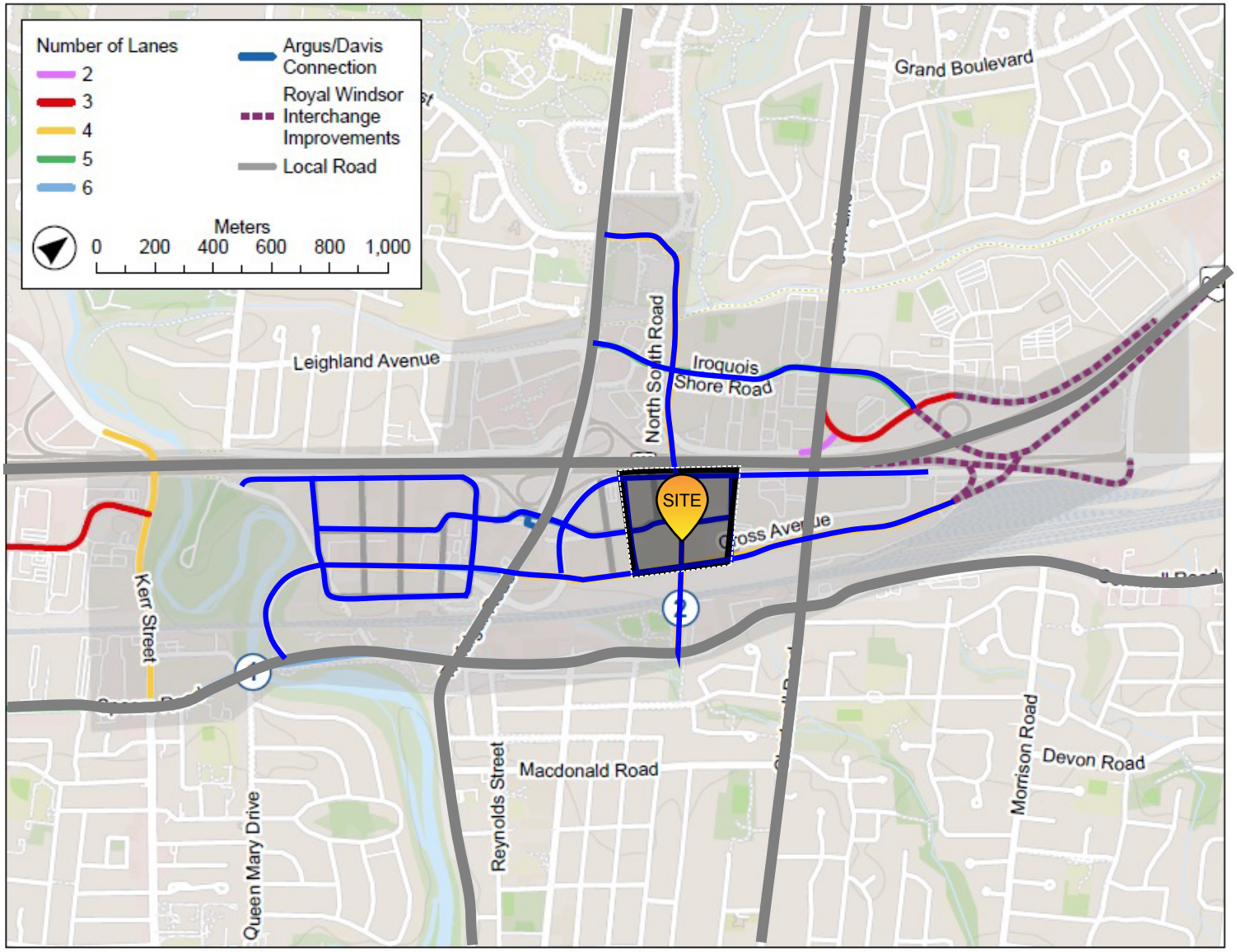
The Streets Framework is designed for a multi-modal transportation system and a complete street lens has been applied, with a focus on walking, cycling, rolling and ease of transit use.



Source: Midtown Implementation Program PIC Panels, 2025

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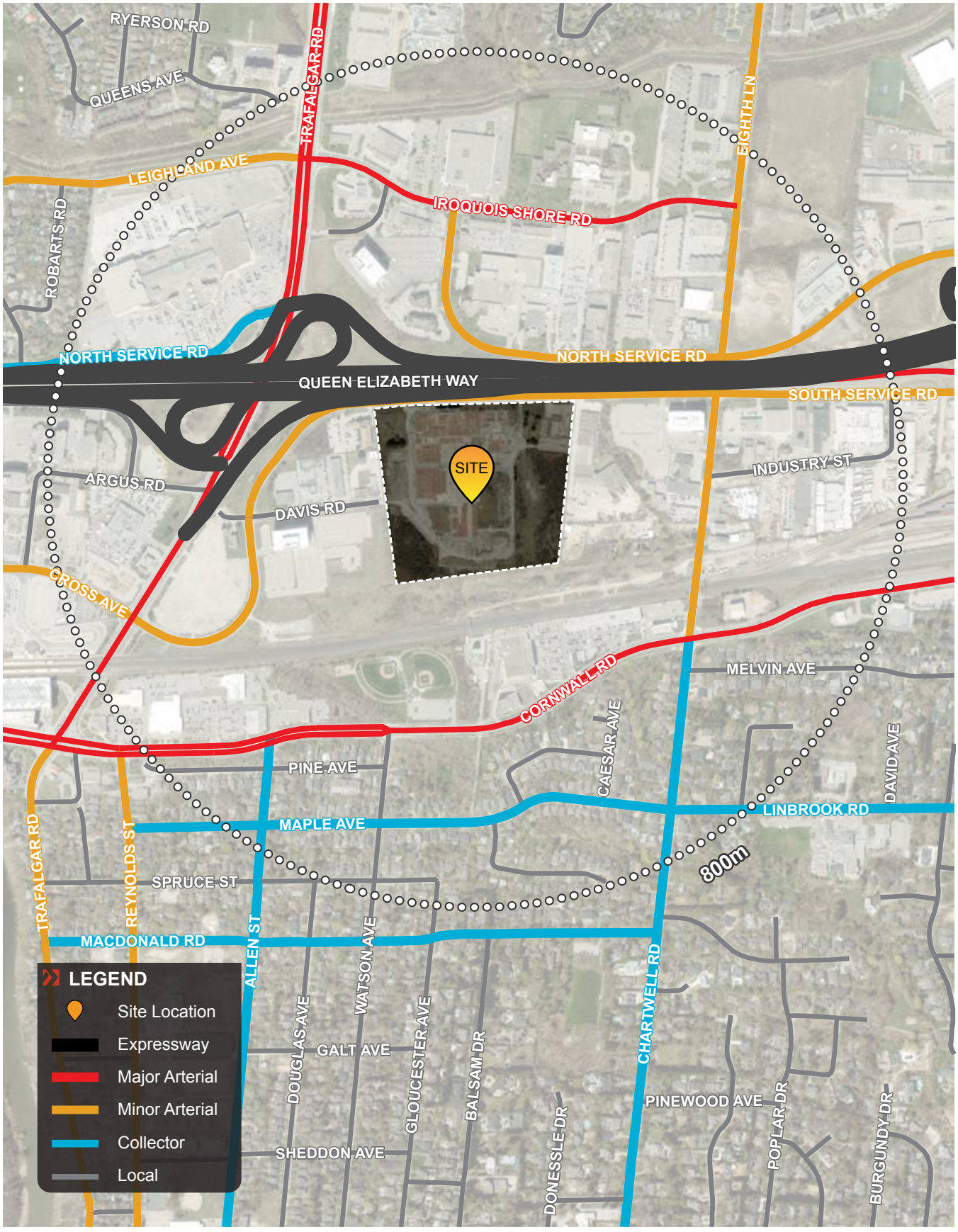
FIGURE 9 PLANNED MIDTOWN OAKVILLE STREET NETWORK



Source: Midtown Implementation Program PIC Panels, 2025

FIGURE 10 BROADER PLANNED STREET NETWORK FOR MIDTOWN OAKVILLE

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FIGURE 11 EXISTING STREET NETWORK

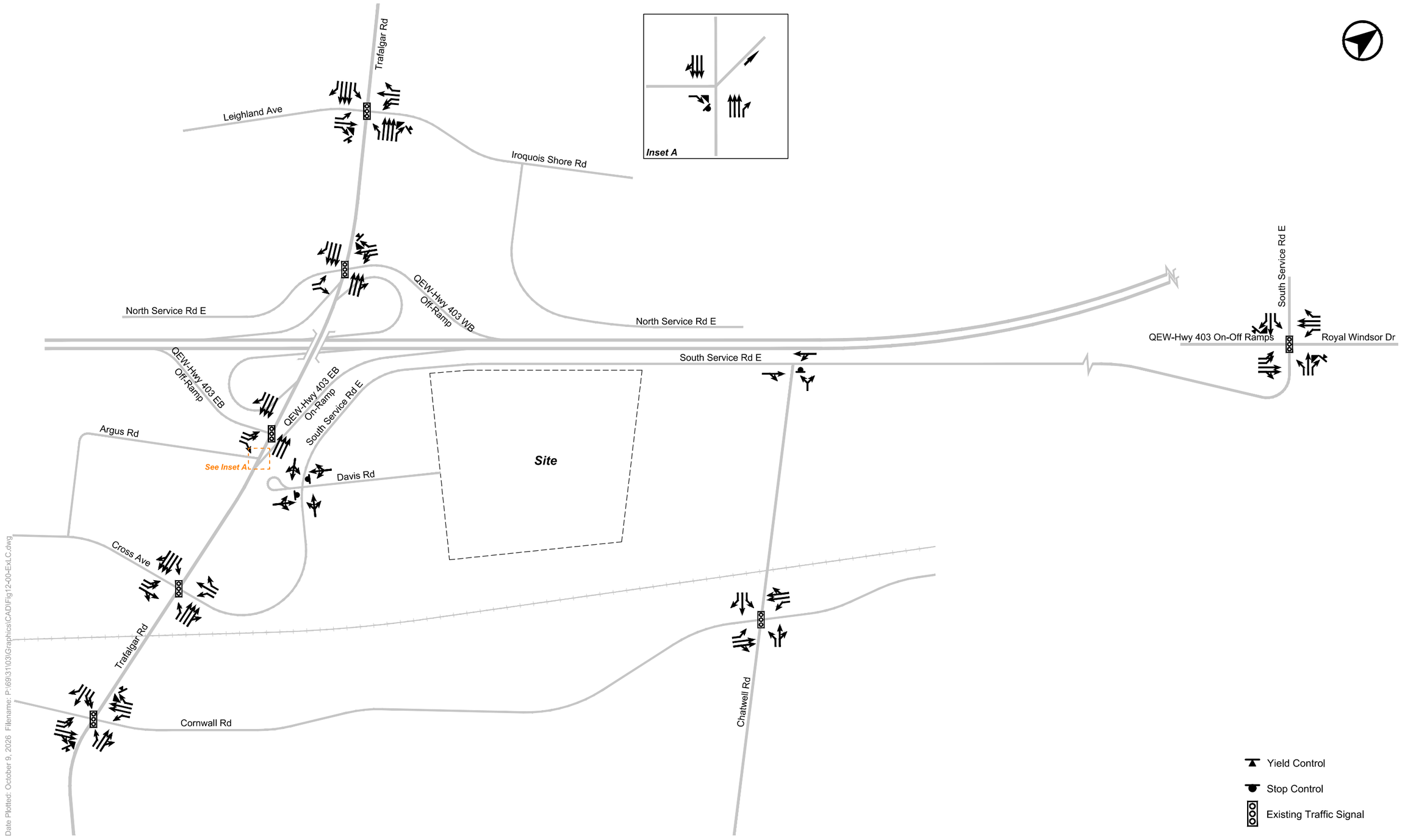
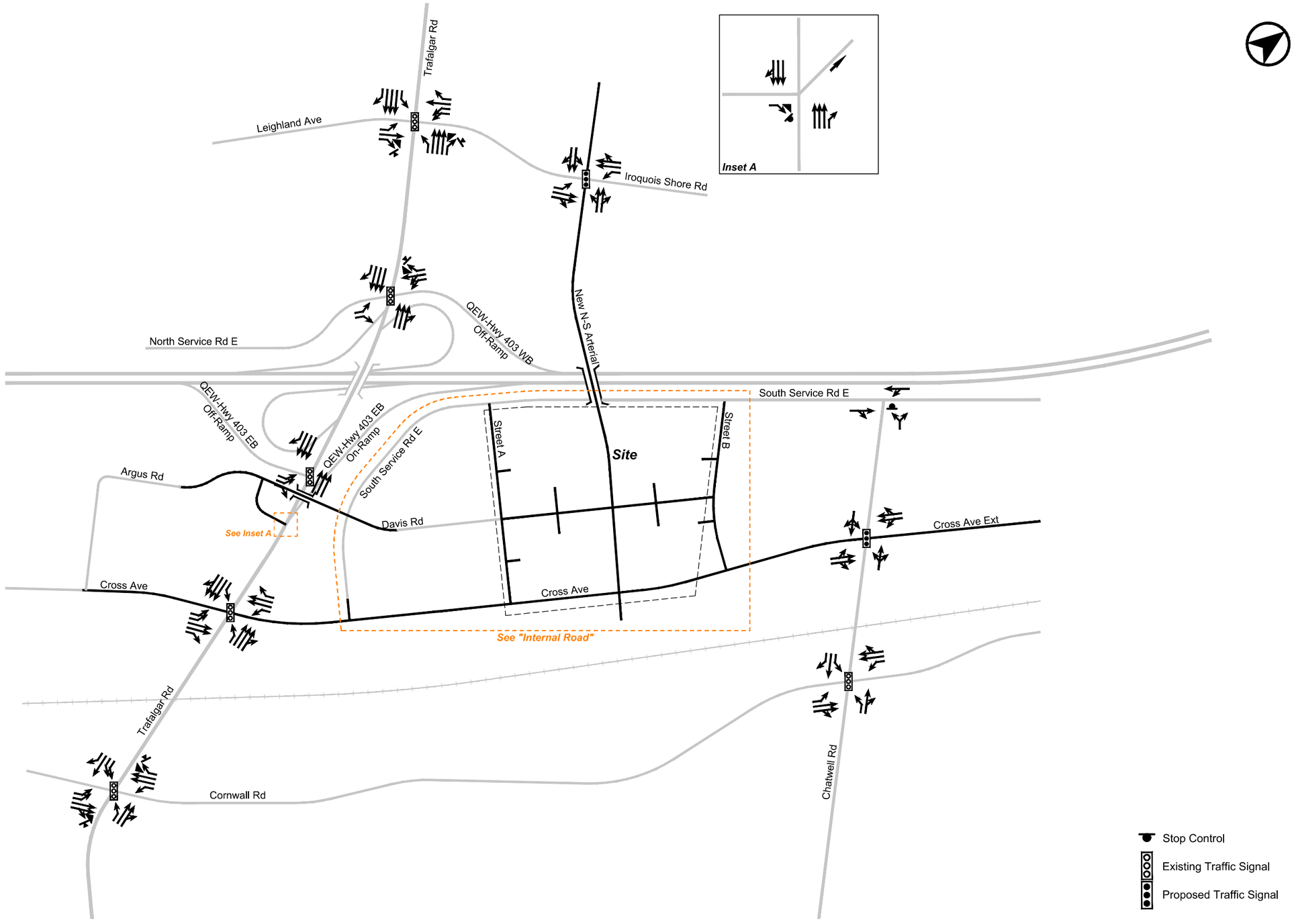
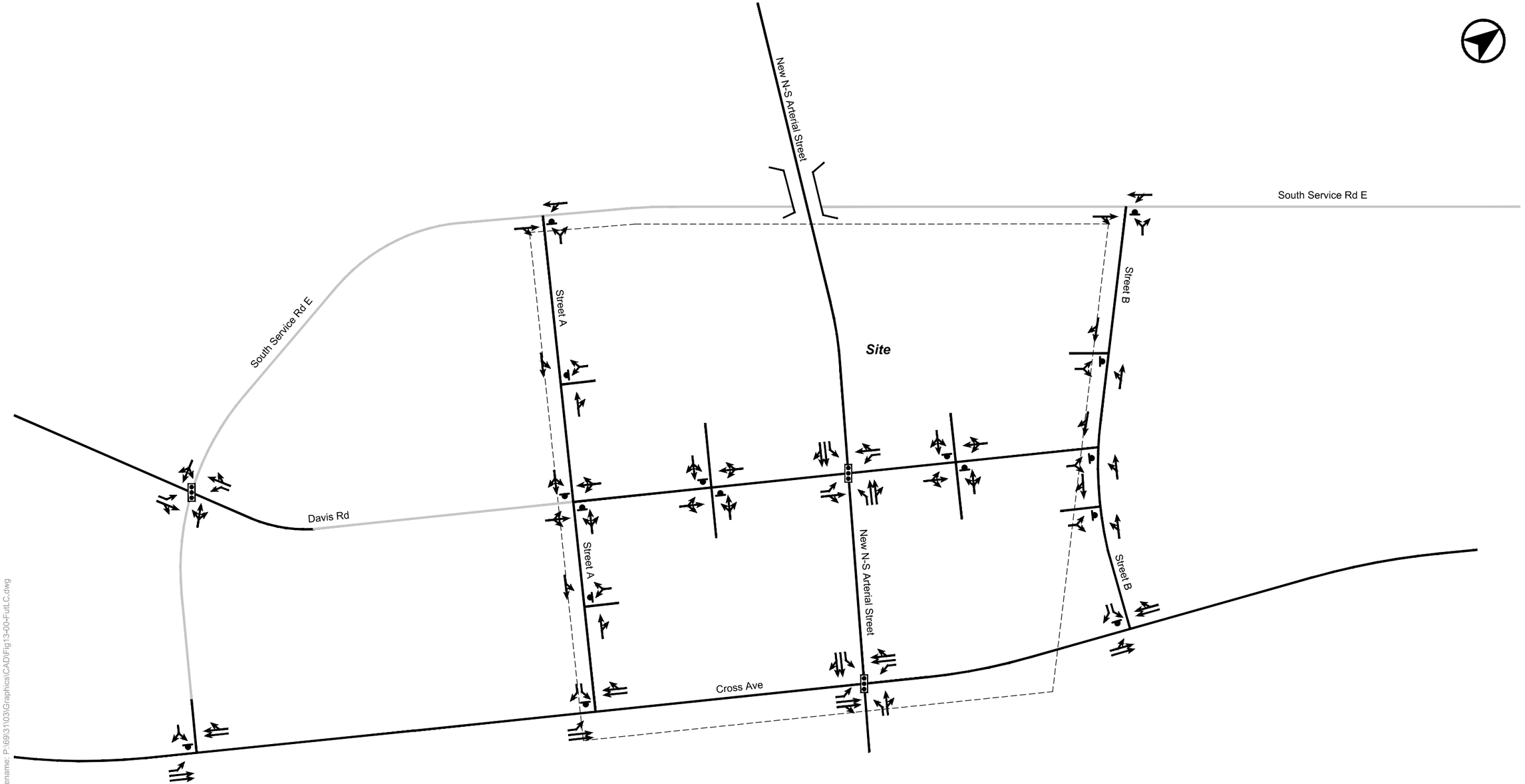


FIGURE 12 EXISTING LANE CONFIGURATION AND TRAFFIC CONTROL



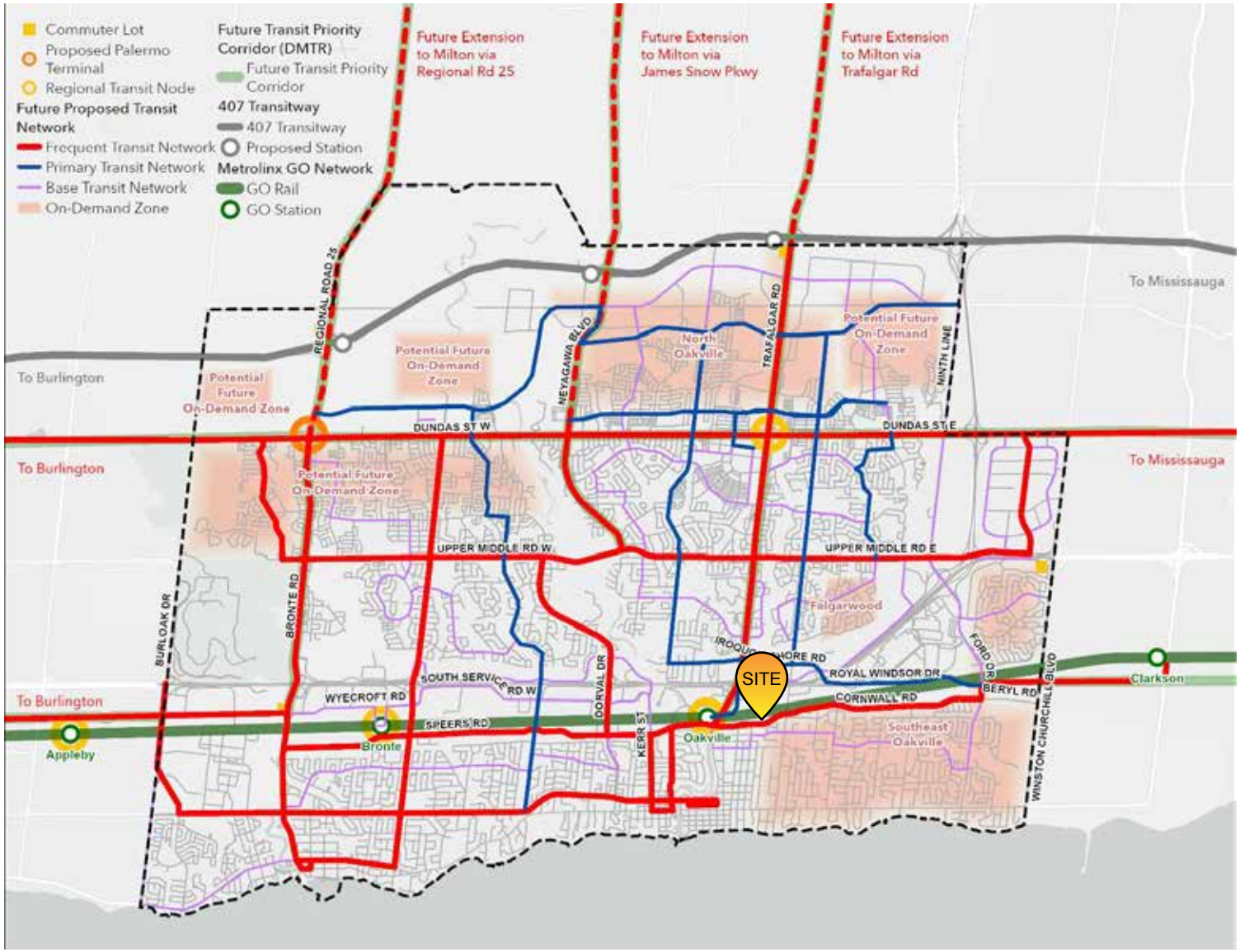
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FIGURE 13 FUTURE LANE CONFIGURATION AND TRAFFIC CONTROL



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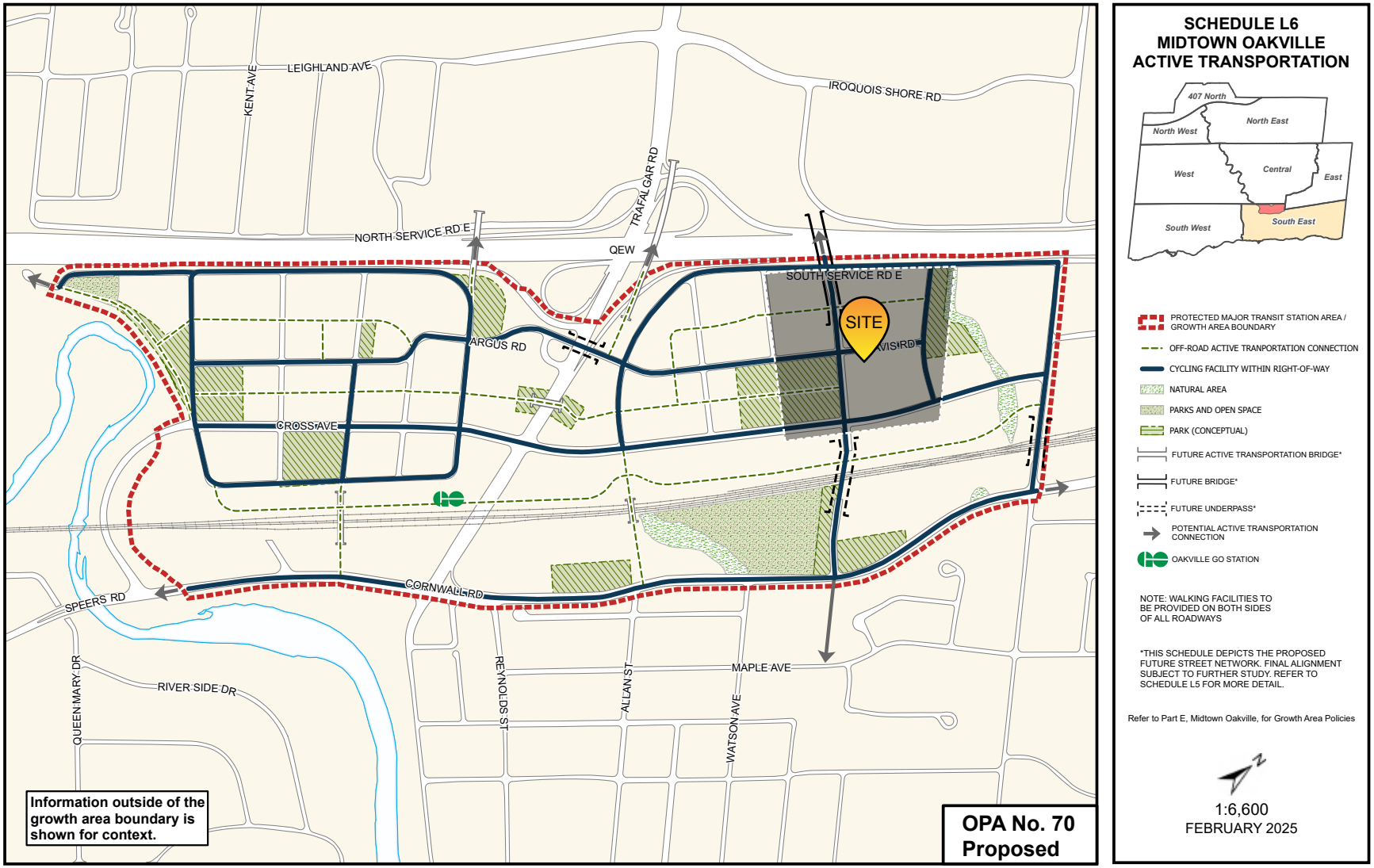
FIGURE 13A FUTURE LANE CONFIGURATION AND TRAFFIC CONTROL
"INTERNAL NETWORK"
420 - 468 SOUTH SERVICE ROAD EAST



Source: Oakville Transportation Master Plan Draft, April 2025

FIGURE 14 FUTURE RECOMMENDED TRANSIT NETWORK

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FIGURE 15 MIDTOWN OAKVILLE OPA PROPOSED ACTIVE TRANSPORTATION NETWORK

3.0 OVERVIEW OF SITE MASTER PLAN

The proposed Site Master Plan includes four blocks with a total of 5,600 residential units and 9,118 m^2 GFA of retail. The development statistics are summarized in **Table 2**.

3.1 New Public Street Network

The proposed new public street network remains the same as the October 2025 application.

The development blocks will be framed by a network of east-west and north-south streets including:

- Street A – A new north-south local street along the western edge of the Site connecting between South Service Road East and Cross Avenue;
- Street B – A new north-south local street along the eastern edge of the Site connecting between South Service Road East and Cross Avenue;
- South Service Road – An existing east-west local road along the north edge of the Site;
- Davis Road – A new east-west collector road through the centre of the Site connecting from west of Trafalgar Road (where it becomes Argus Road) to Street B;
- Cross Avenue – A new east-west arterial road along the south edge of the Site connecting from west of Trafalgar Road to Chartwell Road east of the Site; and
- North-South Arterial – A new north-south arterial road through the centre of the Site connecting from Iroquois Shore Road in the north to Cornwall Road in the south. The North-South Arterial road will have an overpass over the QEW to the north of the Site, and an underpass under the Metrolinx/CN rail corridor to the south of the Site.

A description of the new public streets including a design conformance review is provided in Section **5.0**.

The new public street network will provide access for all modes and generally aligns with the transportation network contained in the Oakville Midtown Official Plan Amendment (the “Midtown OPA”). The proposed street network, with connections to the Draft Midtown Oakville OPA transportation network, is illustrated in **Figure 16.**

To better align with the Site’s western property boundary and to facilitate the efficient development of the blocks, the following minor changes to the Draft Midtown Oakville OPA street network are being proposed:

- The Draft Midtown Oakville OPA illustrates a new north-street local street along the western border of the Site that connects between South Service Road East and Davis Road. The development proposal extends this north-south street (proposed as Local Street A) southward from Davis Road to connect to Cross Avenue. The extension of this local road will provide improved connectivity for all modes of travel and better serve the access and circulation needs of the revised development proposal.
- The north-south local street (Local Street A) on the west side of the Site, is proposed to be shifted slightly further west to align with the western property limits of the Site so that Local Street A is within the Site boundaries.
- The addition of two active-only crossings of the planned New N-S Arterial streetthat bypass the QEW-Hwy 403 and the Metrolinx/CN rail corridor. On the north side of the Site (between South Service Road

East and Davis Road), the active-only crossing will be in the form of an underpass under the New N-S Arterial Street. Between Davis Road and Cross Avenue, the active-only crossing will be in the form of an overpass over the New N-S Arterial Street.

- The east-west Collector Street (Davis Road), adjacent to the proposed Block 1 within the Site, will adopt a tangent alignment versus the “curved” alignment illustrated in the Draft Midtown Oakville OPA. This tangent alignment produces a more uniform development block on the north side of Davis Road, that also provides a more regular shape to maximize the efficient massing of buildings.

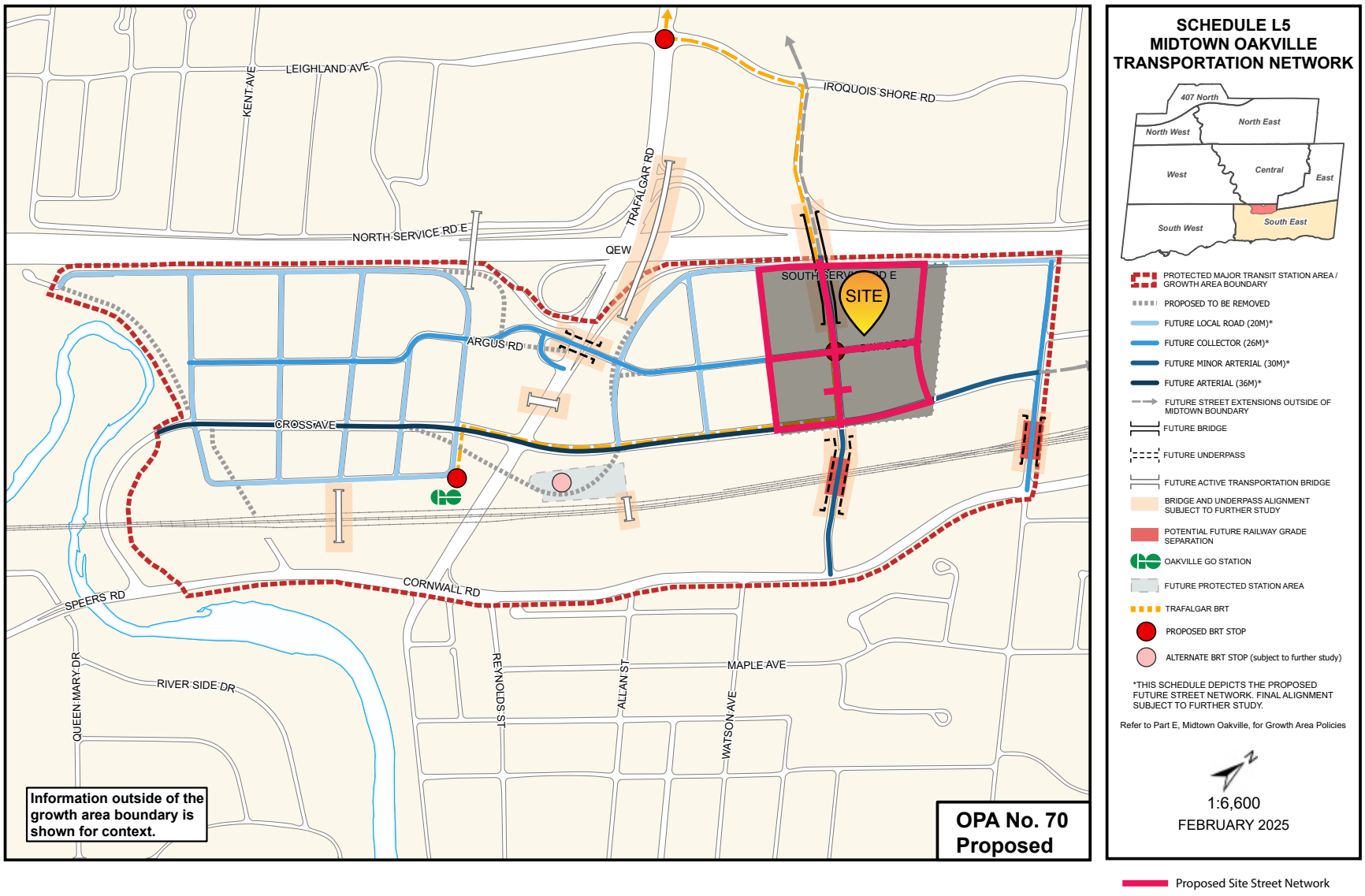
The proposed changes enhance the functionality of the Draft Midtown Oakville OPA transportation network. The remainder of the proposed new street network remains consistent with the Draft Midtown Oakville OPA, including the extension of Davis Road, Cross Avenue through the Site and the New N-S Arterial Street that with an overpass across the QEW-Hwy 403 to the north and a “rail-over-road” underpass across the Metrolinx / CN rail corridor to the south

Functional plans for the new public street network are provided in **Appendix D**. Proposed cross-sections for these streets are provided in **Appendix E**.

The functional plans adopt the Draft Midtown Oakville OPA rights-of-ways (ROW’s) and balance travel demand needs, in order to encourage active transportation to serve the day-to-day needs of residents, visitors, employees and commuters.

To enhance the level of safety for active transportation, an option for a protected intersection at Davis Street and the New N-S Arterial Street has been designed and is provided in **Appendix F**.

The vertical profile for the New N-S Arterial Street is provided in **Appendix G.**



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FIGURE 16 PROPOSED SITE MASTER PLAN STREET NETWORK

3.2 Vehicle Access

The proposed points of access for the four development blocks remain the same as the October 2025 application and are summarized in **Table 3**.

The Site driveways have been located in consideration of internal circulation systems that accommodate pick-up and drop-off needs, access to loading facilities, emergency access and access to below-grade parking garage ramps.

Table 3 Proposed Points of Access for the Site by Block

	South Service Road	Davis Road	Local Street A	Local Street B
Block 1	1 access	1 access	1 access	--
Block 2	1 access	1 access	--	1 access
Block 3	--	1 access	2 accesses	--
Block 4	--	1 access	--	1 access

The Town of Oakville standards (STD. 10-2) reference a minimum 7.5 metre width for all driveway accesses. All driveway accesses along Davis Road meet this requirement but a 6.0 metre driveway width is proposed for all accesses along the local streets and South Service Road East. A narrower driveway width along lower order roads prioritizes pedestrians by minimizing crossing widths and acts as a traffic calming measure by encouraging lower vehicle speeds. The proposed driveway widths also accommodate all vehicle movements.

The Transportation Association of Canada (TAC) guide only provides suggested clear throat lengths for collector and arterial roads. Therefore, clear throat distances for the Davis Road (minor collector road) driveways are provided on the functional road plan. Since the driveways provide priority to inbound vehicles, the distance is measured from the road to the pick-up / drop-off courtyard. The suggested 25 metre clear throat length is provided for all Davis Road driveways.

An illustration of these measurements is provided in the functional plan in **Appendix D.**

3.3 Pedestrian Access

Pedestrian access and circulation will be provided throughout all four development blocks, with connectivity to the surrounding street network. This ensures direct and convenient access to and from all new public streets that are adjacent to Site, as well as to planned transit routings throughout the Midtown Oakville area, with links to the Oakville GO Transit hub. The development blocks will also include pedestrian linkages throughout for each building within the Site. The retail spaces will be located at-grade, along the frontage of the east-west collector street (Davis Road Extension), through the centre of the mixed-use development. This is consistent with the uses expected along “Primary” and “Secondary” main streets in the Midtown area.

A pedestrian circulation plan for the Site will be provided during the Site Plan Approval (SPA) stage.

3.4 Cycling Access / Circulation

Cycling infrastructure is also planned for the Site, including dedicated bicycle parking rooms for long-term bicycle uses (i.e. resident and employee bike parking), with a mix of internal and external bicycle parking for short-term bicycle uses (i.e., resident visitor and non-residential visitor bicycle parking). The provision of convenient and direct connections between the Site's cycling facilities and infrastructure planned within the new public streets within the Midtown area, will link the Site to the multi-modal transportation network being created throughout Midtown Oakville and the broader Town of Oakville.

A cyclist circulation plan for the Site will be provided during the SPA stage.

3.5 Vehicle Parking

The proposed vehicle parking arrangements remain the same as the October 2025 application. Vehicle parking will be provided within below-grade parking facilities for each residential block. A series of at-grade facilities for pick-up and drop-off and service and emergency vehicle access, will also be provided at-grade to ensure that the Site will be appropriately served and connected to the planned public transportation systems within Midtown Oakville.

Proposed on-street parking locations have been identified on the road network functional plan included in **Appendix D**.

3.6 Bicycle Parking

The proposed bicycle parking arrangements remain the same as the October 2025 application.

The Site plan currently provides a total minimum of 4,180 bicycle parking spaces, including:

- A minimum of 3,473 long-term resident bicycle parking spaces within secure weather-protected facilities located within the underground parking garage, at grade, or on the mezzanine level.
- A minimum of 696 short-term resident visitor bicycle parking spaces will be provided on the Site.
- A further minimum of 11 bicycle parking spaces will be provided in proximity to the non-residential (retail) land uses likely along the development frontage of the E-W Collector street (Davis Road).
- Access to the bike parking rooms will be via pass-card or key and include security features.
- Access to long-term bike parking will generally be provided with dedicated elevators so as not to conflict with main pedestrian elevators.
- The bicycle repair stations will generally be provided within the bicycle storage rooms. The number and precise location of the bicycle repair stations will depend on the configuration and number of the internal bicycle storage rooms.
- Short-term bicycle parking will generally be included outside and near visitor / customer entrances so as to be convenient. Some residential visitor bicycle parking will likely be located internal to the residential buildings, given the proposed supply of visitor bike parking.
- Access to visitor internal bicycle parking storage areas will be coordinated with the architectural layout of the residential buildings and their podiums with the provision of access to external entrances.

3.7 Pick-up / Drop-off Facilities

3.7.1 Pick-up/ Drop-off Courtyards

Pick-up / drop-off (PUDO) facilities are proposed for each block to accommodate pick-up /drop-off and delivery activities for all buildings on the Site.

The location and configuration of the PUDO facilities remain the same as the October 2025 application. However at the request of Oakville Transit, the dimensions of the PUDO facilities have been increased to be 21m x 21m (from 20m x 20m) to accommodate the manoeuvring requirements of Oakville Transit Care-A-Van vehicles. The PUDO facilities are appropriately sized and located in consideration of convenient front door access. The PUDO facilities for each block will be further refined through subsequent phases of the development process.

3.8 Loading

The location and configuration of the loading facilities remain the same as the October 2025 application.

Each building or group of buildings on the development blocks has been evaluated in regard to the practical, functional and policy requirements associated with the various types of loading operations that would be experienced on a daily basis.

The functional design of the proposed loading areas has been assessed with appropriate design vehicles and manoeuvring requirements, to ensure that the resulting loading spaces are capable of accommodating the needs each individual development building and or block. This ensures an efficient and compact development and safe Master Plan concept.

A total of 19 formal loading spaces that meet the Town of Oakville's dimensional requirements have been provided across the four development blocks of the Site.

The loading facilities for each building, including the design of vehicle manoeuvring areas, will be refined during the SPA stage.

3.9 Vehicle Ramp Design Considerations

Proposed parking ramp locations remain the same as the October 2025 application.

Blocks 1 and 2 are each envisioned to include two ramps to service their respective block and will only accommodate typical passenger vehicles. Blocks 3 and 4 are also envisioned to each include two ramps but one of the ramps will also accommodate loading vehicles. A loading area is proposed on the P3 level for both Blocks 3 and 4 to service the non-residential uses that front Cross Avenue.

At this time, the grading for each of these ramps has not been finalized but they will be refined as the development application process continues. It is intended to design the passenger vehicle ramps with a maximum slope of 15%, with 7.5% sloped transitions located at the top and bottom of each ramp. This design ensures a gradual vertical change and mitigates the vehicle chassis from striking the ground.

The design of parking facilities including ramp access, layout and circulation will be refined during the SPA stage.

3.10 Traffic Management During Construction

The current application is for a Draft Plan of Subdivision. It is premature at this time to assess and prepare a set of plans that would outline and detail a strategy for the phased construction of the individual blocks within the Site. For this reason, a Construction Management Plan (CMP) strategy and supporting Traffic Management During Construction (TMDC) Plan will be undertaken at a later stage of the development application process.

4.0 DEVELOPMENT PHASING

The preliminary phasing of the development blocks is summarized in **Table 4**. The current conceptual phasing plan is illustrated in **Appendix H.**

The phasing will be re-evaluated after the completion of Phase 1. This approach allows reasonable assumptions to be made in regard to the proposed street network for all phases, while maintaining flexibility for adjustments in the future stages of development for the Site.

Table 4 Preliminary Development Phasing

Block	Phase	Proposed Building	Proposed Street Network
1	Phase 1a	Tower A1, Midrise A2	Local Street A (South Service Road East to Davis Road) with a Site driveway on Local Street A.
	Phase 1b	Tower B1, Tower C1, Townhouses C2 Tower D1, Midrise D2	Above plus: • Site driveway on South Service Road East • Site driveway on Davis Road (Local Street A to New N-S Arterial Street).
2 to 4	--	After completion of Block 1, the order of build-out of the subsequent blocks is to be based on market demand.	The need for new internal road linkages as well as wider area transportation and servicing infrastructure to support each block will be re-evaluated in conjunction with that block.

5.0 ROAD DESIGN CONFORMANCE REVIEW

As per the Town's request, this section is intended to review the proposed road design elements against the Town standards and, where applicable, TAC guidelines or industry best practices, with the intent that any identified non-conformance (e.g., daylight triangles) would be supported by appropriate transportation engineering justification.

5.1 Proposed Public Street Network

The proposed road network for the Site aligns with the road rights-of-ways (ROW) and alignments outlined in the Midtown TMP, OPA 70 and Designing Midtown. However, alternative cross-sections have been developed for the proposed roads, that in BA Group's opinion, better accommodate pedestrian and cyclist comfort and safety.

A comparison of the proposed cross-sections for the Site, and the proposed draft Midtown Oakville cross-sections, is provided in **Table 5.** Illustrations of the proposed cross sections are provided in **Appendix E**. An illustration of the proposed road cross-sections vs. TMP road cross-sections is provided in **Figure 17**.

5.1.1 Local Roads

Within the development lands, Street A, Street B and South Service Road East, are all considered to be local roads with a 20 m ROW, which aligns with the widths outlined in OPA 70. Draft cross sections for local roads within Midtown Oakville were presented in Appendix F of the Town's October 2024 staff report, which contemplates the following three potential layouts related to cycling infrastructure:

1. A shared on-street condition with bicycles and vehicles (sharrows);
2. Dedicated one-way cycle track (within the boulevard) on both sides of the road; and
3. Dedicated two-way cycle track (within the boulevard) on one side of the road.

The Site's proposed cross-section for the local roads closely aligns with the first option, with the shared on-street condition. However, it is currently proposed to include on-street parking on only one side of the road, adjacent to the Site. The posted and design speed for these roads are 40 km/h and 50 km/h, respectively.

5.1.2 Davis Road

Davis Road is proposed to be a collector road and have a 26 m ROW width which aligns with OPA 70. In comparison to the cross-section figures from the Town's June 2025 Open House, the Site's proposed design of Davis Road enhances the pedestrian and cyclist levels of comfort and safety of the envisioned high street. Bicycle lanes are relocated from the street onto the boulevard and a wider sidewalk on both sides of the road is proposed. A buffer will be provided between the different modes of travel along the road. The posted and design speed for Davis Road are 40 km/h and 50 km/h, respectively.

5.1.3 N-S Arterial Road

A 30 m ROW is proposed for the N-S Arterial Road which aligns with OPA 70. Although the draft cross-section for the N-S Arterial Road within the Town's October 2024 staff report indicates a 26m ROW (which is considered outdated), its cross-section elements are similar to what is being proposed for the Site. The 4m ROW difference in the proposed cross-section is attributed to a centre median that separates the directional flows of traffic. The posted and design speed for the N-S Arterial Road are 50 km/h and 60 km/h, respectively.

5.1.4 Cross Avenue

Cross Avenue is proposed to be an arterial road, and its ROW width varies as it crosses the N-S Arterial Road. East of the N-S Arterial Road, the Site proposes a 30 m ROW and west of the N-S Arterial Road a 36 m ROW is proposed. The proposed ROW widths along Cross Avenue align with OPA 70 and the proposed cross-section elements are similar to available draft Midtown Oakville cross-sections. It should be noted that the October 2024 staff report's draft cross-section for Cross Avenue on the east side of the N-S Arterial Road indicates a 26m ROW which is considered outdated. The posted and design speed for Cross Avenue are 50 km/h and 60 km/h, respectively.

Table 5 Comparison of Road Cross-Section Elements

Road Elements	Preliminary Cross-Section for Midtown Oakville	Proposed Cross-Section
Street A/ Street B / South Service Road East		
ROW Width	20.00 m[1]	20.00 m
Lane Width	3.30 m[1]	3.25 m
On-Street Parking Width	2.40 m[1]	2.00 m
Sidewalk Width	Ranges from 2.4m to 3.00 m depending on cross section option[1]	2.00 m
Cycle Track Width	Shared Bike Lane On-street (Sharrow) [1] 1.80 m for a one-way cycle track within boulevard[1] 3.50 m for a two-way cycle track within boulevard[1]	Shared Bike Lane On-street (Sharrow)
Landscape Width	Ranges from 1.00 m to 1.10 m[1]	2.75 m
Davis Road		
ROW Width	26.00 m[2]	26.00 m
Lane Width	3.00 m[2]	3.50 m
On-Street Parking Width	2.40 m lay-by parking[2]	2.40 m lay-by parking
Sidewalk Width	2.90 m[2]	3.15 m on the south side of Davis Road 4.15 m on the north side of Davis Road
Cycle Track Width	1.50 m one-way cycle track on-street[2]	1.50 one-way cycle track within boulevard
Landscape Width	Ranges from 2.20 m to 4.60 m depending on lay-by parking locations[2]	Ranges from 1.10 m to 3.50 m depending on lay-by parking locations
N-S Arterial Road		
ROW Width	26.00 m[3] NOTE: The previously published 26m cross-section from the October 2024 Midtown Oakville staff report is	30.0 m

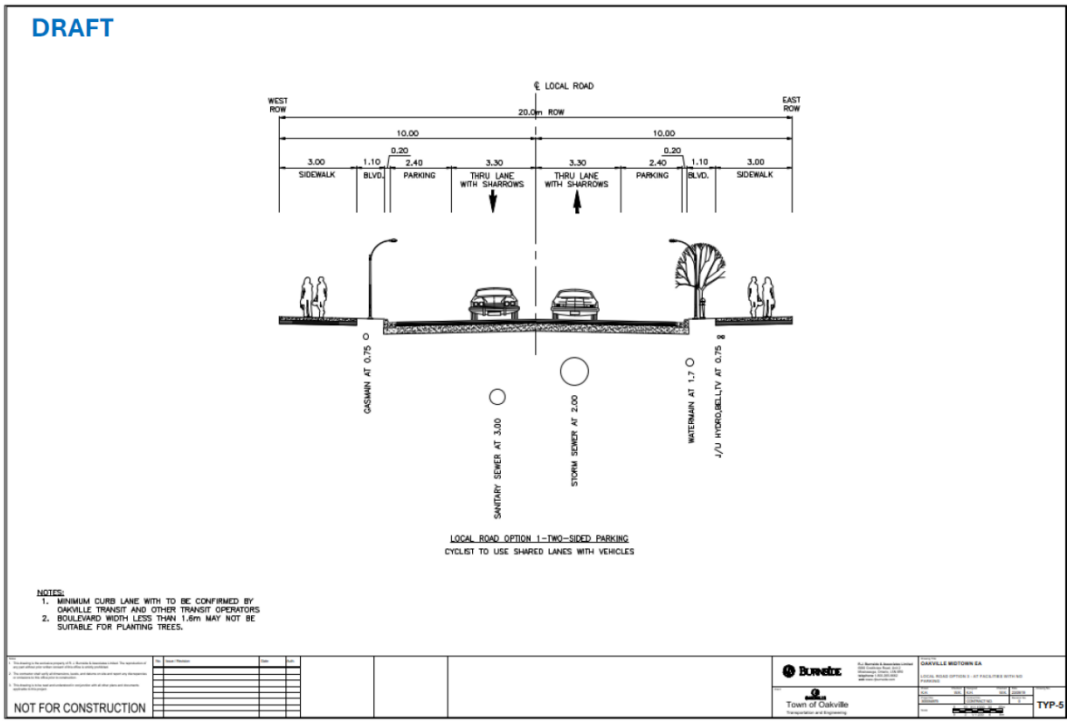
Road Elements	Preliminary Cross-Section for Midtown Oakville	Proposed Cross-Section
	outdated, as OPA 70 adopted a wider 30m ROW for this section. Updated Town cross-sections are not yet available.	
Lane Width	3.00 m inner lane[3] 3.50 m curb lane[3]	3.00 m inner lane 3.50 m curb lane
On-Street Parking Width	N/A[3]	N/A
Sidewalk Width	2.40 m[3]	2.70 m
Cycle Track Width	2.00 m one-way cycle track within boulevard[3]	2.00 m one-way cycle track within boulevard
Landscape Width	1.30 m[3]	N/A
Cross Avenue – East of N-S Arterial Road		
ROW Width	26.00 m[4] NOTE: The previously published 26m cross-section from the October 2024 Midtown Oakville staff report is outdated, as OPA 70 adopted a wider 30m ROW for this section. Updated Town cross-sections are not yet available for the section of Cross Avenue east of the N-S Arterial.	30.00m
Lane Width	3.00 m inner lane[4] 3.30 m curb lane[4]	3.30 m inner lane 3.50 m curb lane
On-Street Parking Width	N/A[4]	N/A
Sidewalk Width	2.40 m[4]	2.45 m
Cycle Track Width	2.00 m one-way cycle track within boulevard[4]	2.00 m one-way cycle track within boulevard
Landscape Width	1.50 m[4]	2.25 m
Cross Avenue – West of N-S Arterial Road		
ROW Width	36.00 m[5]	36.00m
Lane Width	3.00 m inner lane[5]	3.30 m inner lane

Road Elements	Preliminary Cross-Section for Midtown Oakville	Proposed Cross-Section
	3.50 m curb lane[5]	3.50 m curb lane
On-Street Parking Width	N/A[5]	N/A
Sidewalk Width	3.50 m[5]	2.95 m
Cycle Track Width	2.00 m one-way cycle track within boulevard[5]	2.00 m one-way cycle track within boulevard
Landscape Width	3.00 m[5]	2.25 m

Notes:
1. Draft Cross Section Options for local roads from October 2024 staff report Appendix F
2. Conceptual Cross Section for Davis Road from June 2025 open house
3. Draft Cross Section for the N-S Arterial Road from October 2024 staff report Appendix F
4. Draft Cross Section for Cross Avenue east of the N-S Arterial Road from October 2024 staff report Appendix F
5. Conceptual Cross Section for Cross Avenue west of the N-S Arterial Road from June 2025 open house

Figure 17: Proposed Road Cross-Sections vs. TMP Road Cross-Sections

STREET A, STREET B & SOUTH SERVICE ROAD EAST (20m)

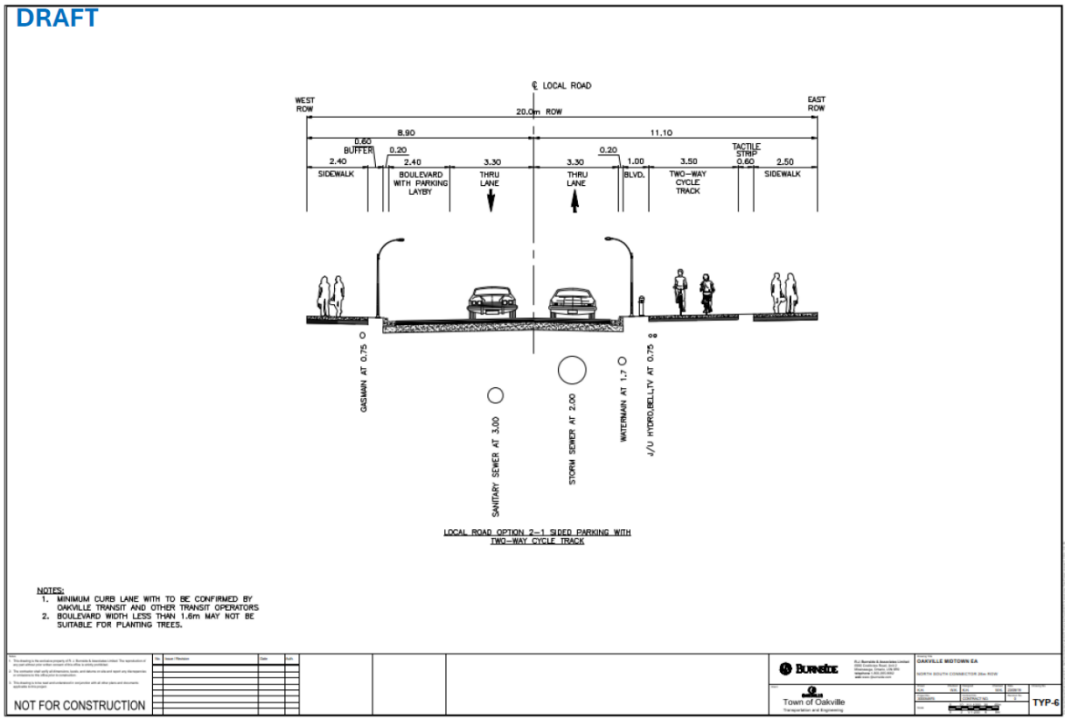


20m ROW

6

2024 DRAFT Town of Oakville Midtown EA

20m ROW Local Street – Option 1 – Two-Sided Parking

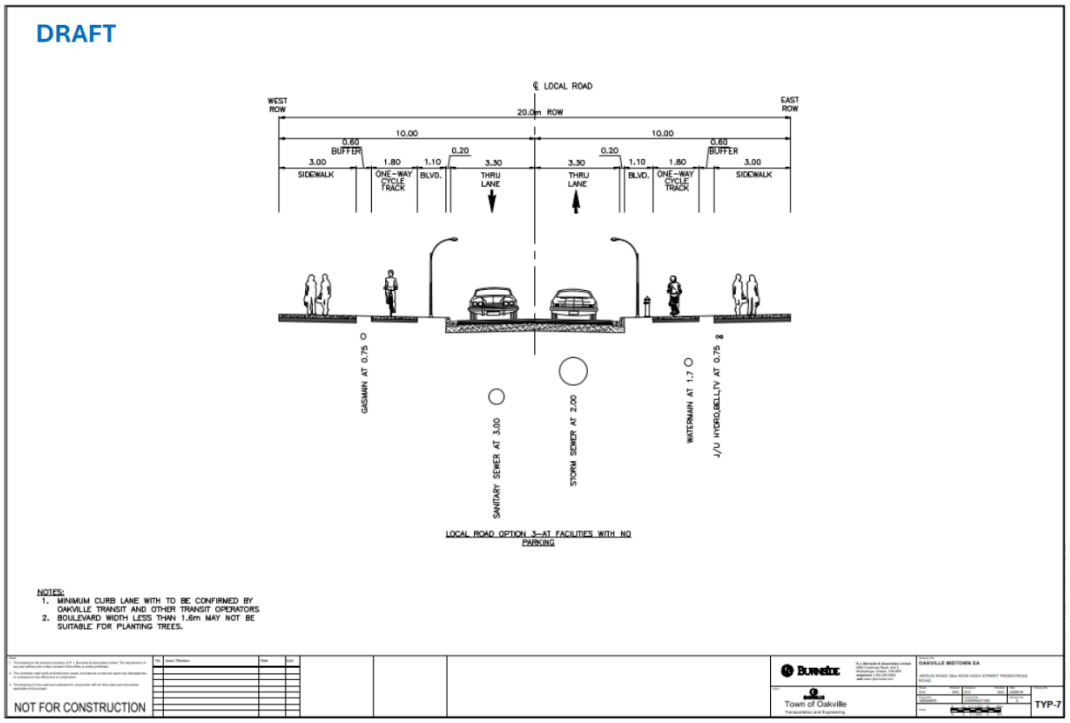


20m ROW

7

2024 DRAFT Town of Oakville Midtown EA

20m ROW Local Street – Option 2 – One-Sided Parking with Two-Way Cycle Track



20m ROW

2024 DRAFT Town of Oakville Midtown EA

20m ROW Local Street – Option 2 – AT Facilities with No Parking

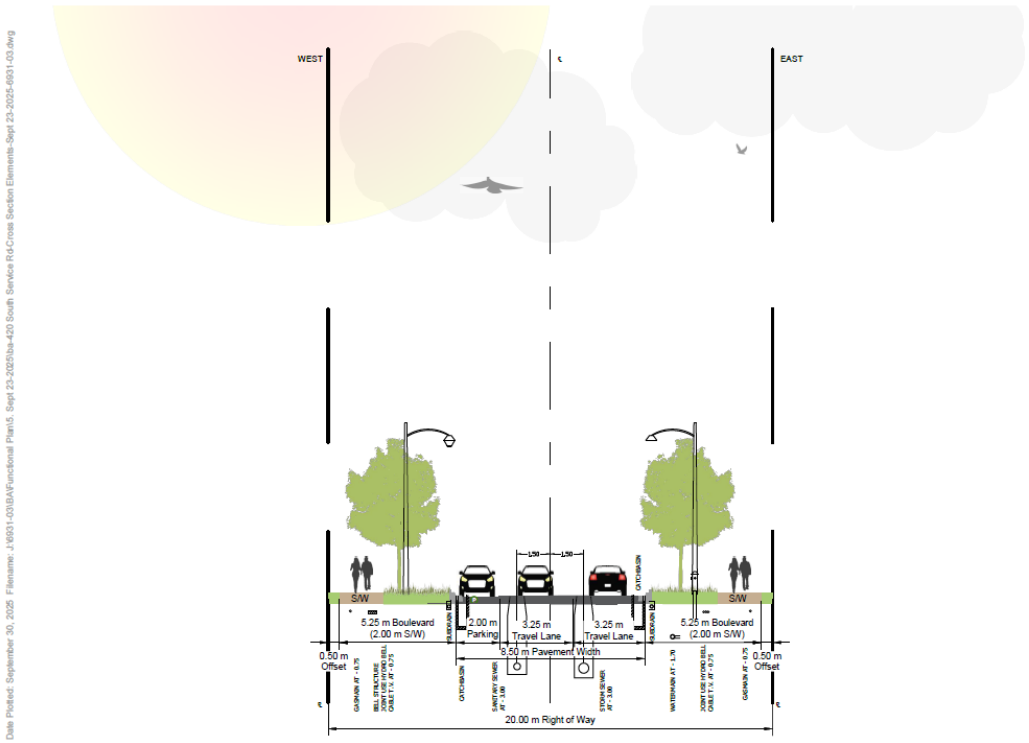


STREET A - 20M ROW

Proposed 20m Cross-Section for Street A

BA GROUP 6931-03

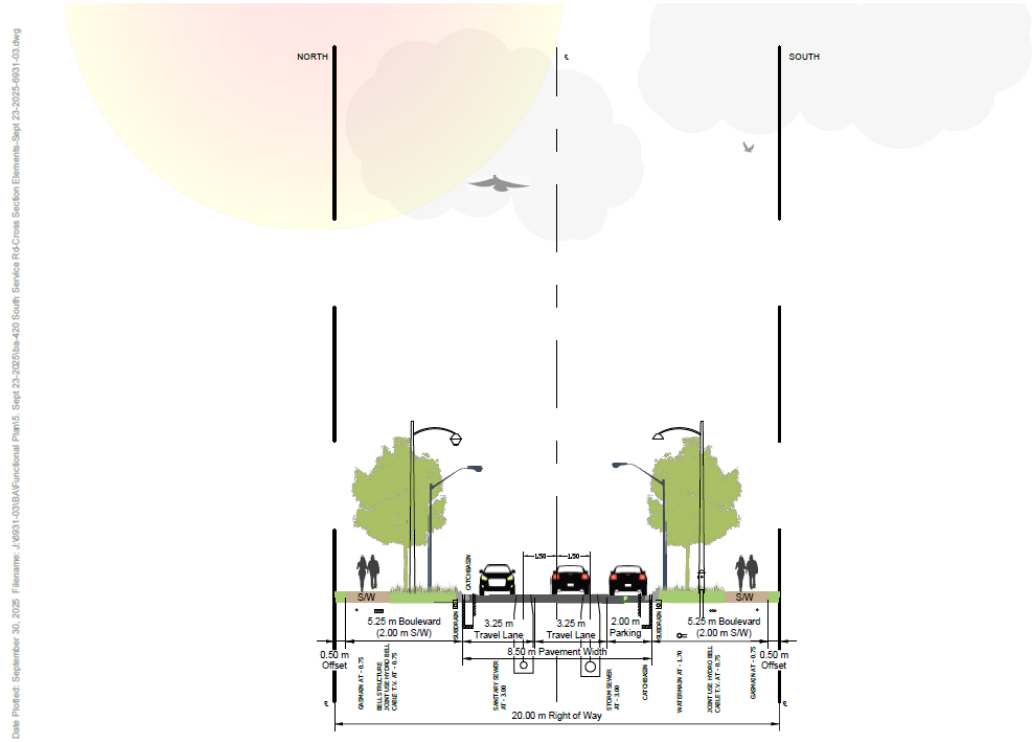
420-468 SOUTH SERVICE ROAD EAST



Proposed 20m Cross-Section for Street B

STREET B - 20M ROW

BA GROUP 6931-03 420-468 SOUTH SERVICE ROAD EAST

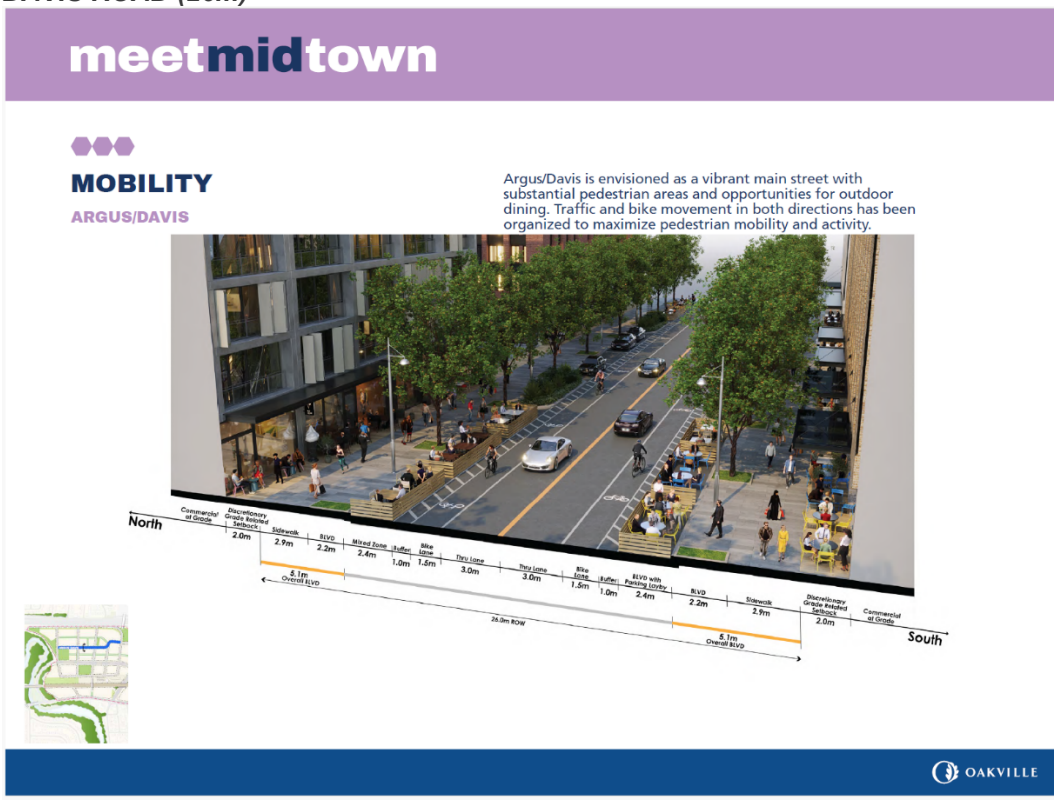


Proposed 20m Cross-Section for South Service Road East

SOUTH SERVICE ROAD EAST - 20M ROW

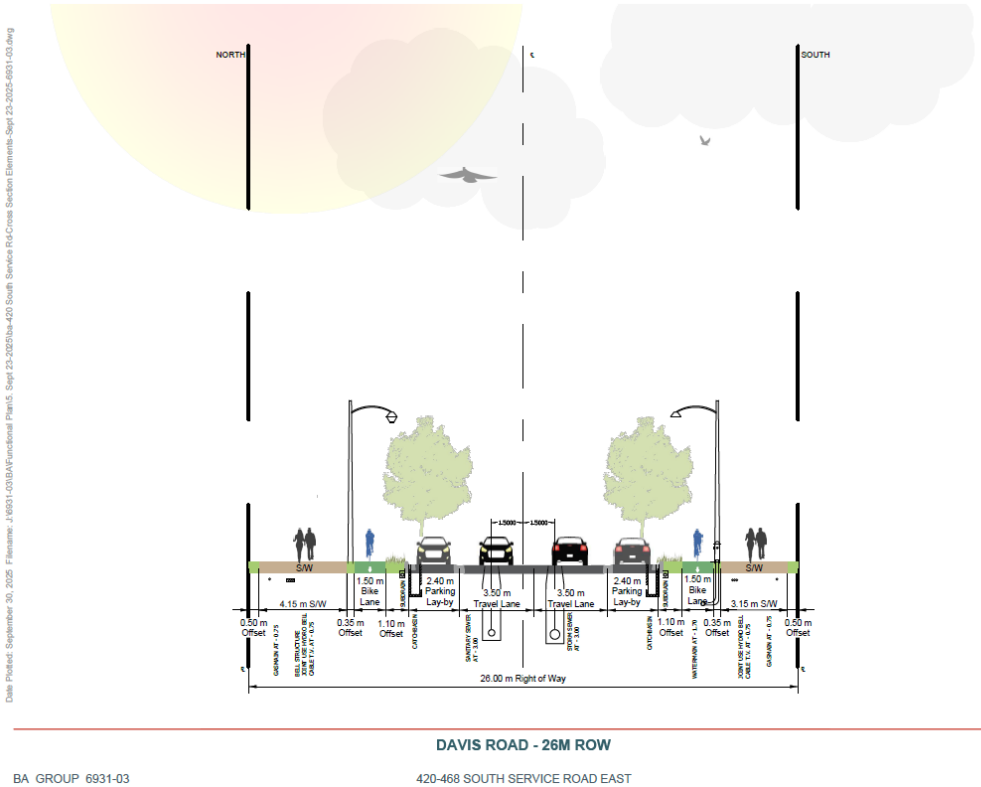
BA GROUP 6931-03 420-468 SOUTH SERVICE ROAD EAST

DAVIS ROAD (26m)



2025 Midtown Open House Materials

26m ROW Argus/Davis

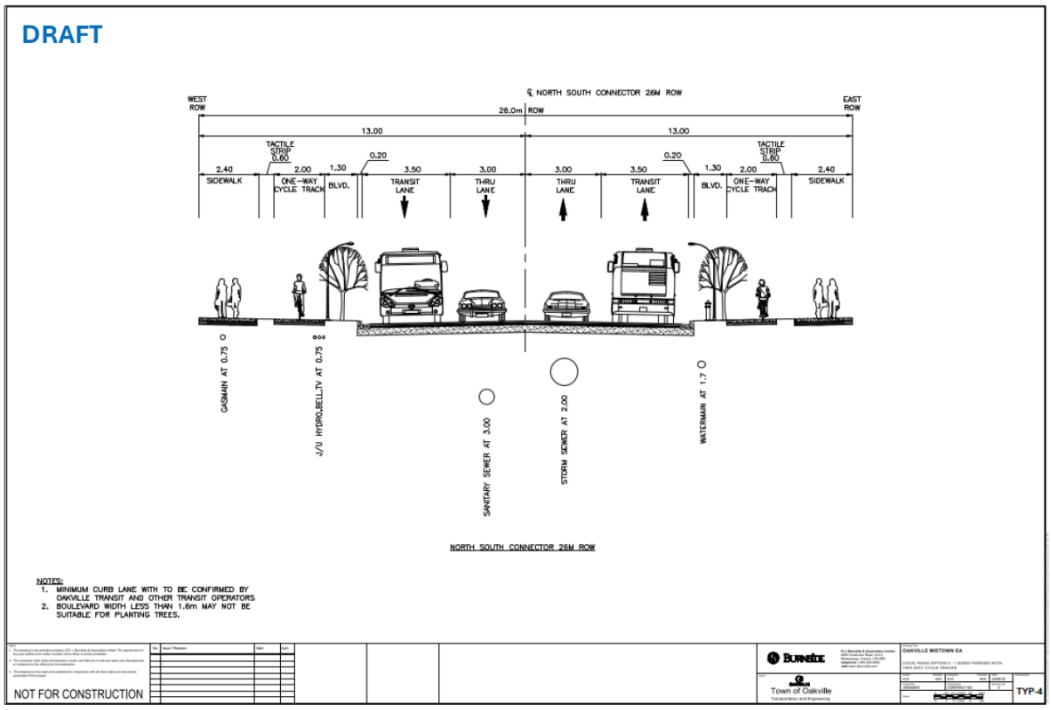


Proposed 26m Cross-Section for Davis Road

DAVIS ROAD - 26M ROW

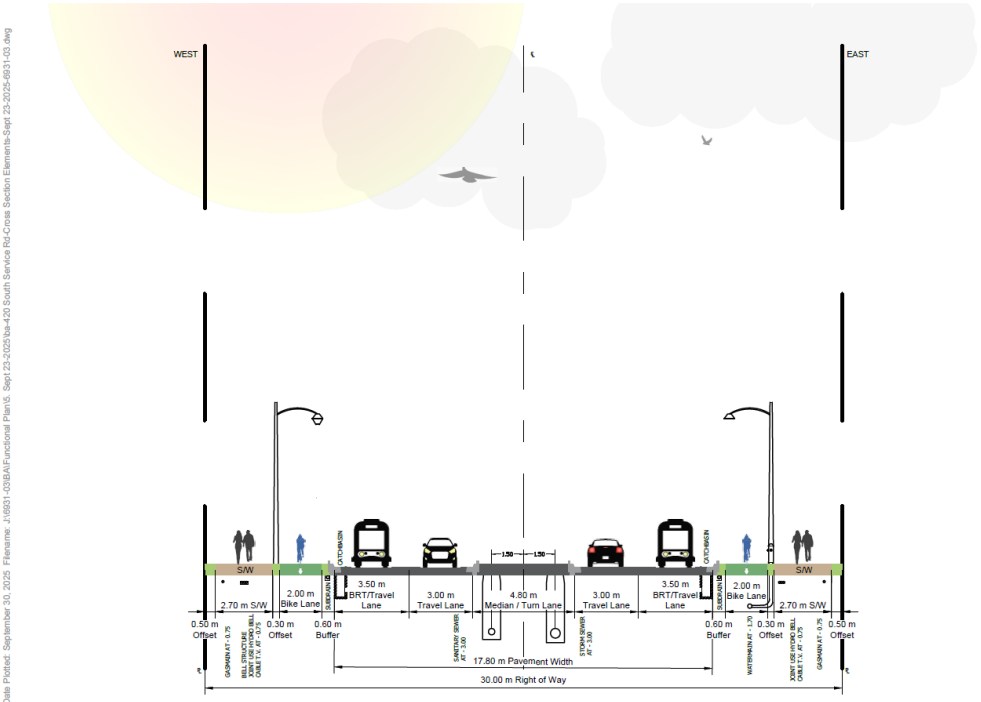
BA GROUP 6931-03 420-468 SOUTH SERVICE ROAD EAST

N-S Arterial (30m)



2024 DRAFT Town of Oakville Midtown EA

26m ROW North-South Connector



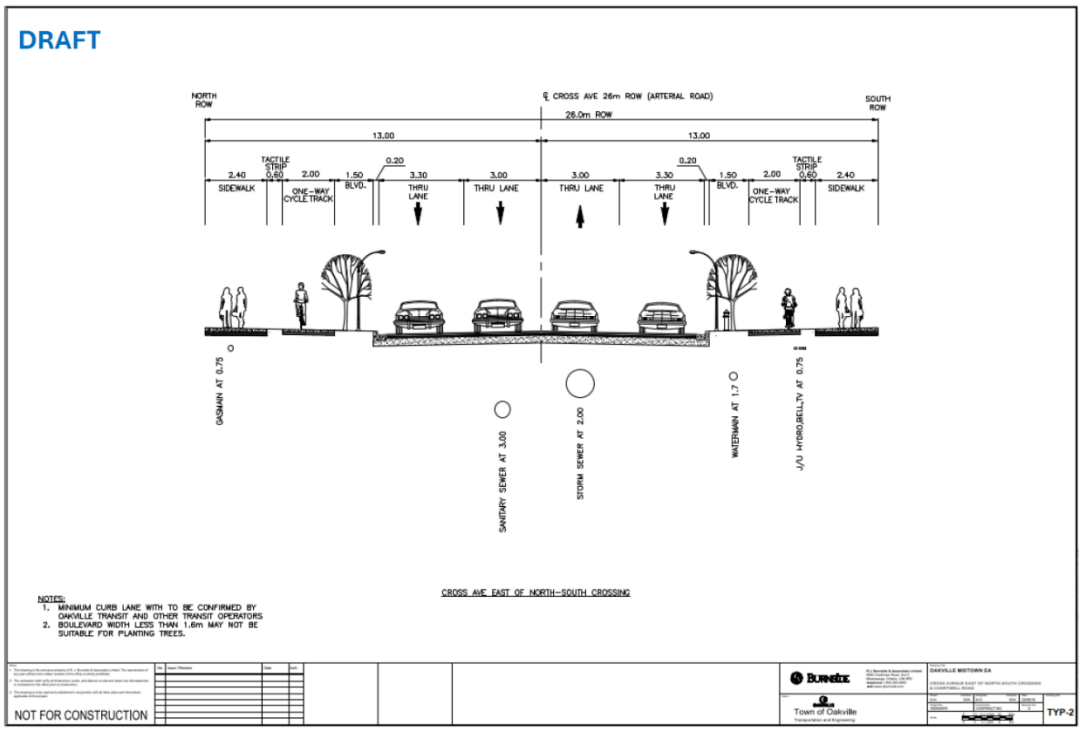
Proposed 30m Cross-Section for N-S Arterial

N-S ARTERIAL ROAD - 30M ROW

BA GROUP 6931-03

420-468 SOUTH SERVICE ROAD EAST

CROSS AVENUE WEST OF N-S ARTERIAL (30m)

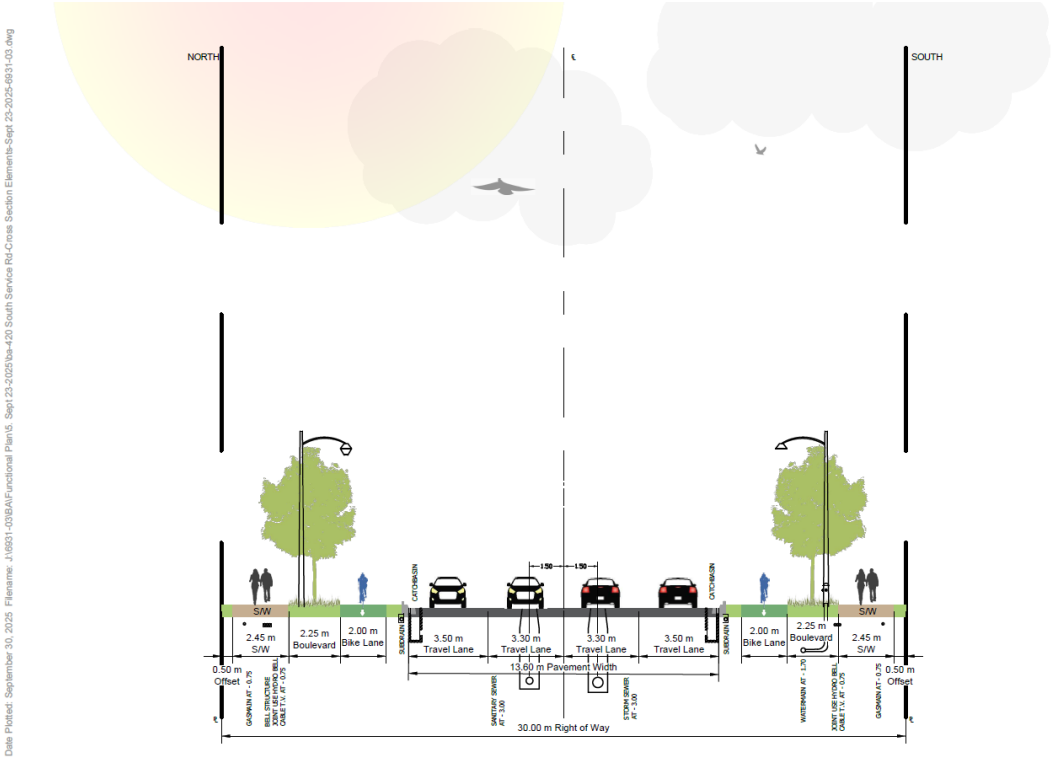


2024 DRAFT Town of Oakville Midtown EA

26m ROW Cross Avenue East of North-South Crossing

26m ROW

3



Date Plotted: September 30, 2025 Filename: J:\6931-03\B\Functional Plan\S. Sept 23-2025\ba-420 South Service Rd-Cross Section Elements-Sept 23-2025-6931-03.dwg

Proposed 30m Cross-Section for Cross Avenue East of N-S Arterial

CROSS AVENUE EAST OF N-S ARTERIAL ROAD - 30M ROW

BA GROUP 6931-03

420-468 SOUTH SERVICE ROAD EAST

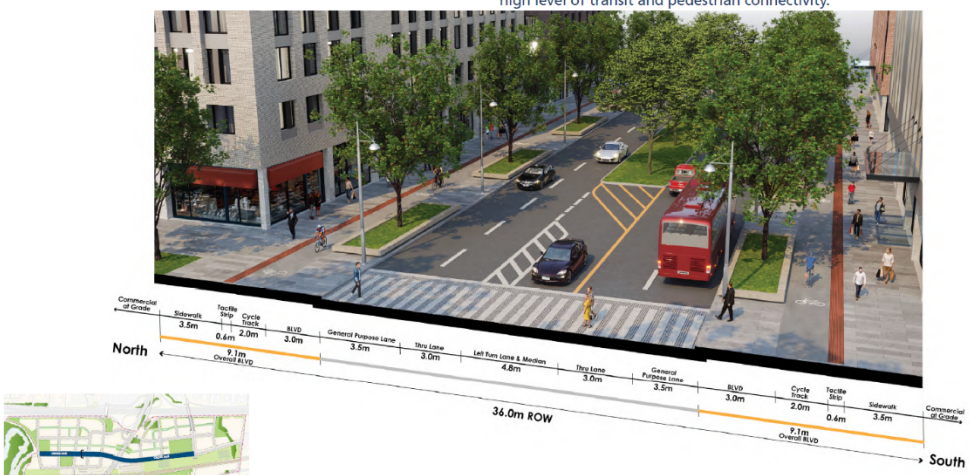
CROSS AVENUE EAST OF N-S ARTERIAL (36m)

meetmidtown

MOBILITY

CROSS AVE

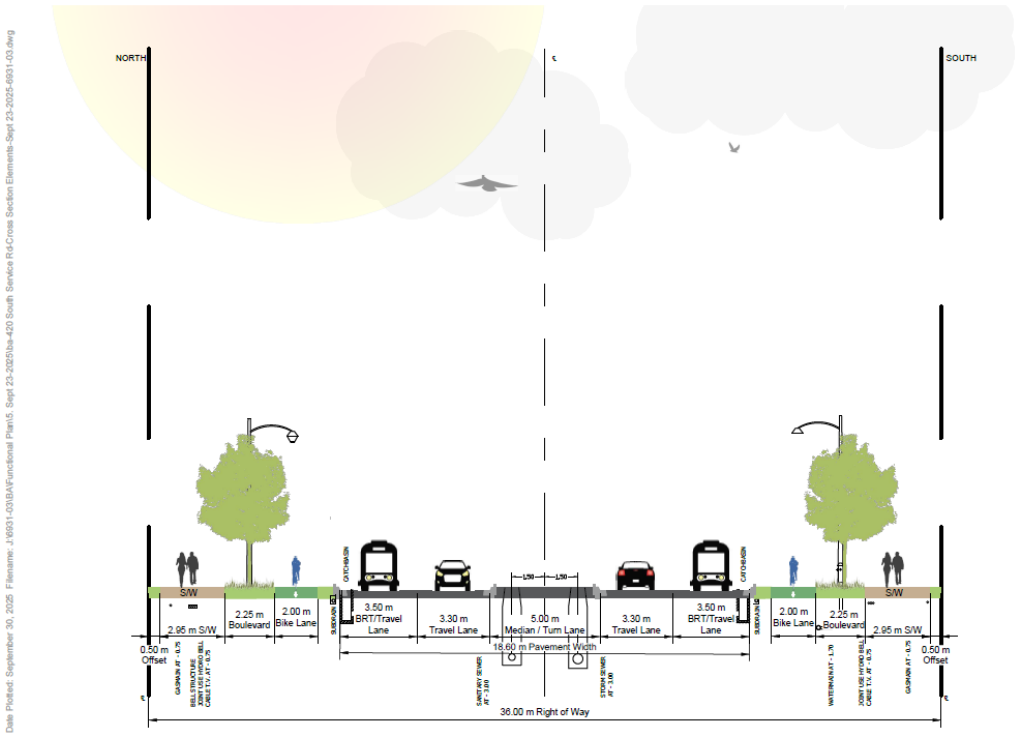
Cross Ave provides access to the GO Station, accommodates bus routes, includes bike lanes and a generous public realm that will create a functional and attractive street that offers a high level of transit and pedestrian connectivity.



OAKVILLE

2025 Midtown Open House Materials

36m ROW Cross Avenue



Proposed 36m Cross-Section for Cross Avenue West of N-S Arterial

CROSS AVENUE WEST OF N-S ARTERIAL ROAD - 36M ROW

BA GROUP 6931-03

420-468 SOUTH SERVICE ROAD EAST

5.2 Intersection Design Review

A geometric review of the proposed public road intersections was reviewed against the Town's standards and TAC Guide based upon the following elements:

- Intersection Radius
- Intersection Angle; and,
- Intersection Spacing

A road design conformance review is provided in **Appendix I**.

Table 6 Intersection Review

Intersection	Intersection Control	Intersection Radius	Intersection Angle	Intersection Spacing
TAC Guideline	**--**	**Refers to Town standards**	**Between 70° and 90°**	**60 m for local roads** **60 m for collector roads** **200m for arterial roads**
Town Standard	**--**	**7.5 m for local roads** **10.0 m for collector roads** **10.5m for arterial roads**	**N/A**	**N/A**
Street A / South Service Road East	One-way stop control	10.0 m	95°	160.0 metres to Street A / Davis Road 360.0 m to Street B / South Service Road East
Street A / Davis Road	Two-way stop control	10.0 m	90°	165.0 metres to Street A / South Service Road East 105.0 metres to Street A / Cross Avenue 145.0 metres to N-S Arterial Road / Davis Road
Street A / Cross Avenue	One-way stop control	10.5 m	90°	105.0 metres to Street A / Davis Road 140.0 metres to N-S Arterial Road / Davis Road
N-S Arterial Road / Davis Road	Signalized	15.0 m	92°	150.0 metres to Street A / Davis Road

Intersection	Intersection Control	Intersection Radius	Intersection Angle	Intersection Spacing
				135.0 metres to Street B / Davis Road 105.0 metres to N-S Arterial Road / Cross Avenue
N-S Arterial Road / Cross Avenue	Signalized	15.0 m	92°	140.0 metres to Street A / Cross Avenue 145.0 metres to Street B / Cross Avenue 95.0 metres to N-S Arterial Road / Davis Road
Street B / South Service Road East	One-way stop control	10.0 metres	97°	130.0 metres to Street B / Davis Road 360.0 m to Street A / South Service Road East
Street B / Davis Road	One-way stop control	10.0 metres	97°	130.0 metres to Street B / South Service Road East 90.0 metres to Street B / Cross Avenue 125.0 metres to N-S Arterial Road / Davis Road
Street B / Cross Avenue	One-way stop control	10.5 metres	90°	90.0 metres to Street B / Davis Road 145.0 metres to N-S Arterial Road / Davis Road

The proposed intersections meet all the requirements outlined in Town's standards and the TAC Guide apart from the intersection spacing along the proposed arterial roads (Cross Avenue and N-S Arterial Road). These non-compliant intersections are unable to achieve the suggested 200 m intersection spacing outlined in the TAC Guide but are considered acceptable for the following reasons:

Cross Avenue

- The road alignment of Cross Avenue aligns with the proposed road network outlined in OPA 70.

- As indicated by the anticipated queue lengths in **Section 13.0**, the forecasted vehicle queuing can be accommodated within the available storage despite having shorter spacing.
- The intersections of Cross Avenue / Street A and Cross Avenue / Street B are proposed to operate as one-sided stop control. Queuing will only occur on the local streets and will not affect the operations along the arterial road.

N-S Arterial Road

- The road alignment of the N-S Arterial Road also aligns with the proposed road network outlined in OPA 70.
- As indicated by the anticipated queue lengths in **Section 13.0**, the forecasted vehicle queuing can be accommodated within the available storage area along the N-S Arterial Road between the Davis Road and Cross Avenue intersections.

5.3 Horizontal Curvature and Centreline Radius Assessment

There are three locations within the proposed road network that are curved. They are located on Street B, N-S Arterial Road, and Cross Avenue. The proposed centreline radii and the Town's requirements are summarized in **Table 7** and annotated within the road design conformance review provided in **Appendix I**.

Table 7 Centreline Radius Review

Street	Road Classification	Design Speed	Town of Oakville Minimum Centerline Radius[1]	TAC Recommended Minimum Centerline Radius[2]	Proposed Centerline Radius
Street B	Local Road	50 km/h	90.0 m	110.0 m	250.0 m
N-S Arterial Road	Minor Arterial Road	60 km/h	130.0 m to 250.0 m	177.0 m	230.0 m
Cross Avenue (east of N-S Arterial Road)	Minor Arterial Road	60 km/h	130.0 m to 250.0 m	177.0 m	250.0 m

Notes:
1. Town of Oakville Road Geometric Design Standards Drawing STD 8-4
2. TAC Geometric Design Guide for Canadian Roads, June 2017, Figure 3.2.4. Normal Crown in a Low-Speed Urban Environment

The design of the proposed centreline radii meets all applicable Town of Oakville design parameters and TAC Guidelines.

5.4 Vertical Curvature Assessment

The vertical profile for the New N-S Arterial Street is provided in **Appendix G.**

5.5 Tangent Length Assessment

The proposed road network is generally straight as indicated by the intersection angles presented in **Table 6**. The tangent lengths for the proposed intersections were reviewed against both the Town's standards and the TAC Guide in **Table 8**.

Table 8 Tangent Length Review

Intersection	Road Classification	Intersection Control	Town of Oakville Minimum Tangent Length[1]	TAC Recommended Tangent Length[2]	Proposed Tangent Length
Street A / South Service Road East	Local Road / Local Road	One-way stop control on Street A	30.0 m for both roads	20.0 m	>30.0 m for both roads
Street A / Davis Road	Local Road / Collector Road	Two-way stop control on Street A	30.0 m for both roads	20.0 m	>30.0 m for both roads
Street A / Cross Avenue	Local Road / Arterial Road	One-way stop control on Street A	30.0 m for local road 60.0 m for arterial road	20.0 m	>30.0 m for local road >60.0 m for arterial road
N-S Arterial Road / Davis Road	Minor Arterial Road / Collector Road	Signalized	30.0 m for collector road 60.0 m for arterial road	20.0 m	>30.0 m for collector road 52.0 m for arterial road
N-S Arterial Road / Cross Avenue	Minor Arterial Road / Arterial Road	Signalized	60.0 m for both roads	20.0 m	>60.0 m for N-S Arterial Road 20.0 m for Cross Avenue
Street B / South Service Road East	Local Road / Local Road	One-way stop control on Street B	30.0 m for both roads	20.0 m	>30.0 m for both roads
Street B / Davis Road	Local Road / Collector Road	One-way stop control on Davis Road	30.0 m for both roads	20.0 m	>30.0 m for Davis road Street B curves through intersection
Street B / Cross Avenue	Local Road / Arterial Road	One-way stop control on Street B	30.0 m for local road 60.0 m for arterial road	20.0 m	>30.0 m for both roads

Notes:
1. Town of Oakville Road Geometric Design Standards Drawing STD 8-4
2. TAC Geometric Design Guide for Canadian Roads, June 2017, Section 9.7.2

Three of the proposed intersections do not meet the tangent length requirements outlined either in the Town's standards or the TAC Guide but are considered acceptable for the following reasons:

N-S Arterial Road / Davis Road

- The 52.0 m tangent length along the north side of the N-S Arterial Road is a result of the large 250.0 m centreline radius that exceeds the Town of Oakville's requirements and the TAC guidelines.
- The intersection is signal controlled and there are no sight distance limitations

N-S Arterial Road / Cross Avenue

- The 20.0 m tangent length along the east side of Cross Avenue is a result of the large 250.0 m centreline radius that exceeds the Town of Oakville's requirements and the TAC guidelines.
- The intersection is signal controlled and there are no sight distance limitations

Street B / Davis Road

- The intersection is stop controlled along Davis Road and a sight distance review concluded that there are no sight distance limitations at this intersection. The sight distance review is discussed further in **Section 5.8**.

The substandard tangents are annotated within the road design conformance review provided in **Appendix I**.

5.6 Driveway Spacing Assessment

The driveway spacings of the site driveways were reviewed against the TAC Guidelines as there are no minimum requirements outlined in the Town of Oakville road standards. Drawing STD 10-2 outlines minimum driveway spacings for non-residential uses only.

The proposed driveway spacing and the TAC guide's recommended driveway spacing are compared in **Table 9**. The annotation of the driveway spacing is provided within the road design conformance review in **Appendix I**.

Table 9 Driveway Spacing Review

Street	TAC Recommended Minimum Driveway Spacing [1]	Proposed Driveway Spacing
Private Driveway #1	3.0 m	30.0 m
Private Driveway #2	3.0 m	65.0 m
Private Driveway #3	3.0 m	30.0 m
Private Driveway #4	3.0 m	45.0 m
Private Driveway #5	3.0 m	45.0 m
Private Driveway #6	3.0 m	45.0 m
Private Driveway #7	3.0 m	45.0 m
Private Driveway #8	3.0 m	40.0 m
Private Driveway #9	3.0 m	40.0 m
Private Driveway #10	3.0 m	20.0 m

Notes:
1. TAC Geometric Design Guide for Canadian Roads, June 2017, Figure 8.9.2

All proposed driveways meet the suggested dimensions in the TAC Guide for the spacing length.

5.7 Vehicle Turning Review

The vehicle manoeuvring diagrams (VMD's) for the proposed intersections are provided in **Appendix J.** These VMD's include consideration for a Halton Region waste collection vehicle (10.5 m length) and a TAC single-unit truck (9.1 m length) to confirm the functionality of the intersection design of the proposed road plan.

5.8 Sight Distance Assessments

Sight distance assessments have been undertaken at intersections where there is 2-way stop control. It is noted that for intersections where signalization or all-way stop control is proposed, sight distance analysis is not required and has therefore not been undertaken.

The sight distance assessments have been provided in **Appendix K** and indicate that the minimum sight distance requirements are met at each of the intersections.

5.9 Daylighting Triangles

Daylighting triangles are located at the corners of an intersection and are typically kept free of visual obstacles that could restrict a driver's sightline. The purposes of daylighting triangles are as follows:

1. Provide sight distance;
2. Minimize conflicts between pedestrian, cyclists and vehicles;
3. Provide space for utilities, streetscape and street furniture; and
4. Widen sidewalks at the corners of intersections.

The size of a daylighting triangle is dependent on the road classification of the intersecting public roads and the type of intersection control.

As part of the development of the Site, daylighting is being provided at arterial intersections, while corner roundings are being provided at local / collector intersections. Full daylighting is being proposed at traffic signals.

The Town's daylighting requirements, as per the Oakville standard STD 8-4 (last revised in July 1995), are summarized in **Table 10**.

Table 10 Town of Oakville Daylighting Triangle Requirements

Road Classification	Daylighting triangles			
	Minor Local Road	Local Road	Collector Road	Arterial Road
Minor Local / Local Road	n/a	n/a	7.5 m	15.0 m
Collector Road	7.5 m	7.5 m	7.5 m	15.0 m
Arterial Road	15.0 m	15.0 m	15.0 m	15.0 m

The Oakville OP policy: 8.12.3 states the following:

> "*Where appropriate and public safety is not affected, the Town will minimize the amount of land utilized for daylighting triangles to contribute to a more urban environment and maximize the efficient use of land.*"

Consistent with Oakville OP policy 8.12.3, and to ensure a more urban context is created at intersections within Midtown, reduced daylighting triangles and corner roundings are proposed at the intersections of the local, collector and arterial streets.

A summary of the daylighting triangles and corner roundings proposed for the public street intersections is provided in **Table 11.** These daylighting and corner rounds are appropriate within an urban environment, such as what is being proposed for the Site. These areas are also proposed to be provided for surface easements, which allows for the garage to extend below these areas resulting in compact and efficient below-grade parking facilities.

Table 11 Proposed Midtown Oakville Daylighting Triangle and Corner Roundings

Road Classification	Minor Local Road	Local Road	Collector Road	Arterial Road
Minor Local / Local Road	5.0 m corner rounding	5 m corner rounding	7.5 m corner rounding	7.5 m daylighting triangle
Collector Road	7.5 m corner rounding	7.5 m corner rounding	7.5 m corner rounding	7.5 m daylighting triangle
Arterial Road	7.5 m daylighting triangle	7.5 m daylighting triangle	7.5 m daylighting triangle	7.5 m daylighting triangle

As a comparison, the City of Toronto adopts corner roundings at intersections based upon the road ROW widths, as summarized in **Table 12.** The City of Toronto corner rounding requirements have been referenced to provide a comparable guideline for the urban community being envisioned within the Midtown Oakville area.

It is noted that the City of Toronto permits development sites to adopt these corner roundings to function as surface easements to facilitate the construction of below-grade parking facilities. With the proposed corner roundings being kept clear of visual obstructions, the below-grade facilities will not influence the at-grade sightlines or create conflicts between pedestrians and vehicles. An efficient below-grade structure can be erected right up to the property lines.

Table 12 City of Toronto Corner Rounding Requirements

Intersection Approaches		ROW Rounding
ROW Width (m)	Intersecting With ROW Width (m)	
<23	<23	5.0 m
23-36	23-36	6.0 m
<36	<36	8.0 m

6.0 VEHICLE PARKING

6.1 Site-Specific Zoning Bylaw 2026-074

On July 7, 2026, Town Council adopted site-specific Zoning By-law 2026-074 which introduced the following vehicle parking requirements for the Site:

- No minimum requirements for all uses;
- Residents – Maximum of 1.0 space / unit;
- Residential visitors – Maximum of 0.2 spaces / unit;
- Non-residential uses – Maximum of 1.0 space / 25.0sm NFA;
- Business office and medical office uses – Maximum of 1.0 / 28.0sm NFA; and
- Elementary and secondary schools – Maximum of 1.5 spaces / classroom.

6.2 Proposed Vehicle Parking Supply

Notwithstanding the requirements of the Zoning bylaw, a practical parking demand exists that will need to be accommodated for the Site.

The current vehicle parking rates to be adopted for the Site are as follows:

- Resident parking: minimum of 0.50 spaces per unit
- Resident visitor parking: minimum of 0.15 spaces per unit
- Non-resident (retail) parking: minimum of 1.08 spaces per 100 m^2 of GFA

The parking supply for each building will be refined and determined at the SPA stage and will fall within the maximum requirements of the Zoning bylaw.

7.0 BICYCLE PARKING

On July 7, 2026, Town Council adopted site-specific Zoning By-law 2026-074 which introduced the following bicycle parking requirements for the Site:

- Residential uses – 0.5 spaces / unit, including 0.1 spaces / unit for visitors; and
- Non-residential uses – 0.35 spaces / 100sm NFA, including 0.25 spaces / 100sm NFA for visitors.

The bicycle parking supply for each building will be refined and determined at the SPA stage and will meet the minimum requirements of the zoning bylaw.

8.0 LOADING

8.1 Loading Requirements

The Town of Oakville's Zoning By-law 2014-014 does not include a requirement for a minimum number of loading spaces. The bylaw does however require the following in regard to where a loading space is provided:

- The minimum dimensions of a loading space are: 3.5 m width, 12.0 m length and 4.2 m vertical clearance;
- A loading space shall abut the building for which the loading space is provided; and
- A loading space shall be set back 7.5 m from any residential zone, except if entirely within a structure.

8.2 Proposed Waste Management Strategy

Regardless of the absence of a zoning bylaw requirement, there is a practical requirement for an appropriate loading supply for the Site that reflects the intensification being proposed. As such, the loading supply has been considered within the context of the following principles:

- Residential refuse loading areas that meet the Region of Halton requirements for dimensional standards (non-residential refuse collection will be privately operated);
- Resident move-in / move-out needs that are impacted by the scale of the scale development and the mix of non-residential uses;
- Delivery vehicle needs associated with the residential units; and
- The needs of the non-residential land uses and their associated intensities.

The Region of Halton has specific vertical clearances for their refuse collection vehicles. A 7.5 m vertical height will be provided where the refuse collection vehicle will be engaged in collecting and returning the bins to their staging area. Beyond this active loading space, a 4.5 m vertical clearance will be provided to ensure that all service vehicle design vehicles are able to enter and exit the loading area without risk of coming into conflict with overhead features of the building (i.e., structural beams, electrical conduits, plumbing pipes, overhead doors, etc.).

8.3 Proposed Loading Supply

The proposed loading arrangements remain the same as the October 2025 application and is summarized in **Table 13.** The loading supply indicates that some of the Type G loading spaces will be shared between some of the towers.

Table 13 Proposed Loading Supply

Block	Number of Towers on Block	Number of 13 m x 4 m (Type G) Loading Spaces	Number of 3.5 m x 11 m (Type B) Loading Spaces	Total Number of Loading Spaces
Block 1	4	3	2	**5**
Block 2	4	3	2	**5**
Block 3	3	2	3	**5**
Block 4	3	2	2	**4**
Total Site	**14**	**10**	**9**	**19**

The Site is proposed to include a total of 19 loading spaces, including 10 Type G spaces (13 metres by 4 metres) and 9 Type B spaces (3.5 metres by 11 metres).

The Type G loading spaces will accommodate refuse collection vehicles, in addition to the space required around the vehicle, related to the collection of refuse bins that are typically collected by an overhead refuse collection vehicle. Additional bin-staging areas will be provided that will be directly related to the scale (number of units) of the residential development to be served by the Type G loading area. For some blocks, in order to be efficient, the Type G loading spaces can serve more than one building.

The loading facilities for each building, including the design of vehicle manoeuvring areas, will be refined during the SPA stage. The loading supply strategy will be evaluated against the practical, functional, and policy requirements associated with the various types of loading operations that would be experienced on a daily basis.

9.0 TRANSPORTATION DEMAND MANAGEMENT (TDM) PLAN

Transportation Demand Management (TDM) measures will be incorporated within the Site to minimize the need for automobile travel and to encourage and facilitate the use of non-automobile travel modes on a daily basis. The following sections outline the proposed physical and operational strategies that complement the Site design, with the goal of encouraging a shift in the travel pattern of future residents to sustainable modes of transportation, while being flexible to adapt to future mobility needs and a long-term phased development plan.

The TDM Plan strives to reduce automobile use as a part of the design and construction of the development, as well as after construction, as an on-going strategy by supporting and promoting the use of non-auto travel modes. The key objective of the TDM Plan is to reduce peak hour single occupant automobile traffic with a focus on the following specific policy areas:

1. Encourage the use of alternative travel modes (transit, cycling and walking);
2. Increase vehicle occupancy;
3. Shift travel to off-peak periods; and
4. Reduce vehicle kilometres travelled.

9.1 TDM Plan Strategies

The existing and future area context provides for excellent public transit services, as well as travel by active transportation, which will reduce the need of future residents of the Site to travel using an automobile. Additional TDM strategies, which have been recommended as part of the proposed development, are summarized in **Table 14**.

Based upon the Site context and proposed land use, the recommended TDM strategies have been selected to further support non-automobile modes of travel. The measures fall into two general categories: a ‘hard’ or ‘soft’ measure. A ‘hard’ TDM measure is a physical infrastructure component, where the applicant is responsible for implementations. A ‘soft’ TDM measure is where the applicant is responsible for notifying a third party for implementations. The following sections provide additional details regarding each recommended TDM strategy.

Table 14 Summary of Potential Site TDM Measures

Measure	Type	Description	Objective
Reduced Car Ownership			
Reduced Parking Supply	Hard Measure	A reduced parking supply is proposed for the Site, in comparison with the minimum resident parking requirements outlined in Town Zoning By-law as follows: • resident parking ratio = 0.50 space per unit; • visitor parking ratio = 0.15 spaces per unit; and, • non-residential parking ratio = 1.08 spaces per 100m^2 GFA Providing a reduced parking supply is a key component in reducing single occupant vehicle trips.	Reduce auto-oriented dependence and the need for everyday travel. Promote non-auto modes of travel during peak travel periods.
Unbundled Parking	Soft Measure	Unbundle unit leases and parking payment.	Reduce auto-oriented dependence and the need for everyday travel.
Car Share Spaces	Hard Measure	Consideration to provide car share spaces on the Site through a car share provider. The number and details of the car shares spaces would be negotiated with a car share provider at a later time.	Promote alternative transportation service options besides car ownership.
Car Share Memberships	Soft Measure	Consideration to provide an optional annual car share membership per unit for the first year of occupancy.	
Parking Pricing	Soft Measure	Consider a paid parking operation for all non-resident parking, provided in a shared parking environment.	Influence travel mode choice.
Cycling			
Bicycle Parking	Hard Measure	Provide bicycle parking that meets or exceeds the zoning bylaw requirements.	Make cycling an attractive option for travel during the peak travel periods.
Bicycle Repair Station	Hard Measure	Provide bicycle repair stations (one for each internal bike storage room) within the residential bicycle parking storage area on Site.	
Bicycle Parking: Range of Types	Hard Measure	Consider providing a range of bicycle parking facilities for long term resident needs, such as cargo bike parking.	Increase the utility of bicycle travel for a variety of trip types.
Bike Share	Hard Measure	Consider providing private bike share stations, both regular and e-bike support, for residents and visitors of the Site.	Promote alternative transportation service options besides car ownership
Micromobility			

Measure	Type	Description	Objective
Private / Shared Micromobility Devices	Hard Measure	Explore the provision of micromobility devices (manual bikes, e-bikes, e-scooters, etc.) in consideration of the Town of Oakville policy review of micromobility to facilitate "last kilometer" trip making in the Midtown Oakville context.	Promote alternative transportation service options besides car ownership
Transit			
Transit Information Centre	Hard Measure	Explore the provision of monitors displaying real-time transit information in the resident lobbies to assist residents taking local transit services (e.g., bus and streetcar routes) and using the GO Transit system.	Reduce car dependence and the need for everyday travel.
Travel Mode Information Package	Soft Measure	Implement marketing programs to ensure that new residents are aware of available modal choices in the area.	Promote transit travel during peak travel periods
Pedestrian Access and Walkability			
Pedestrian & Cycling Connections	Hard Measure	Provide direct connections to Davis Road, New N-S Minor Arterial Street, and Cross Avenue, which connects pedestrians and cyclists to the surrounding area's bike lanes, Oakville Transit bus stops, and the Oakville GO Station. Ensure internal pedestrian connections facilitate anticipated desire lines within and between development blocks. Ensure continuous, safe, and direct pedestrian connections with enhanced pedestrian amenities (landscaping, benches, shade, etc.) are provided.	Make walking and cycling an attractive option for travel during peak travel periods.
Building Infrastructure			
Pick-up / Drop off Facilities	Hard Measure	Provision of convenient pick-up and drop-off facilities within and around the development blocks to facilitate passenger pick-up and drop-off via shared use mobility services, short-term small scale residential deliveries (substituting for shopping trips)	Facilitate alternative means of travel other than private auto – use of shared auto services – reduces parking.
Secure Internal Package Storage facilities	Hard Measure	Consideration of internal residential building facilities to facilitate the secure drop-off of small parcels, packages, and potentially food deliveries	Increase opportunities to use delivery services during all times of day/week.
Monitoring			
Monitoring program – travel modal split, parking demands, bicycle parking demands	Soft Measure	Implement a program to monitor travel demand by mode as development is phased in over time. Respond to evolving demands and adjust mobility characteristics such as parking supply/configuration (review overall parking supply, adjust car-share resources) or bicycle parking supply/configuration (such as	Adapt to mobility changes over time with a view to reducing reliance on private use.

Measure	Type	Description	Objective
		introducing and/or increasing cargo bike, e-Bike, or e-Scooter storage facilities).	
Communication/ TDM Coordinator			
Resident / Retail Tenant Information Meetings	Soft Measure	Arrange meetings of new residents or retail tenants to communicate the available mobility resources to accommodate daily needs. Organized by building management or concierge staff within individual buildings.	Ensure the resident and tenant populations are kept informed of mobility options as they evolve over time within Midtown.
TDM Coordinator	Soft Measure	As requested by the Town, consideration is to be provided for hiring a TDM coordinator to implement the TDM strategy for the Site. Continued consultation is underway with the Town's Sustainable Transportation Program Coordinator for Smart Commute program options and implementation of TDM measures.	To oversee the implementation of TDM measures for the Site.

10.0 ROAD SAFETY AND TRAFFIC CALMING

To enhance the level of safety for all road users on residential streets within Oakville, the Town recently introduced the Neighbourhood Traffic Safety Program. This program includes the following components:

- Community Safety Zones
- Traffic calming
- Pedestrian crossovers
- Reduced default speed limit
- Vision Zero

The components of the Town's Neighbourhood Traffic Safety Program are summarized in **Table 15** and include consideration for how these measures would relate to the Site.

Table 15 Town's Neighbourhood Traffic Safety Program

Component	Description	Consideration for Site
Community Safety Zones	• Community Safety Zones (CSZ's) may include roadways near schools, daycare centres, active parks, hospitals and senior citizen residences, and may also be used for collision prone areas. • The Highway Traffic Act (HTA) allows municipalities to designate road segments as CSZs where public safety is of special concern and certain HTA fines (including speeding) are doubled.	• Once the Site is built-out, monitoring of the streets surrounding the Site (Local Street A, Local Street B and Davis Road) could be undertaken to determine if a Community Safety Zone is recommended.
Traffic Calming	• Traffic speeds at various locations in Oakville are measured through the speed survey program. • Traffic calming measures are used to reduce speeds where conventional methods of speed deterrence, such as enforcement and education, have not been effective. Some traffic calming examples include radar speed display signs, speed cushions, and raised barrier medians.	• Although the design of the Site street network has been designed to encourage lower speeds, once the Site is built-out, monitoring of the streets surrounding the Site could be undertaken to determine if additional traffic calming measures are required.

Pedestrian Crossovers PXO's)	• The Town has a Pedestrian Crossover (PXO) program. PXO's can be considered where a protected crossing is required for pedestrians. There are 4 different types of PXO's (as per the Ontario Traffic Manual Book 15), each providing a different level of protection.	• A PXO is being proposed for the Site along Davis Road, to provide a mid-block pedestrian crossing between the New N-S Arterial Street and Local Street B. This PXO will provide connectivity for pedestrians between Blocks 2 and 4.
Reduced Default Speed Limit	• In September 2023, Town Council voted to maintain the default speed limit of 50 km/h across all local and minor collector roads in Oakville as studies demonstrated that 40 km/h speed limits do not reduce operating speeds.	• Appropriate posted speed limits can be considered by the Town for the streets surrounding the Site at a later stage.
Vision Zero	• Vision Zero is a road safety approach with the goal of zero fatalities and zero serious injuries on roadways. • A key planning goal from the Town's 2018 Switching Gears Transportation Master Plan, was to provide a safe and efficient transportation system for all road users. • The Town currently has various initiatives to improve traffic safety as part of the Neighbourhood Traffic Safety Program, including education and outreach, network screening and crossing guard programs.	• Once the Site is operational, monitoring of the streets surrounding the Site could be undertaken to determine if there are road safety concerns that need to be addressed.

The design of the Site street network reviewed the 3 road safety pillars summarized in **Table 16**, with a focus on "Engineering". Once the Site is operational, the Town could address the "Education" and "Enforcement" pillars to address any road safety concerns. Road safety considers all road users, inclusive of pedestrians (focus on vulnerable users such as children, seniors, accessibility challenges) cyclists and vehicles.

Engineering measures that contribute to road safety include physical measures that focus on the design and operation of streets. The measures that impact road safety typically include traffic calming measures, changes to traffic control, traffic signal timing/coordination and pavement markings, signage, policy changes, review of design standards and changes to regulations such as traffic flow and parking rules.

The "Engineering" traffic calming measures that are proposed for the Site include street cross-sections that provide appropriate lane widths, on-street parking, curb extensions, a pedestrian crossover, dedicated facilities

for active transportation and boulevard landscaping. A pavement marking and signage plan will be provided as part of the SPA application.

Table 16 Road Safety Pillars

Engineering	Education	Enforcement
• Engineering includes safety measures that consider the physical and built environment, inclusive of the lay-out of the Site and design of the street network. • The proposed Site Street network include a functional design that considers road safety.	• Education includes widespread communication to provide information to the community about road safety. • The goal of education is to alter road user behaviour and increase the level of safety.	• Enforcement is a key component to improve driver behaviour and enhance the level of safety.

11.0 TRAFFIC VOLUME FORECASTING

11.1 Traffic Analysis Scenarios

The traffic analysis has been undertaken for the weekday morning and afternoon peak hours.

The Town and the MTO have also requested that specific growth rates be applied along key corridors and the QEW/Hwy 403 ramps for analysis. This study therefore includes two scenarios for each horizon year: 1) **base** analysis without the requested corridor growth assumptions and 2) **sensitivity** analysis with corridor growth assumed. The justification for considering an analysis scenario without the sustained corridor growth, and why this scenario is most representative of future travel conditions, is provided in **Section 11.3.2**.

A summary of the traffic analysis scenarios considered for this report is as follows:

- Phase 1 build-out (**2031**);
    - 2031 Base traffic analysis (**without** additional corridor growth)
    - 2031 Sensitivity traffic analysis (**with** additional corridor growth)
- 5 years beyond build-out of Phase 1 (**2036**);
    - 2036 Base traffic analysis (**without** additional corridor growth)
    - 2036 Sensitivity traffic analysis (**with** additional corridor growth)
- Ultimate buildout of the entire Site (**2046**) - 20 years from the date of this study.
    - 2046 Base traffic analysis (**without** additional corridor growth)
    - 2046 Sensitivity traffic analysis (**with** additional corridor growth)

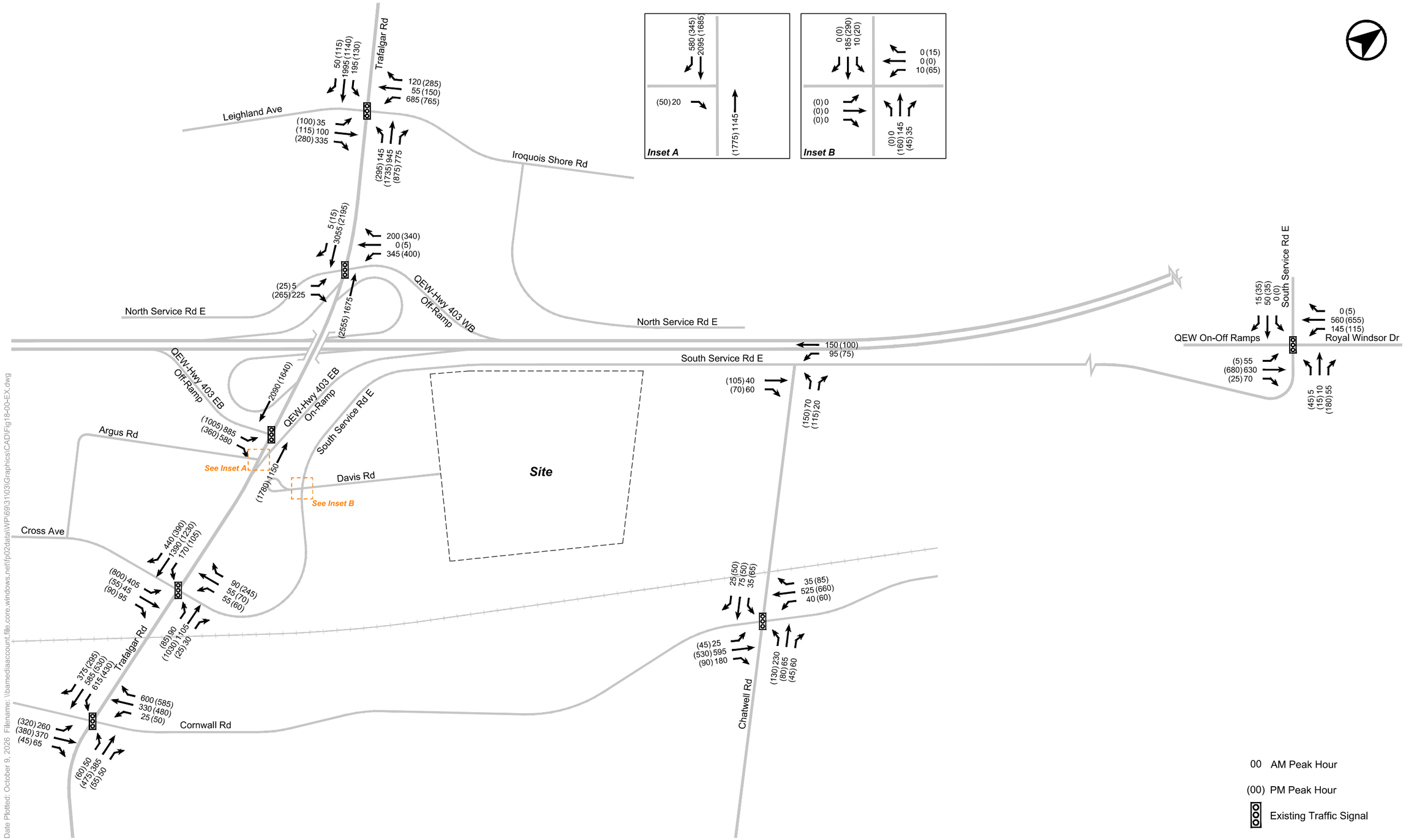
11.2 Existing Traffic Volumes

Existing baseline traffic and pedestrian volumes were established at intersections within the study area for the weekday morning and afternoon peak hour, using traffic count information obtained from surveys conducted by Spectrum Traffic Data Inc. on Tuesday, June 4, 2024. A list of the count data and sources is provided in **Table 17**. All turning movement counts are provided in **Appendix L.**

Table 17 Study Area Intersections

Intersections	Type of Control	Count Date	Source
Trafalgar Road / Iroquois Shore Road / Leighland Avenue	Signalized	Tuesday, June 4th, 2024	Spectrum Traffic Data Inc.
Trafalgar Road / North Service Road / QEW-Hwy 403 Westbound Off-Ramp			
Trafalgar Road / QEW-Hwy 403 Eastbound Off-Ramp			
Trafalgar Road / Cross Avenue			
Trafalgar Road / Cornwall Road			
Cornwall Road / Chartwell Road			
QEW-Hwy 403 Ramps / Royal Windsor Drive / South Service Road East			
Trafalgar Road / Argus Road	Stop Control		
Chartwell Road / South Service Road East			
South Service Road East / Davis Road			

The existing turning movement counts were reviewed in detail to ensure a general consistency in the traffic volumes on roadways between intersections. Existing, balanced baseline area traffic volumes for the weekday morning and afternoon peak hours are illustrated in **Figure 18**.



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FIGURE 18 EXISTING TRAFFIC VOLUMES

11.3 Future Background Traffic

Traffic growth in the Site vicinity is based on a review of both background development traffic allowances and general corridor growth along key study area corridors, in each horizon year of 2031, 2036 and 2046.

11.3.1 Background Development Traffic

A total of 9 background developments were included as background growth on the study area road network. This comprehensive list was obtained from the active applications available on the Town of Oakville's website and in correspondence with Town staff. **Table 18** provides a summary of the background developments considered in this study. These developments represent in the order of 8,000 residential units and almost 20,000 m^2 GFA of non-residential uses. Background development traffic volumes are shown in **Figure 28**.

It is expected that most of these developments would be built out by the earliest horizon year of 2031, with the exception of 590 Argus Road, 157 & 167 Cross Avenue, and 217 Cross Avenue & 571 Argus Road. As of the date of this study, these latter three developments are expected to be built out by the furthest horizon year of 2046. **Appendix M** includes a summary of the background developments and the respective trip generation that was generated or published in respective traffic studies where available.

Table 18 Area Background Developments

Location	Development Statistics		Source[1]	Date
	Residential (Units)	Non-Residential[2] (m^2 GFA)		
271 Cornwall Road	317	960	R. J. Burnside Traffic Study	August 2020
627 Lyons Lane	281	--	Paradigm Traffic Study	May 2022
349 Davis Road	388	2,152	Crozier Traffic Study	May 2023
599 Lyons Lane	480	--	Generated	
177 Cross Avenue	552	3,045	Generated	
590 Argus Road[3]	1,669	1,956	Generated; Application in Progress	
157 & 167 Cross Avenue[3]	1,099	3,788	Generated; Application in Progress	
217 Cross Avenue & 571 Argus Road[3]	1,762	3,168	Generated; Application in Progress	
166 South Service Road[3]	1,663	4,018	Generated; Application in Progress	
Total	**8,211**	**19,087**	**--**	

Notes:
1. Where no traffic figure exist, trips were generated with trip generation rates selected for the Site.
2. Non-residential uses include retail, commercial, daycares, health clubs and office.
3. The applications for these developments are currently in progress, and statistics are subject to change. The assumed statistics are best estimates only.

11.3.2 Corridor Growth Considerations

General corridor growth volumes are non-local to the Midtown Oakville area, making use of the capacity within the immediate study area road network to pass-through the area to reach a destination in another district. By its definition, corridor growth excludes local growth within the Midtown Oakville area that arises due to background development and site growth.

Historical traffic volume counts from 2001 to 2024 at the Trafalgar Road / Cross Avenue and Trafalgar Road / Cornwall Road intersections were reviewed to determine if there have been any changes in traffic activity due to pass-through demand. It was determined that traffic volumes along Trafalgar Road, Cross Avenue and Cornwall Road have remained consistent or even declined during this period. The detailed corridor growth studies, including visual data trends of corridor volumes, are provided in **Appendix N**.

Given the future character of Midtown Oakville as a transit-oriented context, it is expected that the currently observed trends of negligible growth along key travel corridors will continue. Though historical data was not available at all other corridors or ramps in the area, these declining or negligible growth trends are expected to continue throughout, especially given the rise in local development and densification (considered through the background development list). As the area approaches capacity into the future, it is expected that local neighbourhood traffic would begin to displace non-local traffic that is currently encouraged to pass through the area. Study area corridors and the QEW-Hwy 403 ramps that were once attractive alternatives to other route options will more likely be avoided, due to local traffic utilizing more capacity during peak travel periods. Future transit infrastructure improvements, such as the Trafalgar Bus Rapid Transit, would cause a necessary shift in existing travel mode choice that would further reduce the reliance on single-occupancy vehicles and congestion and delays in the area. This projection would be consistent with the designation of Midtown Oakville as an “Anchor Mobility Hub” (by Metrolinx[1]) and a “Major Transit Station Area” (by Halton Region). On this basis, it is most likely that corridor growth volumes on key corridors will remain negligible or even decline, as the Midtown Oakville area evolves into the future.

As per request by the Town and MTO, the analysis undertaken in this study will therefore consider 1) a **base case where the area will not experience corridor growth,** in keeping with the designation as a transit-oriented community neighbourhood and 2) a **sensitivity case where corridor growth assumptions are included** in the analysis of all future horizons.

11.3.2.1 Requested Corridor Growth

The MTO has requested that a 3.1% annual growth rate be added to all QEW-Hwy 403 off-ramp movements, while the Town of Oakville has requested that a 3% annual growth rate be added to all municipal roads in the study area. Recognizing that the study’s furthest horizon is 20 years, the compounded traffic volumes from these growth rates result in the order of over a thousand vehicles being added to Trafalgar Road and hundreds of vehicles being added to other municipal roads.

Even without any local development, this theoretical volume growth will far exceed the remaining capacity along Trafalgar Road (which is already experiencing busy urban travel conditions) and the additional capacity afforded by the future road network improvements that are planned for Midtown Oakville and intended to improve these pre-existing congestion areas.

[1] Midtown Oakville is discussed on page 20 of Metrolinx’s *Mobility Hub Policy Review* (dated 2018).

While it is important to plan for future growth, a comprehensive review of area background developments was undertaken and is considered representative of future background traffic at the study horizon. The area's existing capacity constraints and future transit-oriented context would continue to limit sustained significant growth (for up to two decades to the furthest horizon of 2046) to be highly unlikely and unsustainable for the road network, even prior to the development of any other density in the area.

As the area around the Site develops, drivers who do not need to access a specific destination within the Site area (such as a background development or the GO station), will likely choose alternative routes with more capacity available, or travel via other travel modes. For this reason, for comparison purposes only, the traffic analysis scenarios within this report include the future background and future total scenarios **with and without the addition of the MTO and Town growth** to each horizon year.

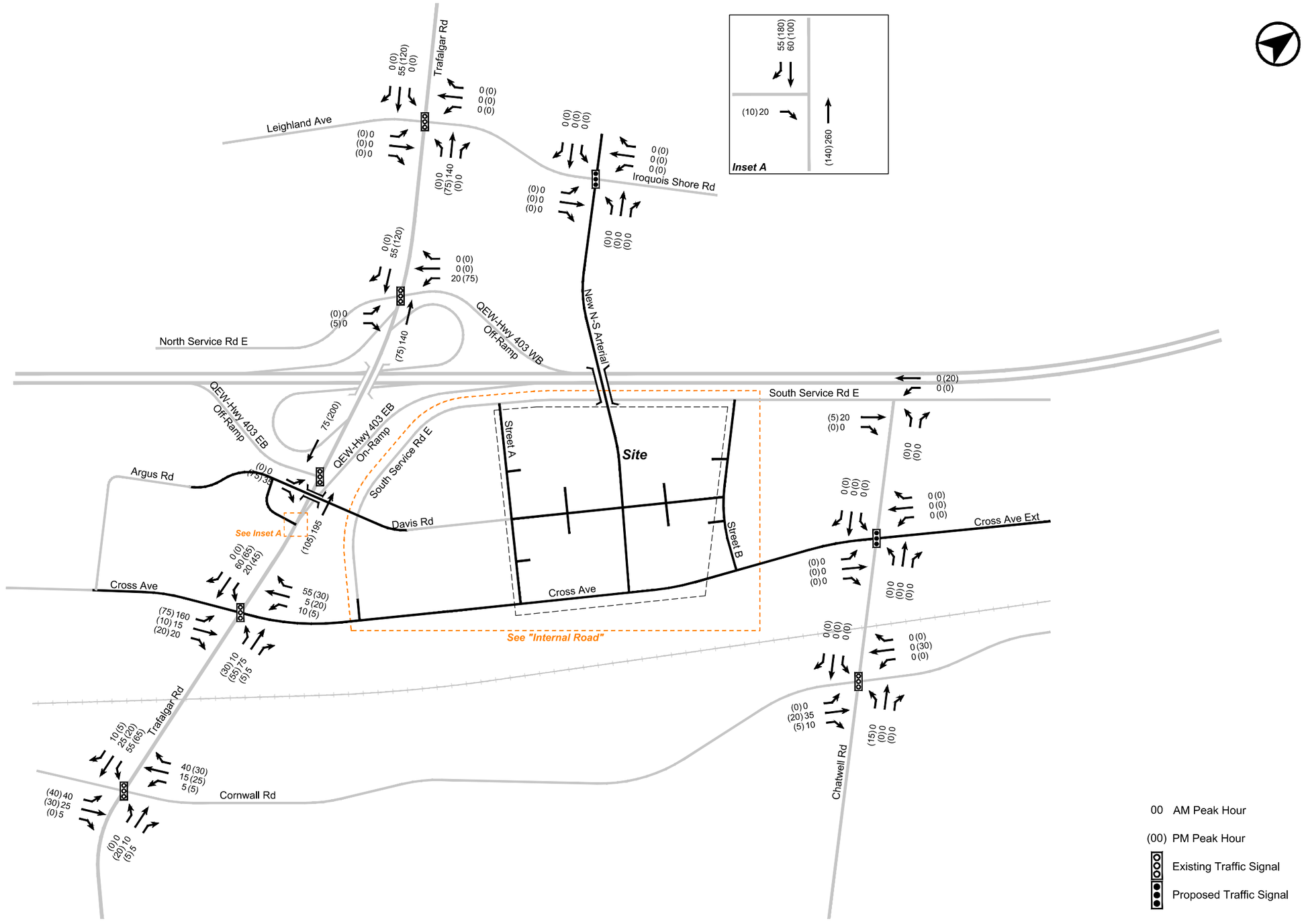
11.3.3 Traffic Volume Figures

Background development traffic volumes on the study area road network are illustrated in **Figure 19**.

Corridor growth traffic volumes on the study area road network are illustrated in **Figure 21**, **Figure 22** and **Figure 22** for the 2031, 2036 and 2046 horizon years, respectively.

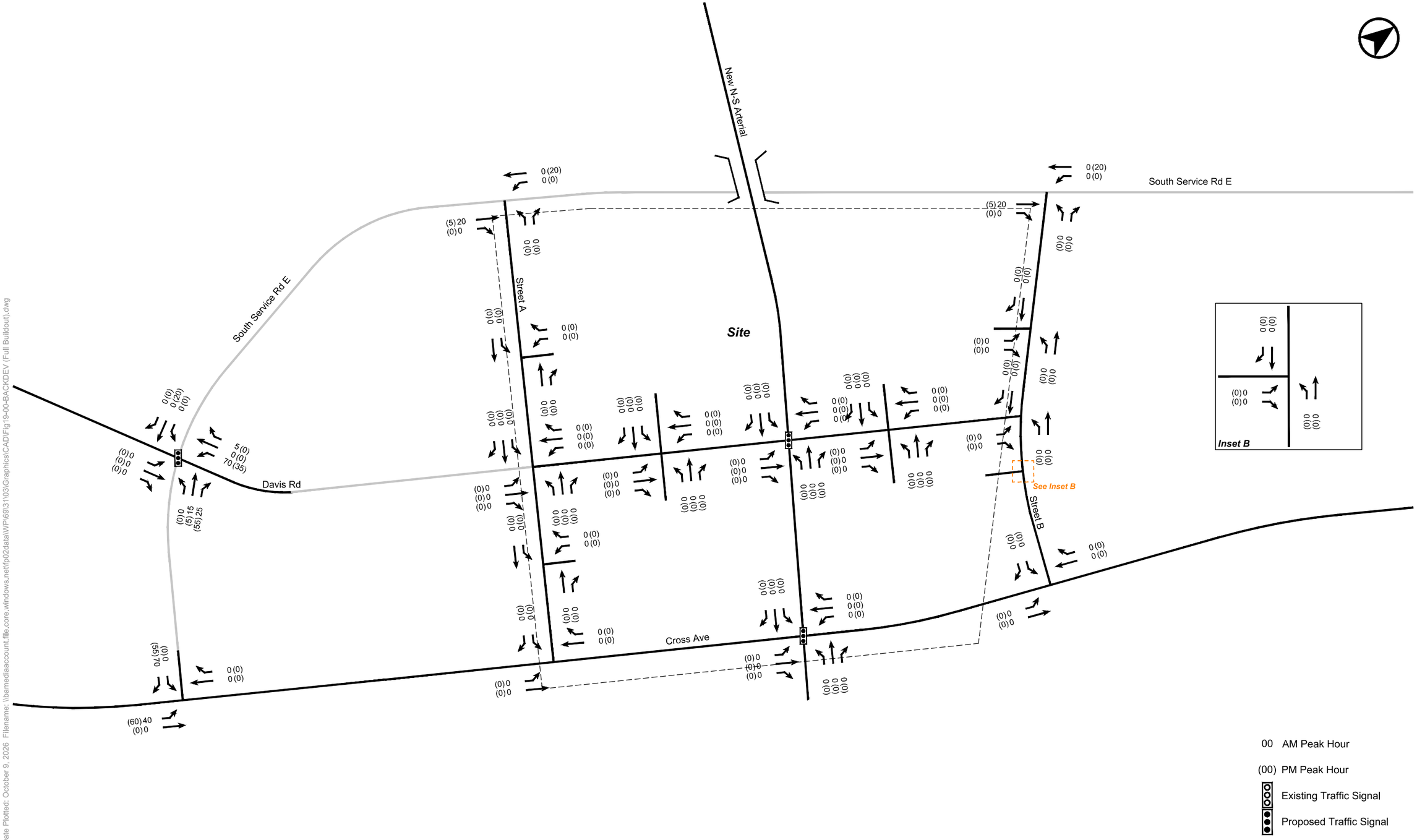
The base case future background traffic volumes consist of existing traffic volumes plus background development traffic volumes and are illustrated in **Figure 23**, **Figure 24** and **Figure 25** for the 2031, 2036 and 2046 horizon years, respectively.

The sensitivity future background traffic volumes that include corridor growth traffic volumes are illustrated in **Figure 26**, **Figure 27** and **Figure 28** for the 2031, 2036 and 2046 horizon years, respectively.



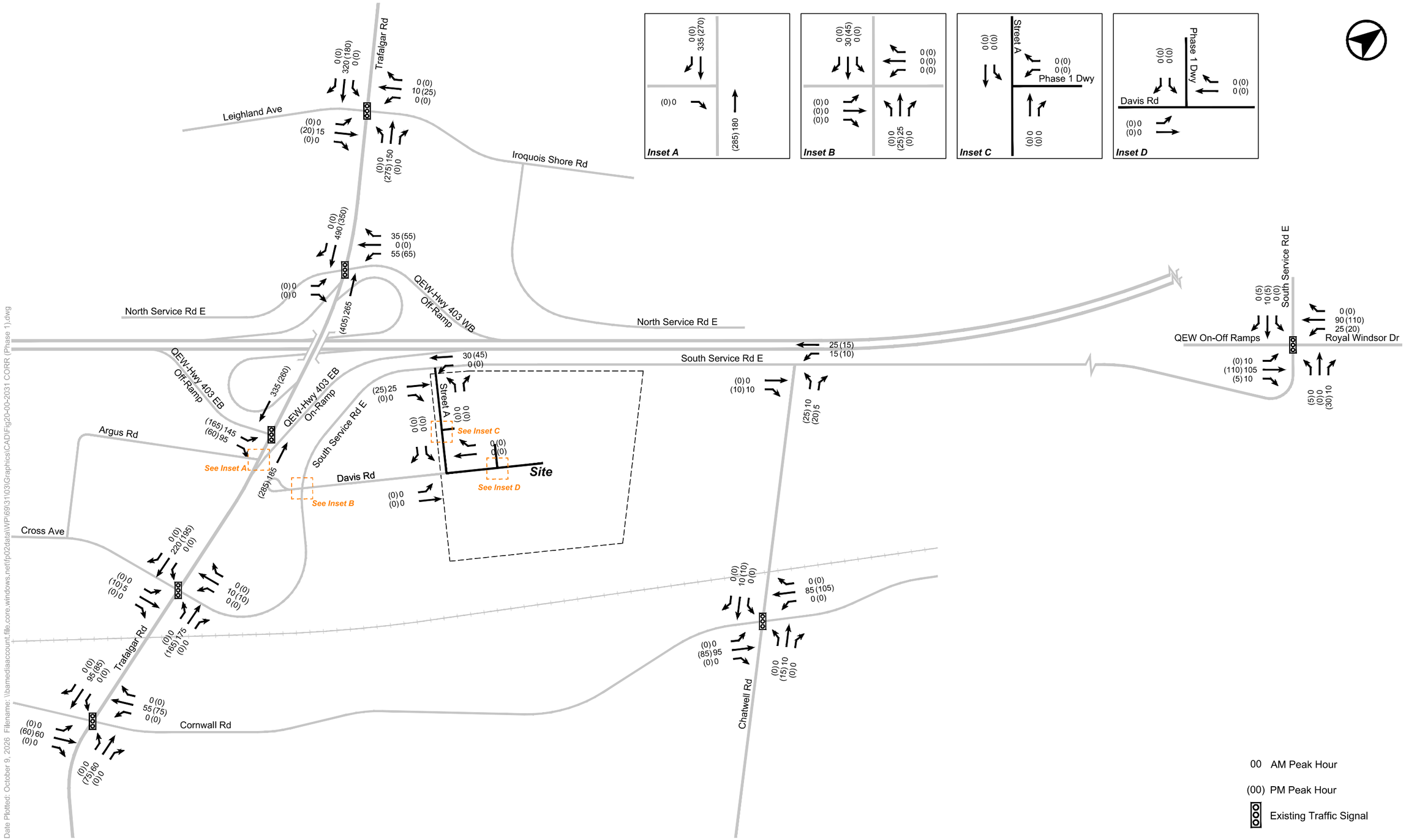
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FIGURE 19 BACKGROUND DEVELOPMENT TRAFFIC VOLUMES



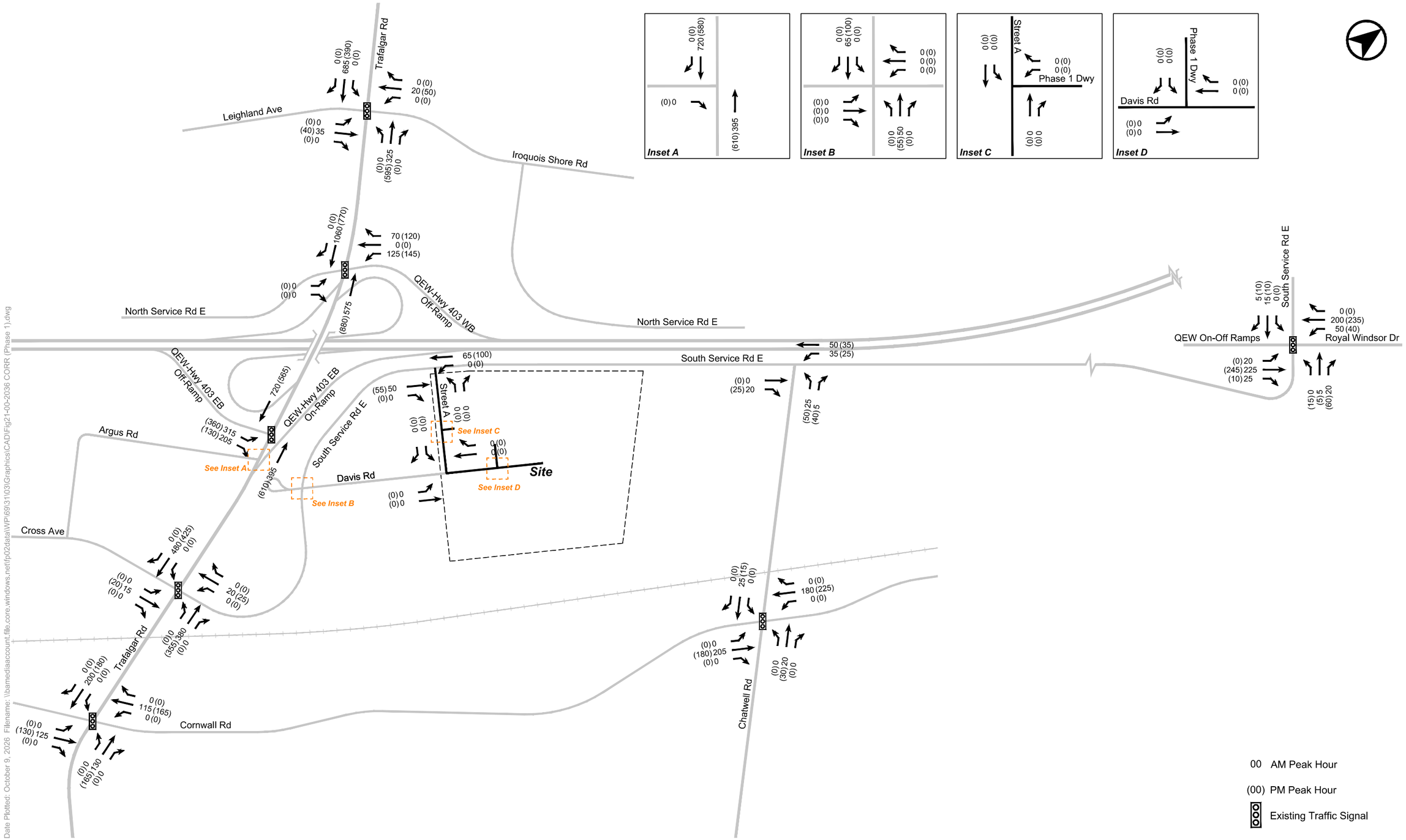
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FIGURE 19A BACKGROUND DEVELOPMENT TRAFFIC VOLUMES



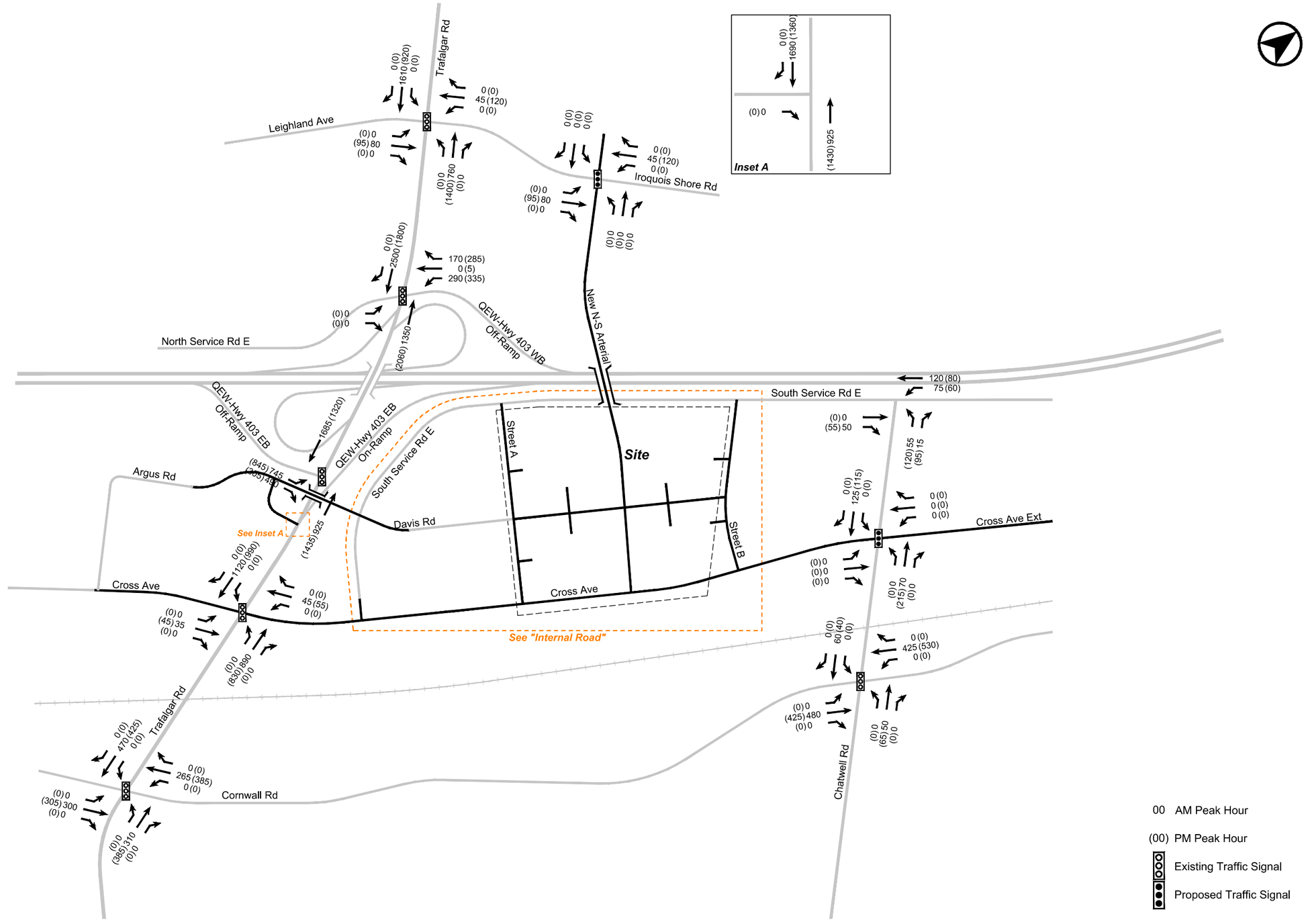
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FIGURE 20 2031 CORRIDOR GROWTH TRAFFIC VOLUMES



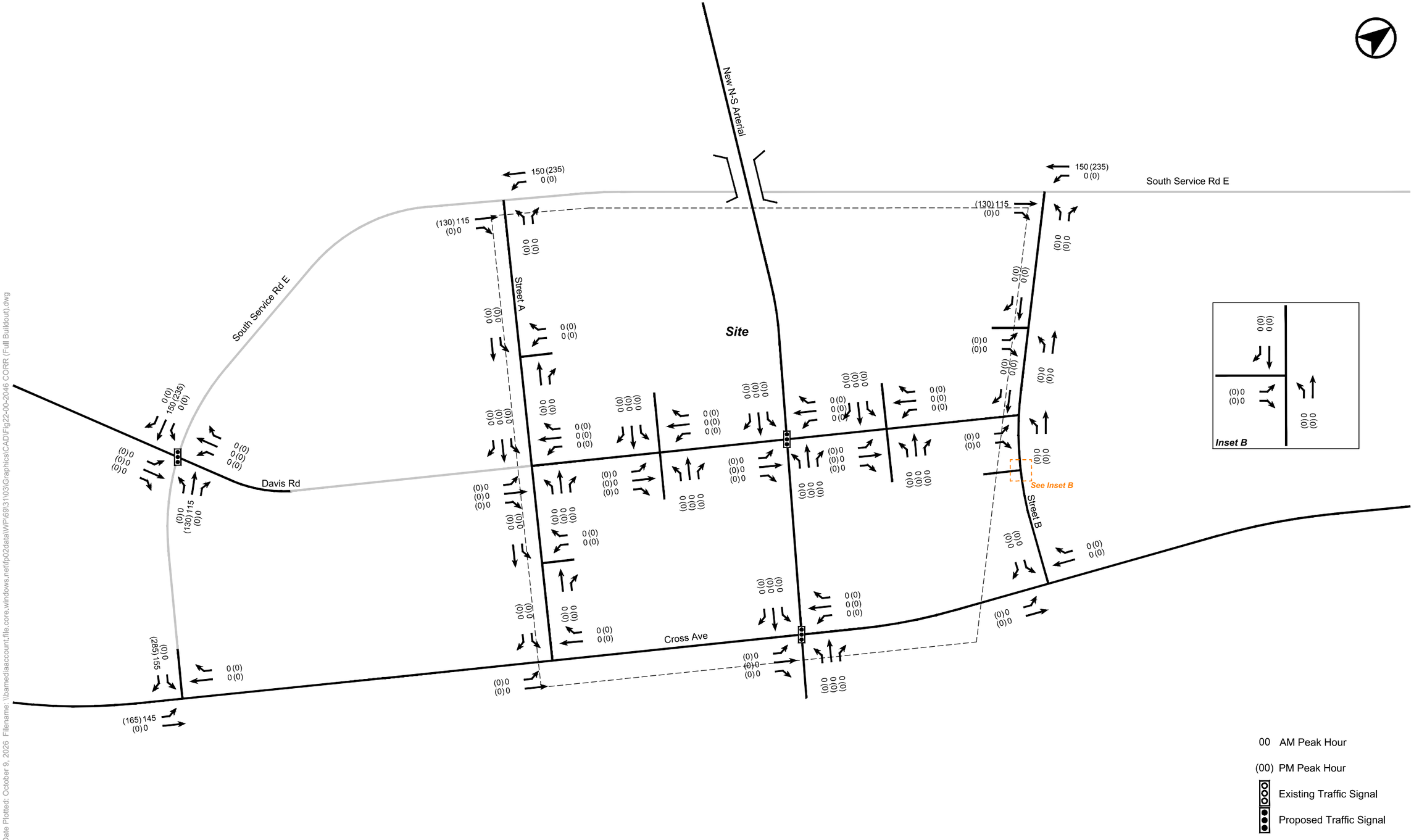
Date Plotted: October 9, 2026 Filename: \\bamediaaccount.file.core.windows.net\fp02data\WP\69\31\03\Graphics\CAD\Fig21-00-2036 CORR (Phase 1).dwg

FIGURE 21 2036 CORRIDOR GROWTH TRAFFIC VOLUMES



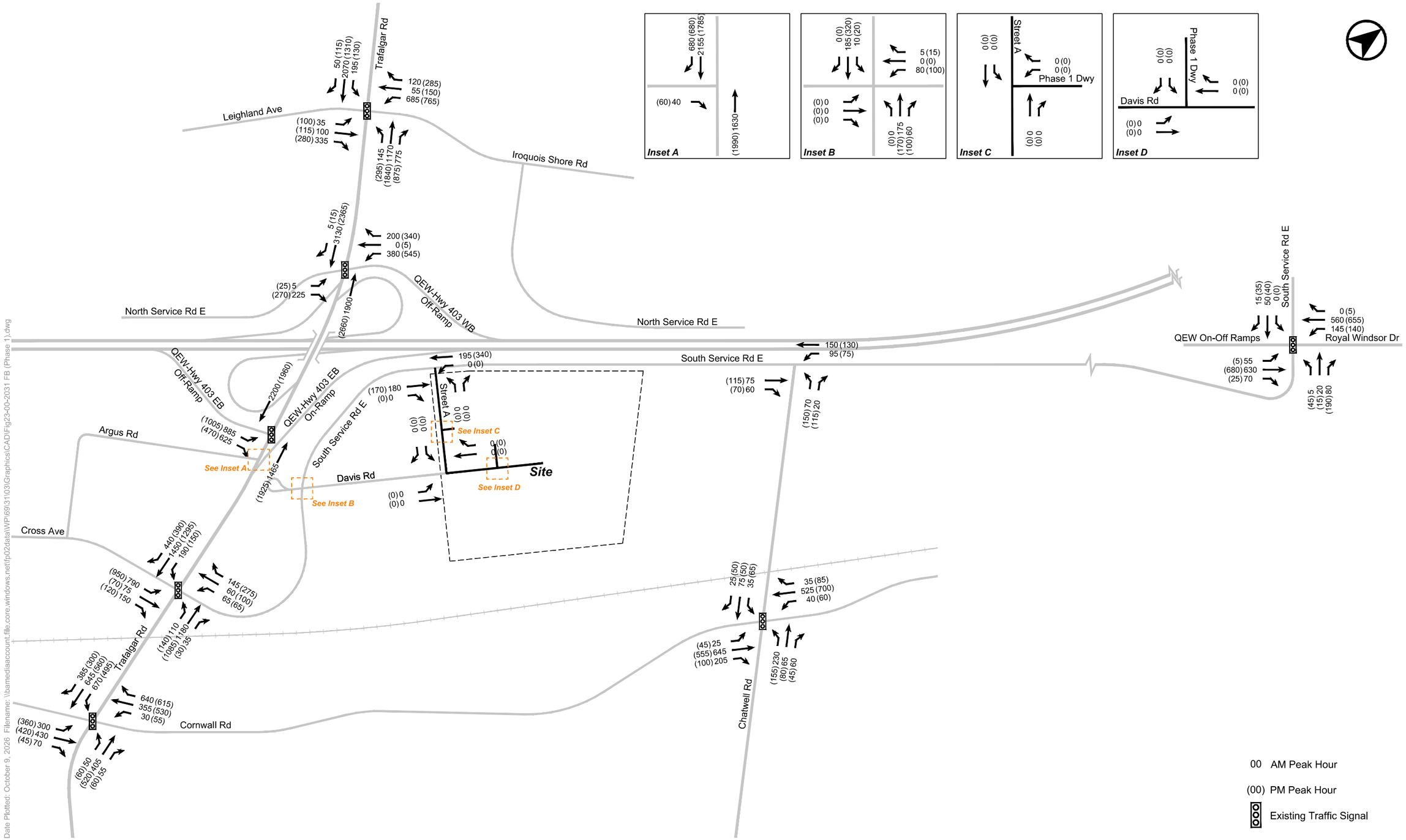
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FIGURE 22 2046 CORRIDOR GROWTH TRAFFIC VOLUMES



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FIGURE 22A 2046 CORRIDOR GROWTH TRAFFIC VOLUMES

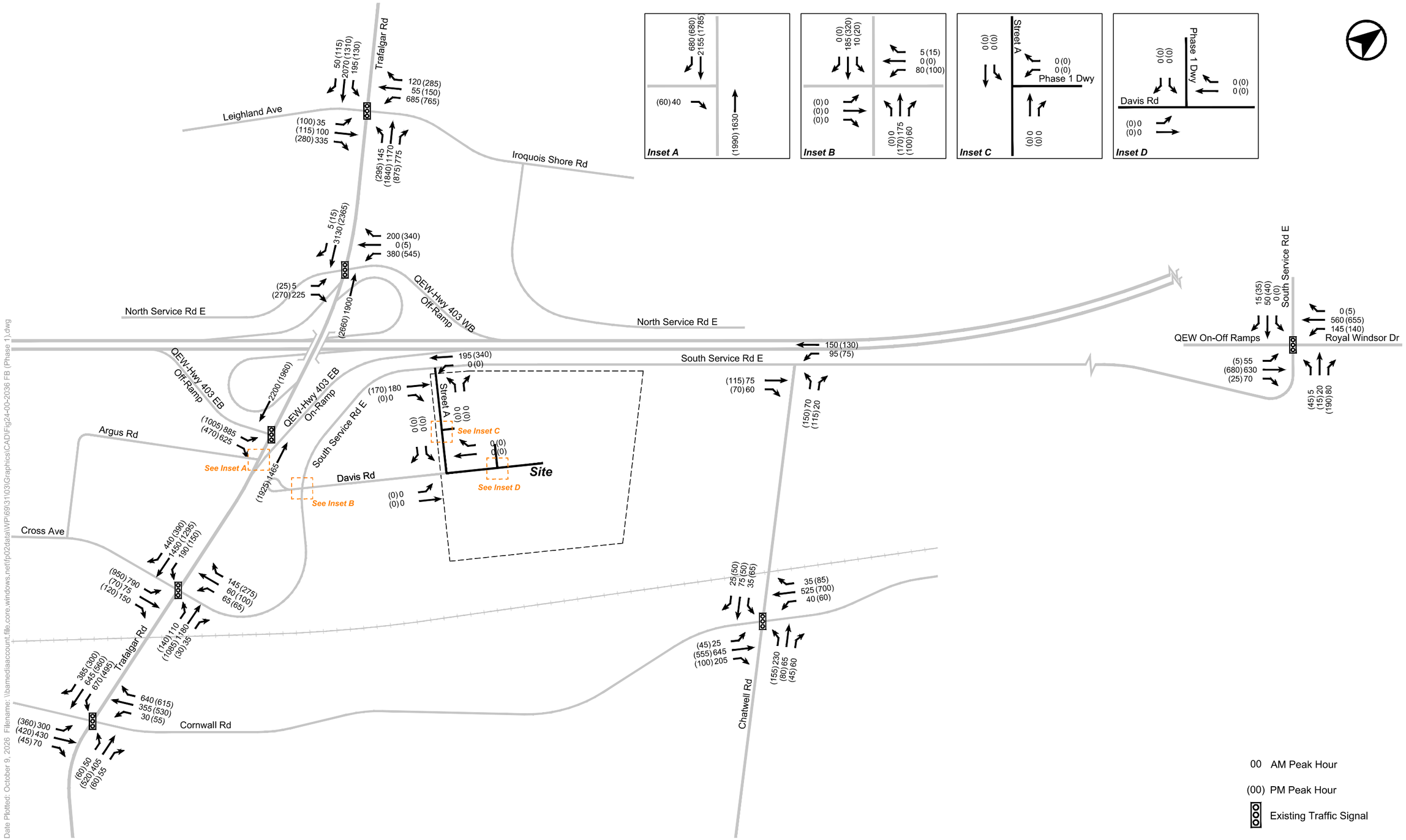


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FIGURE 23 2031 FUTURE BACKGROUND TRAFFIC VOLUMES (NO CORRIDOR GROWTH)

BA GROUP 6931-03

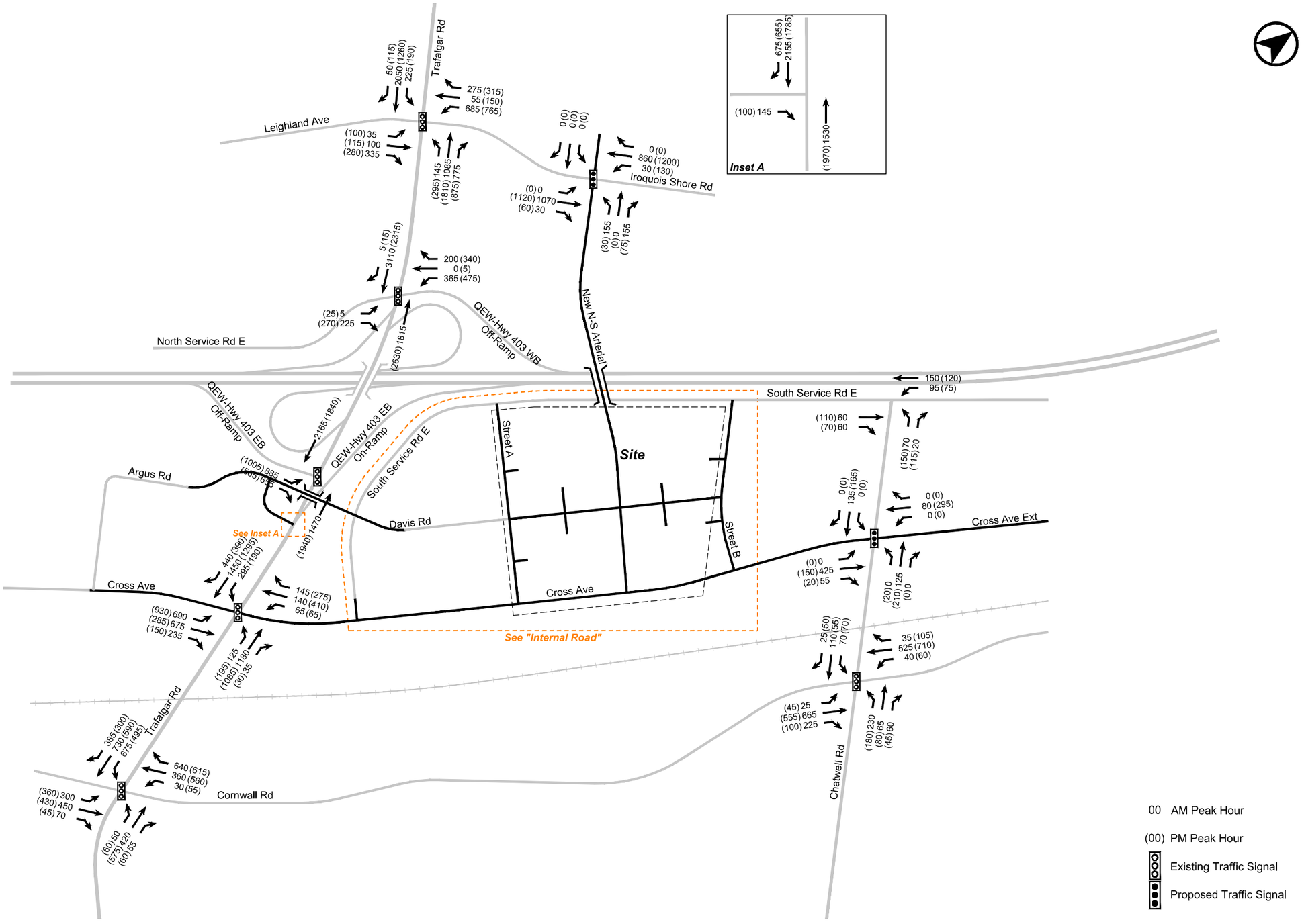
420 - 468 SOUTH SERVICE ROAD EAST



Date Plotted: October 9, 2026 Filename: \\bamediaaccount.file.core.windows.net\fp02data\WP\69\31\03\Graphics\CAD\Fig24-00-2036 FB (Phase 1).dwg

FIGURE 24 2036 FUTURE BACKGROUND TRAFFIC VOLUMES (NO CORRIDOR GROWTH)

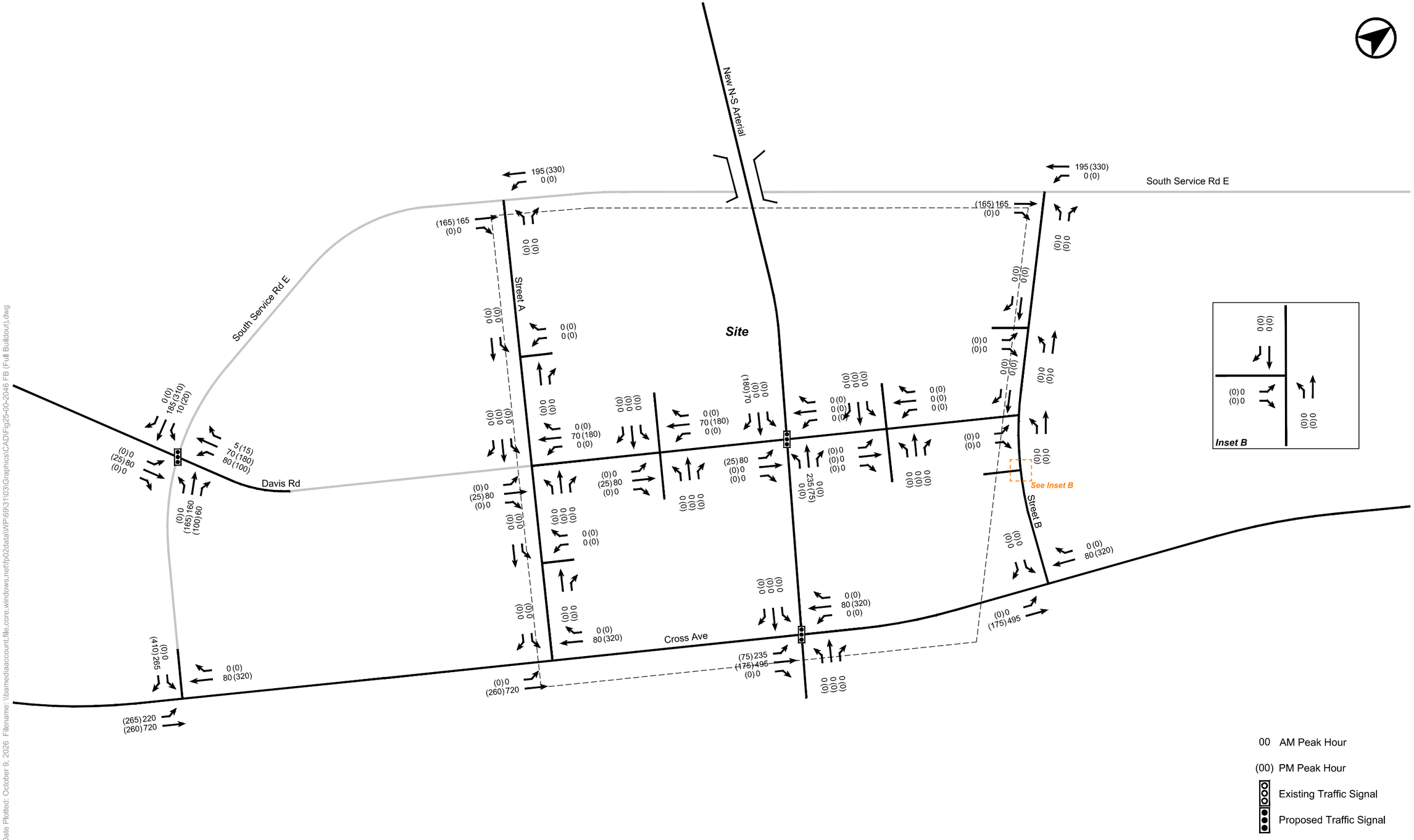
420 - 468 SOUTH SERVICE ROAD EAST



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FIGURE 25 2046 FUTURE BACKGROUND TRAFFIC VOLUMES (NO CORRIDOR GROWTH)

420 - 468 SOUTH SERVICE ROAD EAST

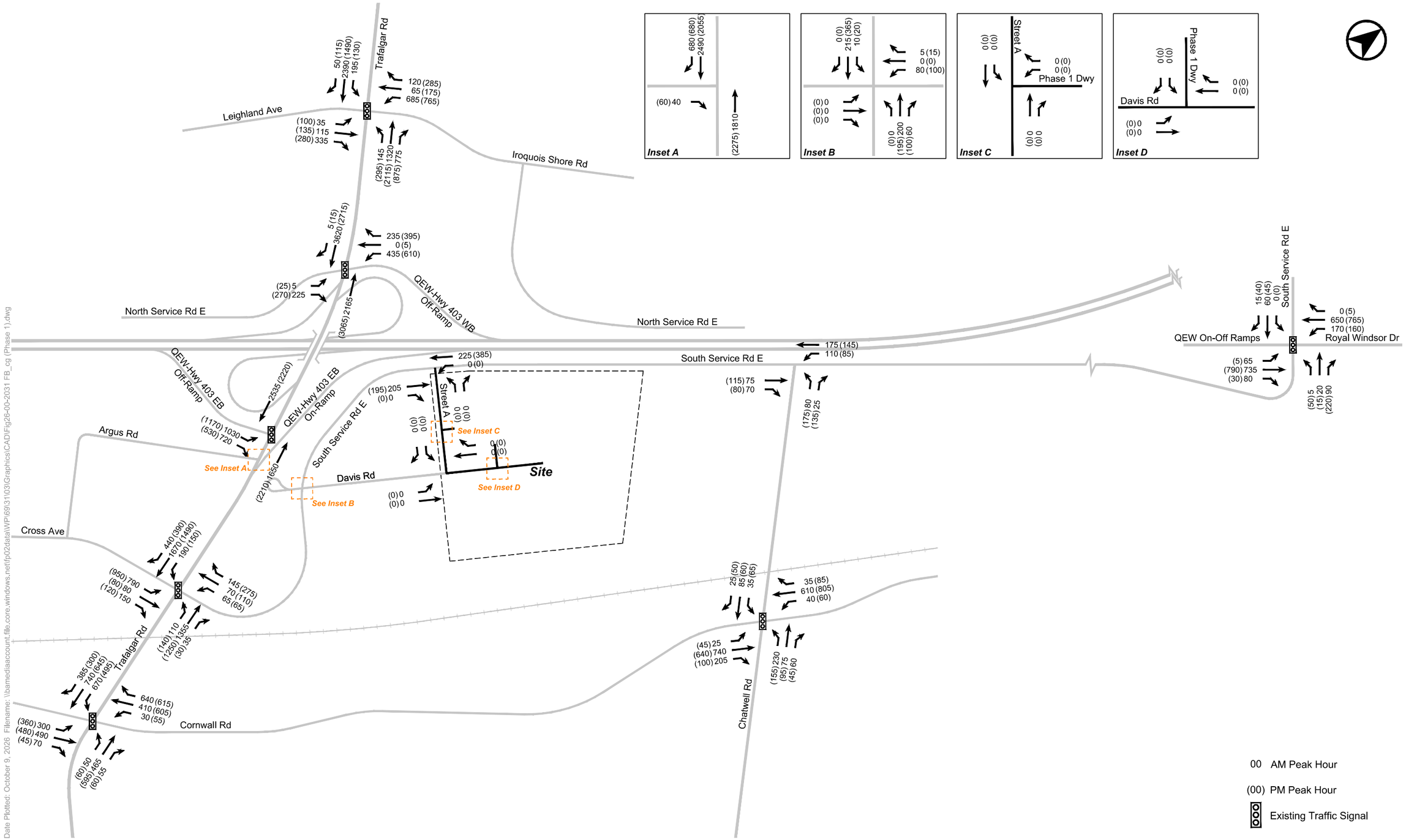


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FIGURE 25A 2046 FUTURE BACKGROUND TRAFFIC VOLUMES (NO CORRIDOR GROWTH)

BA GROUP 6931-03

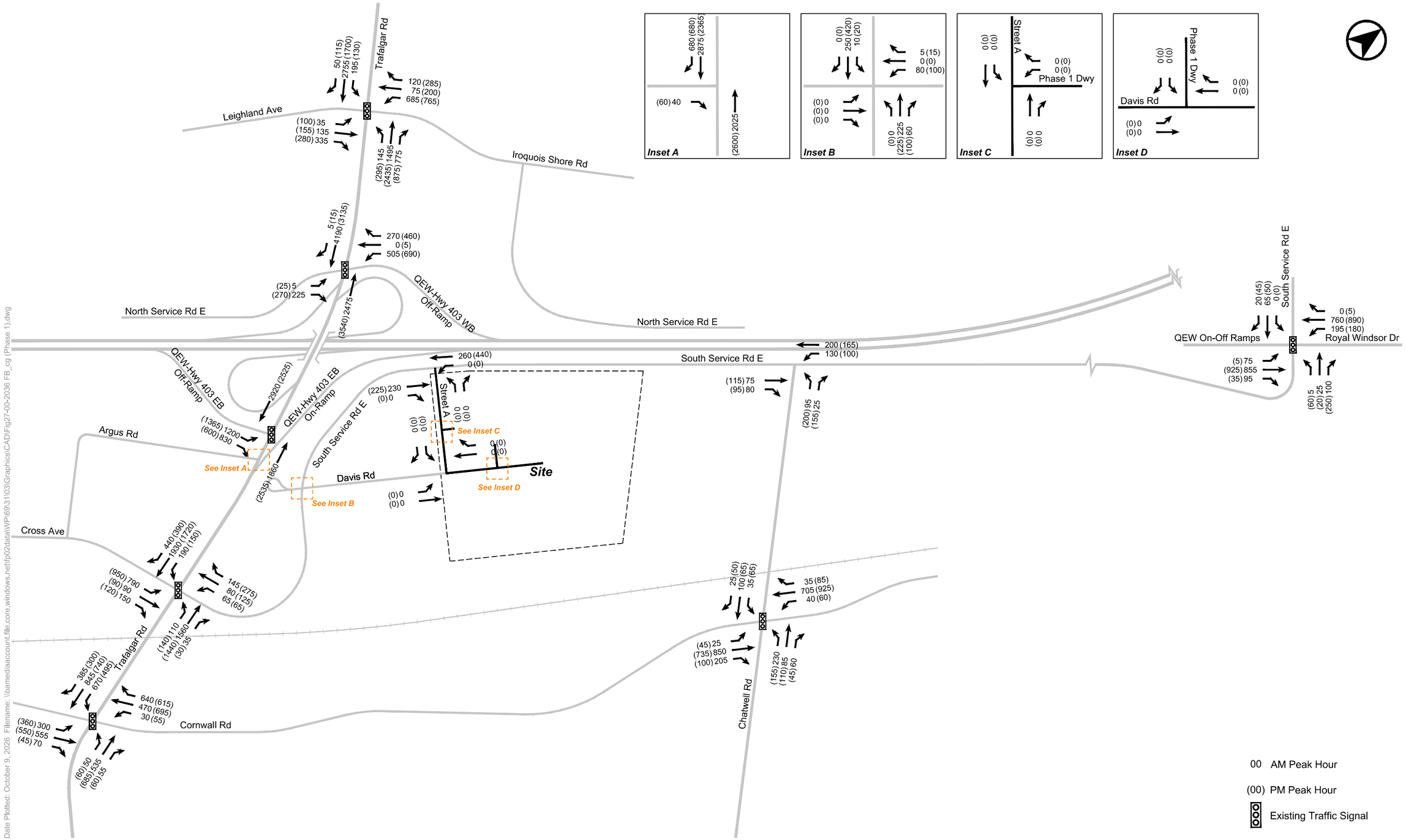
420 - 468 SOUTH SERVICE ROAD EAST



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FIGURE 26 2036 FUTURE BACKGROUND TRAFFIC VOLUMES (WITH CORRIDOR GROWTH)

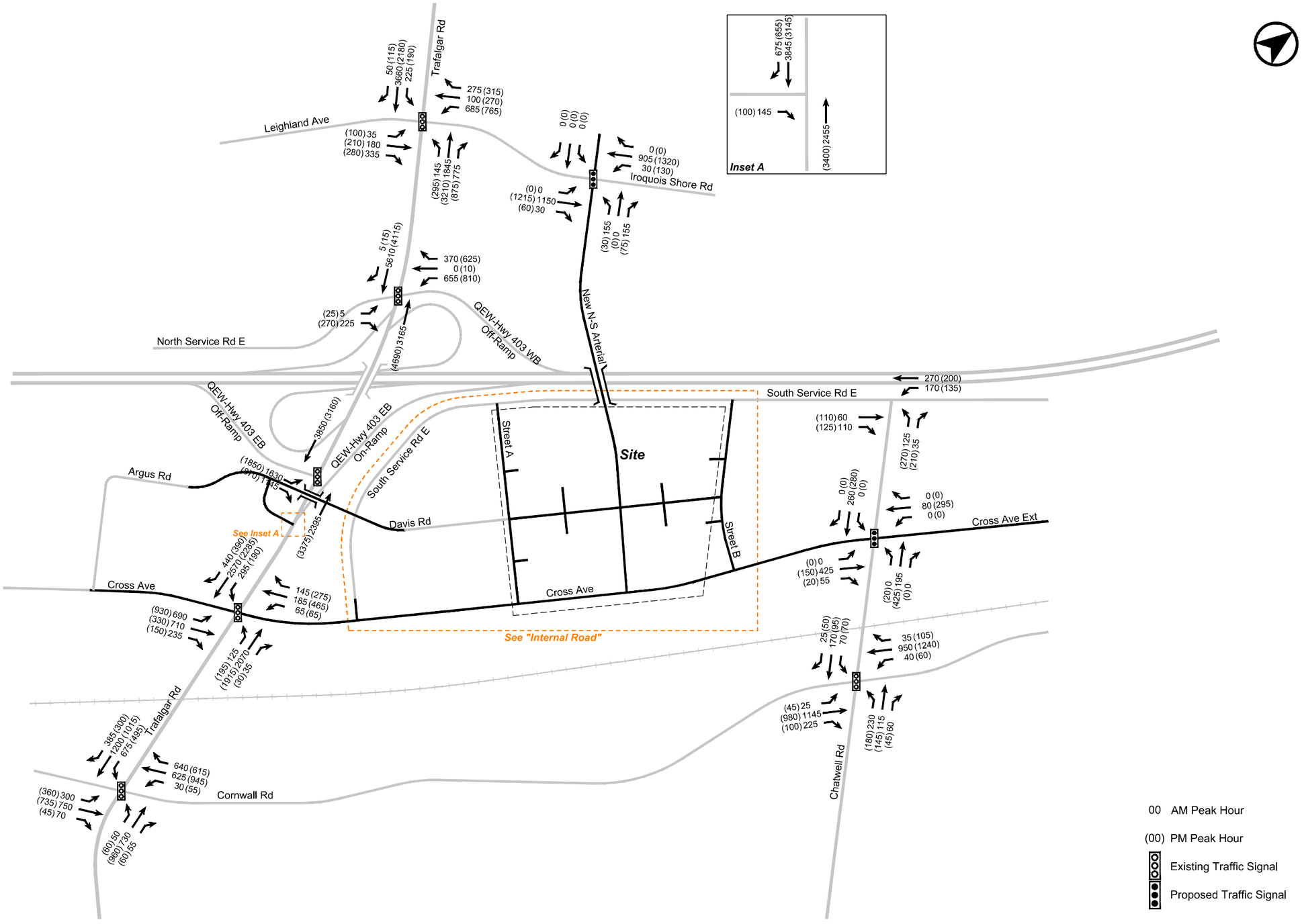
420 - 468 SOUTH SERVICE ROAD EAST



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FIGURE 27 2036 FUTURE BACKGROUND TRAFFIC VOLUMES (WITH CORRIDOR GROWTH)

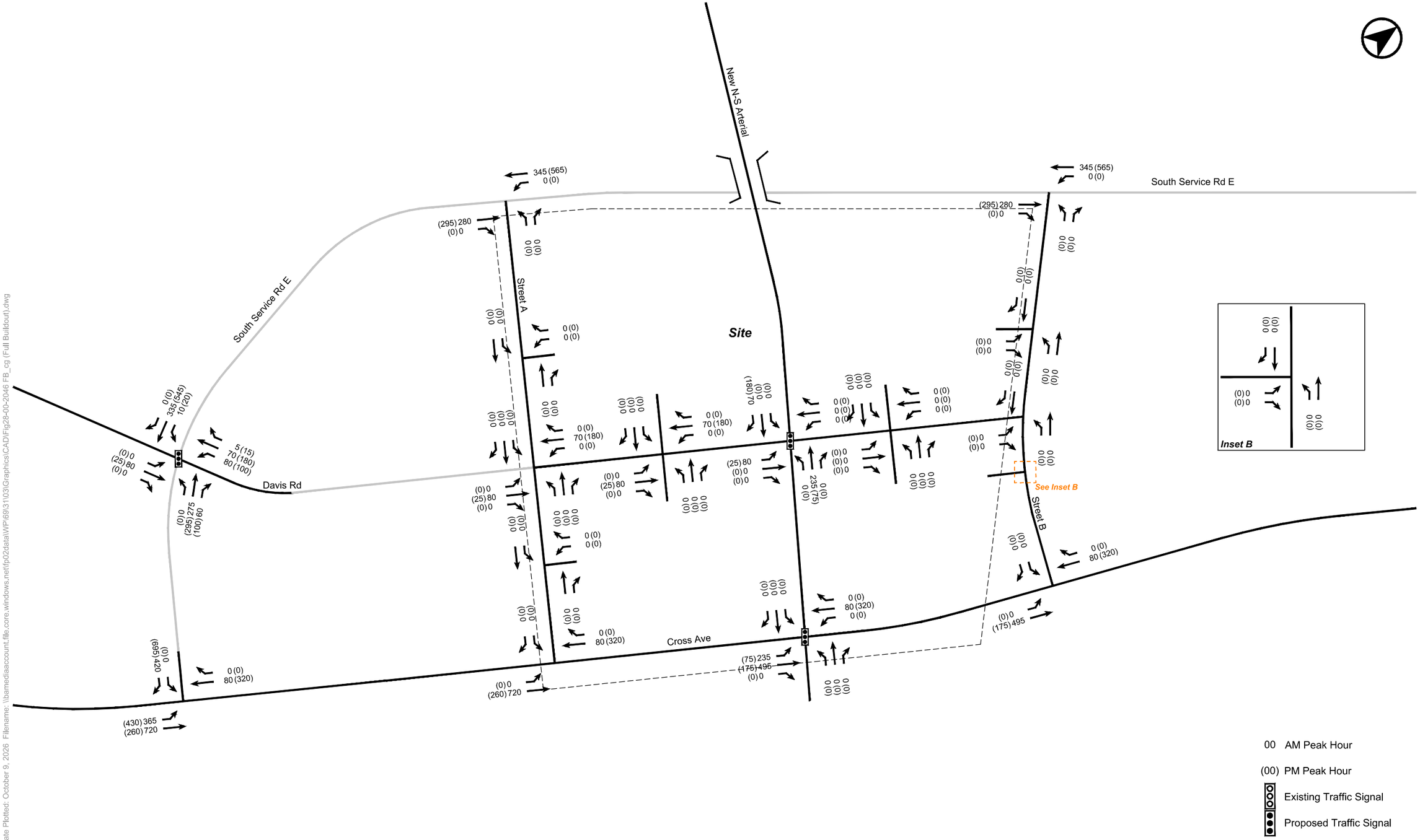
420 - 468 SOUTH SERVICE ROAD EAST



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FIGURE 28 2046 FUTURE BACKGROUND TRAFFIC VOLUMES (WITH CORRIDOR GROWTH)

420 - 468 SOUTH SERVICE ROAD EAST



Date Plotted: October 9, 2026 Filename: \\bamediaaccount.file.core.windows.net\fp02data\WP\6931\03\Graphics\CAD\Fig28-00-2046 FB_cg (Full Buildout).dwg

FIGURE 28A 2046 FUTURE BACKGROUND TRAFFIC VOLUMES (WITH CORRIDOR GROWTH)

420 - 468 SOUTH SERVICE ROAD EAST

11.4 Site Traffic Volumes

11.4.1 Forecasting Approach

Gross vehicle trip generation for the Site has been established for each land use, using trip generation rates from the 12th Edition of the ITE Trip Generation Manual (released August of 2025). Given that this study also includes the traffic analysis for Phase 1, trip forecasts include both Phase 1 and the full buildout of the Site.

Internal trip making "interactions" between land uses within the Site, have also been considered. Given that the proposed development includes 4 mixed-use blocks, it is expected that the following 2 types of internal interactions will occur:

1. Interaction between the residential uses and the retail uses within each block; and
2. Interaction between the blocks and within the overall Site.

Interaction trips were calculated based on the interaction effects for each land use pairing as published in Chapter 6 of the ITE Trip Generation Handbook (3rd edition dated September 2017), a current standard for determining interaction rates. The resulting internal trip interactions considers the trip-making constraints at either trip end, so as to not double count remaining external trip-making.

Gross vehicle trip forecasting (which includes both external and internal trips) was completed for each of the residential and retail uses of the development, as described in the following sections.

11.4.2 Residential Gross Trip Generation

Vehicle trip generation rates for the residential uses have been determined from the 12th Edition of the ITE Trip Generation Manual. In recognition of the Site's proximity to the Oakville GO and ultimate build-out condition of Midtown Oakville, which will be a multi-use, 'complete' community, ITE Land Use Code 222: Multifamily Housing (High-Rise) (for sites that are located in dense multi-use urban areas and are located close to rail transit) was selected as the most appropriate vehicle trip generation rate for the ultimate build-out of the Site. The selected rate for vehicle trip generation and the expected number of gross residential vehicle trips, are summarized in **Table 19**.

Justification for the use of the **ITE Land Use Code 222: Multifamily Housing (High-Rise) (for sites that are located in dense multi-use urban areas and are located close to rail transit**), is provided as follows:

- The ITE manual defines "Dense Multi-Use Urban" as follows:
    - "*A fully (or nearly fully) developed area with diverse and interacting complementary land uses; good pedestrian connectivity; and convenient and frequent transit. It may be a well-developed urban area outside a major metropolitan downtown or a mid-sized urban area downtown. Common land uses include office, retail, residential, entertainment, hotel, and other commercial uses. The residential uses are typically multifamily or single-family on lots no larger than one-fourth acre. Buildings often have minimal setbacks from the sidewalk. Vehicles remain the primary mode of travel, but the area also supports walking, biking, and transit. Parking is provided on and off-street. The complementary land uses in dense multi-urban areas provide the opportunity for short trips within the area, made convenient by walking, biking, or transit. Significant transit access, such as rail or bus, supports high transit mode share." (page 12 of Chapter 4 – Definition of Terms).*

- The above-noted definition is much more suitable to the evolving nature of the Site's context compared to the "General Urban/Suburban" setting.
- ITE defines "close to rail transit" as
    - "*a site is considered close to rail transit if the walking distance between the residential site entrance and the closest rail transit station entrance is ½ mile (800 metres) or less.*"
- Given the future transit-oriented context of the Site, the application of ***the ITE Land Use Code 222: Multifamily Housing (High-Rise) (for sites that are located in dense multi-use urban areas and are located close to rail transit)*** is appropriate, especially given that the existing GO station is approximately a one kilometre (1,000 metres) walk from the site (around 12-15 minutes), assuming a 1.2 m/s walking speed. The difference in walk time for 800 metres versus 1000 metres, is approximately 2 minutes.
- Given that the Site is planned to be a transit-oriented community, the assumption for trip rates is considered to be reasonable. With future transit improvements such as the Trafalgar BRT, it is expected that transit travel will become increasingly more attractive into the future in line with Town planning policies and initiatives.

To be conservative, the unit count for the residential units has been rounded up to the nearest 50 units for each block, such that the traffic analysis has been undertaken for a total of 5,800 residential units, which represents an additional 200 residential units than proposed within the current Site Plan.

The residential uses within Phase 1 of the site are expected to generate 405 and 355 two-way gross vehicle trips during the weekday morning and afternoon peak hours, respectively. At full buildout, the residential uses of the Site are expected to generate 1,270 and 1,105 two-way gross vehicle trips, during the same peak hours.

Table 19 Residential Gross Vehicle Trip Generation

Block	Number of Units		AM Peak Hour			PM Peak Hour		
	As Per Site Plan	Used for Analysis	In	Out	2-Way	In	Out	2-Way
ITE LUC 222: Multifamily Housing (High-Rise) (**Dense Multi-Use Urban – Close to Rail Transit**) [2]			0.02	0.20	0.22	0.13	0.06	0.19
Block 1 (Phase 1)	*1,800*	1,850	45	360	405	245	110	355
Block 2	*1,750*	1,800	45	350	395	235	105	340
Block 3	*1,050*	1,100	25	215	240	145	65	210
Block 4	*1,000*	1,050	25	205	230	140	60	200
Phase 1 Gross Trips	***1,800***	**1,850**	**45**	**360**	**405**	**245**	**110**	**355**
Full Buildout Gross Trips	***5,600***	**5,800**	**140**	**1,130**	**1,270**	**765**	**340**	**1,105**

Notes:
1. Gross vehicle trips represent the theoretical amount of vehicle trips if no other uses are present on the Site. Given that there are other uses proposed in Phase 1 and at full buildout, internal trip capture will reduce the actual number of vehicle trips experienced on the study area road network. This concept is explained in detail in Chapter 6 of ITE's Trip Generation Handbook and will be discussed in **Section 11.4.5**.
2. Note that *exact* trip rates were used based on the two-way ITE trip rates multiplied to the directional distribution provided by the ITE manual. For example, the inbound weekday morning trip rates are 0.0242 if more decimal places could be shown in the cell.

11.4.2.1 OPA 70 Maximum FSI Considerations

As per the Town comment, the gross trip generation resulting from the proposed density has been compared to the trip generation resulting from the maximum floor space indexes (FSI) for the Site, as identified under OPA 70. The maximum FSI of the Site is 4.0, north of Davis Road (Blocks 1 and 2) and 3.0 south of Davis Road (Blocks 3 and 4). On this basis, a total of approximately 4,165 units across the four blocks was estimated as the maximum density for the Site. The trip generation comparison is provided in **Table 20**. Based on the comparison, the current development proposal for the Site yields a 39% increase in density compared to the maximum FSI considerations, with a proportional 39% increase in vehicle trip generation.

Table 20 Proposed vs. Maximum FSI Trip Generation

	Density (Units)	AM Peak Hour			PM Peak Hour		
		In	Out	2-Way	In	Out	2-Way
Maximum FSI	4165	100	820	920	550	245	795
Proposed Site	5800	140	1130	1270	765	340	1105
Quantitative Difference	**+1635**	**+40**	**+310**	**+350**	**+215**	**+95**	**+310**
Percent Difference[1]	**+39%**	**--**	**--**	**+38%**	**--**	**--**	**+39%**

Notes:
1. Percent difference is calculated relative to the maximum permitted FSI.

11.4.3 Retail Gross Trip Generation

Vehicle trip generation for the retail uses across all blocks has been determined from the 12th Edition of the ITE Trip Generation Manual. Given that the dense multi-use urban land use code did not provide sufficient data (only 2 data points in the PM peak hour), the general urban / suburban filter, was selected. Furthermore, Land Use Code 821 Shopping Plaza[2] was selected, given that the site plan currently proposes approximately 9,118 m^2 GFA of retail, and the retail uses are intended and designed to serve the entire Site community and operate cohesively, not as individual blocks. The corresponding ITE trip generation rate (converted to trips / 100 m^2 GFA, since ITE provides rates in trips / 1,000 ft^2 GFA) and the resultant gross retail vehicle trips, are summarized in **Table 21**.

For the purposes of the trip generation forecasting, all retail GFA's for each block were rounded up to the nearest 50 m^2 in order to ensure a conservative traffic analysis.

The retail uses within Phase 1 of the site are expected to generate 25 and 80 two-way gross vehicle trips during the weekday morning and afternoon peak hours, respectively. At full buildout, the retail uses of the Site are expected to generate 155 and 470 two-way gross vehicle trips, during the same peak hours.

[2] The proxy data under LUC 821 include developments with between 40,000 and 150,000 square feet of gross leasable area. See page 110 of the ITE Trip Generation Manual (12th Edition) for more details.

Table 21 Retail Gross Vehicle Trip Generation

Block	GFA (m^2)	AM Peak Hour			PM Peak Hour		
		In	Out	2-Way	In	Out	2-Way
ITE LUC 821: Shopping Plaza Converted rates to **trips / 100 m^2 GFA**		1.07	0.65	1.71	2.51	2.62	5.12
Block 1 (Phase 1)	1,503	15	10	25	40	40	80
Block 2	1,514	15	10	25	40	40	80
Block 3	3,293	35	20	55	80	85	165
Block 4	2,808	30	20	50	70	75	145
Phase 1 Gross Trips	**1,503**	**15**	**10**	**25**	**40**	**40**	**80**
Full Buildout Gross Trips	**9,118**	**95**	**60**	**155**	**230**	**240**	**470**

Notes:
1. The effective gross floor area adopted for conservative trip generation purposes only is 9,250 m^2 GFA after rounding the gross floor areas of each block upwards to the nearest 50 m^2. The actual site statistics are summarized in the table above.
2. Gross vehicle trips represent the theoretical amount of vehicle trips if no other uses are present on the Site. Given that there are other uses proposed in Phase 1 and at full buildout, internal trip capture will reduce the actual number of vehicle trips experienced on the study area road network. This concept is explained in detail in Chapter 6 of ITE's Trip Generation Handbook and will be discussed in **Section 11.4.5**.

11.4.4 Summary of Gross Vehicle Trip Forecasting

A summary of the gross vehicle trips generated by the residential and retail uses proposed for the Site, is provided in **Table 22**. Phase 1 of the Site is expected to generate 430 and 435 two-way gross vehicle trips during the weekday morning and afternoon peak hours, respectively. At full buildout, the Site is expected to generate 1,425 and 1,575 two-way gross vehicle trips, during the same peak hours.

Table 22 Total Gross Vehicle Trip Generation

Block	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Residential						
Block 1 (Phase 1)	45	360	405	245	110	355
Block 2	45	350	395	235	105	340
Block 3	25	215	240	145	65	210
Block 4	25	205	230	140	60	200
Phase 1 Vehicle Trips	**45**	**360**	**405**	**245**	**110**	**355**
Gross Vehicle Trips	**140**	**1,130**	**1,270**	**765**	**340**	**1,105**
Retail						
Block 1 (Phase 1)	15	10	25	40	40	80
Block 2	15	10	25	40	40	80
Block 3	35	20	55	80	85	165
Block 4	30	20	50	70	75	145
Phase 1 Vehicle Trips	**15**	**10**	**25**	**40**	**40**	**80**
Gross Vehicle Trips	**95**	**60**	**155**	**230**	**240**	**470**
Total Site						
Block 1 (Phase 1)	60	370	430	285	150	435
Block 2	60	360	420	275	145	420
Block 3	60	235	295	225	150	375
Block 4	55	225	280	210	135	345
Phase 1 Vehicle Trips	**60**	**370**	**430**	**285**	**150**	**435**
Gross Vehicle Trips	**235**	**1,190**	**1,425**	**995**	**580**	**1,575**

11.4.5 Site Interaction Considerations

The presence of multiple land uses (i.e., the residential and retail uses) within the proposed development for the Site, supports the potential for internal trips between these uses. These trips are not considered to be external to the Site, but rather, will be made primarily by walking between the uses within the proposed development. As a result, the total external trip generation is expected to be less than the sum of the trips that are generated by each individual land use. The methodology for internal trip capture is described in detail in Chapter 6 of the ITE Trip Generation Handbook (3rd Edition). The excerpts are provided in **Appendix O**.

These internal trips are removed from the trip generation potential of both the origin land use and the destination land use (i.e., from both "ends" of the "O-D" pairing). For example, one internal trip that originates from the residential component and ends in the retail component of the Site is equivalent to one outbound internal trip for the residential component and one inbound internal trip for the retail component. If the residential component is forecasted to generate 10 total outbound trips in an hour, 1 of those outbound trips would be internal, while the remaining 9 outbound trips would be external. It can also be stated in an equation as:

Gross Trip Generation Potential of Each Land Use = Internal trips + External trips

Subsequently, external site trips for each specific land use are equal to the total site trips for each land use minus the internal site trips. The external site trips represent the trips that would ultimately be added to the area transportation network. In order to estimate the number of internal trips to and from each land use to another, the methodology outlined in Chapter 6 of the ITE Trip Generation Handbook was adopted for analysis purposes. Detailed calculations for the internal trips resulting from the Phase 1 development and the full buildout development, are presented in **Appendix O**. The ITE's published interaction trip rates and resulting internal trips are summarized in **Table 23** and **Table 24**, respectively.

Table 23 Interaction Trip Rate by Land Use

	AM Peak Hour		PM Peak Hour	
	In	Out	In	Out
Site Residential				
With Retail	2%	1%	46%	42%
Site Retail				
With Residential	17%	14%	10%	26%

Table 24 Internal Site Trip Capture

	Destination	Origin	AM Peak Hour	PM Peak Hour
Phase 1	To Residential	From Retail	0	10
	To Retail	From Residential	5	5
	Full Buildout Internal Trip Capture		**5**	**15**
Full Buildout	To Residential	From Retail	5	60
	To Retail	From Residential	10	25
	Full Buildout Internal Trip Capture		**15**	**85**

Notes:
1. Internal trips rounded to the nearest 5.
2. Internal trips are removed from the gross trips to obtain external trips on the study area road network.

11.4.6 External Trip Generation and Trip Generation Summary

External trip generation for each land use was then calculated based on the respective gross trip generation and the internal trip generation for both Phase 1 and the full buildout of the Site. A summary of the total, external, and internal site trips during the peak hours is provided in **Table 25**. As per Town comment, the gross, internal and external trips are outlined separately below.

Phase 1 (Block 1)

Phase 1 of the Site is expected to generate **430 and 435 two-way gross trips** during the weekday morning and afternoon peak hours, respectively.

Of the gross two-way trips, Phase 1 is expected to generate **10 and 30 internal trips** during the peak hours between the residential and retail uses. These internal trips occur within the Site and do not cause any traffic-related impacts to the surrounding area road network.

Phase 1 is also expected to generate **420 and 405 two-way external trips** during the weekday morning and afternoon midday peak hours, respectively. These external vehicle trips will be experienced by the surrounding area road network.

Full Buildout

The full buildout of the Site is expected to generate **1,425 and 1,575 two-way gross trips** during the weekday morning and afternoon peak hours, respectively.

Of the gross two-way trips, the Site is expected to generate **30 and 170 internal trips** during the peak hours between the residential and retail uses. These internal trips occur within the Site and do not cause any traffic-related impacts to the surrounding area road network.

The Site is also expected to generate **1,395 and 1,405 two-way external trips** during the weekday morning and afternoon midday peak hours, respectively. These external vehicle trips will be experienced by the surrounding area road network.

Table 25 Internal and External Trip Generation (Phase 1 and Full Buildout)

Land Use	Trip Type	AM Peak Hour			PM Peak Hour		
		In	Out	2-Way	In	Out	2-Way
Phase 1 of Site (Block 1)							
Residential	Gross	45	360	405	245	110	355
	Internal	0	-5	-5	-10	-5	-15
	External	45	355	400	235	105	340
Retail	Gross	15	10	25	40	40	80
	Internal	-5	0	-5	-5	-10	-15
	External	10	10	20	35	30	65
Total Site	**Gross**	**60**	**370**	**430**	**285**	**150**	**435**
	Internal	**-5**	**-5**	**-10**	**-15**	**-15**	**-30**
	External	**55**	**365**	**420**	**270**	**135**	**405**
Full Buildout of Site							
Residential	Gross	140	1130	1270	765	340	1105
	Internal	-5	-10	-15	-60	-25	-85
	External	135	1120	1255	705	315	1020
Retail	Gross	95	60	155	230	240	470
	Internal	-10	-5	-15	-25	-60	-85
	External	85	55	140	205	180	385
Total Site	**Gross**	**235**	**1190**	**1425**	**995**	**580**	**1575**
	Internal	**-15**	**-15**	**-30**	**-85**	**-85**	**-170**
	External	**220**	**1175**	**1395**	**910**	**495**	**1405**

11.4.7 Retail Pass-by Trip Generation

As per the ITE Trip Generation Handbook, a portion of the external retail trips are expected to be pass-by trips. The pass-by trip methodology is detailed in Chapter 10 of the Handbook.

Pass-by trips are defined as trips that do not add new traffic to the adjacent street system but instead are trips passing the site on the way from an origin to an ultimate destination. It is noted that “primary trips” are trips where the ultimate origin or destination is the Site, or where the driver’s specific purpose is visiting the Site.

Updated pass-by percentages were based on the data provided within the supplement for the ITE Trip Generation Manual, 12th edition. Since no data was available for the weekday morning peak hour, all trips were taken as primary trips in that period.

A full summary of the gross, internal, external and resulting retail pass-by trips pertaining to each block and the full buildout of the Site is provided in **Appendix P**.

Phase 1 of the Site is expected to generate a total of 30 pass-by trips during the weekday afternoon peak hour. With the full buildout of the Site, a total of 160 pass-by trips are expected during that same hour.

Table 26 Retail Vehicle Trips

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Phase 1 of Site (Block 1)						
Total Retail Vehicle Trips	10	10	20	35	30	65
Pass-by Percentage[1]	0%			40%		
Pass-by Trips	**0**	**0**	**0**	**15**	**15**	**30**
Primary Trips	**10**	**10**	**20**	**20**	**15**	**35**
Full Buildout of Site						
Total Retail Vehicle Trips	85	55	140	205	180	385
Pass-by Percentage[1]	0%			40%		
Pass-by Trips	**0**	**0**	**0**	**80**	**80**	**160**
Primary Trips	**85**	**55**	**140**	**125**	**100**	**225**

Notes:
1. The ITE supplement does not include any data for weekday morning peak hour pass-by percentages. A conservative 0% was assumed for analysis purposes. In the weekday afternoon peak hour, the ITE supplement lists an average of 40% of all trips as being pass-by trips for surveyed data under LUC 821.

11.4.8 Trip Distribution and Assignment

Residential Trip Distribution

The distribution of residential Site trips on the study area road network is based on a review of the home-based trip distribution data provided by the Transportation Tomorrow Survey, as well as the consideration of capacity constraints at several locations on the network. The general distribution of inbound and outbound residential traffic is summarized in **Table 27**. While a set of trip distribution percentages is assumed for analysis purposes, it is likely that drivers will redistribute across a wider area, depending on where congestion and delays persist in any given period or day. The estimated distribution to each of the available corridors in each direction, has been undertaken using engineering judgment and the consideration of pre-existing capacity constraints. Furthermore, Phase 1 of the Site was analyzed with the assumption that only the existing road network would be in place, without any additional road improvements completed. Future road improvements, such as the new QEW-Hwy 403 interchange configuration at Royal Windsor Drive, the New N-S Arterial Street, the Argus Road extension, Cross Road extension, etc., were not assumed as part of the trip distribution.

Under the full build-out of the Site, all future road improvements were assumed to have been completed. The need for each of the planned road improvements, as per the Midtown Oakville Transportation Plan (dated March 19, 2026, by R. J. Burnside) would be further considered with subsequent phases of the Site. However, as discussed in **Section 12.0** of this report, it was confirmed that no further improvements to the existing road network are required to accommodate the development of Phase 1.

Table 27 Residential Trip Distribution

Route	From / To (Direction)	Inbound	Outbound
Trafalgar Road / New N-S Arterial Street	North	20%	25%
	South	10%	10%
QEW-Hwy 403	East	30%	30%
	West	15%	10%
Cornwall Road	East	5%	5%
	West	10%	10%
Royal Windsor Drive	East	5%	5%
Chartwell Road	South	5%	5%
Total		**100%**	**100%**

Notes:
1. Based on a review of home-based trips to and from TTS zones 4013-4015, 4017, 4027, 4029 and 4030, for outbound trips beginning between 6:00 a.m. – 8:59 a.m. and inbound trips beginning between 3:00 p.m. – 5:59 p.m.

Retail Trip Distribution

The retail trip distribution pattern for the Site has been based on a review of the 2022 TTS for retail-destined trips to and from the study area during the weekday morning and afternoon peak hours. The distribution of inbound and outbound retail traffic is summarized in **Table 28**.

Similar to residential trips, while a set of trip distribution percentages was assumed for analysis purposes, it is likely that drivers will redistribute across a wider area depending on where congestion and delays persist within any given period or day. The estimated distribution to each of the available corridors, in each direction, has been undertaken using engineering judgment and the consideration of pre-existing capacity constraints.

Table 28 Retail Trip Distribution

Route	From / To (Direction)	Inbound	Outbound
Trafalgar Road / New N-S Arterial Street	North	35%	35%
	South	10%	10%
QEW-Hwy 403	East	15%	15%
	West	15%	15%
Cornwall Road	East	5%	5%
	West	10%	10%
Royal Windsor Drive	East	5%	5%
Chartwell Road	South	5%	5%
Total		**100%**	**100%**

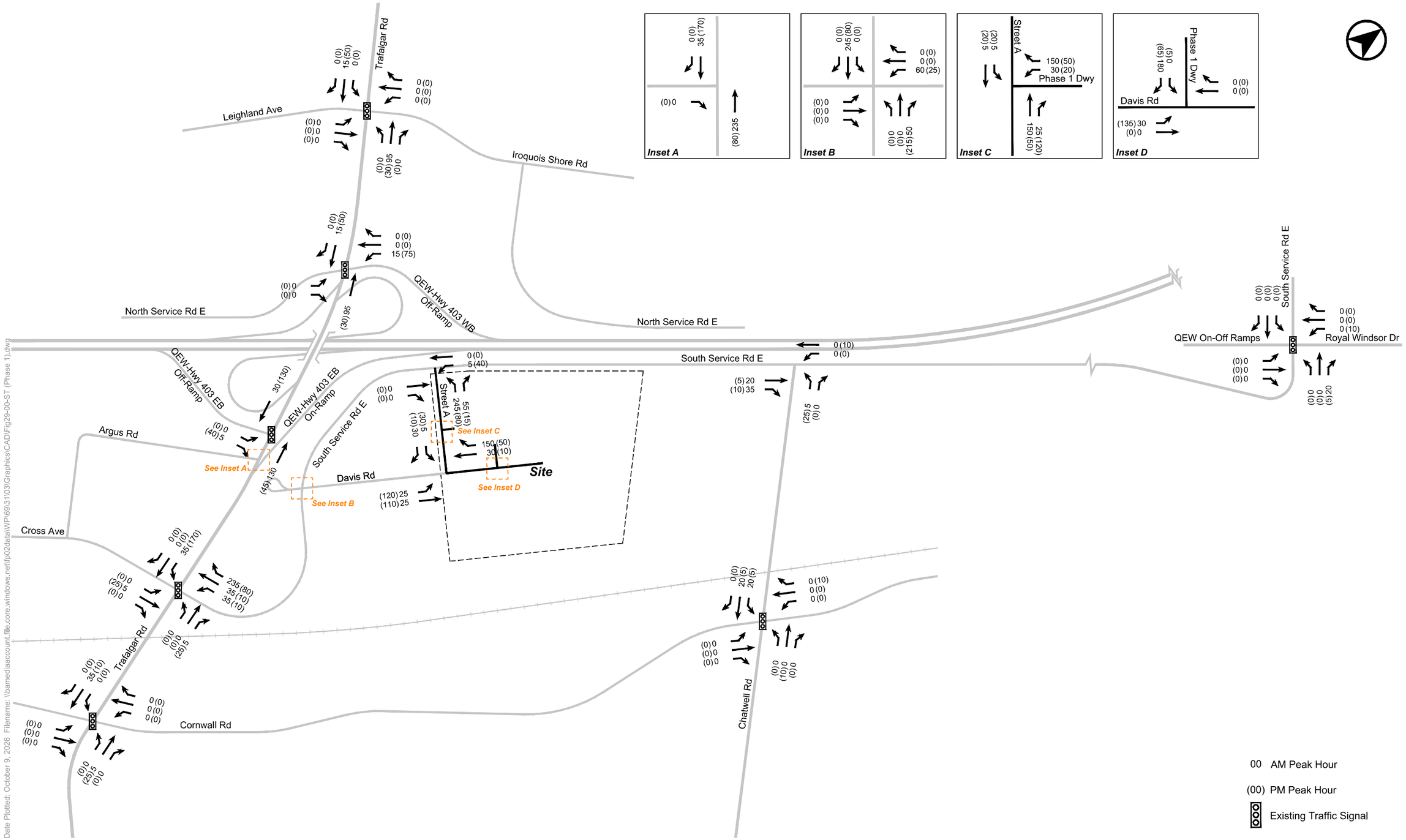
Notes:
1. Based on a review of market-based trips to and from TTS zones 4013-4015, 4017, 4027, 4029 and 4030, for inbound and outbound trips beginning between 6:00 a.m. – 5:59 p.m.

11.5 Future Total Traffic Volumes

Figure 29 and **Figure 30** illustrate Site traffic volumes distributed onto the study area road network for Phase 1 and full buildout, respectively.

Future total traffic, which represents the sum of future background traffic and Site generated traffic volumes is illustrated in **Figure 31** (Phase 1), **Figure 32** (Phase 1) and **Figure 33** (full buildout), for the 2031, 2036 and 2046 horizons, respectively, without the requested corridor growth.

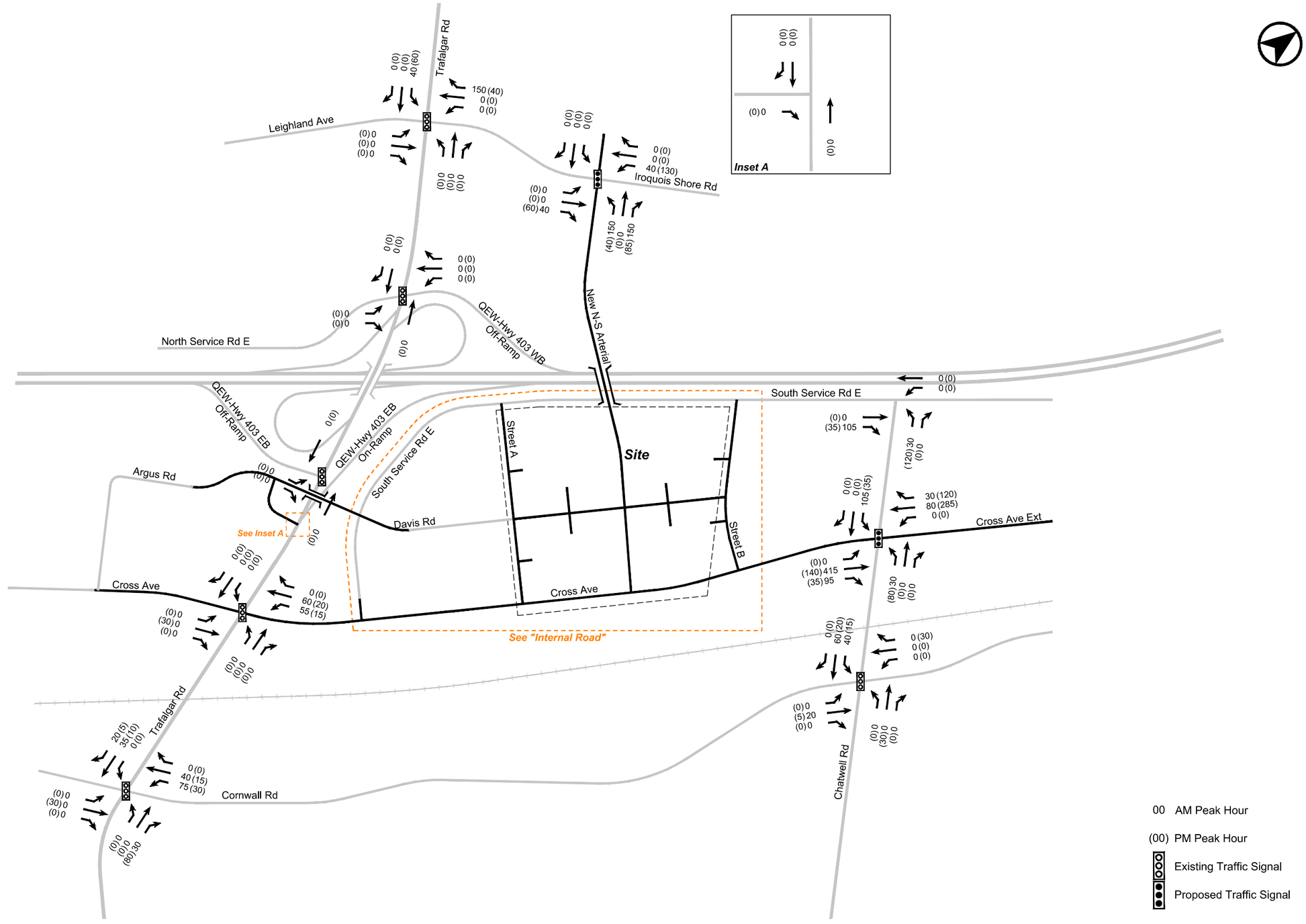
Future total traffic, which represents the sum of future background traffic and Site generated traffic volumes is illustrated in **Figure 34** (Phase 1), **Figure 35** (Phase 1) and **Figure 36** (full buildout), for the 2031, 2036 and 2046 horizons, respectively, with the requested corridor growth.



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FIGURE 29 SITE TRAFFIC VOLUMES (PHASE 1)

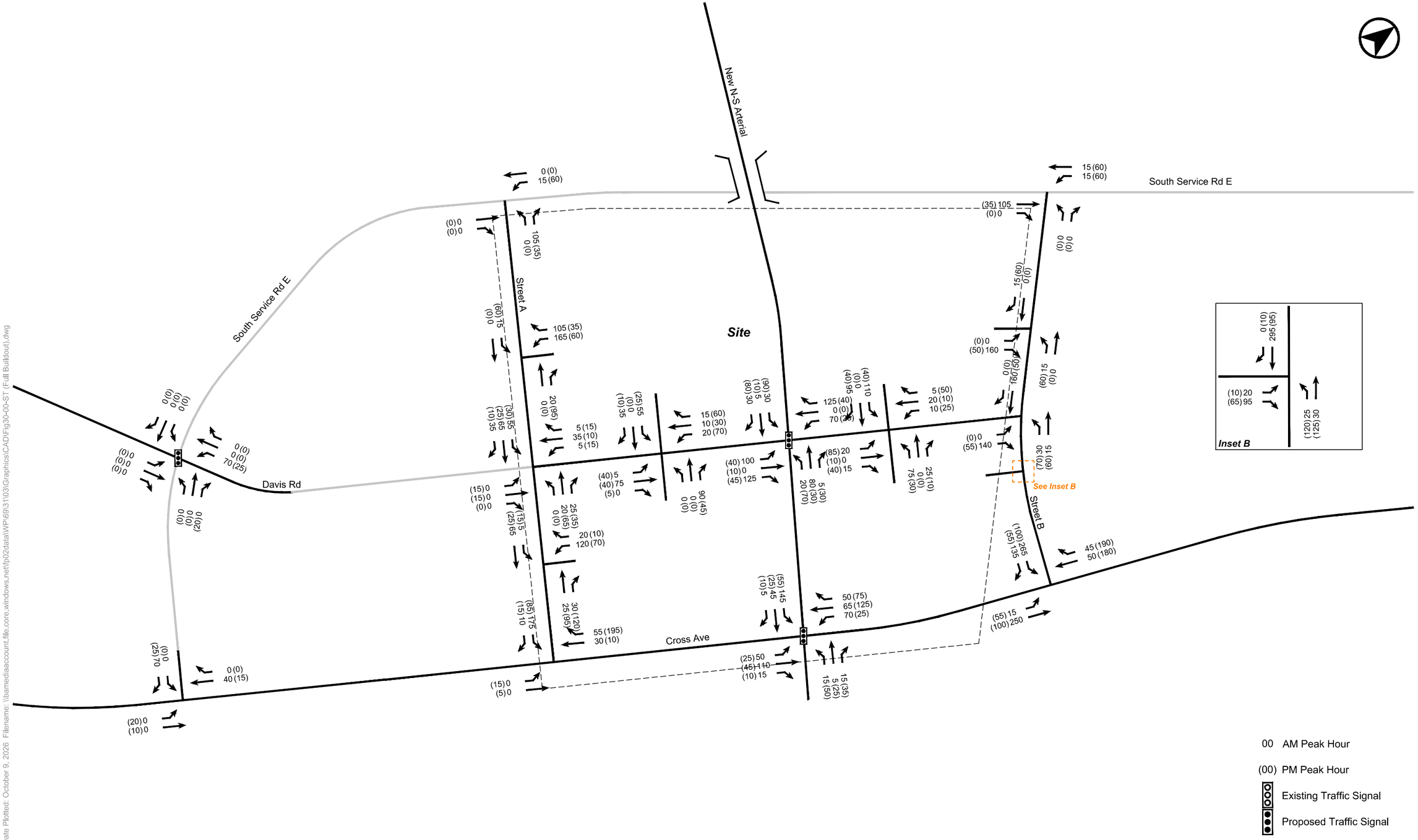
420 - 468 SOUTH SERVICE ROAD EAST



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FIGURE 30 SITE TRAFFIC VOLUMES (FULL BUILDOUT)

420 - 468 SOUTH SERVICE ROAD EAST



00 AM Peak Hour

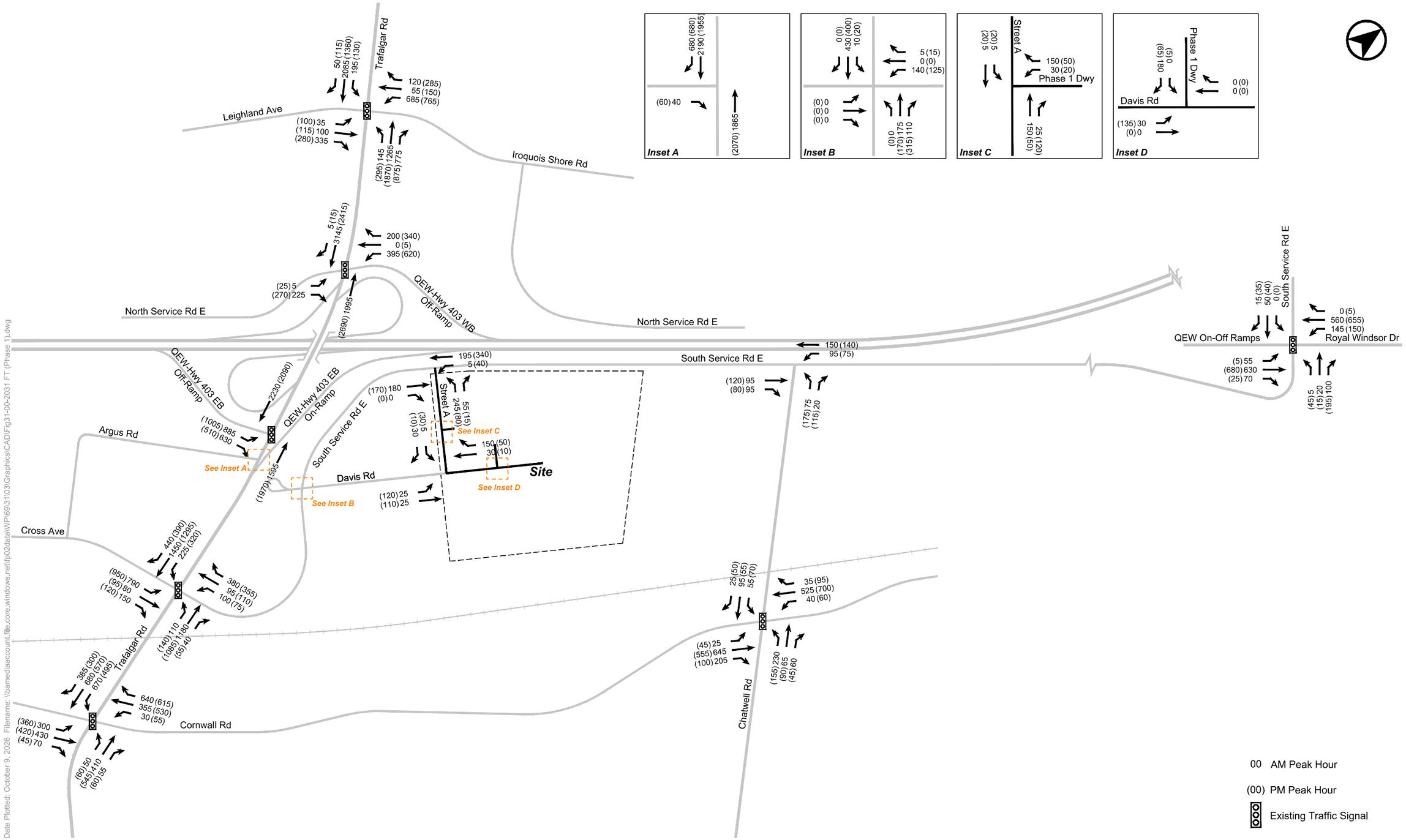
(00) PM Peak Hour

Existing Traffic Signal

Proposed Traffic Signal

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FIGURE 30A SITE TRAFFIC VOLUMES
(FULL BUILDOUT)
420 - 468 SOUTH SERVICE ROAD EAST



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FIGURE 31 2031 FUTURE TOTAL TRAFFIC VOLUMES (PHASE 1)
(NO CORRIDOR GROWTH)
420 - 468 SOUTH SERVICE ROAD EAST

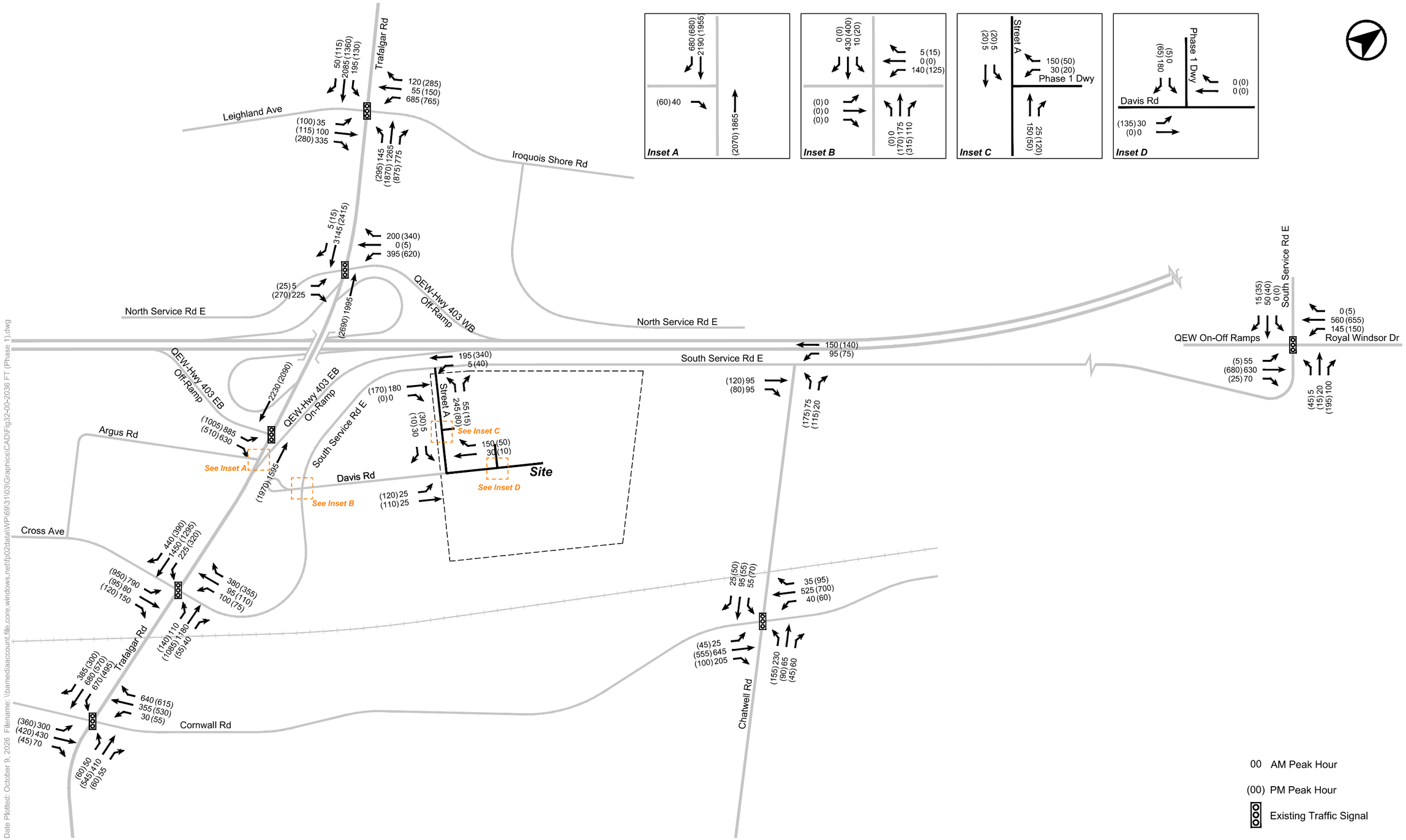
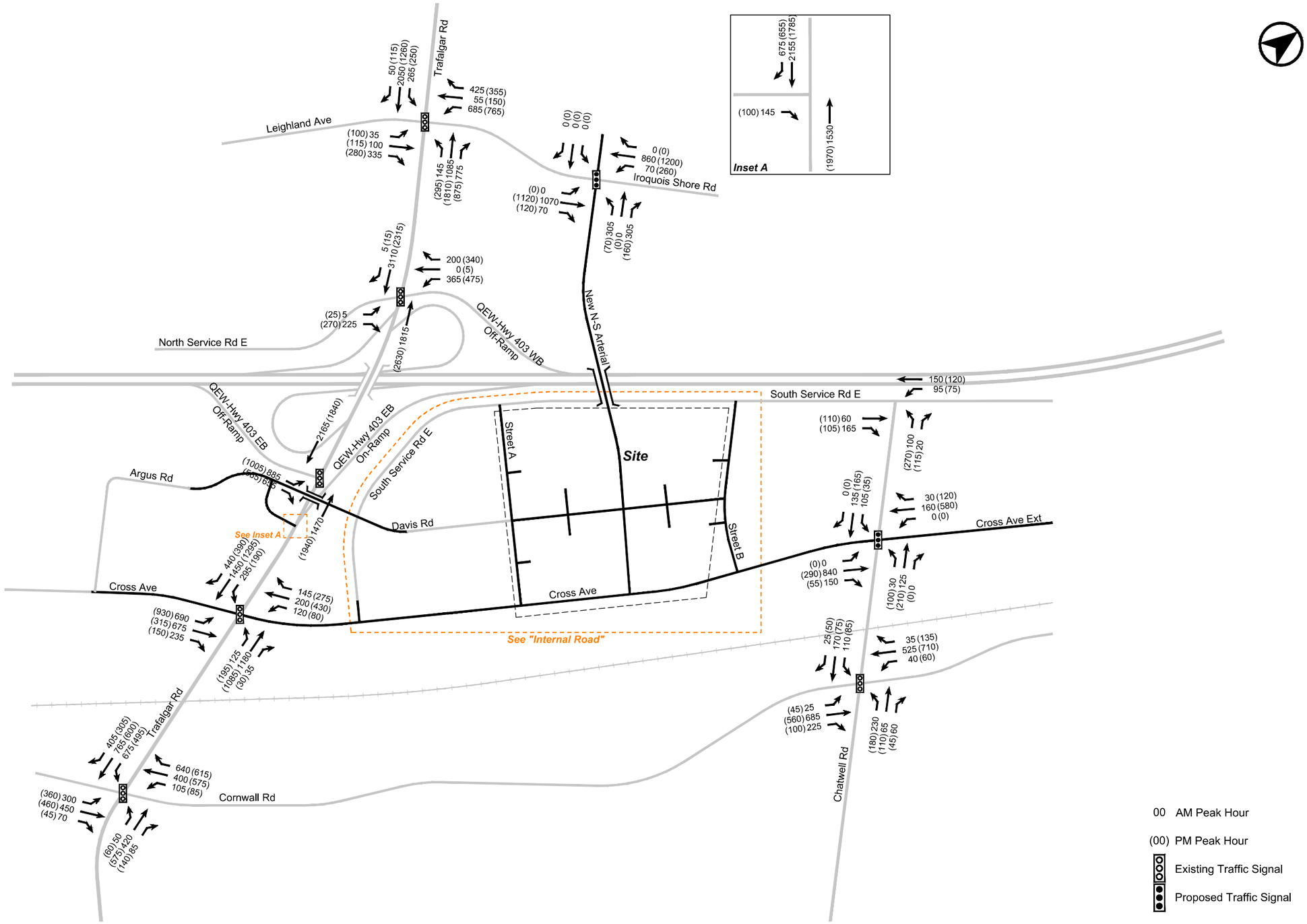
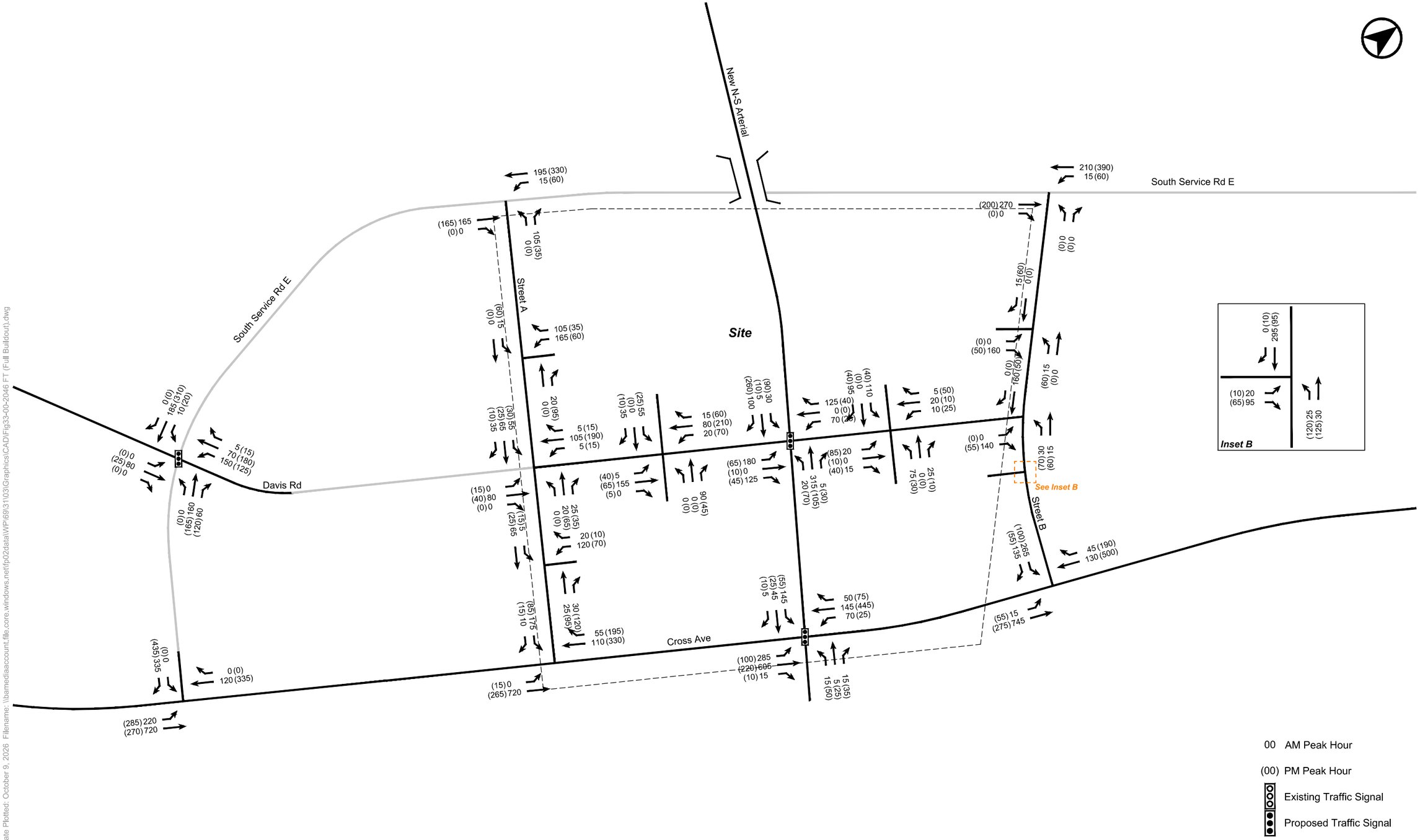


FIGURE 32 2036 FUTURE TOTAL TRAFFIC VOLUMES (PHASE 1)
(NO CORRIDOR GROWTH)



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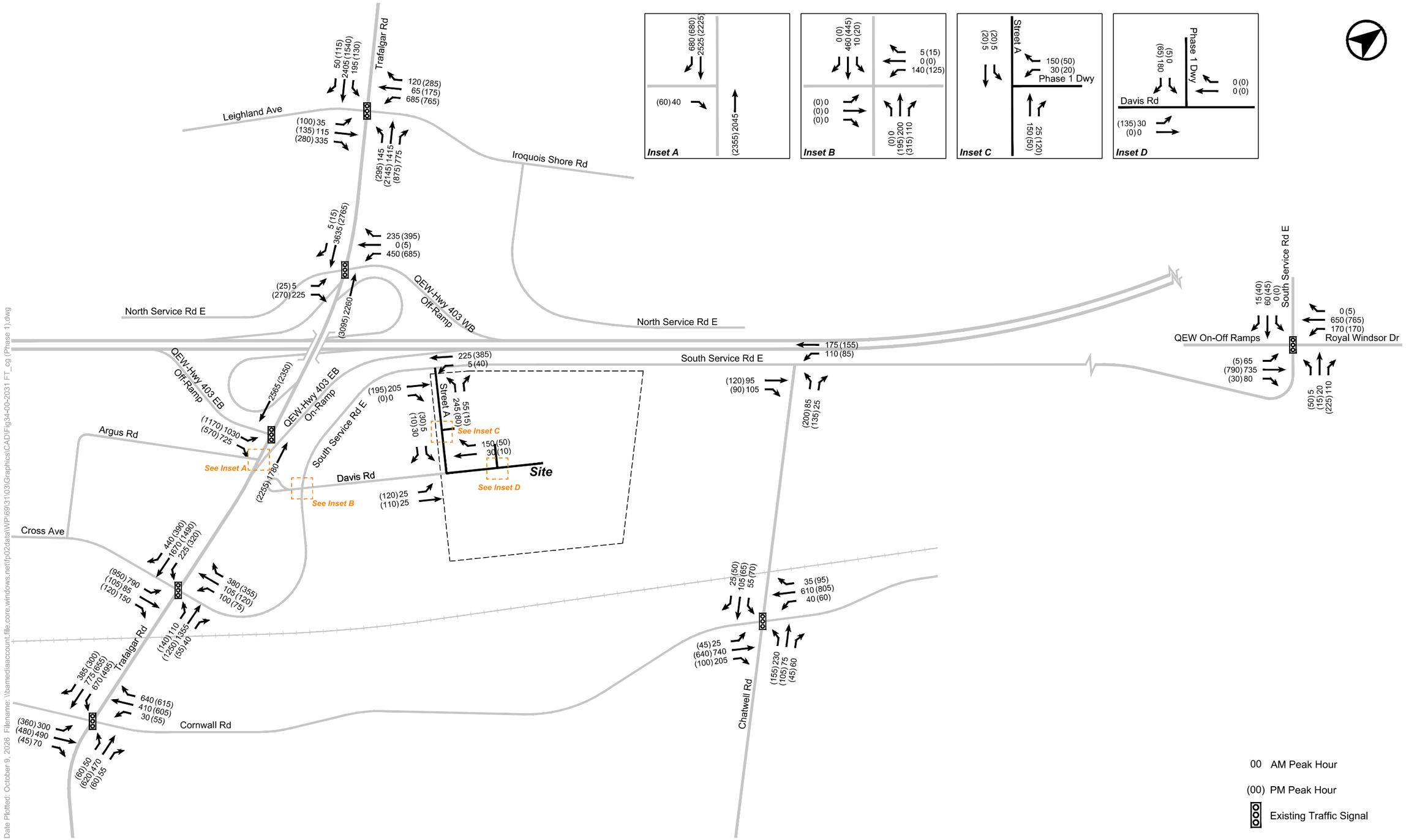
FIGURE 33 2046 FUTURE TOTAL TRAFFIC VOLUMES (FULL BUILDOUT)
(NO CORRIDOR GROWTH)
420 - 468 SOUTH SERVICE ROAD EAST



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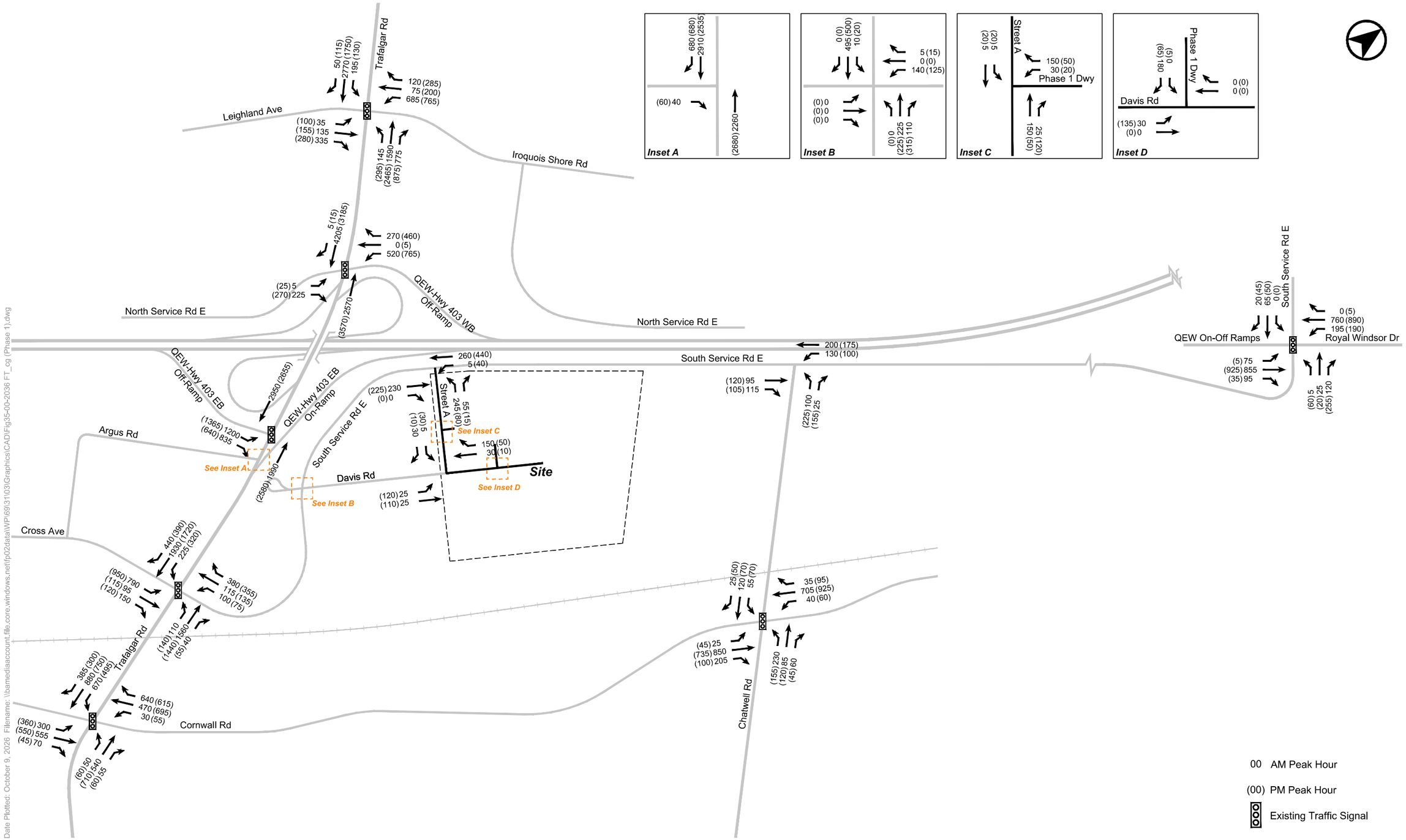
FIGURE 33A 2046 FUTURE TOTAL TRAFFIC VOLUMES (FULL BUILDOUT)
(NO CORRIDOR GROWTH)

420 - 468 SOUTH SERVICE ROAD EAST



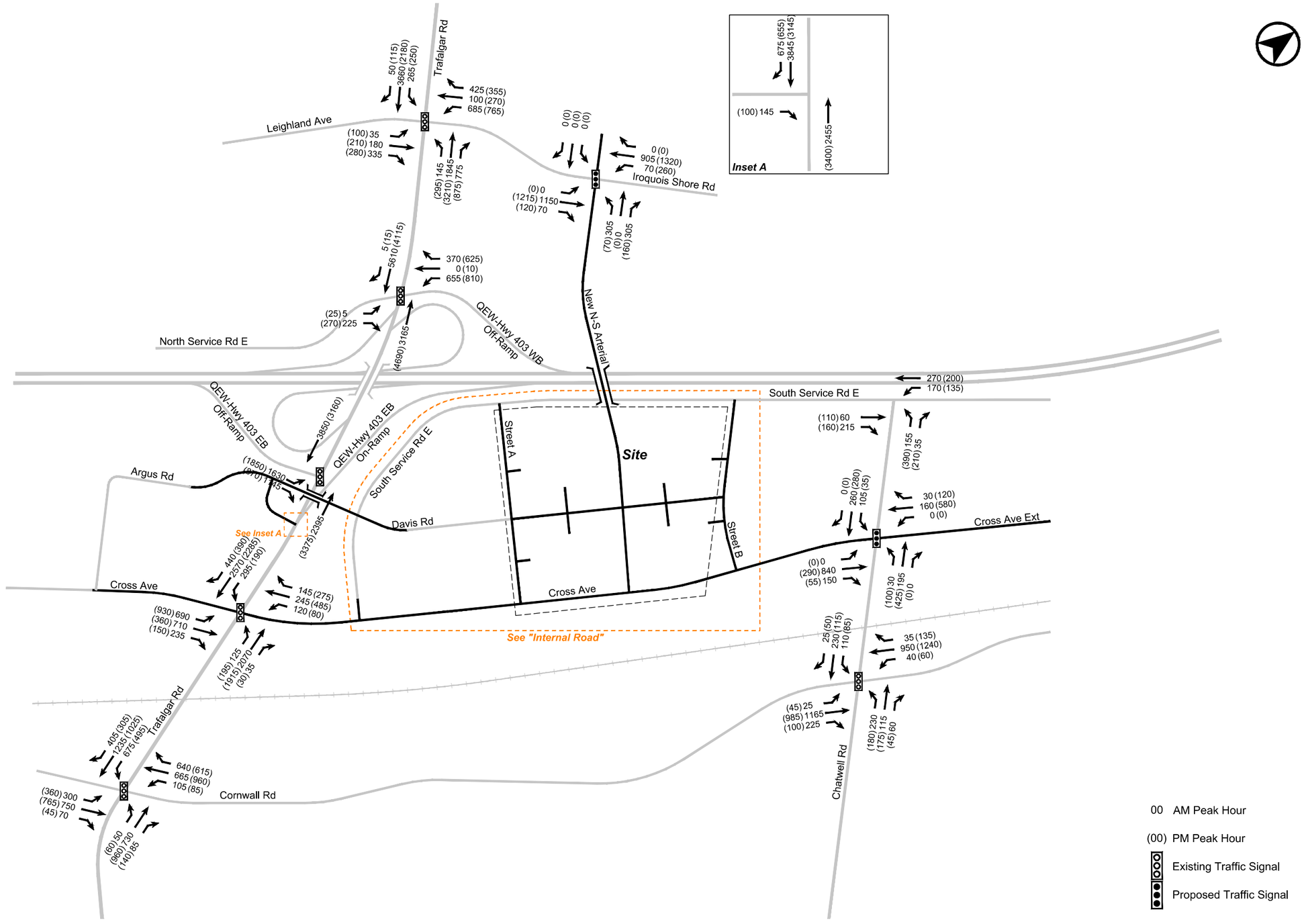
Date Plotted: October 9, 2026 Filename: \\bamediaaccount.file.core.windows.net\fp02data\WP\69\31\03\Graphics\CAD\Fig34-00-2031 FT_cg (Phase 1).dwg

FIGURE 34 2031 FUTURE TOTAL TRAFFIC VOLUMES (PHASE 1)
(WITH CORRIDOR GROWTH)
420 - 468 SOUTH SERVICE ROAD EAST



Date Plotted: October 9, 2026 Filename: \\bamediaaccount.file.core.windows.net\fp02data\WP\69\31\03\Graphics\CAD\Fig35-00-2036 FT_cg (Phase 1).dwg

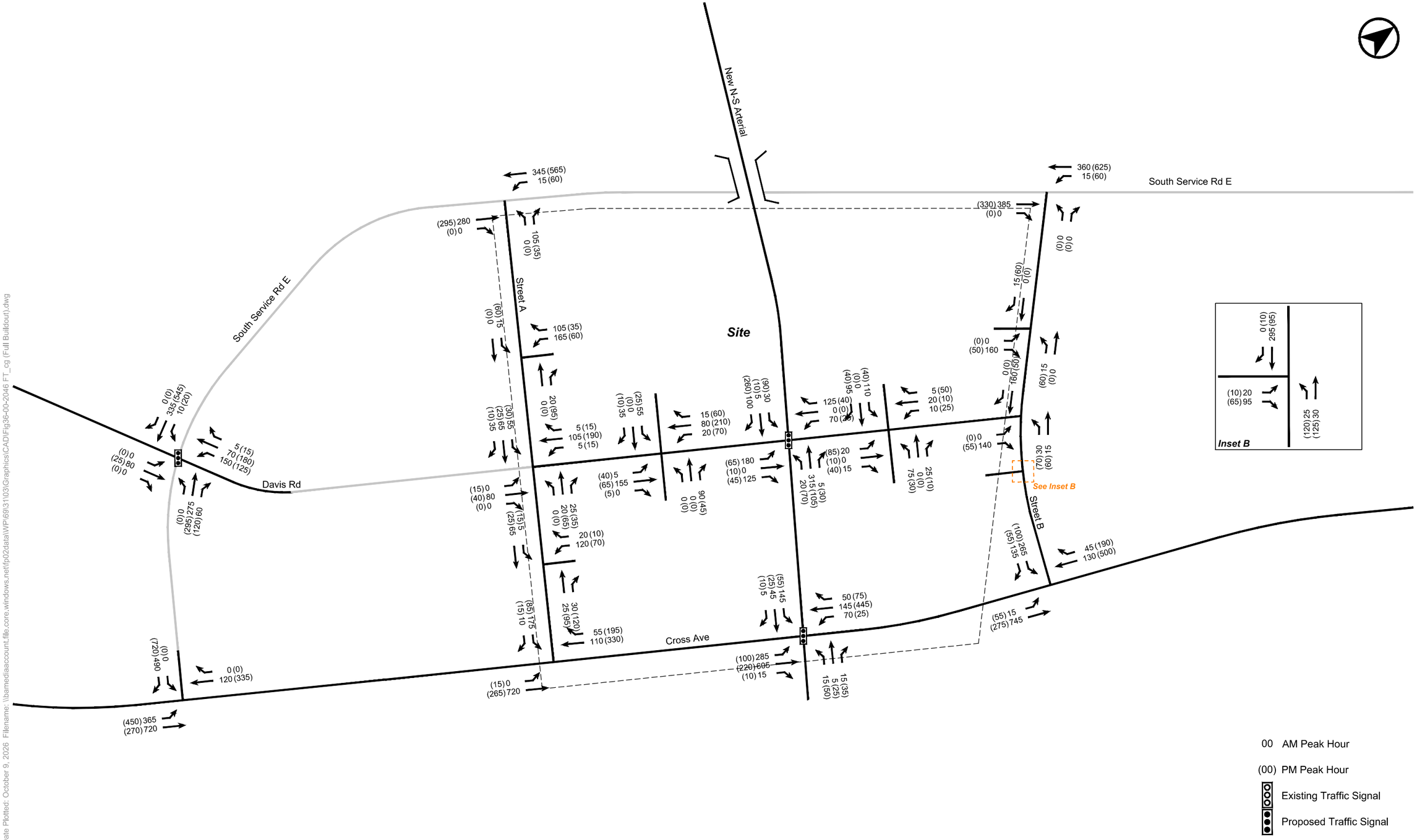
FIGURE 35 2036 FUTURE TOTAL TRAFFIC VOLUMES (PHASE 1)
(WITH CORRIDOR GROWTH)
420 - 468 SOUTH SERVICE ROAD EAST



Date Plotted: October 9, 2026 Filename: \\bamediaaccount.file.core.windows.net\fp02data\WP\6931\03\Graphics\CAD\Fig36-00-2046 FT_cg (Full Buildout).dwg

FIGURE 36 2046 FUTURE TOTAL TRAFFIC VOLUMES (WITH CORRIDOR GROWTH)

420 - 468 SOUTH SERVICE ROAD EAST



00 AM Peak Hour

(00) PM Peak Hour

Existing Traffic Signal

Proposed Traffic Signal

Date Plotted: October 9, 2026 Filename: \\bamediaaccount.file.core.windows.net\fp02data\WP\6931\103\Graphics\CAD\Fig36-00-2046 FT_cg (Full Buildout).dwg

FIGURE 36A 2046 FUTURE TOTAL TRAFFIC VOLUMES
(WITH CORRIDOR GROWTH)

420 - 468 SOUTH SERVICE ROAD EAST

12.0 TRAFFIC OPERATIONS ANALYSIS

BA Group's terms of reference for the traffic analysis, dated September 2024, is provided in **Appendix R**. The terms of reference was sent to both the Region of Halton and the Town of Oakville. Comments provided by the Town have also been included in **Appendix R**.

12.1 Phase 1 Overview

For Phase 1 of the Site, the existing road network will have sufficient capacity to accommodate the proposed development. As the area road network approaches capacity, non-local drivers will be replaced by local traffic. The road improvements that are being contemplated for the wider Midtown Oakville area, are not required, nor recommended to be constructed, in order to accommodate the travel demand related to Phase 1. All study area intersections will operate at typical busy urban conditions and do not require additional mitigation measures, with the exception of traffic signal timing optimization at noted locations.

12.2 Full Buildout Overview

Under future conditions, with the full build-out of the Midtown Oakville area, the road network will continue to operate under very busy conditions, with some intersections operating at near their theoretical capacity. This is reflective of a busy urban centre, where the majority of mobility needs will be met by non-auto modes of travel.

Beyond the significant road and transit improvements that are already planned and invested in for the Midtown Oakville area, no further improvements are recommended to accommodate the Site at its full buildout program. The improved transit service and availability of alternative routes via new travel corridors in the area are expected to be sufficient in mitigating congestion and high delays while non-local drivers in the area will be discouraged from passing through Midtown Oakville as the area approaches capacity.

The Site's Transportation Demand Management (TDM) Plan also seeks to encourage travel by non-auto modes, while the Site's proximity to frequent higher-order transit, including GO, the future Trafalgar BRT and other bus services operated by Oakville Transit, will allow residents, employees and visitors of the Site to access local and Regional destinations without the use of a car.

A number of trends will shape future mobility in and around the Site, and in the Town of Oakville more broadly, including the following:

- **Many residents who choose to live in Midtown Oakville will do so because of its proximity to transit and the ability to live and work without the daily use of a car. Midtown Oakville is intentionally planned to be a transit-oriented community that is characterized by higher density than the rest of Oakville.** Options to travel to / from Midtown Oakville by car will be limited, given that the existing and future road network will operate under very busy conditions and the on-site parking supply will be limited. Future residents who choose to live in Midtown Oakville will do so because of the variety of mobility connections that will be available to them, in particular the GO line, the Trafalgar BRT and other bus services, that will enable them to meet their day-to-day needs without needing to use a car.
- **Travel modes in Halton Region and the rest of the GTHA are evolving and auto use is decreasing over time, particularly true for peak period travel**. This change is partly occurring in response to increasing congestion caused by population and employment growth in the GTHA. This change is being supported by ongoing municipal and provincial efforts to promote non-auto travel modes, including

improvements to transit service, the expansion of safe cycling and walking infrastructure, the creation of more mixed-use communities that allow people to meet their daily needs locally and the increased availability of first and last mile travel options, including e-bikes and bike share (currently not in Oakville).

This decrease in auto use, particularly in the peak periods, is occurring faster in intensification areas and transit-oriented urban nodes like Midtown Oakville, but is also occurring in car-centric areas of the Region. This is borne out through data collected by the 5-yearly TTS, the latest available of which is the 2022 TTS[3].

- **Work commute habits are also changing, as a result of continued work-from-home initiatives**. Even with some employees returning to the office, an increased proportion of the population now works remotely for some or all of their employment. This results in the reduced need to travel during peak periods, reducing overall trip rates for all modes and reducing the relative peak period impact of new development.
- **An increasing number of daily needs are being met through e-commerce**. This includes on-line shopping, grocery online shopping, food / restaurant deliveries and delivery services, etc. This decreases the need to travel but increases delivery vehicle trips. This results in the need to provide appropriately sized and well-designed pick-up / drop-off and temporary lay-by areas for delivery services.
- **Midtown Oakville is a designated Urban Growth Centre and is intended to be a focus of population and employment growth in the Town of Oakville**. Midtown Oakville is identified in Provincial, Regional and Town policy as a place for intensification. A significant portion of the population and employment growth that is designated for Oakville is intended to be accommodated in Midtown Oakville. The area has some of the best transit access in Oakville, and underutilized or vacant land available for redevelopment. The area is a designated Protected Major Transit Station Area (PMTSA) and a designated Primary Growth Area and Urban Growth Centre[4] that is expected to accommodate the highest level of intensification in the Town. As a result, the traffic impact of growth in the Town will be more concentrated in and around Midtown Oakville. At the same time, growth in the MTSA will have a relatively lower traffic impact, on a per-unit basis, than growth in other less transit-accessible areas of the Town.
- **The proposed development will have minor traffic impacts on movements that are at capacity, on the future area road network.** The intersections that will operate at, or above, their theoretical capacity, will be largely the result of background development traffic and general corridor growth elsewhere in Midtown and the rest of Oakville.
- **The planned introduction of significant new road infrastructure in Midtown Oakville, including through the Site, will help support increased traffic volumes to / from Midtown** and help to better distribute traffic to / from the surrounding road network. Planned infrastructure includes a new overpass over the QEW corridor (New N-S Arterial Street), a new underpass under Trafalgar Road and the Metrolinx / CN rail corridor, QEW interchange improvements and a new network of major and minor streets throughout Midtown. Notably for the Site, this includes a new north-south major street connection

[3] "*Transportation Tomorrow Survey 2022. Travel Summaries for the TTS Area, 1996-2022*". Prepared by Malatest, for the Transportation Information Steering Committee (TISC). July 2025. https://dmg.utoronto.ca/wp-content/uploads/2025/08/2022-TTS-Travel-Summaries-TTS-Area-v5.pdf

[4] "*Livable Oakville Plan (2009 Town of Oakville Official Plan)*". Town of Oakville. Latest consolidated dated August 31, 2021. https://www.oakville.ca/business-development/planning-development/official-plan/livable-oakville-plan/

from Iroquois Shore Road to Cornwall Road that will distribute traffic around the busy Trafalgar Road corridor and a new network of north-south and east-west streets.

The Town of Oakville is currently undertaking a dynamic multi-resolution model that could more accurately reflect the elastic nature of travel routes and travel modes on the area road network. Halton Region maintains a macroscopic EMME travel forecasting model for the entire Region that more dynamically assigns trips to different routes and different modes based on overall network capacity. For example, the EMME model can better reflect route and mode choice elasticity compared to a static model – e.g. people can choose different routes, different modes and different times of travel depending on the travel options that are available and the capacity of the road network. Thus, as the population in the Oakville and in Midtown grows, the model aims to forecast the evolving travel characteristics that would result for the local and regional area. As part of the next steps of the Midtown Oakville planning process, BA Group seeks to collaborate with the Town to understand the inputs and outputs of the Town's modelling work and the changing travel characteristics of the local and regional area as Midtown is built out.

12.3 Capacity Analysis Methodology

The traffic operations analysis has been completed using Synchro Version 11.0, in accordance with the methodologies outlined in the Highway Capacity Manual (HCM) 2000 and Halton Region's Transportation Impact Study Guidelines.

For signalized intersections, the volume-to-capacity ratio (v/c) is an indicator of the capacity utilization for the key movements in the intersections. A v/c of 1.00 indicates that certain governing traffic movements through the key intersections are operating at or near maximum capacity. The primary overall level-of-service (LOS) indicator is delay, both on dividual movements and expressed as an average for all vehicles processed. Many busy urban intersections operate at LOS D to E, which reflects average delays in the range of 35 to 80 seconds.

For unsignalized intersections, level-of-service (LOS) characterizes operational conditions for key movements in terms of delay within the traffic stream. LOS A presents a good level-of-service with short delays, while LOS F represents a poor level-of-service with long delays. The volume-to-capacity ratio is an indicator of the capacity utilization for key movements at the intersection and the resultant residual capacity potential.

The LOS criteria provided by the HCM methodology is summarized as follows:

1. Signalized Intersection LOS
    a. LOS A: Control Delay ≤ 10s
    b. LOS B: 10s < Control Delay ≤ 20s
    c. LOS C: 20s < Control Delay ≤ 35s
    d. LOS D: 35s < Control Delay ≤ 55s
    e. LOS E: 55s < Control Delay ≤ 80s
    f. LOS F: Control Delay > 80s

2. Unsignalized Intersection LOS
    a. LOS A: Control Delay ≤ 10s
    b. LOS B: 10s < Control Delay ≤ 15s
    c. LOS C: 15s < Control Delay ≤ 25s
    d. LOS D: 25s < Control Delay ≤ 35s
    e. LOS E: 35s < Control Delay ≤ 50s

f. LOS F: Control Delay > 50s

All Synchro output sheets, detailing capacity analysis and queuing analysis results for all the study area intersections, are provided in **Appendix Q**.

12.4 Traffic Analysis Parameters

Heavy Vehicle Assumptions

Heavy and medium truck percentages incorporated into the analysis were based upon information provided as part of intersection turning movement counts.

Saturation Flow Assumptions

A base saturation flow of 1,900 passenger cars per hour of green time per lane (pcphgtl) was adopted as the base assumption for the Synchro analysis, that was assumed for all analysis scenarios.

Traffic Signal Timings

Existing traffic signal timings, phasing plans and cycle lengths were obtained from Halton Region. Where necessary, signal timing plans were optimized in future scenarios.

Lost Time Adjustments

For all signalized intersections, a lost-time adjustment (LTA) of -1.0 seconds was applied to all movements. This lost time adjustment provides allowances in the capacity analysis to better account for drivers completing their movements during amber or all-red time (a common occurrence at busy intersections). The lost time adjustment of -1.0 seconds accounts for drivers completing their movements on amber and all-red times. This adjustment is not unreasonable for busy urban transportation networks and was adopted from the City of Toronto's Guidelines for Using Synchro 11, dated January 2024. While modelling standards between municipalities do not always apply, the underlying principle remains applicable for the Oakville area: as the network approaches capacity, more vehicles will make use of the intergreen times to complete their movements. Currently, northbound and southbound through movements along Trafalgar Road are provided with approximately four seconds of amber time. The Synchro model assumes by default that vehicles will advance into the intersection up to 2.5 seconds after the signal turns amber. This results in approximately 1.5 seconds of remaining of amber time, where vehicles will advance into the intersection (i.e. a lost time adjustment of -1.5 seconds). On this basis, an adjustment of -1.0 seconds is appropriate and can be expected to appropriately reflect actual conditions at the intersections.

Peak Hour Factor

For all intersections, peak hour factors (PHF) were calculated based on the existing traffic volume data extracted from the traffic counts utilized in the study. The calculations are provided in **Appendix R**.

Lane Utilization Factors

The default Synchro lane utilization factors (LUF) were adopted, which take into consideration the distribution of individual lane usage within each group.

12.5 Phase 1 (2031) Traffic Operations

12.5.1 Signalized Intersection Operations (2031)

12.5.1.1 Trafalgar Road / Iroquois Shore Road / Leighland Avenue

The intersection of Trafalgar Road / Iroquois Shore Road / Leighland Avenue operates under traffic signal control. The traffic operations results under the 2031 horizon year are provided in **Table 29**. Highlighted values in the table represent critical movements based upon Halton Region and Town of Oakville guidelines, depending on the applicable jurisdiction for each corridor (especially since each reviewing agency has their own set of criteria for what is deemed "critical"). For example, Trafalgar Road approach movements were evaluated based on Regional standards, while Leighland Avenue movements were evaluated based on Town standards. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

Under existing conditions, the intersection operates at near-capacity conditions at overall v/c of 0.93 and 0.89 during the weekday morning and afternoon peak hours, respectively. These overall v/c are critical under both Town and Region guidelines. The Region's standards also highlight the southbound through movement as critical as it operates at capacity (i.e. v/c of 1.00) in the weekday morning peak hour.

Under all 2031 future conditions and in both peak hours, traffic signal timings are proposed to be optimized to better serve forecasted travel demand at the intersection.

With these changes, in the 2031 future background condition, the intersection continues to operate at near-capacity conditions at overall v/c of 0.89 and 0.90 during the weekday morning and afternoon peak hours, respectively. Critical movements were identified as the southbound through movement. With the development of Phase 1 of the Site, the intersection will operate at overall v/c of 0.89 and 0.91 during the weekday morning and afternoon peak hours, respectively, with the southbound through movement continuing under critical conditions.

Given the future character of Midtown Oakville as a transit-oriented context, it is expected that local neighbourhood traffic would begin to displace non-local traffic that is currently encouraged to pass through the area. Study area corridors and QEW-Hwy 403 ramps that were once attractive alternatives to other route options will more likely be avoided due to local traffic taking up more capacity during peak travel periods.

The traffic analysis confirms that this intersection is expected to have some residual vehicle capacity in the 2031 horizon year and confirms that improvements are not required at this location, with the exception of traffic signal timing optimization, in order to accommodate the travel demand related to Phase 1.

To align with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, road improvements are not being recommended at this intersection, in order to accommodate Phase 1. This recommendation will however be revisited with the subsequent applications for each phase of the development.

Table 29 Trafalgar Road / Iroquois Shore Road / Leighland Avenue

	Existing			2031 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBL	0.13 (0.40)	D (D)	46.4 (51.5)	0.16 (0.46)	D (D)	51.5 (54.5)	0.16 (0.46)	D (D)	51.5 (54.5)	0.16 (0.46)	D (D)	51.1 (54.4)	0.16 (0.46)	D (D)	51.1 (54.4)
EBT	0.37 (0.67)	D (E)	55.0 (70.4)	0.52 (0.70)	E (E)	61.5 (73.3)	0.52 (0.70)	E (E)	61.5 (73.3)	0.57 (0.80)	E (F)	63.2 (85.3)	0.57 (0.80)	E (F)	63.2 (85.3)
EBR	0.98 (0.78)	F (F)	112.2 (84.5)	0.80 (0.53)	E (D)	70.1 (47.1)	0.80 (0.53)	E (D)	70.1 (46.7)	0.81 (0.53)	E (D)	70.5 (46.6)	0.81 (0.53)	E (D)	70.5 (46.6)
WBL	0.83 (0.87)	E (E)	57.1 (57.9)	0.98 (0.96)	F (E)	84.6 (74.0)	0.98 (0.96)	F (E)	84.6 (74.0)	0.98 (0.96)	F (E)	84.6 (74.0)	0.98 (0.96)	F (E)	84.6 (74.0)
WBT	0.09 (0.29)	C (D)	30.8 (39.5)	0.11 (0.30)	D (D)	38.2 (40.8)	0.11 (0.30)	D (D)	38.2 (40.8)	0.13 (0.35)	D (D)	38.1 (41.4)	0.13 (0.35)	D (D)	38.1 (41.4)
WBR	0.08 (0.37)	C (D)	30.7 (40.7)	0.08 (0.38)	D (D)	37.9 (42.0)	0.08 (0.38)	D (D)	37.9 (42.0)	0.08 (0.43)	D (D)	37.6 (42.7)	0.08 (0.43)	D (D)	37.6 (42.7)
NBL	0.79 (0.88)	D (E)	52.3 (55.6)	0.82 (0.88)	E (E)	65.7 (62.7)	0.82 (0.90)	E (E)	67.1 (64.6)	0.84 (0.91)	E (E)	70.2 (57.6)	0.84 (0.91)	E (E)	70.0 (58.0)
NBT	0.48 (0.81)	C (B)	28.7 (19.8)	0.51 (0.82)	B (B)	19.7 (19.6)	0.55 (0.83)	B (B)	19.3 (19.2)	0.58 (0.94)	B (B)	19.7 (19.5)	0.62 (0.96)	B (B)	19.4 (19.9)
NBR	0.53 (0.80)	F (D)	163.4 (45.4)	0.57 (0.80)	F (C)	83.7 (32.5)	0.58 (0.81)	E (C)	72.4 (30.8)	0.59 (0.86)	E (B)	60.6 (19.8)	0.60 (0.87)	D (B)	54.4 (19.1)
SBL	0.67 (0.68)	C (D)	28.8 (38.0)	0.66 (0.63)	C (C)	23.1 (33.5)	0.71 (0.63)	C (C)	26.8 (33.8)	0.74 (0.63)	C (D)	30.0 (36.2)	0.78 (0.63)	D (D)	38.0 (36.6)
SBT	1.00	E	61.1	0.86	D	36.7	0.87	D	37.1	0.99	D	52.7	1.00	D	54.3

	Existing			2031 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
	(0.63)	(D)	(38.4)	(0.70)	(D)	(38.5)	(0.73)	(D)	(39.6)	(0.80)	(D)	(42.2)	(0.82)	(D)	(43.4)
SBR	0.04 (0.09)	C (C)	25.9 (29.5)	0.04 (0.09)	B (C)	19.5 (27.9)	0.04 (0.09)	B (C)	19.5 (28.1)	0.04 (0.09)	B (C)	19.5 (28.2)	0.04 (0.09)	B (C)	19.5 (28.2)
Overall	**0.93 (0.89)**	**E (D)**	**69.8 (40.3)**	**0.89 (0.90)**	**D (D)**	**47.9 (38.8)**	**0.89 (0.91)**	**D (D)**	**46.1 (38.6)**	**0.97 (0.95)**	**D (D)**	**50.3 (37.3)**	**0.97 (0.95)**	**D (D)**	**49.9 (37.6)**

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.5.1.2 Trafalgar Road / North Service Road East / QEW-Hwy 403 Westbound Off-Ramp

The intersection of Trafalgar Road / North Service Road East / QEW-Hwy 403 Westbound Off-Ramp operates under traffic signal control. The traffic operations results under the 2031 horizon year are provided in **Table 30**. Highlighted values in the table represent critical movements based upon Region, Town and MTO guidelines, depending on the applicable jurisdiction for each corridor. For example, Trafalgar Road approach movements were be evaluated based on Regional standards, while the off-ramp movements were evaluated based on MTO standards.

Under existing conditions, the intersection operates at near-capacity conditions at overall v/c of 0.85 and 0.83 during the weekday morning and afternoon peak hours, respectively. The overall v/c of 0.85 is critical under both Town and Region guidelines. MTO's standards highlight the westbound right-turn / through movement as critical in the weekday morning peak hour (v/c of 0.79), while the Region's standards highlight both the northbound and southbound through movements as critical in one of the peak hours.

Under all 2031 future conditions and in both peak hours, traffic signal timings are proposed to be optimized to better serve forecasted travel demand at the intersection.

With these changes, in the 2031 future background condition, the intersection continues to operate at near-capacity conditions at overall v/c of 0.88 and 0.86 during the weekday morning and afternoon peak hours, respectively. Critical movements include the off-ramp approaches and the northbound and southbound through movements. With the development of Phase 1 of the Site, the intersection will operate at overall v/c of 0.89 and 0.89 during the weekday morning and afternoon peak hours, respectively. Site-related impacts on the critical movements are minimal, and Site drivers are afforded the alterative of using the Royal Windsor interchange if necessary.

Based on the results of the traffic analysis, improvements are not required at this location, with the exception of traffic signal timing optimization, in order to accommodate the travel demand related to Phase 1.

As the area road network continues to approach capacity, non-local drivers will be replaced by local traffic. To align with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, road improvements are not being recommended at this intersection, in order to accommodate the travel demand of Phase 1. This recommendation will however be revisited with the subsequent applications for each phase of the development.

Table 30 Trafalgar Road / North Service Road East / QEW-Hwy 403 Westbound Off-Ramp

	Existing			2031 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBL	0.03 (0.10)	D (D)	43.2 (36.2)	0.03 (0.15)	D (D)	43.5 (38.3)	0.03 (0.16)	D (D)	43.5 (37.9)	0.03 (0.14)	D (D)	43.0 (35.7)	0.03 (0.16)	D (D)	42.7 (36.2)
EBR	0.59 (0.55)	D (D)	51.7 (43.0)	0.59 (0.58)	D (D)	51.9 (44.4)	0.59 (0.55)	D (D)	51.8 (42.8)	0.57 (0.52)	D (D)	50.5 (40.3)	0.57 (0.52)	D (D)	49.9 (39.7)
WBL	0.62 (0.58)	E (D)	57.8 (50.9)	0.69 (0.81)	E (E)	60.9 (65.6)	0.71 (0.88)	E (E)	62.2 (72.1)	0.75 (0.80)	E (E)	64.8 (60.1)	0.77 (0.88)	E (E)	65.2 (69.4)
WBTL	0.62 (0.57)	E (D)	57.8 (50.6)	0.69 (0.82)	E (E)	60.9 (66.6)	0.71 (0.89)	E (E)	62.5 (73.8)	0.75 (0.81)	E (E)	64.8 (61.2)	0.77 (0.89)	E (E)	65.2 (71.6)
WBR	0.36 (0.79)	D (E)	51.8 (63.0)	0.47 (0.85)	D (E)	53.4 (71.4)	0.48 (0.82)	D (E)	53.5 (65.1)	0.60 (0.91)	E (E)	56.3 (76.1)	0.60 (0.90)	E (E)	55.6 (73.7)
NBT	0.50 (0.86)	A (B)	5.2 (12.5)	0.57 (0.88)	A (B)	8.7 (16.2)	0.59 (0.91)	A (B)	8.5 (17.8)	0.65 (1.06)	A (D)	10.0 (50.9)	0.68 (1.08)	A (E)	9.8 (58.7)
SBT	0.90 (0.75)	D (C)	40.1 (32.0)	0.92 (0.80)	C (C)	28.6 (26.2)	0.93 (0.83)	C (C)	29.3 (29.3)	1.08 (0.96)	E (D)	69.6 (42.4)	1.09 (0.99)	E (D)	73.9 (47.6)
SBR	0.00 (0.01)	A (B)	6.6 (10.3)	0.00 (0.01)	A (A)	6.5 (9.9)	0.00 (0.01)	A (B)	6.6 (10.5)	0.00 (0.01)	A (B)	6.8 (11.5)	0.00 (0.01)	A (B)	7.0 (11.7)
Overall	**0.85 (0.83)**	**C (C)**	**31.5 (27.0)**	**0.88 (0.86)**	**C (C)**	**26.0 (28.7)**	**0.89 (0.89)**	**C (C)**	**26.2 (31.2)**	**1.01 (1.00)**	**D (D)**	**48.8 (49.4)**	**1.02 (1.01)**	**D (E)**	**50.6 (55.5)**

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.5.1.3 Trafalgar Road / QEW-Hwy 403 Eastbound Off-Ramp

The intersection of Trafalgar Road / QEW-Hwy 403 Eastbound Off-Ramp operates under traffic signal control. The traffic operations results under the 2031 horizon year are provided in **Table 31**. Highlighted values in the table represent critical movements based upon Region, Town and MTO guidelines, depending on the applicable jurisdiction for each corridor. For example, Trafalgar Road approach movements were evaluated based on Regional standards, while the off-ramp movements were evaluated based on MTO standards.

Under existing conditions, the intersection operates at overall v/c of 0.82 and 0.74 during the weekday morning and afternoon peak hours, respectively. MTO's standards highlight the eastbound off-ramp movements as critical.

Under all 2031 future conditions and in both peak hours, traffic signal timings are proposed to be optimized to better serve forecasted travel demand at the intersection.

With these changes, in the 2031 future background condition, the intersection operates at overall v/c of 0.87 and 0.78 during the weekday morning and afternoon peak hours, respectively. Critical movements continue to be the eastbound off-ramp and southbound through movements. With the development of Phase 1 of the Site, the intersection will operate at overall v/c of 0.88 and 0.81 during the weekday morning and afternoon peak hours, respectively. Site-related impacts on the critical movements are minimal and Site drivers are afforded the alterative of using the Royal Windsor interchange if necessary.

Based on the results of the traffic analysis, improvements are not required at this location, with the exception of traffic signal timing optimization, in order to accommodate Phase 1. As the area road network continues to approach capacity, non-local drivers will be replaced by local traffic.

To align with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, road improvements are not being recommended at this intersection, in order to accommodate the travel demand of Phase 1. This recommendation will however be revisited with the subsequent applications for each phase of the development.

Table 31 Trafalgar Road / QEW-Hwy 403 Eastbound Off-Ramp

	Existing			2031 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBL	0.80 (0.89)	D (D)	47.0 (52.6)	0.65 (0.84)	C (D)	34.8 (45.6)	0.65 (0.84)	C (D)	34.6 (45.6)	0.71 (0.90)	C (D)	33.8 (48.0)	0.70 (0.90)	C (D)	33.7 (48.0)
EBR	0.99 (0.68)	F (D)	82.1 (43.2)	0.88 (0.75)	D (D)	50.0 (43.7)	0.88 (0.82)	D (D)	50.4 (47.9)	0.94 (0.78)	E (D)	57.2 (42.8)	0.95 (0.84)	E (D)	57.8 (47.4)
NBT	0.41 (0.64)	B (C)	14.6 (24.1)	0.59 (0.73)	C (C)	22.5 (27.5)	0.65 (0.74)	C (C)	22.5 (26.4)	0.71 (0.88)	C (C)	24.8 (32.9)	0.77 (0.90)	C (C)	24.9 (30.8)
SBT	0.72 (0.59)	B (B)	16.9 (16.8)	0.87 (0.74)	C (C)	28.6 (22.8)	0.89 (0.79)	C (C)	29.5 (23.7)	1.07 (0.89)	E (C)	68.5 (29.2)	1.08 (0.94)	E (C)	74.5 (32.2)
Overall	**0.82 (0.74)**	**C (C)**	**30.0 (29.0)**	**0.87 (0.78)**	**C (C)**	**30.5 (30.6)**	**0.88 (0.81)**	**C (C)**	**30.7 (30.8)**	**1.01 (0.89)**	**D (D)**	**49.0 (35.3)**	**1.02 (0.92)**	**D (D)**	**51.1 (36.0)**

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.5.1.4 Trafalgar Road / Cross Avenue / South Service Road East

The intersection of Trafalgar Road / Cross Avenue / South Service Road East operates under traffic signal control. The traffic operations results under the 2031 horizon year are provided in **Table 32**. Highlighted values in the table represent critical movements based upon Halton Region and Town of Oakville guidelines, depending on the applicable jurisdiction for each corridor. For example, Trafalgar Road approach movements were evaluated based on Regional standards, while Cross Avenue movements were evaluated based on Town standards.

Under existing conditions, the intersection operates at overall v/c of 0.70 and 0.80 during the weekday morning and afternoon peak hours, respectively. No critical movements are highlighted under existing conditions.

Under all 2031 future conditions and in both peak hours, traffic signal timings are proposed to be optimized to better serve forecasted travel demand at the intersection.

With these changes, in the 2031 future background condition, the intersection is expected to operate at near-capacity conditions at overall v/c of 0.87 and 0.90 during the weekday morning and afternoon peak hours, respectively. The shared southbound movements were identified as critical in both peak hours. With the development of Phase 1 of the Site, the intersection continues operating at increasing busy conditions, with all southbound movements at critical conditions.

Based on the results of the traffic analysis, improvements are not required at this location, with the exception of traffic signal timing optimization, in order to accommodate Phase 1. As the area road network continues to approach capacity, non-local drivers will be replaced by local traffic.

To align with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, road improvements are not being recommended at this intersection, in order to accommodate the travel demand of Phase 1. This recommendation will however be revisited with the subsequent applications for each phase of the development.

Table 32 Trafalgar Road / Cross Avenue / South Service Road East

	Existing			2031 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBL	0.74 (0.89)	E (E)	59.7 (59.4)	0.95 (0.98)	E (E)	70.8 (73.6)	0.95 (0.98)	E (E)	70.8 (73.6)	0.95 (0.98)	E (E)	70.8 (73.6)	0.95 (0.98)	E (E)	70.8 (73.6)
EBTR	0.25 (0.22)	D (D)	46.5 (37.2)	0.44 (0.28)	D (C)	44.9 (34.9)	0.47 (0.37)	D (D)	45.5 (38.5)	0.46 (0.31)	D (C)	45.2 (34.9)	0.49 (0.39)	D (D)	45.8 (38.5)
WBL	0.25 (0.25)	D (D)	51.3 (50.8)	0.32 (0.25)	D (D)	54.4 (48.2)	0.41 (0.26)	D (D)	51.6 (47.3)	0.32 (0.24)	D (D)	54.3 (47.8)	0.41 (0.26)	D (D)	51.6 (47.0)
WBT	0.31 (0.39)	E (E)	59.8 (61.2)	0.50 (0.47)	E (E)	67.2 (60.2)	0.64 (0.55)	E (E)	72.1 (63.2)	0.58 (0.51)	E (E)	70.6 (60.4)	0.71 (0.59)	E (E)	77.9 (64.4)
WBR	0.06 (0.64)	E (E)	57.2 (70.1)	0.12 (0.50)	D (D)	47.6 (49.4)	0.83 (0.61)	E (D)	66.7 (46.9)	0.12 (0.50)	D (D)	47.5 (49.0)	0.83 (0.61)	E (D)	66.7 (46.9)
NBL	0.53 (0.50)	D (D)	37.4 (46.5)	0.76 (0.72)	D (D)	45.8 (50.5)	0.76 (0.73)	D (D)	47.3 (52.2)	0.76 (0.73)	D (D)	48.6 (51.1)	0.76 (0.73)	D (D)	49.8 (53.0)
NBTR	0.48 (0.52)	C (D)	22.1 (35.3)	0.62 (0.66)	D (D)	35.3 (41.3)	0.68 (0.81)	D (D)	39.3 (49.2)	0.71 (0.76)	D (D)	35.7 (44.4)	0.78 (0.92)	D (E)	40.3 (55.3)
SBL	0.58 (0.42)	C (C)	22.6 (23.3)	0.66 (0.61)	D (D)	37.9 (45.1)	0.75 (0.97)	D (F)	48.8 (92.0)	0.73 (0.67)	D (D)	45.2 (46.4)	0.80 (0.99)	D (F)	49.3 (87.2)
SBTR	0.78 (0.83)	C (C)	28.2 (33.7)	0.87 (0.99)	D (E)	41.3 (64.1)	0.90 (0.97)	D (E)	43.7 (59.7)	0.97 (1.11)	D (F)	50.3 (109.7)	1.00 (1.08)	D (F)	53.6 (98.4)
Overall	**0.70 (0.80)**	**C (D)**	**31.7 (42.0)**	**0.87 (0.90)**	**D (E)**	**45.5 (57.2)**	**0.92 (0.96)**	**D (E)**	**49.7 (59.9)**	**0.93 (0.95)**	**D (E)**	**49.3 (74.7)**	**0.97 (1.00)**	**D (E)**	**53.5 (74.3)**

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.5.1.5 Trafalgar Road / Cornwall Road

The intersection of Trafalgar Road / Cornwall Road operates under traffic signal control. The traffic operations results under the 2031 horizon year are provided in **Table 33**. Highlighted values in the table represent critical movements based upon Halton Region and Town of Oakville guidelines, depending on the applicable jurisdiction for each corridor. For example, Trafalgar Road approach movements were evaluated based on Regional standards, while Cornwall Road movements were evaluated based on Town standards.

Under existing conditions, the intersection operates at overall v/c of 0.75 and 0.74 during the weekday morning and afternoon peak hours, respectively. No critical movements are highlighted under existing conditions.

Under all 2031 future conditions and in both peak hours, traffic signal timings are proposed to be optimized to better serve forecasted travel demand at the intersection.

With these changes, in the 2031 future background condition, the intersection is expected to operate at near-capacity conditions at overall v/c of 0.84 and 0.88 during the weekday morning and afternoon peak hours, respectively. No critical movements were identified. With the Site development, the intersection continues to operate at busy conditions at overall v/c of 0.86 and 0.89 during the weekday morning and afternoon peak hours, respectively. However, no individual critical movements were identified.

Based on the results of the traffic analysis, improvements are not required at this location, with the exception of traffic signal timing optimization, in order to accommodate Phase 1. As the area road network continues to approach capacity, non-local drivers will be replaced by local traffic.

To align with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, road improvements are not being recommended at this intersection, in order to accommodate the travel demand of Phase 1. This recommendation will however be revisited with the subsequent applications for each phase of the development.

Table 33 Trafalgar Road / Cornwall Road

	Existing			2031 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBL	0.77 (0.82)	E (E)	68.4 (72.8)	0.78 (0.85)	E (E)	71.0 (75.5)	0.81 (0.86)	E (E)	73.5 (76.8)	0.88 (0.90)	F (F)	83.8 (82.5)	0.90 (0.90)	F (F)	88.3 (82.3)
EBTR	0.45 (0.40)	D (D)	42.9 (43.4)	0.51 (0.36)	D (D)	46.3 (36.8)	0.51 (0.36)	D (D)	46.2 (36.4)	0.57 (0.40)	D (D)	47.4 (35.4)	0.57 (0.40)	D (D)	47.8 (35.6)
WBL	0.09 (0.15)	D (C)	37.9 (34.4)	0.12 (0.16)	D (C)	39.3 (30.8)	0.13 (0.16)	D (C)	39.4 (31.0)	0.14 (0.17)	D (C)	38.7 (30.7)	0.14 (0.17)	D (C)	38.7 (30.7)
WBT	0.44 (0.56)	D (D)	46.7 (46.4)	0.49 (0.51)	D (D)	48.1 (41.0)	0.49 (0.51)	D (D)	48.1 (41.0)	0.54 (0.58)	D (D)	48.0 (41.9)	0.54 (0.58)	D (D)	48.0 (41.8)
WBR	0.71 (0.77)	E (E)	56.3 (57.9)	0.88 (0.92)	E (E)	75.9 (71.8)	0.89 (0.93)	E (E)	76.5 (73.2)	0.90 (0.93)	E (E)	78.0 (73.5)	0.91 (0.93)	E (E)	78.7 (74.0)
NBL	0.18 (0.20)	C (C)	31.4 (29.8)	0.21 (0.30)	C (D)	33.0 (35.8)	0.24 (0.31)	C (D)	33.1 (35.9)	0.30 (0.43)	C (D)	34.5 (38.3)	0.34 (0.45)	D (D)	35.4 (38.9)
NBTR	0.44 (0.49)	D (D)	41.6 (40.7)	0.48 (0.62)	D (D)	43.0 (47.7)	0.48 (0.64)	D (D)	42.7 (48.2)	0.53 (0.69)	D (D)	43.8 (49.4)	0.53 (0.72)	D (D)	43.5 (50.5)
SBL	0.82 (0.73)	E (E)	62.8 (60.2)	0.88 (0.93)	E (F)	79.5 (92.2)	0.88 (0.93)	E (F)	77.8 (91.3)	0.89 (0.93)	F (F)	81.7 (88.5)	0.89 (0.93)	E (F)	78.5 (87.5)
SBT	0.68 (0.66)	D (D)	41.2 (53.8)	0.75 (0.79)	C (D)	32.5 (41.3)	0.78 (0.80)	C (D)	32.2 (41.4)	0.85 (0.90)	C (D)	31.8 (43.4)	0.89 (0.91)	C (D)	35.0 (44.1)
SBR	0.33 (0.26)	E (F)	61.9 (92.3)	0.32 (0.27)	D (D)	40.6 (53.5)	0.33 (0.27)	C (D)	35.0 (51.1)	0.35 (0.30)	C (D)	32.4 (45.9)	0.36 (0.30)	C (D)	33.6 (45.9)

	Existing			2031 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
Overall	**0.75 (0.74)**	**D (E)**	**51.8 (55.2)**	**0.84 (0.88)**	**E (E)**	**55.2 (56.3)**	**0.86 (0.89)**	**D (E)**	**54.3 (56.3)**	**0.90 (0.93)**	**E (E)**	**55.2 (55.8)**	**0.91 (0.94)**	**E (E)**	**55.6 (55.9)**

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.5.1.6 Chartwell Road / Cornwall Road

The intersection of Chartwell Road / Cornwall Road operates under traffic signal control. The traffic operations results under the 2031 horizon year are provided in **Table 34**.

Under existing conditions, the intersection operates at overall v/c of 0.52 and 0.41 during the weekday morning and afternoon peak hours, respectively. No critical movements are highlighted under existing conditions.

In the 2031 future background condition, the intersection is expected to operate at overall v/c of 0.55 and 0.44 during the weekday morning and afternoon peak hours, respectively. With the development of Phase 1 of the Site, the intersection is expected to operate at overall v/c of 0.55 and 0.45 during the weekday morning and afternoon peak hours, respectively.

No improvements are recommended as no critical movements were identified in any condition.

Table 34 Chartwell Road / Cornwall Road

	Existing			2031 Horizon Year										
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBL	0.08 (0.15)	A (A)	7.3 (6.0)	0.07 (0.16)	A (A)	7.2 (6.5)	0.07 (0.16)	A (A)	7.3 (6.5)	0.08 (0.18)	A (A)	7.3 (6.8)	0.08 (0.18)	A (A)	7.4 (6.8)
EBTR	0.47 (0.34)	A (A)	9.4 (6.5)	0.51 (0.36)	A (A)	9.8 (7.0)	0.51 (0.36)	A (A)	9.9 (7.0)	0.55 (0.40)	B (A)	10.3 (7.3)	0.55 (0.40)	B (A)	10.4 (7.3)
WBL	0.16 (0.16)	A (A)	8.1 (6.0)	0.18 (0.17)	A (A)	8.3 (6.4)	0.18 (0.17)	A (A)	8.4 (6.4)	0.20 (0.19)	A (A)	8.7 (6.6)	0.20 (0.19)	A (A)	8.8 (6.7)
WBTR	0.34 (0.41)	A (A)	8.5 (6.9)	0.34 (0.44)	A (A)	8.5 (7.4)	0.34 (0.44)	A (A)	8.6 (7.5)	0.37 (0.49)	A (A)	8.7 (7.8)	0.38 (0.49)	A (A)	8.9 (7.9)
NBL	0.60 (0.39)	B (B)	18.9 (15.7)	0.61 (0.45)	C (B)	20.1 (16.5)	0.62 (0.45)	C (B)	20.3 (16.5)	0.63 (0.46)	C (B)	22.5 (17.6)	0.64 (0.46)	C (B)	22.7 (17.7)
NBTR	0.18 (0.24)	B (B)	13.9 (14.4)	0.19 (0.23)	B (B)	14.8 (14.6)	0.19 (0.25)	B (B)	14.8 (14.8)	0.22 (0.27)	B (B)	16.5 (15.9)	0.22 (0.29)	B (B)	16.4 (16.1)
SBL	0.10 (0.20)	B (B)	13.5 (14.4)	0.10 (0.20)	B (B)	14.3 (14.6)	0.16 (0.21)	B (B)	14.7 (14.7)	0.10 (0.20)	B (B)	15.8 (15.6)	0.16 (0.22)	B (B)	16.2 (15.7)
SBT	0.13 (0.11)	B (B)	13.6 (13.7)	0.14 (0.11)	B (B)	14.5 (14.0)	0.17 (0.12)	B (B)	14.7 (14.0)	0.16 (0.13)	B (B)	16.1 (15.0)	0.19 (0.14)	B (B)	16.3 (15.1)
SBR	0.02 (0.03)	B (B)	13.0 (13.4)	0.02 (0.03)	B (B)	13.8 (13.6)	0.02 (0.03)	B (B)	13.8 (13.6)	0.02 (0.03)	B (B)	15.2 (14.5)	0.02 (0.03)	B (B)	15.2 (14.6)
Overall	**0.52 (0.41)**	**B (A)**	**10.8 (8.5)**	**0.55 (0.44)**	**B (A)**	**11.2 (8.9)**	**0.55 (0.45)**	**B (A)**	**11.4 (9.1)**	**0.58 (0.48)**	**B (A)**	**11.8 (9.4)**	**0.58 (0.48)**	**B (A)**	**12.0 (9.5)**

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.5.1.7 QEW-Hwy 403 Ramps / Royal Windsor Drive / South Service Road East

The intersection of QEW-Hwy 403 Ramps / Royal Windsor Drive / South Service Road East operates under traffic signal control. The traffic operations results under the 2031 horizon year are provided in **Table 35**. At the ultimate horizon, this intersection will be reconfigured into a full interchange.

Under existing conditions, the intersection operates at overall v/c of 0.33 and 0.35 during the weekday morning and afternoon peak hours, respectively. No critical movements are highlighted under existing conditions.

In the 2031 future background condition, the intersection is expected to operate at overall v/c of 0.33 and 0.36 during the weekday morning and afternoon peak hours, respectively. With the development of Phase 1 of the Site, the intersection is expected to operate at overall v/c of 0.33 and 0.36 during the weekday morning and afternoon peak hours, respectively.

No improvements are recommended as no critical movements were identified in any condition.

Table 35 QEW-Hwy 403 Ramps / Royal Windsor Drive / South Service Road East

	Existing			2031 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBL	0.05 (0.01)	A (A)	5.0 (6.5)	0.05 (0.01)	A (A)	5.0 (6.8)	0.05 (0.01)	A (A)	5.0 (6.9)	0.07 (0.01)	A (A)	5.6 (7.4)	0.07 (0.01)	A (A)	5.6 (7.5)
EBTR	0.35 (0.36)	A (B)	9.9 (10.1)	0.35 (0.36)	A (B)	9.9 (10.5)	0.35 (0.37)	A (B)	9.9 (10.7)	0.41 (0.43)	B (B)	11.4 (12.0)	0.41 (0.44)	B (B)	11.4 (12.3)
WBL	0.27 (0.23)	A (A)	4.4 (4.1)	0.27 (0.28)	A (A)	4.4 (4.3)	0.27 (0.30)	A (A)	4.4 (4.4)	0.35 (0.36)	A (A)	4.8 (5.1)	0.35 (0.38)	A (A)	4.8 (5.2)
WBT	0.27 (0.30)	A (A)	8.3 (6.8)	0.27 (0.30)	A (A)	8.3 (6.9)	0.27 (0.30)	A (A)	8.3 (6.9)	0.32 (0.35)	A (A)	8.8 (7.4)	0.32 (0.35)	A (A)	8.8 (7.4)
WBR	0.00 (0.00)	A (A)	0.0 (5.2)	0.00 (0.00)	A (A)	0.0 (5.2)	0.00 (0.00)	A (A)	0.0 (5.2)	0.00 (0.00)	A (A)	0.0 (5.3)	0.00 (0.00)	A (A)	0.0 (5.3)
NBL	0.04 (0.35)	D (D)	44.5 (46.9)	0.04 (0.35)	D (D)	44.5 (46.9)	0.04 (0.35)	D (D)	44.5 (46.9)	0.03 (0.39)	D (D)	44.3 (47.0)	0.03 (0.39)	D (D)	44.3 (47.0)
NBT	0.06 (0.08)	D (D)	44.7 (44.2)	0.11 (0.08)	D (D)	45.0 (44.1)	0.11 (0.08)	D (D)	45.0 (44.1)	0.10 (0.07)	D (D)	44.7 (43.8)	0.10 (0.07)	D (D)	44.7 (43.8)
NBR	0.04 (0.12)	D (D)	44.6 (44.6)	0.06 (0.13)	D (D)	44.7 (44.5)	0.07 (0.13)	D (D)	44.8 (44.6)	0.07 (0.15)	D (D)	44.5 (44.4)	0.08 (0.15)	D (D)	44.6 (44.5)
SBT	0.28 (0.20)	D (D)	46.4 (45.2)	0.28 (0.23)	D (D)	46.4 (45.4)	0.28 (0.23)	D (D)	46.4 (45.4)	0.33 (0.26)	D (D)	46.6 (45.3)	0.33 (0.26)	D (D)	46.6 (45.3)
SBR	0.01 (0.02)	D (D)	44.4 (43.8)	0.01 (0.02)	D (D)	44.4 (43.7)	0.01 (0.02)	D (D)	44.4 (43.7)	0.01 (0.03)	D (D)	44.1 (43.5)	0.01 (0.03)	D (D)	44.1 (43.5)

	Existing			2031 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
Overall	**0.33 (0.35)**	**B (B)**	**11.7 (14.5)**	**0.33 (0.36)**	**B (B)**	**12.4 (14.8)**	**0.33 (0.36)**	**B (B)**	**12.8 (14.9)**	**0.40 (0.42)**	**B (B)**	**13.1 (15.5)**	**0.40 (0.43)**	**B (B)**	**13.4 (15.6)**

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.5.2 Unsignalized Intersection Operations (2031)

The traffic operations results of all unsignalized intersections including Site driveways are provided in **Table 36**. Highlighted values in the table represent critical movements based upon Halton Region and Town of Oakville guidelines, depending on the applicable jurisdiction for each corridor.

Under all conditions, the unsignalized intersections operate at acceptable LOS at LOS D or better in both weekday peak hours. All site driveways operate well at LOS B or better.

No improvements are recommended as no critical movements were identified in any condition.

Table 36 Unsignalized Intersections and Site Driveways

	Existing			2031 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
Trafalgar Road / Argus Road															
EBR	0.03 (0.06)	B (A)	10.0 (9.7)	0.07 (0.09)	B (B)	11.0 (10.5)	0.07 (0.09)	B (B)	11.1 (10.8)	0.08 (0.10)	B (B)	12.0 (11.5)	0.08 (0.11)	B (B)	12.0 (12.2)
NBT	0.24 (0.37)	A (A)	0.0 (0.0)	0.34 (0.42)	A (A)	0.0 (0.0)	0.39 (0.43)	A (A)	0.0 (0.0)	0.38 (0.47)	A (A)	0.0 (0.0)	0.43 (0.49)	A (A)	0.0 (0.0)
SBT	0.53 (0.42)	A (A)	0.0 (0.0)	0.55 (0.45)	A (A)	0.0 (0.0)	0.55 (0.49)	A (A)	0.0 (0.0)	0.63 (0.51)	A (A)	0.0 (0.0)	0.64 (0.56)	A (A)	0.0 (0.0)
SBTR	0.63 (0.43)	A (A)	0.0 (0.0)	0.70 (0.65)	A (A)	0.0 (0.0)	0.71 (0.67)	A (A)	0.0 (0.0)	0.74 (0.68)	A (A)	0.0 (0.0)	0.75 (0.70)	A (A)	0.0 (0.0)
South Service Road East / Davis Road															
EBTLR	0.00 (0.00)	A (A)	0.0 (0.0)	0.00 (0.00)	A (A)	0.0 (0.0)	0.00 (0.00)	A (A)	0.0 (0.0)	0.00 (0.00)	A (A)	0.0 (0.0)	0.00 (0.00)	A (A)	0.0 (0.0)
WBTLR	0.02 (0.17)	B (B)	11.2 (12.9)	0.18 (0.28)	B (C)	12.9 (15.4)	0.40 (0.46)	C (C)	19.4 (23.4)	0.19 (0.31)	B (C)	13.6 (16.8)	0.43 (0.50)	C (D)	21.4 (26.7)
NBTL	0.00 (0.00)	A (A)	0.0 (0.0)	0.00 (0.00)	A (A)	0.0 (0.0)	0.00 (0.00)	A (A)	0.0 (0.0)	0.00 (0.00)	A (A)	0.0 (0.0)	0.00 (0.00)	A (A)	0.0 (0.0)
NBTR	0.07 (0.09)	A (A)	0.0 (0.0)	0.10 (0.13)	A (A)	0.0 (0.0)	0.13 (0.28)	A (A)	0.0 (0.0)	0.11 (0.14)	A (A)	0.0 (0.0)	0.14 (0.29)	A (A)	0.0 (0.0)
SBTL	0.01 (0.02)	A (A)	0.8 (1.1)	0.01 (0.02)	A (A)	0.8 (1.0)	0.01 (0.02)	A (A)	0.4 (1.0)	0.01 (0.02)	A (A)	0.7 (1.0)	0.01 (0.02)	A (A)	0.4 (1.0)

	Existing			2031 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
SBTR	0.06 (0.10)	A (A)	0.0 (0.0)	0.06 (0.11)	A (A)	0.0 (0.0)	0.15 (0.14)	A (A)	0.0 (0.0)	0.07 (0.13)	A (A)	0.0 (0.0)	0.16 (0.15)	A (A)	0.0 (0.0)
Chartwell Road / South Service Road East															
EBTR	0.07 (0.12)	A (A)	0.0 (0.0)	0.10 (0.12)	A (A)	0.0 (0.0)	0.14 (0.13)	A (A)	0.0 (0.0)	0.10 (0.13)	A (A)	0.0 (0.0)	0.14 (0.14)	A (A)	0.0 (0.0)
WBTL	0.08 (0.06)	A (A)	3.4 (3.6)	0.08 (0.06)	A (A)	3.5 (3.2)	0.09 (0.06)	A (A)	3.6 (3.1)	0.10 (0.07)	A (A)	3.6 (3.3)	0.10 (0.07)	A (A)	3.7 (3.2)
NBLR	0.20 (0.46)	B (C)	13.2 (15.0)	0.21 (0.48)	B (C)	13.8 (15.9)	0.24 (0.55)	B (C)	14.8 (18.1)	0.27 (0.59)	C (C)	15.4 (19.4)	0.30 (0.66)	C (C)	16.7 (23.0)
Local Street A / South Service Road East															
EBTR	Does not exist.						0.12 (0.11)	A (A)	0.0 (0.0)	Does not exist.			0.13 (0.12)	A (A)	0.0 (0.0)
WBTL							0.00 (0.03)	A (A)	0.2 (1.1)				0.00 (0.03)	A (A)	0.2 (1.0)
NBLR							0.52 (0.22)	C (C)	16.9 (15.0)				0.56 (0.25)	C (C)	18.9 (16.4)
Local Street A / Davis Road															
EBTL	Does not exist.						0.02 (0.08)	A (A)	3.9 (4.3)	Does not exist.			0.02 (0.08)	A (A)	3.9 (4.3)
WBTR							0.12 (0.04)	A (A)	0.0 (0.0)				0.12 (0.04)	A (A)	0.0 (0.0)
SBLR							0.04	A	9.1				0.04	A	9.1

	Existing			2031 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
							(0.07)	(B)	(11.3)				(0.07)	(B)	(11.3)
Local Street A / Block 1 Driveway															
WBLR	Does not exist.						0.23 (0.09)	B (A)	10.5 (9.4)	Does not exist.			0.23 (0.09)	B (A)	10.5 (9.4)
NBTR							0.11 (0.11)	A (A)	0.0 (0.0)				0.11 (0.11)	A (A)	0.0 (0.0)
SBTL							0.00 (0.02)	A (A)	3.8 (3.9)				0.00 (0.02)	A (A)	3.8 (3.9)
Block 1 Driveway / Davis Road															
EBTL	Does not exist.						0.02 (0.09)	A (A)	7.3 (7.4)	Does not exist.			0.02 (0.09)	A (A)	7.3 (7.4)
WBTR							0.00 (0.00)	A (A)	0.0 (0.0)				0.00 (0.00)	A (A)	0.0 (0.0)
SBLR							0.18 (0.07)	A (A)	9.0 (8.7)				0.18 (0.07)	A (A)	9.0 (8.7)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.6 Five-Years Beyond Phase 1 (2036) Traffic Operations

12.6.1 Signalized Intersection Operations (2036)

12.6.1.1 Trafalgar Road / Iroquois Shore Road / Leighland Avenue

The intersection of Trafalgar Road / Iroquois Shore Road / Leighland Avenue operates under traffic signal control. The traffic operations results under the 2036 horizon year are provided in **Table 37**. Highlighted values in the table represent critical movements based upon Halton Region and Town of Oakville guidelines, depending on the applicable jurisdiction for each corridor (especially since each reviewing agency has their own set of criteria for what is deemed "critical"). For example, Trafalgar Road approach movements were evaluated based on Regional standards, while Leighland Avenue movements was evaluated based on Town standards. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

Under existing conditions, the intersection operates at near-capacity conditions at overall v/c of 0.93 and 0.89 during the weekday morning and afternoon peak hours, respectively. These overall v/c are critical under both Town and Region guidelines. The Region's standards also highlight the southbound through movement as critical as it operates at capacity (i.e. v/c of 1.00) in the weekday morning peak hour.

Under all 2036 future conditions and in both peak hours, traffic signal timings are proposed to be optimized to better serve forecasted travel demand at the intersection.

With these changes, in the 2036 future background condition, the intersection continues to operate at near-capacity conditions at overall v/c of 0.89 and 0.90 during the weekday morning and afternoon peak hours, respectively. Critical movements were identified as the southbound through movement. With the development of Phase 1 of the Site, the intersection will operate at overall v/c of 0.89 and 0.91 during the weekday morning and afternoon peak hours, respectively, with the southbound through movement continuing under critical conditions.

Given the future character of Midtown Oakville as a transit-oriented context, it is expected that local neighbourhood traffic would begin to displace non-local traffic that is currently encouraged to pass through the area. Study area corridors and QEW-Hwy 403 ramps that were once attractive alternatives to other route options will more likely be avoided due to local traffic taking up more capacity during peak travel periods.

The traffic analysis confirms that this intersection is expected to have some residual vehicle capacity in the 2036 horizon year and confirms that improvements are not required at this location, with the exception of traffic signal timing optimization, in order to accommodate the travel demand related to Phase 1.

To align with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, road improvements are not being recommended at this intersection, in order to accommodate Phase 1. This recommendation will however be revisited with the subsequent applications for each phase of the development.

Table 37 Trafalgar Road / Iroquois Shore Road / Leighland Avenue

	Existing			2036 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBL	0.13 (0.40)	D (D)	46.4 (51.5)	0.16 (0.46)	D (D)	51.5 (54.5)	0.16 (0.46)	D (D)	51.5 (54.5)	0.16 (0.46)	D (D)	50.7 (54.1)	0.16 (0.46)	D (D)	50.7 (54.1)
EBT	0.37 (0.67)	D (E)	55.0 (70.4)	0.52 (0.70)	E (E)	61.5 (73.3)	0.52 (0.70)	E (E)	61.5 (73.3)	0.65 (0.90)	E (F)	66.7 (103.9)	0.65 (0.90)	E (F)	66.7 (103.9)
EBR	0.98 (0.78)	F (F)	112.2 (84.5)	0.80 (0.53)	E (D)	70.1 (47.1)	0.80 (0.53)	E (D)	70.1 (46.7)	0.81 (0.52)	E (D)	70.5 (46.3)	0.81 (0.52)	E (D)	70.5 (46.3)
WBL	0.83 (0.87)	E (E)	57.1 (57.9)	0.98 (0.96)	F (E)	84.6 (74.0)	0.98 (0.96)	F (E)	84.6 (74.0)	0.98 (0.96)	F (E)	84.6 (74.0)	0.98 (0.96)	F (E)	84.6 (74.0)
WBT	0.09 (0.29)	C (D)	30.8 (39.5)	0.11 (0.30)	D (D)	38.2 (40.8)	0.11 (0.30)	D (D)	38.2 (40.8)	0.15 (0.40)	D (D)	38.0 (41.9)	0.15 (0.40)	D (D)	38.0 (41.9)
WBR	0.08 (0.37)	C (D)	30.7 (40.7)	0.08 (0.38)	D (D)	37.9 (42.0)	0.08 (0.38)	D (D)	37.9 (42.0)	0.08 (0.46)	D (D)	37.2 (43.1)	0.08 (0.46)	D (D)	37.2 (43.1)
NBL	0.79 (0.88)	D (E)	52.3 (55.6)	0.82 (0.88)	E (E)	65.7 (62.7)	0.82 (0.90)	E (E)	67.1 (64.6)	0.87 (0.91)	E (E)	70.8 (61.0)	0.88 (0.91)	E (E)	70.9 (61.3)
NBT	0.48 (0.81)	C (B)	28.7 (19.8)	0.51 (0.82)	B (B)	19.7 (19.6)	0.55 (0.83)	B (B)	19.3 (19.2)	0.67 (1.09)	C (E)	20.1 (62.0)	0.71 (1.11)	C (E)	20.1 (68.0)
NBR	0.53 (0.80)	F (D)	163.4 (45.4)	0.57 (0.80)	F (C)	83.7 (32.5)	0.58 (0.81)	E (C)	72.4 (30.8)	0.62 (0.92)	D (B)	48.7 (16.0)	0.62 (0.93)	D (B)	44.3 (16.0)
SBL	0.67 (0.68)	C (D)	28.8 (38.0)	0.66 (0.63)	C (C)	23.1 (33.5)	0.71 (0.63)	C (C)	26.8 (33.8)	0.83 (0.63)	D (D)	51.0 (36.8)	0.87 (0.63)	E (D)	64.8 (36.8)
SBT	1.00	E	61.1	0.86	D	36.7	0.87	D	37.1	1.14	F	106.7	1.15	F	109.3

	Existing			2036 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
	(0.63)	(D)	(38.4)	(0.70)	(D)	(38.5)	(0.73)	(D)	(39.6)	(0.91)	(D)	(49.7)	(0.94)	(D)	(52.8)
SBR	0.04 (0.09)	C (C)	25.9 (29.5)	0.04 (0.09)	B (C)	19.5 (27.9)	0.04 (0.09)	B (C)	19.5 (28.1)	0.04 (0.09)	B (C)	19.5 (28.4)	0.04 (0.09)	B (C)	19.5 (28.4)
Overall	**0.93 (0.89)**	**E (D)**	**69.8 (40.3)**	**0.89 (0.90)**	**D (D)**	**47.9 (38.8)**	**0.89 (0.91)**	**D (D)**	**46.1 (38.6)**	**1.05 (1.02)**	**E (D)**	**71.0 (52.8)**	**1.06 (1.03)**	**E (E)**	**71.3 (55.6)**

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.6.1.2 Trafalgar Road / North Service Road East / QEW-Hwy 403 Westbound Off-Ramp

The intersection of Trafalgar Road / North Service Road East / QEW-Hwy 403 Westbound Off-Ramp operates under traffic signal control. The traffic operations results under the 2036 horizon year are provided in **Table 38**. Highlighted values in the table represent critical movements based upon Region, Town and MTO guidelines, depending on the applicable jurisdiction for each corridor. For example, Trafalgar Road approach movements were evaluated based on Regional standards, while the off-ramp movements were evaluated based on MTO standards.

Under existing conditions, the intersection operates at near-capacity conditions at overall v/c of 0.85 and 0.83 during the weekday morning and afternoon peak hours, respectively. The overall v/c of 0.85 is critical under both Town and Region guidelines. MTO's standards highlight the westbound right-turn / through movement as critical in the weekday morning peak hour (v/c of 0.79) while the Region's standards highlight both the northbound and southbound through movements as critical in one of the peak hours.

Under all 2036 future conditions and in both peak hours, traffic signal timings are proposed to be optimized to better serve forecasted travel demand at the intersection.

With these changes, in the 2036 future background condition, the intersection continues to operate at near-capacity conditions at overall v/c of 0.88 and 0.86 during the weekday morning and afternoon peak hours, respectively. Critical movements include the off-ramp approaches and the northbound and southbound through movements. With the development of Phase 1 of the Site, the intersection will operate at overall v/c of 0.89 and 0.89 during the weekday morning and afternoon peak hours, respectively. Site-related impacts on the critical movements are minimal, and Site drivers are afforded the alterative of using the Royal Windsor interchange if necessary.

Based on the results of the traffic analysis, improvements are not required at this location, with the exception of traffic signal timing optimization, in order to accommodate Phase 1. As the area road network continues to approach capacity, non-local drivers will be replaced by local traffic.

To align with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, road improvements are not being recommended at this intersection, in order to accommodate the travel demand of Phase 1. This recommendation will however be revisited with the subsequent applications for each phase of the development.

Table 38 Trafalgar Road / North Service Road East / QEW-Hwy 403 Westbound Off-Ramp

	Existing			2036 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBL	0.03 (0.10)	D (D)	43.2 (36.2)	0.03 (0.15)	D (D)	43.5 (38.3)	0.03 (0.16)	D (D)	43.5 (37.9)	0.04 (0.14)	D (C)	41.5 (33.1)	0.04 (0.16)	D (C)	41.1 (34.2)
EBR	0.59 (0.55)	D (D)	51.7 (43.0)	0.59 (0.58)	D (D)	51.9 (44.4)	0.59 (0.55)	D (D)	51.8 (42.8)	0.54 (0.48)	D (D)	47.7 (36.3)	0.53 (0.48)	D (D)	46.9 (36.3)
WBL	0.62 (0.58)	E (D)	57.8 (50.9)	0.69 (0.81)	E (E)	60.9 (65.6)	0.71 (0.88)	E (E)	62.2 (72.1)	0.80 (0.79)	E (E)	66.2 (56.2)	0.80 (0.88)	E (E)	66.1 (66.1)
WBTL	0.62 (0.57)	E (D)	57.8 (50.6)	0.69 (0.82)	E (E)	60.9 (66.6)	0.71 (0.89)	E (E)	62.5 (73.8)	0.80 (0.80)	E (E)	66.7 (57.0)	0.80 (0.89)	E (E)	66.1 (67.2)
WBR	0.36 (0.79)	D (E)	51.8 (63.0)	0.47 (0.85)	D (E)	53.4 (71.4)	0.48 (0.82)	D (E)	53.5 (65.1)	0.68 (0.97)	E (F)	58.1 (84.5)	0.67 (0.97)	E (F)	56.6 (86.0)
NBT	0.50 (0.86)	A (B)	5.2 (12.5)	0.57 (0.88)	A (B)	8.7 (16.2)	0.59 (0.91)	A (B)	8.5 (17.8)	0.76 (1.30)	B (F)	12.1 (158.3)	0.80 (1.31)	B (F)	12.4 (163.5)
SBT	0.90 (0.75)	D (C)	40.1 (32.0)	0.92 (0.80)	C (C)	28.6 (26.2)	0.93 (0.83)	C (C)	29.3 (29.3)	1.28 (1.17)	F (F)	158.6 (120.1)	1.29 (1.19)	F (F)	165.0 (128.4)
SBR	0.00 (0.01)	A (B)	6.6 (10.3)	0.00 (0.01)	A (A)	6.5 (9.9)	0.00 (0.01)	A (B)	6.6 (10.5)	0.00 (0.01)	A (B)	7.6 (13.4)	0.00 (0.01)	A (B)	7.8 (13.4)
Overall	**0.85 (0.83)**	**C (C)**	**31.5 (27.0)**	**0.88 (0.86)**	**C (C)**	**26.0 (28.7)**	**0.89 (0.89)**	**C (C)**	**26.2 (31.2)**	**1.16 (1.16)**	**F (F)**	**98.4 (126.0)**	**1.17 (1.17)**	**F (F)**	**100.8 (131.9)**

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.6.1.3 Trafalgar Road / QEW-Hwy 403 Eastbound Off-Ramp

The intersection of Trafalgar Road / QEW-Hwy 403 Eastbound Off-Ramp operates under traffic signal control. The traffic operations results under the 2036 horizon year are provided in **Table 39**. Highlighted values in the table represent critical movements based upon Region, Town and MTO guidelines, depending on the applicable jurisdiction for each corridor. For example, Trafalgar Road approach movements will be evaluated based on Regional standards, while the off-ramp movements are evaluated based on MTO standards.

Under existing conditions, the intersection operates at overall v/c of 0.82 and 0.74 during the weekday morning and afternoon peak hours, respectively. MTO's standards highlight the eastbound off-ramp movements as critical.

Under all 2036 future conditions and in both peak hours, signal timings are proposed to be optimized to better serve forecast travel demand at the intersection.

With these changes, in the 2036 future background condition, the intersection operates at overall v/c of 0.87 and 0.78 during the weekday morning and afternoon peak hours, respectively. Critical movements continue to be the eastbound off-ramp and southbound through movements. With the added development of the Site, the intersection will operate at overall v/c of 0.88 and 0.81 during the weekday morning and afternoon peak hours, respectively. Site-related impacts on the critical movements are minimal and Site drivers are afforded the alterative of using the Royal Windsor interchange if necessary.

Based on the results of the traffic analysis, improvements are not required at this location, with the exception of traffic signal timing optimization, in order to accommodate Phase 1. As the area road network continues to approach capacity, non-local drivers will be replaced by local traffic.

To align with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, road improvements are not being recommended at this intersection, in order to accommodate the travel demand of Phase 1. This recommendation will however be revisited with the subsequent applications for each phase of the development.

Table 39 Trafalgar Road / QEW-Hwy 403 Eastbound Off-Ramp

	Existing			2036 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBL	0.80 (0.89)	D (D)	47.0 (52.6)	0.65 (0.84)	C (D)	34.8 (45.6)	0.65 (0.84)	C (D)	34.6 (45.6)	0.81 (1.02)	D (E)	37.0 (70.2)	0.81 (1.02)	D (E)	37.0 (70.2)
EBR	0.99 (0.68)	F (D)	82.1 (43.2)	0.88 (0.75)	D (D)	50.0 (43.7)	0.88 (0.82)	D (D)	50.4 (47.9)	1.06 (0.86)	F (D)	88.9 (48.2)	1.07 (0.92)	F (E)	91.0 (56.3)
NBT	0.41 (0.64)	B (C)	14.6 (24.1)	0.59 (0.73)	C (C)	22.5 (27.5)	0.65 (0.74)	C (C)	22.5 (26.4)	0.82 (1.03)	C (D)	23.7 (54.3)	0.87 (1.05)	C (E)	25.9 (56.8)
SBT	0.72 (0.59)	B (B)	16.9 (16.8)	0.87 (0.74)	C (C)	28.6 (22.8)	0.89 (0.79)	C (C)	29.5 (23.7)	1.26 (1.03)	F (D)	151.4 (48.6)	1.27 (1.08)	F (E)	157.1 (71.5)
Overall	**0.82 (0.74)**	**C (C)**	**30.0 (29.0)**	**0.87 (0.78)**	**C (C)**	**30.5 (30.6)**	**0.88 (0.81)**	**C (C)**	**30.7 (30.8)**	**1.16 (1.03)**	**F (D)**	**88.8 (54.8)**	**1.17 (1.05)**	**F (E)**	**91.1 (64.7)**

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.6.1.4 Trafalgar Road / Cross Avenue / South Service Road East

The intersection of Trafalgar Road / Cross Avenue / South Service Road East operates under traffic signal control. The traffic operations results under the 2036 horizon year are provided in **Table 40**. Highlighted values in the table represent critical movements based upon Halton Region and Town of Oakville guidelines, depending on the applicable jurisdiction for each corridor. For example, Trafalgar Road approach movements will be evaluated based on Regional standards, while Cross Avenue movements are evaluated based on Town standards.

Under existing conditions, the intersection operates at overall v/c of 0.70 and 0.80 during the weekday morning and afternoon peak hours, respectively. No critical movements are highlighted under existing conditions.

Under all 2036 future conditions and in both peak hours, signal timings are proposed to be optimized to better serve forecast travel demand at the intersection.

With these changes, in the 2036 future background condition, the intersection is expected to operate at near-capacity conditions at overall v/c of 0.87 and 0.90 during the weekday morning and afternoon peak hours, respectively. The shared southbound movements were identified as critical in both peak hours. With the development of Phase 1 of the Site, the intersection continues operating at increasing busy conditions, with all southbound movements at critical conditions.

Based on the results of the traffic analysis, improvements are not required at this location, with the exception of traffic signal timing optimization, in order to accommodate Phase 1. As the area road network continues to approach capacity, non-local drivers will be replaced by local traffic.

To align with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, road improvements are not being recommended at this intersection, in order to accommodate the travel demand of Phase 1. This recommendation will however be revisited with the subsequent applications for each phase of the development.

Table 40 Trafalgar Road / Cross Avenue / South Service Road East

	Existing			2036 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBL	0.74 (0.89)	E (E)	59.7 (59.4)	0.95 (0.98)	E (E)	70.8 (73.6)	0.95 (0.98)	E (E)	70.8 (73.6)	0.95 (0.98)	E (E)	70.8 (73.6)	0.95 (0.98)	E (E)	70.8 (73.6)
EBTR	0.25 (0.22)	D (D)	46.5 (37.2)	0.44 (0.28)	D (C)	44.9 (34.9)	0.47 (0.37)	D (D)	45.5 (38.5)	0.46 (0.33)	D (C)	42.6 (34.9)	0.52 (0.41)	D (D)	46.3 (38.4)
WBL	0.25 (0.25)	D (D)	51.3 (50.8)	0.32 (0.25)	D (D)	54.4 (48.2)	0.41 (0.26)	D (D)	51.6 (47.3)	0.29 (0.24)	D (D)	51.0 (47.3)	0.41 (0.26)	D (D)	51.5 (46.5)
WBT	0.31 (0.39)	E (E)	59.8 (61.2)	0.50 (0.47)	E (E)	67.2 (60.2)	0.64 (0.55)	E (E)	72.1 (63.2)	0.48 (0.56)	E (E)	63.1 (61.4)	0.77 (0.64)	F (E)	83.8 (65.9)
WBR	0.06 (0.64)	E (E)	57.2 (70.1)	0.12 (0.50)	D (D)	47.6 (49.4)	0.83 (0.61)	E (D)	66.7 (46.9)	0.12 (0.49)	D (D)	44.6 (48.5)	0.82 (0.61)	E (D)	65.7 (46.9)
NBL	0.53 (0.50)	D (D)	37.4 (46.5)	0.76 (0.72)	D (D)	45.8 (50.5)	0.76 (0.73)	D (D)	47.3 (52.2)	0.76 (0.73)	D (D)	52.2 (51.6)	0.77 (0.74)	D (D)	50.5 (53.7)
NBTR	0.48 (0.52)	C (D)	22.1 (35.3)	0.62 (0.66)	D (D)	35.3 (41.3)	0.68 (0.81)	D (D)	39.3 (49.2)	0.87 (0.89)	D (D)	42.3 (50.2)	0.90 (1.06)	D (F)	44.3 (84.8)
SBL	0.58 (0.42)	C (C)	22.6 (23.3)	0.66 (0.61)	D (D)	37.9 (45.1)	0.75 (0.97)	D (F)	48.8 (92.0)	0.76 (0.67)	D (D)	48.5 (45.9)	0.80 (1.01)	D (E)	50.8 (75.1)
SBTR	0.78 (0.83)	C (C)	28.2 (33.7)	0.87 (0.99)	D (E)	41.3 (64.1)	0.90 (0.97)	D (E)	43.7 (59.7)	1.15 (1.26)	F (F)	117.6 (175.5)	1.13 (1.23)	F (F)	106.8 (159.8)
Overall	**0.70 (0.80)**	**C (D)**	**31.7 (42.0)**	**0.87 (0.90)**	**D (E)**	**45.5 (57.2)**	**0.92 (0.96)**	**D (E)**	**49.7 (59.9)**	**1.00 (1.02)**	**E (F)**	**79.2 (101.8)**	**1.03 (1.06)**	**E (F)**	**75.5 (103.8)**

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.6.1.5 Trafalgar Road / Cornwall Road

The intersection of Trafalgar Road / Cornwall Road operates under traffic signal control. The traffic operations results under the 2036 horizon year are provided in **Table 41**. Highlighted values in the table represent critical movements based upon Halton Region and Town of Oakville guidelines, depending on the applicable jurisdiction for each corridor. For example, Trafalgar Road approach movements will be evaluated based on Regional standards, while Cornwall Road movements are evaluated based on Town standards.

Under existing conditions, the intersection operates at overall v/c of 0.75 and 0.74 during the weekday morning and afternoon peak hours, respectively. No critical movements are highlighted under existing conditions.

Under all 2036 future conditions and in both peak hours, signal timings are proposed to be optimized to better serve forecast travel demand at the intersection.

With these changes, in the 2036 future background condition, the intersection is expected to operate at near-capacity conditions at overall v/c of 0.84 and 0.88 during the weekday morning and afternoon peak hours, respectively. No critical movements were identified. With the Site development, the intersection continues to operate at busy conditions at overall v/c of 0.86 and 0.89 during the weekday morning and afternoon peak hours, respectively. However, no individual critical movements were identified.

Based on the results of the traffic analysis, improvements are not required at this location, with the exception of traffic signal timing optimization, in order to accommodate Phase 1. As the area road network continues to approach capacity, non-local drivers will be replaced by local traffic.

To align with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, road improvements are not being recommended at this intersection, in order to accommodate the travel demand of Phase 1. This recommendation will however be revisited with the subsequent applications for each phase of the development.

Table 41 Trafalgar Road / Cornwall Road

	Existing			2036 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBL	0.77 (0.82)	E (E)	68.4 (72.8)	0.78 (0.85)	E (E)	71.0 (75.5)	0.81 (0.86)	E (E)	73.5 (76.8)	0.90 (0.92)	F (F)	87.2 (83.0)	0.98 (0.92)	F (F)	107.2 (82.8)
EBTR	0.45 (0.40)	D (D)	42.9 (43.4)	0.51 (0.36)	D (D)	46.3 (36.8)	0.51 (0.36)	D (D)	46.2 (36.4)	0.62 (0.45)	D (C)	48.2 (34.0)	0.64 (0.45)	D (C)	49.7 (33.8)
WBL	0.09 (0.15)	D (C)	37.9 (34.4)	0.12 (0.16)	D (C)	39.3 (30.8)	0.13 (0.16)	D (C)	39.4 (31.0)	0.15 (0.18)	D (C)	37.8 (30.4)	0.16 (0.18)	D (C)	38.3 (30.2)
WBT	0.44 (0.56)	D (D)	46.7 (46.4)	0.49 (0.51)	D (D)	48.1 (41.0)	0.49 (0.51)	D (D)	48.1 (41.0)	0.59 (0.65)	D (D)	48.1 (43.3)	0.60 (0.65)	D (D)	48.6 (43.1)
WBR	0.71 (0.77)	E (E)	56.3 (57.9)	0.88 (0.92)	E (E)	75.9 (71.8)	0.89 (0.93)	E (E)	76.5 (73.2)	0.91 (0.94)	E (E)	78.3 (73.6)	0.93 (0.94)	F (E)	81.9 (73.4)
NBL	0.18 (0.20)	C (C)	31.4 (29.8)	0.21 (0.30)	C (D)	33.0 (35.8)	0.24 (0.31)	C (D)	33.1 (35.9)	0.38 (0.46)	D (D)	38.9 (40.3)	0.38 (0.46)	D (D)	38.2 (40.3)
NBTR	0.44 (0.49)	D (D)	41.6 (40.7)	0.48 (0.62)	D (D)	43.0 (47.7)	0.48 (0.64)	D (D)	42.7 (48.2)	0.62 (0.79)	D (D)	46.7 (53.8)	0.60 (0.82)	D (E)	45.1 (55.2)
SBL	0.82 (0.73)	E (E)	62.8 (60.2)	0.88 (0.93)	E (F)	79.5 (92.2)	0.88 (0.93)	E (F)	77.8 (91.3)	0.89 (0.93)	E (F)	79.1 (86.8)	0.89 (0.94)	E (F)	77.7 (87.0)
SBT	0.68 (0.66)	D (D)	41.2 (53.8)	0.75 (0.79)	C (D)	32.5 (41.3)	0.78 (0.80)	C (D)	32.2 (41.4)	0.99 (1.04)	D (E)	38.3 (61.5)	1.01 (1.05)	D (E)	41.4 (68.5)
SBR	0.33 (0.26)	E (F)	61.9 (92.3)	0.32 (0.27)	D (D)	40.6 (53.5)	0.33 (0.27)	C (D)	35.0 (51.1)	0.38 (0.33)	C (D)	32.0 (42.4)	0.38 (0.33)	C (D)	29.5 (42.3)

	Existing			2036 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
Overall	**0.75 (0.74)**	**D (E)**	**51.8 (55.2)**	**0.84 (0.88)**	**E (E)**	**55.2 (56.3)**	**0.86 (0.89)**	**D (E)**	**54.3 (56.3)**	**0.96 (0.99)**	**E (E)**	**55.9 (58.1)**	**0.99 (1.00)**	**E (E)**	**57.7 (59.4)**

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.6.1.6 Chartwell Road / Cornwall Road

The intersection of Chartwell Road / Cornwall Road operates under traffic signal control. The traffic operations results under the 2036 horizon year are provided in **Table 42**.

Under existing conditions, the intersection operates at overall v/c of 0.52 and 0.41 during the weekday morning and afternoon peak hours, respectively. No critical movements are highlighted under existing conditions.

In the 2036 future background condition, the intersection is expected to operate at overall v/c of 0.55 and 0.44 during the weekday morning and afternoon peak hours, respectively. With the development of Phase 1 of the Site, the intersection is expected to operate at overall v/c of 0.55 and 0.45 during the weekday morning and afternoon peak hours, respectively.

No improvements are recommended as no critical movements were identified in any condition.

Table 42 Chartwell Road / Cornwall Road

	Existing			2036 Horizon Year										
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBL	0.08 (0.15)	A (A)	7.3 (6.0)	0.07 (0.16)	A (A)	7.2 (6.5)	0.07 (0.16)	A (A)	7.3 (6.5)	0.09 (0.21)	A (A)	7.3 (7.2)	0.09 (0.21)	A (A)	7.5 (7.3)
EBTR	0.47 (0.34)	A (A)	9.4 (6.5)	0.51 (0.36)	A (A)	9.8 (7.0)	0.51 (0.36)	A (A)	9.9 (7.0)	0.59 (0.44)	B (A)	10.9 (7.5)	0.60 (0.44)	B (A)	11.1 (7.6)
WBL	0.16 (0.16)	A (A)	8.1 (6.0)	0.18 (0.17)	A (A)	8.3 (6.4)	0.18 (0.17)	A (A)	8.4 (6.4)	0.23 (0.21)	A (A)	9.2 (6.9)	0.23 (0.21)	A (A)	9.4 (6.9)
WBTR	0.34 (0.41)	A (A)	8.5 (6.9)	0.34 (0.44)	A (A)	8.5 (7.4)	0.34 (0.44)	A (A)	8.6 (7.5)	0.41 (0.53)	A (A)	9.0 (8.2)	0.41 (0.54)	A (A)	9.3 (8.4)
NBL	0.60 (0.39)	B (B)	18.9 (15.7)	0.61 (0.45)	C (B)	20.1 (16.5)	0.62 (0.45)	C (B)	20.3 (16.5)	0.66 (0.47)	C (B)	26.0 (19.4)	0.66 (0.47)	C (B)	26.2 (19.6)
NBTR	0.18 (0.24)	B (B)	13.9 (14.4)	0.19 (0.23)	B (B)	14.8 (14.6)	0.19 (0.25)	B (B)	14.8 (14.8)	0.25 (0.31)	B (B)	18.7 (17.8)	0.24 (0.33)	B (B)	18.7 (18.1)
SBL	0.10 (0.20)	B (B)	13.5 (14.4)	0.10 (0.20)	B (B)	14.3 (14.6)	0.16 (0.21)	B (B)	14.7 (14.7)	0.11 (0.21)	B (B)	17.7 (17.2)	0.17 (0.23)	B (B)	18.2 (17.5)
SBT	0.13 (0.11)	B (B)	13.6 (13.7)	0.14 (0.11)	B (B)	14.5 (14.0)	0.17 (0.12)	B (B)	14.7 (14.0)	0.19 (0.14)	B (B)	18.3 (16.6)	0.23 (0.15)	B (B)	18.5 (16.8)
SBR	0.02 (0.03)	B (B)	13.0 (13.4)	0.02 (0.03)	B (B)	13.8 (13.6)	0.02 (0.03)	B (B)	13.8 (13.6)	0.02 (0.03)	B (B)	17.1 (16.0)	0.02 (0.03)	B (B)	17.1 (16.2)
Overall	**0.52 (0.41)**	**B (A)**	**10.8 (8.5)**	**0.55 (0.44)**	**B (A)**	**11.2 (8.9)**	**0.55 (0.45)**	**B (A)**	**11.4 (9.1)**	**0.62 (0.51)**	**B (A)**	**12.6 (9.9)**	**0.62 (0.52)**	**B (B)**	**13.0 (10.1)**

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.

2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.6.1.7 QEW-Hwy 403 Ramps / Royal Windsor Drive / South Service Road East

The intersection of QEW-Hwy 403 Ramps / Royal Windsor Drive / South Service Road East operates under traffic signal control. The traffic operations results under the 2036 horizon year are provided in **Table 43**. At the ultimate horizon, this intersection will be reconfigured into a full interchange.

Under existing conditions, the intersection operates at overall v/c of 0.33 and 0.35 during the weekday morning and afternoon peak hours, respectively. No critical movements are highlighted under existing conditions.

In the 2036 future background condition, the intersection is expected to operate at overall v/c of 0.33 and 0.36 during the weekday morning and afternoon peak hours, respectively. With the development of Phase 1 of the Site, the intersection is expected to operate at overall v/c of 0.33 and 0.36 during the weekday morning and afternoon peak hours, respectively.

No improvements are recommended as no critical movements were identified in any condition.

Table 43 QEW-Hwy 403 Ramps / Royal Windsor Drive / South Service Road East

	Existing			2036 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBL	0.05 (0.01)	A (A)	5.0 (6.5)	0.05 (0.01)	A (A)	5.0 (6.8)	0.05 (0.01)	A (A)	5.0 (6.9)	0.09 (0.01)	A (A)	6.3 (8.2)	0.09 (0.01)	A (A)	6.3 (8.4)
EBTR	0.35 (0.36)	A (B)	9.9 (10.1)	0.35 (0.36)	A (B)	9.9 (10.5)	0.35 (0.37)	A (B)	9.9 (10.7)	0.50 (0.53)	B (B)	13.5 (14.3)	0.50 (0.53)	B (B)	13.5 (14.7)
WBL	0.27 (0.23)	A (A)	4.4 (4.1)	0.27 (0.28)	A (A)	4.4 (4.3)	0.27 (0.30)	A (A)	4.4 (4.4)	0.43 (0.45)	A (A)	6.0 (6.9)	0.43 (0.47)	A (A)	6.0 (7.1)
WBT	0.27 (0.30)	A (A)	8.3 (6.8)	0.27 (0.30)	A (A)	8.3 (6.9)	0.27 (0.30)	A (A)	8.3 (6.9)	0.38 (0.41)	A (A)	9.4 (8.2)	0.38 (0.41)	A (A)	9.4 (8.2)
WBR	0.00 (0.00)	A (A)	0.0 (5.2)	0.00 (0.00)	A (A)	0.0 (5.2)	0.00 (0.00)	A (A)	0.0 (5.2)	0.00 (0.00)	A (A)	0.0 (5.6)	0.00 (0.00)	A (A)	0.0 (5.6)
NBL	0.04 (0.35)	D (D)	44.5 (46.9)	0.04 (0.35)	D (D)	44.5 (46.9)	0.04 (0.35)	D (D)	44.5 (46.9)	0.03 (0.44)	D (D)	44.1 (47.2)	0.03 (0.44)	D (D)	44.1 (47.2)
NBT	0.06 (0.08)	D (D)	44.7 (44.2)	0.11 (0.08)	D (D)	45.0 (44.1)	0.11 (0.08)	D (D)	45.0 (44.1)	0.13 (0.10)	D (D)	44.8 (43.4)	0.13 (0.10)	D (D)	44.8 (43.4)
NBR	0.04 (0.12)	D (D)	44.6 (44.6)	0.06 (0.13)	D (D)	44.7 (44.5)	0.07 (0.13)	D (D)	44.8 (44.6)	0.07 (0.17)	D (D)	44.4 (44.0)	0.09 (0.18)	D (D)	44.5 (44.0)
SBT	0.28 (0.20)	D (D)	46.4 (45.2)	0.28 (0.23)	D (D)	46.4 (45.4)	0.28 (0.23)	D (D)	46.4 (45.4)	0.35 (0.27)	D (D)	46.6 (44.8)	0.35 (0.27)	D (D)	46.6 (44.8)
SBR	0.01 (0.02)	D (D)	44.4 (43.8)	0.01 (0.02)	D (D)	44.4 (43.7)	0.01 (0.02)	D (D)	44.4 (43.7)	0.02 (0.03)	D (D)	44.0 (42.9)	0.02 (0.03)	D (D)	44.0 (42.9)

	Existing			2036 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
Overall	**0.33 (0.35)**	**B (B)**	**11.7 (14.5)**	**0.33 (0.36)**	**B (B)**	**12.4 (14.8)**	**0.33 (0.36)**	**B (B)**	**12.8 (14.9)**	**0.47 (0.51)**	**B (B)**	**14.2 (16.7)**	**0.47 (0.51)**	**B (B)**	**14.5 (16.9)**

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.6.2 Unsignalized Intersection Operations (2036)

The traffic operations results of all unsignalized intersections including Site driveways are provided in **Table 44**. Highlighted values in the table represent critical movements based upon Halton Region and Town of Oakville guidelines, depending on the applicable jurisdiction for each corridor.

Under all conditions, the unsignalized intersections operate at acceptable LOS at LOS D or better in both weekday peak hours. All site driveways operate well at LOS B or better.

No improvements are recommended as no critical movements were identified in any condition.

Table 44 Unsignalized Intersections and Site Driveways

	Existing			2036 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
Trafalgar Road / Argus Road															
EBR	0.03 (0.06)	B (A)	10.0 (9.7)	0.07 (0.09)	B (B)	11.0 (10.5)	0.07 (0.09)	B (B)	11.1 (10.8)	0.08 (0.12)	B (B)	11.9 (12.9)	0.08 (0.12)	B (B)	11.9 (12.9)
NBT	0.24 (0.37)	A (A)	0.0 (0.0)	0.34 (0.42)	A (A)	0.0 (0.0)	0.39 (0.43)	A (A)	0.0 (0.0)	0.43 (0.54)	A (A)	0.0 (0.0)	0.48 (0.56)	A (A)	0.0 (0.0)
SBT	0.53 (0.42)	A (A)	0.0 (0.0)	0.55 (0.45)	A (A)	0.0 (0.0)	0.55 (0.49)	A (A)	0.0 (0.0)	0.73 (0.59)	A (A)	0.0 (0.0)	0.74 (0.63)	A (A)	0.0 (0.0)
SBTR	0.63 (0.43)	A (A)	0.0 (0.0)	0.70 (0.65)	A (A)	0.0 (0.0)	0.71 (0.67)	A (A)	0.0 (0.0)	0.79 (0.72)	A (A)	0.0 (0.0)	0.80 (0.74)	A (A)	0.0 (0.0)
South Service Road East / Davis Road															
EBTLR	0.00 (0.00)	A (A)	0.0 (0.0)	0.00 (0.00)	A (A)	0.0 (0.0)	0.00 (0.00)	A (A)	0.0 (0.0)	0.00 (0.00)	A (A)	0.0 (0.0)	0.00 (0.00)	A (A)	0.0 (0.0)
WBTLR	0.02 (0.17)	B (B)	11.2 (12.9)	0.18 (0.28)	B (C)	12.9 (15.4)	0.40 (0.46)	C (C)	19.4 (23.4)	0.21 (0.34)	B (C)	14.5 (18.8)	0.47 (0.56)	C (D)	23.9 (32.0)
NBTL	0.00 (0.00)	A (A)	0.0 (0.0)	0.00 (0.00)	A (A)	0.0 (0.0)	0.00 (0.00)	A (A)	0.0 (0.0)	0.00 (0.00)	A (A)	0.0 (0.0)	0.00 (0.00)	A (A)	0.0 (0.0)
NBTR	0.07 (0.09)	A (A)	0.0 (0.0)	0.10 (0.13)	A (A)	0.0 (0.0)	0.13 (0.28)	A (A)	0.0 (0.0)	0.12 (0.15)	A (A)	0.0 (0.0)	0.15 (0.30)	A (A)	0.0 (0.0)
SBTL	0.01 (0.02)	A (A)	0.8 (1.1)	0.01 (0.02)	A (A)	0.8 (1.0)	0.01 (0.02)	A (A)	0.4 (1.0)	0.01 (0.02)	A (A)	0.6 (0.9)	0.01 (0.03)	A (A)	0.4 (0.9)

	Existing			2036 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
SBTR	0.06 (0.10)	A (A)	0.0 (0.0)	0.06 (0.11)	A (A)	0.0 (0.0)	0.15 (0.14)	A (A)	0.0 (0.0)	0.08 (0.15)	A (A)	0.0 (0.0)	0.17 (0.17)	A (A)	0.0 (0.0)
Chartwell Road / South Service Road East															
EBTR	0.07 (0.12)	A (A)	0.0 (0.0)	0.10 (0.12)	A (A)	0.0 (0.0)	0.14 (0.13)	A (A)	0.0 (0.0)	0.11 (0.14)	A (A)	0.0 (0.0)	0.15 (0.15)	A (A)	0.0 (0.0)
WBTL	0.08 (0.06)	A (A)	3.4 (3.6)	0.08 (0.06)	A (A)	3.5 (3.2)	0.09 (0.06)	A (A)	3.6 (3.1)	0.11 (0.08)	A (A)	3.8 (3.5)	0.12 (0.08)	A (A)	3.9 (3.4)
NBLR	0.20 (0.46)	B (C)	13.2 (15.0)	0.21 (0.48)	B (C)	13.8 (15.9)	0.24 (0.55)	B (C)	14.8 (18.1)	0.36 (0.72)	C (D)	18.6 (26.7)	0.40 (0.81)	C (D)	20.6 (34.8)
Local Street A / South Service Road East															
EBTR	Does not exist.						0.12 (0.11)	A (A)	0.0 (0.0)	Does not exist.			0.15 (0.14)	A (A)	0.0 (0.0)
WBTL							0.00 (0.03)	A (A)	0.2 (1.1)				0.00 (0.03)	A (A)	0.2 (1.0)
NBLR							0.52 (0.22)	C (C)	16.9 (15.0)				0.61 (0.28)	C (C)	21.7 (18.4)
Local Street A / Davis Road															
EBTL	Does not exist.						0.02 (0.08)	A (A)	3.9 (4.3)	Does not exist.			0.02 (0.08)	A (A)	3.9 (4.3)
WBTR							0.12 (0.04)	A (A)	0.0 (0.0)				0.12 (0.04)	A (A)	0.0 (0.0)
SBLR							0.04	A	9.1				0.04	A	9.1

	Existing			2036 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
							(0.07)	(B)	(11.3)				(0.07)	(B)	(11.3)
Local Street A / Block 1 Driveway															
WBLR	Does not exist.						0.23 (0.09)	B (A)	10.5 (9.4)	Does not exist.			0.23 (0.09)	B (A)	10.5 (9.4)
NBTR							0.11 (0.11)	A (A)	0.0 (0.0)				0.11 (0.11)	A (A)	0.0 (0.0)
SBTL							0.00 (0.02)	A (A)	3.8 (3.9)				0.00 (0.02)	A (A)	3.8 (3.9)
Block 1 Driveway / Davis Road															
EBTL	Does not exist.						0.02 (0.09)	A (A)	7.3 (7.4)	Does not exist.			0.02 (0.09)	A (A)	7.3 (7.4)
WBTR							0.00 (0.00)	A (A)	0.0 (0.0)				0.00 (0.00)	A (A)	0.0 (0.0)
SBLR							0.18 (0.07)	A (A)	9.0 (8.7)				0.18 (0.07)	A (A)	9.0 (8.7)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.7 Full Buildout (2046) Traffic Operations

12.7.1 Signalized Intersection Operations (2046)

12.7.1.1 Trafalgar Road / Iroquois Shore Road / Leighland Avenue

The intersection of Trafalgar Road / Iroquois Shore Road / Leighland Avenue operates under traffic signal control. The traffic operations results under the 2046 horizon year are provided in **Table 45**. Highlighted values in the table represent critical movements based upon Halton Region and Town of Oakville guidelines, depending on the applicable jurisdiction for each corridor. For example, Trafalgar Road approach movements were evaluated based on Regional standards, while Leighland Avenue movements were evaluated based on Town standards. Traffic analysis for conditions with adopted corridor growth as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, are not expected to be realized.

Under existing conditions, the intersection operates at near-capacity conditions at overall v/c of 0.93 and 0.89 during the weekday morning and afternoon peak hours, respectively. These overall v/c are critical under both Town and Region guidelines. The Region's standards also highlight the southbound through movement as critical as it operates at capacity (i.e. v/c of 1.00) in the weekday morning peak hour.

Under all 2046 future conditions and in both peak hours, traffic signal timings are proposed to be optimized to better serve forecast travel demand at the intersection.

With these changes, in the 2046 future background condition, the intersection continues to operate at near-capacity conditions at overall v/c of 0.89 and 0.90 during the weekday morning and afternoon peak hours, respectively. With the added development of the Site, the intersection will operate at overall v/c of 0.89 and 0.93 during the weekday morning and afternoon peak hours, respectively. Critical movements were identified as the northbound through, southbound left turn and southbound through movements.

Despite the critical movements identified at the intersection, given the future character of Midtown Oakville as a transit-oriented context, it is expected that local neighbourhood traffic would begin to displace non-local traffic that is currently encouraged to pass through the area. Study area corridors and QEW-Hwy 403 ramps that were once attractive alternatives to other route options will more likely be avoided due to local traffic taking up more capacity during peak travel periods. The significant road and transit improvements planned for the area and the anticipated travel demand shifts that are external to the study area, warrant that no further improvements, with the exception of traffic signal timing optimization, should be recommended at this time. The traffic analysis confirms that this intersection is expected to have some residual vehicle capacity, even in the 2046 horizon year.

To align with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, further road improvements are not being recommended at this location. This recommendation will be revisited with the subsequent applications for each phase of the development (as was done for Phase 1 in this report).

Table 45 Trafalgar Road / Iroquois Shore Road / Leighland Avenue

	Existing			2046 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBL	0.13 (0.40)	D (D)	46.4 (51.5)	0.16 (0.46)	D (D)	51.5 (54.5)	0.16 (0.46)	D (D)	51.5 (54.5)	0.15 (0.47)	D (D)	49.6 (54.2)	0.15 (0.47)	D (D)	49.6 (54.2)
EBT	0.37 (0.67)	D (E)	55.0 (70.4)	0.52 (0.70)	E (E)	61.5 (73.3)	0.52 (0.70)	E (E)	61.5 (73.3)	0.81 (1.22)	E (F)	79.7 (202.7)	0.81 (1.22)	E (F)	79.7 (202.7)
EBR	0.98 (0.78)	F (F)	112.2 (84.5)	0.80 (0.54)	E (D)	70.1 (47.5)	0.80 (0.54)	E (D)	70.1 (47.5)	0.80 (0.52)	E (D)	70.1 (46.3)	0.80 (0.52)	E (D)	70.1 (46.3)
WBL	0.83 (0.87)	E (E)	57.1 (57.9)	0.98 (0.96)	F (E)	84.6 (74.0)	0.98 (0.96)	F (E)	84.6 (74.0)	0.98 (0.96)	F (E)	84.6 (74.0)	0.98 (0.96)	F (E)	84.6 (74.0)
WBT	0.09 (0.29)	C (D)	30.8 (39.5)	0.11 (0.30)	D (D)	38.2 (40.8)	0.11 (0.30)	D (D)	38.2 (40.8)	0.19 (0.54)	D (D)	37.7 (44.4)	0.19 (0.54)	D (D)	37.7 (44.4)
WBR	0.08 (0.37)	C (D)	30.7 (40.7)	0.29 (0.42)	D (D)	40.6 (42.7)	0.67 (0.47)	D (D)	49.4 (43.5)	0.33 (0.58)	D (D)	39.7 (45.8)	0.69 (0.66)	D (D)	48.9 (49.0)
NBL	0.79 (0.88)	D (E)	52.3 (55.6)	0.82 (0.87)	E (E)	64.1 (60.3)	0.82 (0.87)	E (E)	62.8 (59.5)	0.95 (0.91)	E (E)	77.6 (61.3)	0.95 (0.91)	E (E)	77.7 (61.3)
NBT	0.48 (0.81)	C (B)	28.7 (19.8)	0.48 (0.84)	B (C)	18.2 (20.9)	0.49 (0.86)	B (C)	18.9 (22.7)	0.85 (1.50)	B (F)	19.8 (245.3)	0.85 (1.53)	B (F)	19.9 (261.0)
NBR	0.53 (0.80)	F (D)	163.4 (45.4)	0.58 (0.80)	E (D)	69.0 (35.5)	0.59 (0.83)	E (D)	67.8 (37.1)	0.67 (1.05)	C (D)	28.1 (37.2)	0.67 (1.07)	C (D)	28.1 (44.8)
SBL	0.67 (0.68)	C (D)	28.8 (38.0)	0.70 (0.81)	C (E)	24.1 (55.1)	0.80 (0.97)	C (F)	31.5 (91.3)	1.02 (0.81)	F (E)	109.5 (56.2)	1.20 (0.99)	F (F)	170.1 (98.3)
SBT	1.00	E	61.1	0.85	D	36.2	0.85	D	36.2	1.52	F	273.6	1.52	F	273.6

	Existing			2046 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
	(0.63)	(D)	(38.4)	(0.66)	(D)	(37.3)	(0.66)	(D)	(37.3)	(1.17)	(F)	(127.0)	(1.17)	(F)	(127.0)
SBR	0.04 (0.09)	C (C)	25.9 (29.5)	0.04 (0.09)	B (C)	19.5 (27.6)	0.04 (0.09)	B (C)	19.5 (27.6)	0.04 (0.09)	B (C)	19.5 (28.4)	0.04 (0.09)	B (C)	19.5 (28.4)
Overall	**0.93 (0.89)**	**E (D)**	**69.8 (40.3)**	**0.89 (0.90)**	**D (D)**	**45.7 (40.0)**	**0.89 (0.93)**	**D (D)**	**46.3 (42.3)**	**1.27 (1.25)**	**F (F)**	**145.5 (144.6)**	**1.29 (1.27)**	**F (F)**	**145.8 (151.2)**

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.7.1.2 Trafalgar Road / North Service Road East / QEW-Hwy 403 Westbound Off-Ramp

The intersection of Trafalgar Road / North Service Road East / QEW-Hwy 403 Westbound Off-Ramp operates under traffic signal control. The traffic operations results under the 2046 horizon year are provided in **Table 46**. Highlighted values in the table represent critical movements based upon Region, Town and MTO guidelines, depending on the applicable jurisdiction for each corridor. For example, Trafalgar Road approach movements were evaluated based on Regional standards, while the off-ramp movements were evaluated based on MTO standards.

Under existing conditions, the intersection operates at near-capacity conditions at overall v/c of 0.85 and 0.83 during the weekday morning and afternoon peak hours, respectively. The overall v/c of 0.85 is critical under both Town and Region guidelines. MTO's standards highlight the westbound right-turn/ through movement as critical in the weekday morning peak hour (v/c of 0.79) while the Region's standards highlight both the northbound and southbound through movements as critical in one of the peak hours.

Under all 2046 future conditions and in both peak hours, traffic signal timings are proposed to be optimized to better serve forecast travel demand at the intersection.

With these changes, in the 2046 future background condition, the intersection continues to operate at near-capacity conditions at overall v/c of 0.87 and 0.86 during the weekday morning and afternoon peak hours, respectively. With the added development of the Site, the intersection will operate at overall v/c of 0.87 and 0.86 during the weekday morning and afternoon peak hours, respectively. Critical movements continue to be the westbound right turn, northbound through and southbound through movements. Site-related impacts on the critical movements are negligible given that Site drivers are expected to use the new Royal Windsor interchange due to proximity and pre-existing congestion issues caused by background growth in the area.

As previously discussed, in keeping with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, further road improvements are not being recommended at this location. Significant road and transit improvements are already planned for the area that result in residual vehicle capacity, even in the 2046 horizon year. No further improvements, with the exception of traffic signal timing optimization, are recommended at this time but will be reviewed with the applications for each subsequent phase of the development (as was done for Phase 1 in this report).

Table 46 Trafalgar Road / North Service Road East / QEW-Hwy 403 Westbound Off-Ramp

	Existing			2046 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBL	0.03 (0.10)	D (D)	43.2 (36.2)	0.03 (0.13)	D (D)	43.5 (38.1)	0.03 (0.13)	D (D)	43.5 (38.1)	0.03 (0.18)	D (C)	37.0 (34.9)	0.03 (0.18)	D (C)	37.0 (34.9)
EBR	0.59 (0.55)	D (D)	51.7 (43.0)	0.60 (0.58)	D (D)	52.0 (45.1)	0.60 (0.58)	D (D)	52.0 (45.1)	0.44 (0.48)	D (D)	40.7 (36.3)	0.44 (0.48)	D (D)	40.7 (36.3)
WBL	0.62 (0.58)	E (D)	57.8 (50.9)	0.66 (0.72)	E (E)	59.5 (58.5)	0.66 (0.72)	E (E)	59.5 (58.5)	0.82 (0.95)	E (E)	61.2 (79.8)	0.82 (0.95)	E (E)	61.2 (79.8)
WBTL	0.62 (0.57)	E (D)	57.8 (50.6)	0.66 (0.73)	E (E)	59.5 (59.4)	0.66 (0.73)	E (E)	59.5 (59.4)	0.82 (0.93)	E (E)	61.4 (75.4)	0.82 (0.93)	E (E)	61.4 (75.4)
WBR	0.36 (0.79)	D (E)	51.8 (63.0)	0.47 (0.86)	D (E)	53.4 (73.4)	0.47 (0.86)	D (E)	53.4 (73.4)	0.82 (1.38)	E (F)	61.6 (235.8)	0.82 (1.38)	E (F)	61.6 (235.8)
NBT	0.50 (0.86)	A (B)	5.2 (12.5)	0.54 (0.86)	A (B)	8.2 (14.6)	0.54 (0.86)	A (B)	8.3 (14.5)	1.06 (1.72)	D (F)	46.2 (349.2)	1.06 (1.72)	D (F)	46.2 (349.2)
SBT	0.90 (0.75)	D (C)	40.1 (32.0)	0.92 (0.78)	C (C)	27.9 (24.3)	0.92 (0.78)	C (C)	27.9 (24.3)	1.86 (1.54)	F (F)	420.8 (283.4)	1.86 (1.54)	F (F)	420.8 (283.4)
SBR	0.00 (0.01)	A (B)	6.6 (10.3)	0.00 (0.01)	A (A)	6.5 (9.6)	0.00 (0.01)	A (A)	6.5 (9.6)	0.00 (0.01)	B (B)	10.2 (13.4)	0.00 (0.01)	B (B)	10.2 (13.4)
Overall	**0.85 (0.83)**	**C (C)**	**31.5 (27.0)**	**0.87 (0.86)**	**C (C)**	**25.5 (26.5)**	**0.87 (0.86)**	**C (C)**	**25.5 (26.5)**	**1.54 (1.56)**	**F (F)**	**257.1 (286.5)**	**1.54 (1.56)**	**F (F)**	**257.1 (286.5)**

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.7.1.3 Trafalgar Road / QEW-Hwy 403 Eastbound Off-Ramp

The intersection of Trafalgar Road / QEW-Hwy 403 Eastbound Off-Ramp operates under traffic signal control. The traffic operations results under the 2046 horizon year are provided in **Table 47**. Highlighted values in the table represent critical movements based upon Region, Town and MTO guidelines, depending on the applicable jurisdiction for each corridor. For example, Trafalgar Road approach movements will be evaluated based on Regional standards, while the off-ramp movements are evaluated based on MTO standards.

Under existing conditions, the intersection operates at overall v/c of 0.82 and 0.74 during the weekday morning and afternoon peak hours, respectively. MTO's standards highlight the eastbound off-ramp movements as critical.

Under all 2046 future conditions and in both peak hours, traffic signal timings are proposed to be optimized to better serve forecast travel demand at the intersection.

With these changes, in the 2046 future background condition, the intersection operates at near-capacity conditions at overall v/c of 0.94 and 0.85 during the weekday morning and afternoon peak hours, respectively. With the added development of the Site, the intersection will operate at overall v/c of 0.94 and 0.85 during the weekday morning and afternoon peak hours, respectively. Critical movements continue to be the eastbound off-ramp movements. Site-related impacts on the critical movements are negligible given that Site drivers are expected to use the new Royal Windsor interchange due to proximity and pre-existing congestion issues caused by background growth in the area.

As previously discussed, in keeping with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, further road improvements should not be recommended at this location. Significant road and transit improvements are already planned for the area that result in residual vehicle capacity, even in the 2046 horizon year. No further improvements, with the exception of traffic signal timing optimization, are recommended at this time but will be reviewed with the applications for each subsequent phase of the development (as was done for Phase 1 in this report).

Table 47 Trafalgar Road / QEW-Hwy 403 Eastbound Off-Ramp

	Existing			2046 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBL	0.80 (0.89)	D (D)	47.0 (52.6)	0.60 (0.77)	C (D)	30.8 (39.3)	0.60 (0.77)	C (D)	30.8 (39.3)	1.09 (1.38)	F (F)	92.3 (217.0)	1.09 (1.38)	F (F)	92.3 (217.0)
EBR	0.99 (0.68)	F (D)	82.1 (43.2)	0.97 (0.94)	E (E)	64.2 (63.3)	0.97 (0.94)	E (E)	64.2 (63.3)	1.67 (1.42)	F (F)	345.1 (240.5)	1.67 (1.42)	F (F)	345.1 (240.5)
NBT	0.41 (0.64)	B (C)	14.6 (24.1)	0.64 (0.78)	C (C)	24.1 (28.8)	0.64 (0.78)	C (C)	24.0 (28.8)	1.05 (1.38)	D (F)	44.3 (195.8)	1.05 (1.38)	D (F)	43.9 (195.8)
SBT	0.72 (0.59)	B (B)	16.9 (16.8)	0.92 (0.74)	C (C)	34.2 (25.3)	0.92 (0.74)	C (C)	34.2 (25.3)	1.66 (1.29)	F (F)	331.5 (163.1)	1.66 (1.29)	F (F)	331.5 (163.1)
Overall	**0.82 (0.74)**	**C (C)**	**30.0 (29.0)**	**0.94 (0.85)**	**C (C)**	**34.5 (33.2)**	**0.94 (0.85)**	**C (C)**	**34.5 (33.2)**	**1.66 (1.40)**	**F (F)**	**213.7 (193.1)**	**1.66 (1.40)**	**F (F)**	**213.6 (193.1)**

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.7.1.4 Trafalgar Road / Cross Avenue / South Service Road East

The intersection of Trafalgar Road / Cross Avenue / South Service Road East operates under traffic signal control. The traffic operations results under the 2046 horizon year are provided in **Table 48**. Highlighted values in the table represent critical movements based upon Halton Region and Town of Oakville guidelines, depending on the applicable jurisdiction for each corridor. For example, Trafalgar Road approach movements were evaluated based on Regional standards, while Cross Avenue movements were evaluated based on Town standards.

Under existing conditions, the intersection operates at overall v/c of 0.70 and 0.80 during the weekday morning and afternoon peak hours, respectively. No critical movements are highlighted under existing conditions.

Under all 2046 future conditions and in both peak hours, traffic signal timings are proposed to be optimized to better serve forecast travel demand at the intersection.

With these changes, in the 2046 future background condition, the intersection is expected to operate at near-capacity conditions at overall v/c of 0.91 during the weekday morning peak hours. In the weekday afternoon peak hour, the northbound left turn and southbound through-right movements are forecast to operate over capacity and were identified as critical. With the development of the Site, the intersection continues operating at increasing busy conditions, with the same critical movements. It is noteworthy that Site-related impact on these two critical movements is negligible.

As previously discussed, in keeping with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, further road improvements are not being recommended at this location. Significant road and transit improvements are already planned for the area that result in residual vehicle capacity, even in the 2046 horizon year. For movements that are over capacity such as the northbound left turn and southbound through-right movements, non-local drivers in the area can make use of alternative routes or travel modes should be congestion and delays. Site impact is negligible on these movements. No further improvements, with the exception of traffic signal timing optimization are recommended at this time but will be reviewed with the applications for each subsequent phase of the development (as was done for Phase 1 in this report).

Table 48 Trafalgar Road / Cross Avenue / South Service Road East

	Existing			2046 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBL	0.74 (0.89)	E (E)	59.7 (59.4)	0.88 (0.97)	E (E)	61.1 (69.4)	0.88 (0.97)	E (E)	61.1 (69.4)	0.88 (0.97)	E (E)	61.1 (69.4)	0.88 (0.97)	E (E)	61.1 (69.4)
EBTR	0.25 (0.22)	D (D)	46.5 (37.2)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
EBT	-- (--)	-- (--)	-- (--)	0.72 (0.23)	D (C)	49.4 (31.8)	0.79 (0.27)	D (C)	54.4 (34.9)	0.75 (0.26)	D (C)	50.3 (32.2)	0.81 (0.31)	E (D)	55.5 (35.5)
EBR	-- (--)	-- (--)	-- (--)	0.31 (0.11)	D (C)	41.5 (30.3)	0.34 (0.11)	D (C)	44.4 (32.9)	0.32 (0.11)	D (C)	41.5 (30.3)	0.34 (0.11)	D (C)	43.9 (32.9)
WBL	0.25 (0.25)	D (D)	51.3 (50.8)	0.34 (0.24)	D (D)	51.2 (45.3)	0.55 (0.27)	D (D)	53.6 (44.9)	0.34 (0.24)	D (D)	50.9 (45.3)	0.56 (0.28)	D (D)	53.4 (44.9)
WBT	0.31 (0.39)	E (E)	59.8 (61.2)	0.44 (0.84)	E (E)	61.0 (71.4)	0.67 (0.95)	E (F)	67.5 (90.1)	0.57 (0.95)	E (F)	63.0 (88.7)	0.78 (1.07)	E (F)	74.2 (123.6)
WBR	0.06 (0.64)	E (E)	57.2 (70.1)	0.11 (0.44)	D (D)	39.3 (44.4)	0.11 (0.45)	D (D)	39.9 (45.6)	0.11 (0.44)	D (D)	39.1 (44.4)	0.11 (0.45)	D (D)	39.4 (45.6)
NBL	0.53 (0.50)	D (D)	37.4 (46.5)	0.82 (1.01)	D (F)	51.8 (101.4)	0.84 (1.01)	D (F)	53.4 (97.6)	0.83 (1.01)	E (F)	57.5 (96.8)	0.85 (1.01)	E (F)	60.7 (92.2)
NBTR	0.48 (0.52)	C (D)	22.1 (35.3)	0.74 (0.75)	D (D)	42.0 (49.5)	0.72 (0.72)	D (D)	41.4 (50.0)	1.28 (1.30)	F (F)	176.4 (193.5)	1.27 (1.26)	F (F)	172.1 (174.0)
SBL	0.58 (0.42)	C (C)	22.6 (23.3)	0.87 (0.75)	E (E)	60.9 (55.2)	0.86 (0.73)	E (D)	60.0 (51.2)	0.89 (0.76)	D (D)	54.5 (50.0)	0.89 (0.76)	D (D)	54.5 (50.0)
SBTR	0.78	C	28.2	0.91	D	45.8	0.89	D	43.8	1.44	F	244.0	1.42	F	235.1

	Existing			2046 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
	(0.83)	(C)	(33.7)	(1.06)	(F)	(85.9)	(1.03)	(E)	(74.3)	(1.68)	(F)	(360.7)	(1.63)	(F)	(337.5)
Overall	**0.70 (0.80)**	**C (D)**	**31.7 (42.0)**	**0.91 (1.00)**	**D (E)**	**48.4 (66.5)**	**0.91 (1.00)**	**D (E)**	**48.8 (64.3)**	**1.18 (1.25)**	**F (F)**	**163.5 (208.5)**	**1.18 (1.26)**	**F (F)**	**158.3 (195.9)**

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.7.1.5 Trafalgar Road / Cornwall Road

The intersection of Trafalgar Road / Cornwall Road operates under traffic signal control. The traffic operations results under the 2046 horizon year are provided in **Table 49**. Highlighted values in the table represent critical movements based upon Halton Region and Town of Oakville guidelines, depending on the applicable jurisdiction for each corridor. For example, Trafalgar Road approach movements were evaluated based on Regional standards, while Cornwall Road movements were evaluated based on Town standards.

Under existing conditions, the intersection operates at overall v/c of 0.75 and 0.74 during the weekday morning and afternoon peak hours, respectively. No critical movements are highlighted under existing conditions.

Under all 2046 future conditions and in both peak hours, traffic signal timings are proposed to be optimized to better serve forecast travel demand at the intersection.

With these changes, in the 2046 future background condition, the intersection is expected to operate at near-capacity conditions at overall v/c of 0.88 and 0.90 during the weekday morning and afternoon peak hours, respectively. The southbound through movements are close to critical conditions at v/c of 0.84 in both peak hours. With the development of the Site, the southbound through movement operates at v/c of 0.85.

As previously discussed, in keeping with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, further road improvements are not being recommended at this location. Significant road and transit improvements are already planned for the area that result in residual vehicle capacity, even in the 2046 horizon year. No further improvements, with the exception of traffic signal timing optimization, are recommended at this time but will be reviewed with the applications for each subsequent phase of the development (as was done for Phase 1 in this report).

Table 49 Trafalgar Road / Cornwall Road

	Existing			2046 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBL	0.77 (0.82)	E (E)	68.4 (72.8)	0.82 (0.84)	E (E)	74.7 (75.2)	0.85 (0.86)	F (E)	80.1 (76.4)	0.98 (0.92)	F (E)	102.0 (79.5)	0.98 (0.92)	F (E)	101.7 (79.2)
EBTR	0.45 (0.40)	D (D)	42.9 (43.4)	0.53 (0.36)	D (D)	45.5 (37.4)	0.61 (0.41)	D (D)	51.2 (40.3)	0.82 (0.59)	D (C)	49.8 (34.2)	0.92 (0.65)	E (D)	61.9 (36.9)
WBL	0.09 (0.15)	D (C)	37.9 (34.4)	0.13 (0.16)	D (C)	39.4 (30.6)	0.45 (0.25)	D (C)	41.0 (31.4)	0.23 (0.24)	D (C)	38.6 (30.7)	0.72 (0.38)	E (C)	55.4 (31.9)
WBT	0.44 (0.56)	D (D)	46.7 (46.4)	0.49 (0.54)	D (D)	48.0 (41.1)	0.57 (0.57)	D (D)	50.7 (42.9)	0.77 (0.88)	D (D)	53.1 (54.4)	0.87 (0.92)	E (E)	61.3 (59.8)
WBR	0.71 (0.77)	E (E)	56.3 (57.9)	0.89 (0.93)	E (E)	77.6 (72.7)	0.92 (0.96)	F (F)	85.3 (80.8)	0.95 (0.95)	F (E)	86.9 (76.9)	0.99 (0.97)	F (F)	100.4 (82.2)
NBL	0.18 (0.20)	C (C)	31.4 (29.8)	0.28 (0.35)	C (D)	34.1 (37.1)	0.29 (0.34)	C (D)	33.2 (35.6)	0.38 (0.46)	D (D)	38.7 (40.3)	0.38 (0.46)	D (D)	37.8 (39.9)
NBTR	0.44 (0.49)	D (D)	41.6 (40.7)	0.49 (0.69)	D (D)	42.6 (50.1)	0.49 (0.74)	D (D)	41.2 (50.7)	0.82 (1.08)	D (F)	53.9 (104.1)	0.81 (1.14)	D (F)	52.3 (127.6)
SBL	0.82 (0.73)	E (E)	62.8 (60.2)	0.90 (0.93)	E (F)	79.0 (88.6)	0.90 (0.93)	E (F)	78.2 (88.4)	0.90 (0.95)	E (F)	78.6 (85.9)	0.90 (0.94)	E (F)	77.5 (85.4)
SBT	0.68 (0.66)	D (D)	41.2 (53.8)	0.84 (0.84)	D (D)	36.6 (51.7)	0.85 (0.82)	C (D)	34.9 (48.6)	1.40 (1.43)	F (F)	213.4 (243.5)	1.40 (1.41)	F (F)	212.7 (236.4)
SBR	0.33 (0.26)	E (F)	61.9 (92.3)	0.35 (0.28)	D (E)	37.6 (71.6)	0.37 (0.29)	C (E)	32.4 (65.2)	0.44 (0.38)	C (D)	31.9 (47.1)	0.45 (0.38)	C (D)	30.5 (45.8)
Overall	**0.75**	**D**	**51.8**	**0.88**	**E**	**55.4**	**0.90**	**E**	**56.1**	**1.21**	**F**	**95.7**	**1.23**	**F**	**98.7**

	Existing			2046 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
	(0.74)	(E)	(55.2)	(0.90)	(E)	(58.9)	(0.91)	(E)	(59.3)	(1.17)	(F)	(100.6)	(1.18)	(F)	(105.0)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.7.1.6 Chartwell Road / Cornwall Road

The intersection of Chartwell Road / Cornwall Road operates under traffic signal control. The traffic operations results under the 2046 horizon year are provided in **Table 50**.

Under existing conditions, the intersection operates at overall v/c of 0.52 and 0.41 during the weekday morning and afternoon peak hours, respectively. No critical movements are highlighted under existing conditions.

In the 2046 future background condition, the intersection is expected to operate at overall v/c of 0.57 and 0.47 during the weekday morning and afternoon peak hours, respectively. With the development of the Site, the intersection is expected to operate at overall v/c of 0.59 and 0.48 during the weekday morning and afternoon peak hours, respectively.

No improvements are recommended as no critical movements were identified in any condition.

Table 50 Chartwell Road / Cornwall Road

	Existing			2046 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBL	0.08 (0.15)	A (A)	7.3 (6.0)	0.07 (0.17)	A (A)	7.5 (6.9)	0.08 (0.18)	A (A)	8.5 (7.2)	0.13 (0.34)	A (B)	8.6 (10.3)	0.13 (0.36)	A (B)	9.7 (11.1)
EBTR	0.47 (0.34)	A (A)	9.4 (6.5)	0.53 (0.37)	B (A)	10.3 (7.4)	0.56 (0.37)	B (A)	11.9 (7.5)	0.74 (0.53)	B (A)	15.0 (8.6)	0.76 (0.53)	B (A)	17.0 (8.8)
WBL	0.16 (0.16)	A (A)	8.1 (6.0)	0.19 (0.17)	A (A)	8.7 (6.8)	0.21 (0.17)	B (A)	10.2 (6.9)	0.40 (0.28)	B (A)	15.7 (8.2)	0.45 (0.28)	B (A)	19.4 (8.4)
WBTR	0.34 (0.41)	A (A)	8.5 (6.9)	0.33 (0.46)	A (A)	8.7 (8.0)	0.34 (0.47)	A (A)	9.9 (8.3)	0.52 (0.66)	B (B)	11.3 (10.3)	0.53 (0.67)	B (B)	12.5 (10.8)
NBL	0.60 (0.39)	B (B)	18.9 (15.7)	0.63 (0.50)	C (B)	21.2 (17.3)	0.63 (0.51)	C (B)	21.5 (17.6)	0.79 (0.59)	D (C)	41.0 (28.2)	0.89 (0.59)	E (C)	57.5 (29.0)
NBTR	0.18 (0.24)	B (B)	13.9 (14.4)	0.18 (0.22)	B (B)	15.2 (14.8)	0.17 (0.29)	B (B)	15.1 (15.5)	0.32 (0.41)	C (C)	24.3 (24.6)	0.30 (0.48)	C (C)	24.5 (25.8)
SBL	0.10 (0.20)	B (B)	13.5 (14.4)	0.20 (0.20)	B (B)	15.4 (14.8)	0.29 (0.25)	B (B)	16.1 (15.4)	0.25 (0.28)	C (C)	23.9 (23.7)	0.37 (0.38)	C (C)	25.6 (25.5)
SBT	0.13 (0.11)	B (B)	13.6 (13.7)	0.20 (0.11)	B (B)	15.3 (14.2)	0.28 (0.15)	B (B)	15.9 (14.6)	0.33 (0.22)	C (C)	24.4 (22.8)	0.42 (0.26)	C (C)	25.8 (23.7)
SBR	0.02 (0.03)	B (B)	13.0 (13.4)	0.02 (0.03)	B (B)	14.2 (13.8)	0.02 (0.03)	B (B)	14.2 (14.0)	0.02 (0.03)	C (C)	21.7 (21.5)	0.02 (0.03)	C (C)	21.9 (21.9)
Overall	**0.52 (0.41)**	**B (A)**	**10.8 (8.5)**	**0.57 (0.47)**	**B (A)**	**11.8 (9.5)**	**0.59 (0.48)**	**B (A)**	**13.1 (9.9)**	**0.75 (0.63)**	**B (B)**	**17.0 (12.4)**	**0.80 (0.65)**	**B (B)**	**19.9 (13.1)**

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.7.1.7 QEW-Hwy 403 Ramps / Royal Windsor Drive / South Service Road East

The intersection of QEW-Hwy 403 Ramps / Royal Windsor Drive / South Service Road East operates under traffic signal control. The traffic operations results under the 2046 horizon year are provided in **Table 51**. At the ultimate horizon, this intersection will be reconfigured into a full interchange.

Under existing conditions, the intersection operates at overall v/c of 0.33 and 0.35 during the weekday morning and afternoon peak hours, respectively. No critical movements are highlighted under existing conditions.

Table 51 QEW-Hwy 403 Ramps / Royal Windsor Drive / South Service Road East

	Existing			2046 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBL	0.05 (0.01)	A (A)	5.0 (6.5)	To be reconfigured into a full interchange.											
EBTR	0.35 (0.36)	A (B)	9.9 (10.1)												
WBL	0.27 (0.23)	A (A)	4.4 (4.1)												
WBT	0.27 (0.30)	A (A)	8.3 (6.8)												
WBR	-- (0.00)	-- (A)	-- (5.2)												
NBL	0.04 (0.35)	D (D)	44.5 (46.9)												
NBT	0.06 (0.08)	D (D)	44.7 (44.2)												
NBR	0.04 (0.12)	D (D)	44.6 (44.6)												
SBT	0.28 (0.20)	D (D)	46.4 (45.2)												
SBR	0.01 (0.02)	D (D)	44.4 (43.8)												
Overall	**0.33**	**B**	**11.7**												

	Existing			2046 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
	(0.35)	**(B)**	**(14.5)**												

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.7.1.8 South Service Road East / Davis Road / Argus Road Extension

The intersection of South Service Road East / Davis Road currently operates under stop control. By the 2046 horizon with the Argus Road extension, the intersection will operate under signalized conditions. The traffic operations results under the 2046 horizon year are provided in **Table 52**.

In the 2046 future background condition, the intersection is expected to operate at overall v/c of 0.23 and 0.38 during the weekday morning and afternoon peak hours, respectively. With the development of the Site, the intersection is expected to operate at overall v/c of 0.31 and 0.39 during the weekday morning and afternoon peak hours, respectively.

No improvements are recommended as no critical movements were identified in any condition.

Table 52 South Service Road / Davis Road / Argus Road Extension

	Existing[4]			2046 Horizon Year											
				Future Background			Future Total			Future Background [5] With Corridor Growth			Future Total [5] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBL	Currently under stop control.			-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)	-- (--)
EBTR				0.07 (0.03)	A (A)	1.1 (1.6)	0.07 (0.03)	A (A)	1.1 (1.6)	0.08 (0.03)	A (A)	1.5 (2.4)	0.08 (0.03)	A (A)	1.5 (2.4)
WBL				0.11 (0.14)	A (A)	5.1 (8.2)	0.21 (0.18)	A (A)	5.0 (7.1)	0.13 (0.18)	A (B)	8.4 (14.3)	0.24 (0.23)	A (B)	8.8 (13.9)
WBTR				0.07 (0.20)	A (A)	4.7 (8.6)	0.07 (0.20)	A (A)	4.1 (7.1)	0.08 (0.26)	A (B)	7.8 (14.9)	0.08 (0.26)	A (B)	6.9 (14.1)
NBTLR				0.64 (0.55)	D (C)	36.9 (28.4)	0.64 (0.59)	D (C)	36.9 (29.2)	0.71 (0.61)	C (C)	32.7 (21.9)	0.71 (0.63)	C (C)	32.7 (22.5)
SBTLR				0.62 (0.74)	D (C)	35.8 (34.6)	0.62 (0.78)	D (D)	35.8 (36.9)	0.74 (0.86)	C (C)	34.3 (34.0)	0.74 (0.86)	C (C)	34.3 (33.8)
Overall				**0.23 (0.38)**	**C (C)**	**24.5 (23.5)**	**0.31 (0.39)**	**C (C)**	**22.6 (23.8)**	**0.33 (0.54)**	**C (C)**	**26.4 (25.2)**	**0.41 (0.54)**	**C (C)**	**25.1 (24.9)**

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. The intersection currently does not have the Argus Road extension, and operates under stop control. By the 2046 horizon year, the intersection will be reconfigured into signalized operations with a west leg.
5. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.7.1.9 New N-S Arterial Street / Davis Road

The planned intersection of the New N-S Arterial Street / Davis Road will operate under signalized control. An additional scenario was tested considering the future Bus Rapid Transit lanes (as outer lanes) along the New N-S Arterial Street. The traffic operations results under the 2046 horizon year are provided in **Table 53** and **Table 54**, under the base configuration and the configuration with the BRT lanes, respectively.

Base Configuration

In the 2046 future background condition, the intersection is expected to operate at overall v/c of 0.16 and 0.05 during the weekday morning and afternoon peak hours, respectively. With the development of the Site, the intersection is expected to operate at overall v/c of 0.29 and 0.16 during the weekday morning and afternoon peak hours, respectively.

With BRT Configuration

With the construction of the bus rapid transit, the outer lanes are planned to be converted to bus-only lanes. In the 2046 future background condition, the intersection is expected to operate at overall v/c of 0.23 and 0.07 during the weekday morning and afternoon peak hours, respectively. With the development of the Site, the intersection is expected to operate at overall v/c of 0.39 and 0.15 during the weekday morning and afternoon peak hours, respectively.

No improvements are recommended as no critical movements were identified in any condition.

Table 53 New N-S Arterial Street / Davis Road (Base Configuration)

	Existing[4]			2046 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBL	Does not exist.			0.09 (0.03)	A (A)	8.7 (3.0)	0.22 (0.07)	A (A)	5.8 (3.7)	0.09 (0.03)	A (A)	8.6 (2.8)	0.22 (0.07)	A (A)	5.8 (3.7)
EBTR				-- (--)	-- (--)	-- (--)	0.09 (0.04)	A (A)	7.8 (5.4)	-- (--)	-- (--)	-- (--)	0.09 (0.04)	A (A)	7.8 (5.2)
WBL				-- (--)	-- (--)	-- (--)	0.09 (0.03)	A (A)	6.3 (5.8)	-- (--)	-- (--)	-- (--)	0.09 (0.03)	A (A)	6.6 (6.1)
WBTR				-- (--)	-- (--)	-- (--)	0.09 (0.03)	A (A)	9.1 (7.0)	-- (--)	-- (--)	-- (--)	0.09 (0.03)	A (A)	9.1 (7.0)
NBL				-- (--)	-- (--)	-- (--)	0.10 (0.48)	B (C)	19.9 (26.3)	-- (--)	-- (--)	-- (--)	0.10 (0.48)	B (C)	19.8 (26.1)
NBTR				0.42 (0.14)	C (C)	21.8 (22.3)	0.54 (0.20)	C (C)	22.3 (20.9)	0.42 (0.14)	C (C)	21.8 (22.3)	0.54 (0.20)	C (C)	22.2 (20.8)
SBL				-- (--)	-- (--)	-- (--)	0.22 (0.46)	C (D)	32.2 (35.1)	-- (--)	-- (--)	-- (--)	0.22 (0.46)	C (D)	32.2 (35.1)
SBTR				0.03 (0.07)	C (C)	31.1 (31.6)	0.05 (0.11)	C (C)	30.4 (31.6)	0.03 (0.07)	C (C)	31.1 (31.6)	0.05 (0.11)	C (C)	30.4 (31.6)
Overall				**0.16 (0.05)**	**C (C)**	**20.8 (26.6)**	**0.29 (0.16)**	**B (C)**	**15.7 (23.1)**	**0.16 (0.05)**	**C (C)**	**20.7 (26.6)**	**0.29 (0.16)**	**B (C)**	**15.7 (23.0)**

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

Table 54 New N-S Arterial Street / Davis Road (With BRT Configuration)

	Existing[4]			2046 Horizon Year											
				Future Background			Future Total			Future Background [5] With Corridor Growth			Future Total [5] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBL	Does not exist.			0.09 (0.03)	B (A)	10.3 (3.0)	0.24 (0.07)	A (A)	8.4 (3.7)	0.09 (0.03)	B (A)	10.0 (2.8)	0.24 (0.07)	A (A)	8.3 (3.9)
EBTR				-- (--)	-- (--)	-- (--)	0.09 (0.04)	B (A)	10.7 (5.4)	-- (--)	-- (--)	-- (--)	0.09 (0.04)	B (A)	10.7 (5.5)
WBL				-- (--)	-- (--)	-- (--)	0.10 (0.03)	A (A)	9.2 (5.8)	-- (--)	-- (--)	-- (--)	0.10 (0.03)	A (A)	9.5 (6.3)
WBTR				-- (--)	-- (--)	-- (--)	0.09 (0.03)	B (A)	12.6 (7.0)	-- (--)	-- (--)	-- (--)	0.09 (0.03)	B (A)	12.6 (7.3)
NBL				-- (--)	-- (--)	-- (--)	0.06 (0.32)	B (C)	19.8 (23.4)	-- (--)	-- (--)	-- (--)	0.06 (0.30)	B (C)	19.8 (23.3)
NBT				0.66 (0.26)	C (C)	28.3 (23.6)	0.73 (0.36)	C (C)	30.5 (23.3)	0.66 (0.26)	C (C)	28.3 (23.6)	0.73 (0.34)	C (C)	30.4 (23.1)
NBR[4]				-- (--)	-- (--)	-- (--)	0.00 (0.02)	C (C)	25.3 (31.0)	-- (--)	-- (--)	-- (--)	0.00 (0.02)	C (C)	25.3 (30.4)
SBL				-- (--)	-- (--)	-- (--)	0.24 (0.45)	C (C)	27.8 (34.9)	-- (--)	-- (--)	-- (--)	0.24 (0.43)	C (C)	27.8 (34.1)
SBT				-- (--)	-- (--)	-- (--)	0.01 (0.03)	C (C)	25.3 (31.1)	-- (--)	-- (--)	-- (--)	0.01 (0.03)	C (C)	25.3 (30.5)
SBR[4]				0.05 (0.12)	C (C)	28.7 (32.1)	0.07 (0.18)	C (C)	25.8 (32.1)	0.05 (0.12)	C (C)	28.7 (32.1)	0.07 (0.18)	C (C)	25.8 (31.6)

	Existing[4]			2046 Horizon Year											
				Future Background			Future Total			Future Background [5] With Corridor Growth			Future Total [5] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
Overall				**0.23 (0.07)**	**C (C)**	**24.6 (27.3)**	**0.39 (0.15)**	**B (C)**	**19.2 (23.7)**	**0.23 (0.07)**	**C (C)**	**24.5 (27.2)**	**0.39 (0.15)**	**B (C)**	**19.2 (23.4)**

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. This is the BRT only travel lane and is not an exclusive right turn lane. However, right turns are permitted to use the BRT lanes to complete their right turn movements if they merge into the bus lanes for a short distance.
5. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.7.1.10 New N-S Arterial Street / Cross Avenue

The planned intersection of the New N-S Arterial Street / Cross Avenue will operate under signalized control. The traffic operations results under the 2046 horizon year are provided in **Table 55**.

In the 2046 future background condition, the intersection is expected to operate at overall v/c of 0.23 and 0.14 during the weekday morning and afternoon peak hours, respectively. With the development of the Site, the intersection is expected to operate at overall v/c of 0.44 and 0.29 during the weekday morning and afternoon peak hours, respectively.

No improvements are recommended as no critical movements were identified in any condition.

Table 55 New N-S Arterial Street / Cross Avenue

	Existing[4]			2046 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBL	Does not exist.			0.47 (0.20)	B (B)	19.1 (16.9)	0.62 (0.35)	C (B)	21.7 (18.7)	0.47 (0.20)	B (B)	19.1 (16.9)	0.62 (0.35)	C (B)	21.7 (18.7)
EBTR				0.37 (0.13)	B (B)	19.3 (16.8)	0.47 (0.17)	C (B)	20.5 (17.7)	0.37 (0.13)	B (B)	19.3 (16.8)	0.47 (0.17)	C (B)	20.5 (17.7)
WBL				-- (--)	-- (--)	-- (--)	0.39 (0.09)	C (B)	30.5 (18.0)	-- (--)	-- (--)	-- (--)	0.39 (0.09)	C (C)	32.3 (30.5)
WBTR				0.09 (0.34)	B (C)	19.0 (20.1)	0.19 (0.57)	C (C)	23.4 (22.9)	0.09 (0.34)	B (B)	18.3 (17.0)	0.19 (0.57)	C (C)	25.1 (29.7)
NBL				-- (--)	-- (--)	-- (--)	0.04 (0.10)	C (B)	20.5 (18.5)	-- (--)	-- (--)	-- (--)	0.04 (0.10)	C (B)	20.5 (18.5)
NBTR				-- (--)	-- (--)	-- (--)	0.02 (0.06)	C (B)	20.3 (18.0)	-- (--)	-- (--)	-- (--)	0.02 (0.06)	C (B)	20.3 (18.0)
SBL				-- (--)	-- (--)	-- (--)	0.24 (0.09)	B (B)	14.3 (15.8)	-- (--)	-- (--)	-- (--)	0.24 (0.09)	B (B)	14.3 (15.6)
SBTR				-- (--)	-- (--)	-- (--)	0.03 (0.02)	B (B)	15.0 (17.2)	-- (--)	-- (--)	-- (--)	0.03 (0.02)	B (B)	14.8 (16.9)
Overall				**0.23 (0.14)**	**B (B)**	**19.2 (18.7)**	**0.44 (0.29)**	**C (C)**	**20.8 (20.3)**	**0.23 (0.14)**	**B (B)**	**19.1 (16.9)**	**0.44 (0.29)**	**C (C)**	**21.1 (23.8)**

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.7.1.11 New N-S Arterial Street / Iroquois Shore Road

The planned intersection of the New N-S Arterial Street / Iroquois Shore Road will operate under signalized control. The traffic operations results under the 2046 horizon year are provided in **Table 56**.

In the 2046 future background condition, the intersection is expected to operate at overall v/c of 0.49 and 0.51 during the weekday morning and afternoon peak hours, respectively. With the development of the Site, the intersection is expected to operate at overall v/c of 0.61 and 0.65 during the weekday morning and afternoon peak hours, respectively.

No improvements are recommended as no critical movements were identified in any condition.

Table 56 New N-S Arterial Street / Iroquois Shore Road

	Existing[4]			2046 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBTR	Does not exist.			0.47 (0.58)	A (B)	6.2 (12.2)	0.54 (0.68)	B (B)	10.3 (17.5)	0.50 (0.63)	A (B)	6.6 (12.8)	0.58 (0.73)	B (B)	10.8 (18.5)
WBL				0.12 (0.39)	A (A)	5.0 (7.2)	0.36 (0.69)	B (C)	12.7 (23.7)	0.13 (0.43)	A (A)	5.3 (8.6)	0.41 (0.74)	B (C)	14.9 (31.4)
WBT				0.36 (0.49)	A (A)	5.5 (5.4)	0.41 (0.49)	A (A)	8.8 (5.4)	0.38 (0.54)	A (A)	5.6 (5.8)	0.43 (0.54)	A (A)	9.0 (5.9)
NBL				0.55 (0.13)	D (D)	39.8 (37.6)	0.75 (0.29)	D (D)	41.9 (38.7)	0.55 (0.13)	D (D)	39.8 (37.6)	0.76 (0.29)	D (D)	42.2 (38.7)
NBR				0.39 (0.05)	D (D)	37.6 (37.0)	0.70 (0.11)	D (D)	39.5 (37.3)	0.43 (0.05)	D (D)	38.0 (37.0)	0.73 (0.11)	D (D)	41.2 (37.3)
Overall				**0.49 (0.51)**	**B (A)**	**10.3 (9.8)**	**0.61 (0.65)**	**B (B)**	**16.8 (14.7)**	**0.52 (0.54)**	**B (B)**	**10.3 (10.3)**	**0.63 (0.70)**	**B (B)**	**17.0 (15.7)**

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.7.1.12 Chartwell Road / Cross Avenue Extension

The planned intersection of Chartwell Road / Cross Avenue Extension will operate under signalized control. The traffic operations results under the 2046 horizon year are provided in **Table 57**.

In the 2046 future background condition, the intersection is expected to operate at overall v/c of 0.26 and 0.26 during the weekday morning and afternoon peak hours, respectively. With the development of the Site, the intersection is expected to operate at overall v/c of 0.56 and 0.51 during the weekday morning and afternoon peak hours, respectively.

No improvements are recommended as no critical movements were identified in any condition.

Table 57 Chartwell Road / Cross Avenue Extension

	Existing[4]			2046 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
EBTLR	Does not exist.			0.22 (0.08)	A (A)	7.4 (5.3)	0.48 (0.18)	A (A)	9.8 (6.9)	0.23 (0.09)	A (A)	9.0 (8.2)	0.55 (0.23)	B (B)	12.0 (12.1)
WBTLR				0.04 (0.14)	A (A)	4.6 (5.9)	0.09 (0.36)	A (A)	6.4 (9.9)	0.04 (0.17)	A (B)	5.7 (10.3)	0.10 (0.47)	A (B)	9.4 (17.7)
NBTLR				0.36 (0.61)	C (C)	31.3 (33.4)	0.40 (0.82)	C (D)	28.6 (41.3)	0.48 (0.78)	C (C)	30.2 (33.0)	0.44 (0.85)	C (C)	24.1 (33.6)
SBTLR				0.39 (0.42)	C (C)	22.1 (21.9)	0.75 (0.45)	C (B)	32.0 (19.6)	0.64 (0.48)	C (B)	23.7 (16.3)	0.83 (0.47)	C (B)	32.6 (12.2)
Overall				**0.26 (0.26)**	**B (B)**	**13.2 (16.2)**	**0.56 (0.51)**	**B (B)**	**14.6 (16.7)**	**0.34 (0.40)**	**B (B)**	**16.6 (19.9)**	**0.66 (0.65)**	**B (C)**	**17.5 (20.2)**

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

12.7.2 Unsignalized Intersection Operations (2046)

The traffic operations results of all unsignalized intersections including Site driveways are provided in **Table 58**. Highlighted values in the table represent critical movements based upon Halton Region and Town of Oakville guidelines, depending on the applicable jurisdiction for each corridor.

Under all conditions, the unsignalized intersections operate at acceptable LOS at LOS D or better in both weekday peak hours. All site driveways operate well at LOS B or better.

No improvements are recommended as no critical movements were identified in any condition.

Table 58 Unsignalized Intersections and Site Driveways

	Existing			2046 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
Trafalgar Road / Argus Road															
EBR	0.03 (0.06)	B (A)	10.0 (9.7)	0.25 (0.14)	B (B)	12.7 (10.7)	0.25 (0.14)	B (B)	12.7 (10.7)	0.27 (0.20)	B (B)	13.7 (13.7)	0.27 (0.20)	B (B)	13.7 (13.7)
NBT	0.24 (0.37)	A (A)	0.0 (0.0)	0.32 (0.41)	A (A)	0.0 (0.0)	0.32 (0.41)	A (A)	0.0 (0.0)	0.52 (0.71)	A (A)	0.0 (0.0)	0.52 (0.71)	A (A)	0.0 (0.0)
SBT	0.53 (0.42)	A (A)	0.0 (0.0)	0.55 (0.45)	A (A)	0.0 (0.0)	0.55 (0.45)	A (A)	0.0 (0.0)	0.97 (0.79)	A (A)	0.0 (0.0)	0.97 (0.79)	A (A)	0.0 (0.0)
SBTR	0.63 (0.43)	A (A)	0.0 (0.0)	0.70 (0.63)	A (A)	0.0 (0.0)	0.70 (0.63)	A (A)	0.0 (0.0)	0.91 (0.80)	A (A)	0.0 (0.0)	0.91 (0.80)	A (A)	0.0 (0.0)
South Service Road East / Davis Road															
EBTLR	0.00 (0.00)	A (A)	0.0 (0.0)	To be signalized with the Argus Road extension.											
WBTLR	0.02 (0.17)	B (B)	11.2 (12.9)												
NBTL	0.00 (0.00)	A (A)	0.0 (0.0)												
NBTR	0.07 (0.09)	A (A)	0.0 (0.0)												
SBTL	0.01 (0.02)	A (A)	0.8 (1.1)												

	Existing			2046 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
SBTR	0.06 (0.10)	A (A)	0.0 (0.0)												
Chartwell Road / South Service Road East															
EBTR	0.07 (0.12)	A (A)	0.0 (0.0)	0.09 (0.12)	A (A)	0.0 (0.0)	0.16 (0.14)	A (A)	0.0 (0.0)	0.12 (0.16)	A (A)	0.0 (0.0)	0.20 (0.18)	A (A)	0.0 (0.0)
WBTL	0.08 (0.06)	A (A)	3.4 (3.6)	0.08 (0.06)	A (A)	3.4 (3.3)	0.09 (0.06)	A (A)	3.6 (3.4)	0.15 (0.12)	A (A)	4.1 (3.9)	0.17 (0.12)	A (A)	4.4 (4.0)
NBLR	0.20 (0.46)	B (C)	13.2 (15.0)	0.21 (0.47)	B (C)	13.5 (15.6)	0.31 (0.75)	C (D)	16.1 (27.2)	0.61 (1.15)	D (F)	32.6 (116.5)	0.83 (1.58)	F (F)	59.5 (296.0)
Local Street A / South Service Road East															
EBTR	Does not exist.						0.11 (0.11)	A (A)	0.0 (0.0)	Does not exist.			0.18 (0.19)	A (A)	0.0 (0.0)
WBTL							0.01 (0.05)	A (A)	0.6 (1.6)				0.01 (0.05)	A (A)	0.4 (1.4)
NBLR							0.13 (0.04)	A (A)	9.8 (9.4)				0.15 (0.05)	B (B)	10.4 (10.3)
Local Street B / South Service Road East															
EBTR	Does not exist.						0.17 (0.13)	A (A)	0.0 (0.0)	Does not exist.			0.25 (0.21)	A (A)	0.0 (0.0)
WBTL							0.01 (0.05)	A (A)	0.6 (1.5)				0.01 (0.05)	A (A)	0.5 (1.4)
NBLR							0.00	A	0.0				0.00	A	0.0

	Existing			2046 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
							(0.00)	(A)	(0.0)				(0.00)	(A)	(0.0)
Local Street A / Davis Road															
EBTLR	Does not exist.						0.00 (0.01)	A (A)	0.0 (2.2)	Does not exist.			0.00 (0.01)	A (A)	0.0 (2.2)
WBTLR							0.00 (0.01)	A (A)	0.3 (0.6)				0.00 (0.01)	A (A)	0.3 (0.6)
NBTLR							0.06 (0.16)	A (B)	9.7 (11.3)				0.06 (0.16)	A (B)	9.7 (11.3)
SBTLR							0.24 (0.13)	B (B)	11.5 (12.4)				0.24 (0.13)	B (B)	11.5 (12.4)
Local Street B / Davis Road															
EBLR	Does not exist.						0.17 (0.06)	B (A)	10.0 (8.8)	Does not exist.			0.17 (0.06)	B (A)	10.0 (8.8)
NBTL							0.02 (0.05)	A (A)	5.2 (4.2)				0.02 (0.05)	A (A)	5.2 (4.2)
SBTR							0.10 (0.03)	A (A)	0.0 (0.0)				0.10 (0.03)	A (A)	0.0 (0.0)
Local Street A / Cross Avenue															
EBL	Does not exist.						0.00 (0.01)	A (A)	0.0 (8.1)	Does not exist.			0.00 (0.01)	A (A)	0.0 (8.1)
EBT							0.23 (0.08)	A (A)	0.0 (0.0)				0.23 (0.08)	A (A)	0.0 (0.0)

	Existing			2046 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
WBT							0.05 (0.14)	A (A)	0.0 (0.0)				0.05 (0.14)	A (A)	0.0 (0.0)
WBTR							0.06 (0.20)	A (A)	0.0 (0.0)				0.06 (0.20)	A (A)	0.0 (0.0)
SBL							0.40 (0.16)	C (B)	17.7 (12.7)				0.40 (0.16)	C (B)	17.7 (12.7)
SBR							0.01 (0.02)	A (A)	8.8 (8.8)				0.01 (0.02)	A (A)	8.8 (8.8)
Local Street B / Cross Avenue															
EBTL	Does not exist.						0.01 (0.07)	A (A)	0.5 (3.9)	Does not exist.			0.01 (0.06)	A (A)	0.5 (3.7)
EBT							0.32 (0.12)	A (A)	0.0 (0.0)				0.32 (0.12)	A (A)	0.0 (0.0)
WBT							0.06 (0.21)	A (A)	0.0 (0.0)				0.06 (0.21)	A (A)	0.0 (0.0)
WBTR							0.06 (0.23)	A (A)	0.0 (0.0)				0.06 (0.23)	A (A)	0.0 (0.0)
SBL							0.46 (0.32)	C (C)	15.4 (20.5)				0.46 (0.28)	C (C)	15.4 (18.1)
SBR							0.16 (0.08)	A (B)	9.5 (10.1)				0.16 (0.07)	A (A)	9.5 (9.4)
Local Street A / Block 1 Driveway															

	Existing			2046 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
WBLR	Does not exist.						0.29 (0.12)	B (A)	10.1 (9.8)	Does not exist.			0.29 (0.12)	B (A)	10.1 (9.8)
NBTR							0.01 (0.06)	A (A)	0.0 (0.0)				0.01 (0.06)	A (A)	0.0 (0.0)
SBTL							0.01 (0.04)	A (A)	7.3 (7.5)				0.01 (0.04)	A (A)	7.3 (7.5)
Local Street B / Block 2 Driveway															
EBLR	Does not exist.						0.16 (0.05)	A (A)	9.0 (8.6)	Does not exist.			0.16 (0.05)	A (A)	9.0 (8.6)
NBTL							0.01 (0.04)	A (A)	7.3 (7.4)				0.01 (0.04)	A (A)	7.3 (7.4)
SBTR							0.01 (0.04)	A (A)	0.0 (0.0)				0.01 (0.04)	A (A)	0.0 (0.0)
Block 1 Driveway / Block 3 Driveway / Davis Road															
EBTLR	Does not exist.						0.00 (0.03)	A (A)	0.2 (3.0)	Does not exist.			0.00 (0.03)	A (A)	0.2 (3.0)
WBTLR							0.02 (0.05)	A (A)	1.4 (1.9)				0.02 (0.05)	A (A)	1.4 (1.9)
NBTLR							0.11 (0.05)	A (A)	9.6 (8.8)				0.11 (0.05)	A (A)	9.6 (8.8)
SBTLR							0.16 (0.09)	B (B)	12.2 (14.2)				0.16 (0.09)	B (B)	12.2 (14.2)

	Existing			2046 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
Block 2 Driveway / Block 4 Driveway / Davis Road															
EBTLR	Does not exist.						0.01 (0.06)	A (A)	4.3 (4.9)	Does not exist.			0.01 (0.06)	A (A)	4.3 (4.9)
WBTLR							0.01 (0.02)	A (A)	2.1 (2.3)				0.01 (0.02)	A (A)	2.1 (2.3)
NBTLR							0.15 (0.07)	B (B)	10.7 (11.1)				0.15 (0.07)	B (B)	10.7 (11.1)
SBTLR							0.24 (0.11)	B (B)	10.2 (10.3)				0.24 (0.11)	B (B)	10.2 (10.3)
Local Street A / Block 3 Driveway															
WBLR	Does not exist.						0.17 (0.11)	A (B)	9.9 (10.3)	Does not exist.			0.17 (0.11)	A (B)	9.9 (10.3)
NBTR							0.04 (0.14)	A (A)	0.0 (0.0)				0.04 (0.14)	A (A)	0.0 (0.0)
SBTL							0.00 (0.01)	A (A)	0.5 (2.9)				0.00 (0.01)	A (A)	0.5 (2.9)
Local Street B / Block 4 Driveway															
EBLR	Does not exist.						0.18 (0.10)	B (A)	11.3 (9.8)	Does not exist.			0.18 (0.10)	B (A)	11.3 (9.8)
NBTL							0.02 (0.09)	A (A)	3.7 (4.1)				0.02 (0.09)	A (A)	3.7 (4.1)
SBTR							0.19	A	0.0				0.19	A	0.0

	Existing			2046 Horizon Year											
				Future Background			Future Total			Future Background [4] With Corridor Growth			Future Total [4] With Corridor Growth		
	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c	LOS	Delay (s)
							(0.07)	(A)	(0.0)				(0.07)	(A)	(0.0)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All delays are in seconds (s).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Traffic analysis for conditions with adopted corridor growth, as per the Town and MTO request, are also provided for reference purposes, but as previously discussed in **Section 11.3.2**, this corridor growth is not expected to be realized.

13.0 QUEUING ASSESSMENT

A queuing assessment for each of the study area intersections, for each traffic analysis scenario, is provided in the following sections.

13.1 Phase 1 (2031) Queuing

13.1.1 Signalized Intersection Queuing (2031)

13.1.1.1 Trafalgar Road / Iroquois Shore Road / Leighland Avenue

Queuing results at the Trafalgar Road / Iroquois Shore Road / Leighland Avenue intersection are summarized in **Table 59**.

Under existing conditions, the westbound right turn and northbound right-turn queues exceed existing storage lengths by up to 5 and 4 car lengths, respectively (in Synchro, every 7.6m represents one car-length including headways). These queue spillbacks are currently stored within adjacent through lanes.

Under future conditions, traffic signal timings were optimized to better serve travel demand at the intersection.

Under future background conditions, the same two movements continue to exceed existing storage lengths and exceed storage by up to 5 car-lengths. Site-related impact on these movements is negligible. With the Site development, the same two movements continue to exceed storage lengths by up to 5 car lengths. Queue spillbacks continue to be accommodated within adjacent through lanes as under existing conditions.

As under existing conditions, any queue spillbacks are currently being accommodated within adjacent through lanes. This behaviour is expected to continue under future conditions. To align with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, road improvements are not being recommended at this intersection, in order to accommodate Phase 1. This recommendation will however be revisited with the subsequent applications for each phase of the development.

Table 59 Trafalgar Road / Iroquois Shore Road / Leighland Avenue

	Storage (metres)	Existing		2031 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBL	45	5.8 (18.1)	12.9 (31)	6.7 (19.6)	14.4 (33.5)	6.7 (19.6)	14.4 (33.5)	6.6 (19.6)	14.4 (33.5)	6.6 (19.6)	14.4 (33.5)
EBT	430	27.3 (33.7)	49 (63.9)	28.5 (34.1)	48 (60.7)	28.5 (34.1)	48 (60.7)	32.7 (40.3)	53.8 (75.2)	32.7 (40.3)	53.8 (75.2)
EBR	430	68.3 (29.3)	146.8 (86.8)	57.2 (44.2)	96 (74.6)	57.2 (44.2)	96 (74.6)	57.2 (44.2)	96 (74.6)	57.2 (44.2)	96 (74.6)
WBL	165	98.8 (112.4)	116.5 (135)	104.5 (117.8)	145.7 (158.5)	104.5 (117.8)	145.7 (158.5)	104.5 (117.8)	145.7 (158.5)	104.5 (117.8)	145.7 (158.5)
WBT	260	11.2 (34.5)	22.3 (56.2)	12.6 (36)	23.9 (56.6)	12.6 (36)	23.9 (56.6)	14.8 (42.4)	27.6 (65.1)	14.8 (42.4)	27.6 (65.1)
WBR	20	0 (22.2)	14.8 (53.6)	0 (23.6)	15.4 (54.4)	0 (23.6)	15.4 (54.4)	0 (31.2)	15.4 (62.7)	0 (31.2)	15.4 (62.7)
NBL	130	27.5 (58.8)	61.7 (89.3)	27.6 (58.1)	71.9 (78.8)	27.8 (62.1)	70.5 (78.7)	28.1 (64.1)	71.8 (61.5)	28.3 (64)	71.6 (60.7)
NBT	250	82 (143.2)	94.5 (153)	88.3 (111.5)	97.1 (168.9)	92.4 (116.6)	104 (175.8)	98.7 (175)	109.1 (190.3)	104.7 (182.3)	115.3 (190.1)
NBR	250	57.9 (211.6)	206.5 (274.5)	107.8 (88.7)	223.2 (275.7)	59.6 (71.2)	226.9 (267)	53.3 (56.5)	224.2 (103.4)	49.3 (58.8)	226.7 (90.7)
SBL	85	30.2 (21.2)	45.9 (44.9)	25 (20.4)	39.7 (42.4)	25 (20.4)	45.2 (42.4)	25.5 (20.4)	54.3 (42.4)	27.1 (20.4)	65.2 (42.4)
SBT	330	210.6	248.9	191	212.8	193.4	215.4	247.5	289.8	250.4	293

	Storage (metres)	Existing		2031 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
		(106.8)	(124)	(122.8)	(141)	(129.4)	(148)	(147.1)	(167.2)	(154.3)	(174.9)
SBR	70	0 (0)	0 (3.1)	0 (0)	0 (3)	0 (0)	0 (3)	0 (0)	0 (3)	0 (0)	0 (3)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.1.1.2 Trafalgar Road / North Service Road East / QEW-Hwy 403 Westbound Off-Ramp

Queuing results at the Trafalgar Road / North Service Road East / QEW-Hwy 403 Westbound Off-Ramp intersection are summarized in **Table 60**.

Under existing conditions, the northbound and southbound through queues exceed existing storage lengths by up to 7 and 16 car lengths, respectively. These queue spillbacks are currently stored within adjacent through lanes.

Under future conditions, traffic signal timings were optimized to better serve travel demand at the intersection.

Under future background conditions, the southbound through queues continue to exceed storage lengths by up to 19 car lengths. Additionally, the westbound right-turn queue exceeds storage by up to 2 car lengths. Site-related impact once the Site is built out is negligible, especially since there is the option to use the future full Royal Windsor interchange. Queue spillbacks continue to be accommodated within adjacent through lanes as under existing conditions.

As under existing conditions, any queue spillbacks are currently being accommodated within adjacent through lanes. This behaviour is expected to continue under future conditions. To align with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, road improvements are not being recommended at this intersection, in order to accommodate Phase 1. This recommendation will however be revisited with the subsequent applications for each phase of the development.

Table 60 Trafalgar Road / North Service Road / QEW-Hwy 403 Westbound Off-Ramp

	Storage (metres)	Existing		2031 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBL	70	1.2 (5.3)	4.4 (10.9)	1.2 (5.2)	4.4 (12.3)	1.2 (5.2)	4.4 (12.3)	1.2 (5.2)	4.4 (12.3)	1.2 (5.2)	4.4 (12.3)
EBR	500	56.4 (60)	73.5 (77.9)	56.5 (59.8)	73.3 (89.6)	56.6 (59.8)	72.7 (89.6)	55.9 (59.8)	72.7 (89.6)	55.6 (59.8)	72.7 (89.6)
WBL	300	50.7 (59.8)	75.1 (79.6)	56.7 (82.2)	81.7 (122.7)	59.1 (96.3)	84 (154)	65.4 (94.2)	92.6 (149.4)	67.7 (109)	95.8 (177.4)
WBT	300	50.7 (58.9)	75.1 (78.3)	56.7 (84)	81.7 (128.1)	59.4 (98.1)	84.3 (156.7)	65.4 (96.2)	92.6 (153.5)	67.7 (111.1)	95.8 (180.9)
WBR	120	19.1 (73.4)	43.9 (101.7)	30.1 (75.2)	54.6 (129.1)	31 (76.1)	55.1 (130.5)	42.6 (97)	70.1 (168.2)	42.6 (97.9)	70.4 (169.6)
NBT	285	21.4 (128.9)	95.5 (336.4)	73.8 (297.9)	94.7 (204.8)	72.8 (276.4)	97.4 (231)	87.4 (389.7)	116.4 (414.2)	87.7 (397)	115.8 (421.1)
SBTR	250	322.3 (232.2)	367.3 (252.7)	244.1 (206.8)	394.2 (227.2)	246.4 (213.3)	400.9 (233.7)	313.6 (251.6)	506.8 (337.2)	421.2 (255)	507.1 (348.8)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.1.1.3 Trafalgar Road / QEW-Hwy 403 Eastbound Off-Ramp

Queuing results at the Trafalgar Road / QEW-Hwy 403 Eastbound Off-Ramp intersection are summarized in **Table 61**.

Under existing conditions, the eastbound right-turn queues exceed existing storage lengths by up to 2 car lengths. These queue spillbacks are currently stored within adjacent through lanes.

Under future conditions, traffic signal timings were optimized to better serve travel demand at the intersection.

Under future background conditions, with the traffic signal timing optimization, queues can be contained within provided storage lengths. With the Site development, queues continue to be contained within provided storage lengths.

Table 61 Trafalgar Road / QEW-Hwy 403 Eastbound Off-Ramp

	Storage (metres)	Existing		2031 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBL	180 to 235 (dual)	123.5 (146.5)	150.1 (175.7)	105.9 (143.5)	122.8 (161.1)	105.4 (143.5)	122.8 (161.1)	125 (168.5)	150.1 (200.6)	125 (168.5)	150.1 (200.6)
EBR	240	170.4 (89.3)	252.3 (127.2)	165.6 (124.1)	212.1 (158.2)	166.8 (139.5)	215.2 (176.5)	198.9 (138.2)	282 (186.8)	201.2 (153.7)	285.1 (207)
NBT	305	37.2 (100.5)	41.7 (116.6)	71.2 (171.1)	78.9 (120.8)	88.9 (118.7)	96.8 (146)	74.5 (229.7)	83.4 (179.1)	101.2 (201.2)	101.9 (222.5)
SBT	305	143.9 (61.8)	86.4 (83.6)	180.1 (116)	226.5 (159.3)	190.2 (129.1)	245.5 (191.9)	309.7 (185.3)	296.1 (216)	316.1 (219.8)	297.9 (249)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.1.1.4 Trafalgar Road / Cross Avenue / South Service Road East

Queuing results at the Trafalgar Road / Cross Avenue / South Service Road East intersection are summarized in **Table 62**.

Under existing conditions, the eastbound left and southbound through movements exceed existing storage lengths by up to 2 and 18 car lengths, respectively. These queue spillbacks are currently stored within adjacent through lanes.

Under future conditions, traffic signal timings were optimized to better serve travel demand at the intersection.

Under future background conditions, the same two movements continue to exceed storage lengths by up to 9 and 22 car lengths, respectively. Site-related impact once the Site is built out is negligible. Queue spillbacks continue to be accommodated within adjacent through lanes as under existing conditions.

As under existing conditions, any queue spillbacks are currently being accommodated within adjacent through lanes. This behaviour is expected to continue under future conditions. To align with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, road improvements are not being recommended at this intersection, in order to accommodate Phase 1. This recommendation will however be revisited with the subsequent applications for each phase of the development.

Table 62 Trafalgar Road / Cross Avenue / South Service Road East

	Storage (metres)	Existing		2031 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBL	130	60.2 (117)	75.4 (143.5)	120.3 (146.4)	160.3 (192.6)	120.3 (146.4)	160.3 (192.6)	120.3 (146.4)	160.3 (192.6)	120.3 (146.4)	160.3 (192.6)
EBT	180	17.2 (20.1)	35.3 (39.8)	40.2 (29.2)	68 (50.4)	43 (39.7)	71.4 (62.6)	43 (33.4)	71.4 (55.3)	45.7 (42.8)	74.7 (67)
WBL	50	12.1 (10.8)	20.8 (20.6)	12.2 (11.2)	23.1 (20.1)	19.2 (12.8)	32.9 (22.4)	12.2 (11)	23.1 (20.1)	19.2 (12.6)	32.9 (22.4)
WBT	385	16 (20.3)	29.9 (37.5)	17.4 (28.9)	33.3 (47.8)	28.1 (31.6)	51.7 (51.9)	20.3 (31.6)	37.7 (51.9)	31.2 (34.7)	59.5 (56)
WBR	385	0 (23.7)	0 (72.4)	2 (36.5)	18.6 (61.4)	69.9 (56.2)	103.9 (91.9)	2 (36.1)	18.6 (61.4)	69.9 (56.2)	103.9 (91.9)
NBL	115	14.2 (13)	29.2 (26.2)	23.5 (32.8)	33.5 (44.3)	22.8 (31.5)	32.5 (42.8)	23.4 (32.9)	32.8 (43.2)	22.7 (31.7)	32.2 (40.8)
NBT	240	52.8 (96.6)	83.5 (82)	90.9 (85.3)	106.2 (106.3)	92.8 (89.8)	108.4 (109.1)	104.8 (101.2)	126.8 (134.8)	106.5 (105.6)	138.3 (140.6)
SBL	55	17.1 (14.2)	34.5 (25.6)	38.8 (29.5)	49.5 (49.4)	51.2 (87)	62.3 (148.1)	44.2 (35.6)	43 (43.3)	55.4 (88.9)	53 (112.3)
SBT	305	107.6 (101.5)	185.4 (145.5)	150.9 (139.4)	175.3 (220.5)	152.7 (167.3)	175.2 (221.3)	196.1 (230.8)	176.8 (265.8)	195.7 (234.8)	175 (264.6)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.

4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.1.1.5 Trafalgar Road / Cornwall Road

Queuing results at the Trafalgar Road / Cornwall Road intersection are summarized in **Table 63**.

Under existing conditions, the eastbound left, westbound right and northbound through queues exceed existing storage lengths by up to 11, 3 and 8 car lengths, respectively. These queue spillbacks are currently stored within adjacent through lanes.

Under future conditions, signal timings were optimized to better serve travel demand at the intersection.

Under future background conditions, the eastbound left, westbound right and northbound through queues exceed existing storage lengths by up to 12, 14 and 8 car lengths, respectively. The westbound through exceeds storage by up to 1 car length. With the Site development, Site-related impact on these critical movements are negligible. Queue spillbacks continue to be accommodated within adjacent through lanes as under existing conditions.

As under existing conditions, any queue spillbacks are currently being accommodated within adjacent through lanes. This behaviour is expected to continue under future conditions. To align with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, road improvements are not being recommended at this intersection, in order to accommodate Phase 1. This recommendation will however be revisited with the subsequent applications for each phase of the development.

Table 63 Trafalgar Road / Cornwall Road

	Storage (metres)	Existing		2031 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBL	85 to 120 (dual)	39.6 (49.6)	69.2 (78)	46.5 (56)	80.3 (87.2)	47.4 (56.4)	80.3 (87.2)	48.1 (56.5)	80.2 (87.1)	48.1 (56.5)	80.2 (87.1)
EBT	120	56.9 (57.4)	77.2 (68.7)	66.3 (53)	90.6 (74.9)	67.7 (53)	90.6 (75.6)	80 (63.3)	103.8 (82.3)	80 (62.1)	103.8 (82.3)
WBL	85	4.7 (9.4)	9.9 (15.5)	5.5 (8.9)	13.1 (17.6)	5.6 (9)	13.1 (17.6)	5.8 (9)	13.1 (17.6)	5.8 (9)	13.1 (17.6)
WBT	85	45.6 (67.6)	52.8 (74.8)	49.1 (69)	65.6 (87.8)	49.1 (69)	65.6 (87.8)	57.8 (81)	75.8 (101.5)	57.8 (81)	75.8 (101.5)
WBR	100	37.6 (57.2)	85.5 (102.6)	62.4 (102.4)	147.7 (185.9)	63.3 (104.3)	148.6 (188.1)	71.2 (107.3)	157.2 (191.6)	72 (108.5)	158.2 (192.9)
NBL	45	6.7 (8.1)	15.6 (19.1)	6.9 (9.6)	12.6 (18.1)	6.6 (9.5)	12.6 (18.1)	6.3 (9.4)	12.6 (18.1)	6.3 (9.4)	12.6 (18.1)
NBT	65 to 245	57.6 (66)	83.1 (101.1)	61.7 (79.5)	76.7 (99.3)	61.2 (83.1)	77.7 (104.2)	68.4 (91.3)	87.6 (114)	69.3 (95.8)	88.6 (119.2)
SBL	85 to 235	100.8 (70.4)	122.1 (85.3)	111.2 (81.6)	133.7 (87.2)	111.2 (81.5)	125.2 (86.3)	111.5 (81.5)	119.1 (78.2)	111.6 (81.7)	114 (78.1)
SBT	235	124.6 (137.8)	221.8 (204)	99.5 (93.2)	114 (98.6)	99.8 (95.2)	118 (101)	107.3 (104.1)	115 (101.3)	115 (107.9)	117.7 (102.9)
SBR	235	34.7 (43.5)	90.6 (67.9)	22.1 (25.2)	31.1 (28.2)	19.2 (25.2)	29 (27.9)	27 (27)	30.2 (26.5)	26.8 (27.5)	28.2 (26.2)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.

2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.1.1.6 Chartwell Road / Cornwall Road

Queuing results at the Chartwell Road / Cornwall Road intersection are summarized in **Table 64**.

Under existing conditions, the northbound left turn queues exceed existing storage lengths by up to 4 car lengths. These queue spillbacks are currently stored within adjacent through lanes.

Under future background conditions, the northbound left-turn queues continue to exceed existing storage lengths by up to 4 car lengths. Site-related impact once the Site is built out is negligible. Queue spillbacks continue to be accommodated within adjacent through lanes as under existing conditions.

As under existing conditions, any queue spillbacks are currently being accommodated within adjacent through lanes. This behaviour is expected to continue under future conditions. To align with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, road improvements are not being recommended at this intersection, in order to accommodate Phase 1. This recommendation will however be revisited with the subsequent applications for each phase of the development.

Table 64 Chartwell Road / Cornwall Road

	Storage (metres)	Existing		2031 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBL	40	1.3 (1.8)	6.3 (7.1)	1.3 (1.9)	6.5 (7.9)	1.4 (2)	6.5 (8)	1.4 (2.1)	6.4 (8.4)	1.5 (2.1)	6.4 (8.6)
EBT	195	24.3 (13.7)	54 (27.8)	28.6 (15.7)	63.2 (32.5)	29 (15.8)	64.2 (32.6)	36.4 (19.6)	74.2 (39.8)	37 (19.6)	74.2 (40.1)
WBL	50	2.2 (2.4)	9.5 (8.7)	2.3 (2.6)	10.1 (9.5)	2.3 (2.6)	10.3 (9.6)	2.4 (2.7)	10.4 (10.2)	2.5 (2.7)	10.4 (10.2)
WBT	>500	17.4 (17.8)	39 (35)	18 (20.4)	40.3 (41.1)	18.3 (20.8)	41.1 (41.9)	23 (25.6)	47.5 (50.9)	23.4 (26)	47.5 (52)
NBL	25	20 (9.7)	50.1 (25.4)	21.9 (11.9)	54.6 (31.9)	22.1 (11.9)	54.8 (32.1)	25 (12.8)	61.7 (35.8)	25.3 (12.9)	62.2 (36)
NBT	295	6 (6.9)	19.7 (20.1)	6.5 (6.9)	21.4 (21.3)	6.6 (8)	21.3 (23.5)	9 (9)	27 (27.2)	9.1 (10.1)	27 (29.5)
SBL	40	2.5 (4.6)	9.6 (14.2)	2.8 (4.6)	10.4 (15.1)	4.5 (5)	14.7 (15.9)	3.2 (5)	11.6 (16.8)	5.1 (5.4)	16.6 (17.9)
SBT	60	5.5 (3.5)	16.6 (11.2)	6 (3.5)	18 (11.8)	7.7 (3.9)	21.6 (12.9)	7.8 (4.5)	22.2 (15.2)	9.8 (4.9)	26.5 (16.3)
SBR	35	0 (0)	4.2 (6.6)	0 (0)	4.6 (6.8)	0 (0)	4.5 (6.8)	0 (0)	4.9 (7.3)	0 (0)	4.9 (7.4)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.

4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.1.1.7 QEW-Hwy 403 Ramps / Royal Windsor Drive / South Service Road East

Queuing results at the QEW Hwy 403 Ramps / Royal Windsor Drive / South Service Road East intersection are summarized in **Table 65**.

Under existing conditions, the northbound left turn queues exceed existing storage lengths by up to 1 car length. These queue spillbacks are currently stored within adjacent through lanes.

Under future background conditions, the northbound left turn queues continue to exceed existing storage lengths by up to 1 car length. Site-related impact once the Site is built out is minimal. Queue spillbacks continue to be accommodated within adjacent through lanes as under existing conditions. The intersection offers an alternative access point to the QEW-Hwy 403 at the Trafalgar ramps.

As under existing conditions, any queue spillbacks are currently being accommodated within adjacent through lanes. This behaviour is expected to continue under future conditions. To align with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, road improvements are not being recommended at this intersection, in order to accommodate Phase 1. This recommendation will however be revisited with the subsequent applications for each phase of the development.

Table 65 QEW-Hwy 403 Ramps / Royal Windsor Drive / South Service Road East

	Storage (metres)	Existing		2031 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBL	115 to 180	1.1 (0.1)	2.5 (0.5)	1.1 (0.1)	2.5 (0.5)	1.1 (0.1)	2.5 (0.5)	1.3 (0.1)	3 (0.5)	1.3 (0.1)	3 (0.5)
EBT	>500	36.1 (38.6)	53.4 (57)	36.1 (38.6)	53.4 (60.2)	36.1 (38.6)	53.4 (62)	46.5 (49.7)	71.5 (79.2)	46.5 (50.9)	71.5 (81.2)
WBL	155	6.3 (5.1)	11.6 (10.9)	6.3 (6.3)	11.6 (13.1)	6.3 (6.8)	11.6 (13.9)	7.5 (7.4)	14.1 (15.3)	7.5 (7.9)	14.1 (16.3)
WBT	>500	28.2 (20.4)	39 (50.6)	28.2 (20.4)	39 (50.6)	28.2 (20.4)	39 (50.6)	33.8 (24.9)	47.3 (62.2)	33.8 (24.9)	47.3 (62.2)
NBL	20	1.1 (10.5)	4.8 (22.4)	1.1 (10.5)	4.8 (22.4)	1.1 (10.5)	4.8 (22.4)	1.1 (11.9)	4.7 (24.3)	1.1 (11.9)	4.7 (24.3)
NBT	>500	2.3 (3.3)	7.9 (10)	4.4 (3.3)	12.2 (10)	4.4 (3.3)	12.2 (10)	4.4 (3.3)	12 (9.9)	4.4 (3.3)	12 (9.9)
NBR	70	0 (0)	1 (20.9)	0 (0)	8.8 (21.7)	0 (0)	14.9 (21.9)	0 (0)	11.7 (22.8)	0 (0)	17 (23.3)
SBT	>500	11.3 (8.1)	23.8 (18)	11.3 (9.3)	23.8 (19.9)	11.3 (9.3)	23.8 (19.9)	13.7 (10.4)	27 (21.7)	13.7 (10.4)	27 (21.7)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.1.2 Unsignalized Intersection Queuing (2031)

Queuing results at the unsignalized intersections, including Site driveways, are summarized in **Table 66**.

Under all future conditions, queues are expected to be contained within provided storage lengths.

Table 66 Unsignalized Intersections

	Storage (metres)	Existing	2031 Horizon Year			
			Future Background	Future Total	Future Background With Corridor Growth	Future Total With Corridor Growth
		95th	95th	95th	95th	95th
Trafalgar Road / Argus Road						
EBR	110	0.7 (1.7)	1.7 (2.3)	1.8 (2.5)	2 (2.8)	2 (3.1)
South Service Road East / Davis Road						
WBTLR	230	0.5 (4.9)	5.1 (9.2)	15.2 (18.7)	5.6 (10.3)	17.1 (21.5)
SBTL	>500	0.2 (0.4)	0.2 (0.5)	0.2 (0.6)	0.2 (0.5)	0.2 (0.6)
Chartwell Road / South Service Road East						
WBTL	>500	2.1 (1.5)	2.1 (1.6)	2.3 (1.6)	2.5 (1.8)	2.7 (1.8)
NBLR	330	5.9 (19.1)	6.3 (20.6)	7.4 (26.3)	8.7 (30.5)	10.2 (39.4)
Local Street A / South Service Road East						
WBTL	>500	Does not exist.		0.1 (0.8)	Does not exist.	0.1 (0.8)
NBLR	100			24.3 (6.8)		27.8 (7.6)
Local Street B / South Service Road East						
WBTL	250	Does not exist.		0.5 (2.2)	Does not exist.	0.5 (2.2)
NBLR	95			1 (1.8)		1 (1.8)
Local Street A / Davis Road						
EBTL	250	Does not exist.		0.5 (2.2)	Does not exist.	0.5 (2.2)

	Storage (metres)	Existing	2031 Horizon Year			
			Future Background	Future Total	Future Background With Corridor Growth	Future Total With Corridor Growth
		95th	95th	95th	95th	95th
SBTLR	95			1 (1.8)		1 (1.8)
Local Street A / Block 1 (Phase 1) Driveway						
WBLR	20	Does not exist.		7.1 (2.2)	Does not exist.	7.1 (2.2)
SBTL	100			0.1 (0.4)		0.1 (0.4)
Block 1 (Phase 1) Driveway / Davis Road						
EBTL	80	Does not exist.		0.5 (2.4)	Does not exist.	0.5 (2.4)
SBLR	30			5.3 (1.9)		5.3 (1.9)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.2 Five-Years Beyond Phase 1 (2036) Queuing

13.2.1 Signalized Intersection Queuing (2036)

13.2.1.1 Trafalgar Road / Iroquois Shore Road / Leighland Avenue

Queuing results at the Trafalgar Road / Iroquois Shore Road / Leighland Avenue intersection are summarized in **Table 67**.

Under existing conditions, the westbound right turn and northbound right-turn queues exceed existing storage lengths by up to 5 and 4 car lengths, respectively (in Synchro, every 7.6m represents one car length including headways). These queue spillbacks are currently stored within adjacent through lanes.

Under future conditions, traffic signal timings were optimized to better serve travel demand at the intersection.

Under future background conditions, the same two movements continue to exceed existing storage lengths and exceed storage by up to 5 car lengths. Site-related impact on these movements is negligible. With the Site development, the same two movements continue to exceed storage lengths by up to 5 car lengths. Queue spillbacks continue to be accommodated within adjacent through lanes as under existing conditions.

As under existing conditions, any queue spillbacks are currently being accommodated within adjacent through lanes. This behaviour is expected to continue under future conditions. To align with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, road improvements are not being recommended at this intersection, in order to accommodate Phase 1. This recommendation will however be revisited with the subsequent applications for each phase of the development.

Table 67 Trafalgar Road / Iroquois Shore Road / Leighland Avenue

	Storage (metres)	Existing		2036 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBL	45	5.8 (18.1)	12.9 (31)	6.7 (19.6)	14.4 (33.5)	6.7 (19.6)	14.4 (33.5)	6.5 (19.6)	14.4 (33.5)	6.5 (19.6)	14.4 (33.5)
EBT	430	27.3 (33.7)	49 (63.9)	28.5 (34.1)	48 (60.7)	28.5 (34.1)	48 (60.7)	38.4 (47)	62 (90.9)	38.4 (47)	62 (90.9)
EBR	430	68.3 (29.3)	146.8 (86.8)	57.2 (44.2)	96 (74.6)	57.2 (44.2)	96 (74.6)	57.2 (44.2)	96 (74.6)	57.2 (44.2)	96 (74.6)
WBL	165	98.8 (112.4)	116.5 (135)	104.5 (117.8)	145.7 (158.5)	104.5 (117.8)	145.7 (158.5)	104.5 (117.8)	145.7 (158.5)	104.5 (117.8)	145.7 (158.5)
WBT	260	11.2 (34.5)	22.3 (56.2)	12.6 (36)	23.9 (56.6)	12.6 (36)	23.9 (56.6)	16.9 (49.3)	30.8 (73.9)	16.9 (49.3)	30.8 (73.9)
WBR	20	0 (22.2)	14.8 (53.6)	0 (23.6)	15.4 (54.4)	0 (23.6)	15.4 (54.4)	0 (37.2)	15.4 (69.2)	0 (37.2)	15.4 (69.2)
NBL	130	27.5 (58.8)	61.7 (89.3)	27.6 (58.1)	71.9 (78.8)	27.8 (62.1)	70.5 (78.7)	24.8 (64)	59.2 (45.7)	24.7 (64.3)	54.5 (44.9)
NBT	250	82 (143.2)	94.5 (153)	88.3 (111.5)	97.1 (168.9)	92.4 (116.6)	104 (175.8)	121.3 (298)	110.8 (173.8)	126.7 (304.8)	116.6 (175.6)
NBR	250	57.9 (211.6)	206.5 (274.5)	107.8 (88.7)	223.2 (275.7)	59.6 (71.2)	226.9 (267)	51.4 (75.8)	226.5 (34.9)	48.1 (78.8)	227.7 (34.2)
SBL	85	30.2 (21.2)	45.9 (44.9)	25 (20.4)	39.7 (42.4)	25 (20.4)	45.2 (42.4)	32.7 (20.2)	74.2 (42.1)	37.8 (20.2)	83.3 (42.1)
SBT	330	210.6	248.9	191	212.8	193.4	215.4	343.2	369.4	346.5	372.5

	Storage (metres)	Existing		2036 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
		(106.8)	(124)	(122.8)	(141)	(129.4)	(148)	(178.8)	(202.7)	(186.8)	(221.3)
SBR	70	0 (0)	0 (3.1)	0 (0)	0 (3)	0 (0)	0 (3)	0 (0)	0 (3)	0 (0)	0 (3)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.2.1.2 Trafalgar Road / North Service Road East / QEW-Hwy 403 Westbound Off-Ramp

Queuing results at the Trafalgar Road / North Service Road East / QEW-Hwy 403 Westbound Off-Ramp intersection are summarized in **Table 68**.

Under existing conditions, the northbound and southbound through queues exceed existing storage lengths by up to 7 and 16 car lengths, respectively. These queue spillbacks are currently stored within adjacent through lanes.

Under future conditions, signal timings were optimized to better serve travel demand at the intersection.

Under future background conditions, the southbound through queues continue to exceed storage lengths by up to 19 car lengths. Additionally, the westbound right-turn queue exceeds storage by up to 2 car lengths. Site-related impact once the Site is built out is negligible, especially since there is the option to use the future full Royal Windsor interchange. Queue spillbacks continue to be accommodated within adjacent through lanes as under existing conditions.

As under existing conditions, any queue spillbacks are currently being accommodated within adjacent through lanes. This behaviour is expected to continue under future conditions. To align with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, road improvements are not being recommended at this intersection, in order to accommodate Phase 1. This recommendation will however be revisited with the subsequent applications for each phase of the development.

Table 68 Trafalgar Road / North Service Road / QEW-Hwy 403 Westbound Off-Ramp

	Storage (metres)	Existing		2036 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBL	70	1.2 (5.3)	4.4 (10.9)	1.2 (5.2)	4.4 (12.3)	1.2 (5.2)	4.4 (12.3)	1.2 (5.2)	4.4 (12.3)	1.2 (5.2)	4.4 (12.3)
EBR	500	56.4 (60)	73.5 (77.9)	56.5 (59.8)	73.3 (89.6)	56.6 (59.8)	72.7 (89.6)	54.4 (59.8)	72.7 (89.6)	54 (59.8)	72.7 (89.6)
WBL	300	50.7 (59.8)	75.1 (79.6)	56.7 (82.2)	81.7 (122.7)	59.1 (96.3)	84 (154)	75.7 (110.1)	108.4 (179.4)	78.1 (127)	111.8 (207.4)
WBT	300	50.7 (58.9)	75.1 (78.3)	56.7 (84)	81.7 (128.1)	59.4 (98.1)	84.3 (156.7)	76.1 (112)	108.4 (182.8)	78.1 (130.4)	111.8 (210.2)
WBR	120	19.1 (73.4)	43.9 (101.7)	30.1 (75.2)	54.6 (129.1)	31 (76.1)	55.1 (130.5)	53.9 (137)	85.5 (214.1)	53.6 (138.4)	85.5 (215.5)
NBT	285	21.4 (128.9)	95.5 (336.4)	73.8 (297.9)	94.7 (204.8)	72.8 (276.4)	97.4 (231)	113 (504.5)	173.4 (480.9)	113.1 (511.5)	177.5 (478.6)
SBTR	250	322.3 (232.2)	367.3 (252.7)	244.1 (206.8)	394.2 (227.2)	246.4 (213.3)	400.9 (233.7)	558.7 (410.1)	554.7 (433.6)	564.7 (421.9)	554.2 (445.2)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.2.1.3 Trafalgar Road / QEW-Hwy 403 Eastbound Off-Ramp

Queuing results at the Trafalgar Road / QEW-Hwy 403 Eastbound Off-Ramp intersection are summarized in **Table 69**.

Under existing conditions, the eastbound right-turn queues exceed existing storage lengths by up to 2 car lengths. These queue spillbacks are currently stored within adjacent through lanes.

Under future conditions, traffic signal timings were optimized to better serve travel demand at the intersection.

Under future background conditions, with the traffic signal timing optimization, queues can be contained within provided storage lengths. With the Site development, queues continue to be contained within provided storage lengths.

Table 69 Trafalgar Road / QEW-Hwy 403 Eastbound Off-Ramp

	Storage (metres)	Existing		2036 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBL	180 to 235 (dual)	123.5 (146.5)	150.1 (175.7)	105.9 (143.5)	122.8 (161.1)	105.4 (143.5)	122.8 (161.1)	156.9 (227.9)	186.8 (271.8)	156.9 (227.9)	186.8 (271.8)
EBR	240	170.4 (89.3)	252.3 (127.2)	165.6 (124.1)	212.1 (158.2)	166.8 (139.5)	215.2 (176.5)	271.2 (166.5)	352.2 (236.6)	274.2 (184.3)	355.2 (263.4)
NBT	305	37.2 (100.5)	41.7 (116.6)	71.2 (171.1)	78.9 (120.8)	88.9 (118.7)	96.8 (146)	79.1 (308.1)	86.1 (329.7)	114.2 (319.1)	105.3 (309.8)
SBT	305	143.9 (61.8)	86.4 (83.6)	180.1 (116)	226.5 (159.3)	190.2 (129.1)	245.5 (191.9)	397.3 (300.8)	294 (204.8)	404.2 (331.6)	295.3 (231.7)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.2.1.4 Trafalgar Road / Cross Avenue / South Service Road East

Queuing results at the Trafalgar Road / Cross Avenue / South Service Road East intersection are summarized in **Table 70**.

Under existing conditions, the eastbound left and southbound through movements exceed existing storage lengths by up to 2 and 18 car lengths, respectively. These queue spillbacks are currently stored within adjacent through lanes.

Under future conditions, signal timings were optimized to better serve travel demand at the intersection.

Under future background conditions, the same two movements continue to exceed storage lengths by up to 9 and 22 car lengths, respectively. Site-related impact once the Site is built out is negligible. Queue spillbacks continue to be accommodated within adjacent through lanes as under existing conditions.

As under existing conditions, any queue spillbacks are currently being accommodated within adjacent through lanes. This behaviour is expected to continue under future conditions. To align with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, road improvements are not being recommended at this intersection, in order to accommodate Phase 1. This recommendation will however be revisited with the subsequent applications for each phase of the development.

Table 70 Trafalgar Road / Cross Avenue / South Service Road East

	Storage	Existing		2036 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBL	130	60.2 (117)	75.4 (143.5)	120.3 (146.4)	160.3 (192.6)	120.3 (146.4)	160.3 (192.6)	120.3 (146.4)	160.3 (192.6)	120.3 (146.4)	160.3 (192.6)
EBT	180	17.2 (20.1)	35.3 (39.8)	40.2 (29.2)	68 (50.4)	43 (39.7)	71.4 (62.6)	48 (37.2)	77.2 (60.5)	50.2 (46.4)	80.1 (72.1)
WBL	50	12.1 (10.8)	20.8 (20.6)	12.2 (11.2)	23.1 (20.1)	19.2 (12.8)	32.9 (22.4)	12.2 (10.9)	23.1 (20.1)	19.2 (12.4)	32.9 (22.4)
WBT	385	16 (20.3)	29.9 (37.5)	17.4 (28.9)	33.3 (47.8)	28.1 (31.6)	51.7 (51.9)	23.3 (36.1)	41.8 (58.3)	34.6 (38.9)	67.4 (61.9)
WBR	385	0 (23.7)	0 (72.4)	2 (36.5)	18.6 (61.4)	69.9 (56.2)	103.9 (91.9)	2 (35.7)	18.6 (61.4)	69.9 (56.2)	103.9 (91.9)
NBL	115	14.2 (13)	29.2 (26.2)	23.5 (32.8)	33.5 (44.3)	22.8 (31.5)	32.5 (42.8)	22.1 (33.3)	33 (39.8)	22 (32.1)	32.1 (37.6)
NBT	240	52.8 (96.6)	83.5 (82)	90.9 (85.3)	106.2 (106.3)	92.8 (89.8)	108.4 (109.1)	120.4 (120)	202.9 (194.2)	122.3 (174.7)	207.2 (200.9)
SBL	55	17.1 (14.2)	34.5 (25.6)	38.8 (29.5)	49.5 (49.4)	51.2 (87)	62.3 (148.1)	45 (35.5)	36 (36.1)	55.2 (88.7)	43.8 (83.3)
SBT	305	107.6 (101.5)	185.4 (145.5)	150.9 (139.4)	175.3 (220.5)	152.7 (167.3)	175.2 (221.3)	221.4 (288.7)	139.5 (283.4)	221.5 (288.5)	138 (265.6)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.

4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.2.1.5 Trafalgar Road / Cornwall Road

Queuing results at the Trafalgar Road / Cornwall Road intersection are summarized in **Table 71**.

Under existing conditions, the eastbound left, westbound right and northbound through queues exceed existing storage lengths by up to 11, 3 and 8 car lengths, respectively. These queue spillbacks are currently stored within adjacent through lanes.

Under future conditions, traffic signal timings were optimized to better serve travel demand at the intersection.

Under future background conditions, the eastbound left, westbound right and northbound through queues exceed existing storage lengths by up to 12, 14 and 8 car lengths, respectively. The westbound through exceeds storage by up to 1 car-length. With the Site development, Site-related impact on these critical movements are negligible. Queue spillbacks continue to be accommodated within adjacent through lanes as under existing conditions.

As under existing conditions, any queue spillbacks are currently being accommodated within adjacent through lanes. This behaviour is expected to continue under future conditions. To align with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, road improvements are not being recommended at this intersection, in order to accommodate Phase 1. This recommendation will however be revisited with the subsequent applications for each phase of the development.

Table 71 Trafalgar Road / Cornwall Road

	Storage (metres)	Existing		2036 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBL	85 to 120 (dual)	39.6 (49.6)	69.2 (78)	46.5 (56)	80.3 (87.2)	47.4 (56.4)	80.3 (87.2)	48 (56.5)	80.3 (87)	48 (56.5)	80.3 (87)
EBT	120	56.9 (57.4)	77.2 (68.7)	66.3 (53)	90.6 (74.9)	67.7 (53)	90.6 (75.6)	93.3 (75)	119.2 (93.8)	93.3 (75)	119.2 (93.8)
WBL	85	4.7 (9.4)	9.9 (15.5)	5.5 (8.9)	13.1 (17.6)	5.6 (9)	13.1 (17.6)	5.8 (9)	13.1 (17.6)	5.8 (9)	13.1 (17.6)
WBT	85	45.6 (67.6)	52.8 (74.8)	49.1 (69)	65.6 (87.8)	49.1 (69)	65.6 (87.8)	67.7 (96)	87.5 (118.6)	67.7 (96)	87.5 (118.6)
WBR	100	37.6 (57.2)	85.5 (102.6)	62.4 (102.4)	147.7 (185.9)	63.3 (104.3)	148.6 (188.1)	78.5 (111.2)	165.3 (195.9)	79.4 (111.9)	166.3 (196.8)
NBL	45	6.7 (8.1)	15.6 (19.1)	6.9 (9.6)	12.6 (18.1)	6.6 (9.5)	12.6 (18.1)	6.3 (9.4)	12.6 (18.1)	6.3 (9.4)	12.6 (18.1)
NBT	65 to 245	57.6 (66)	83.1 (101.1)	61.7 (79.5)	76.7 (99.3)	61.2 (83.1)	77.7 (104.2)	79.8 (107.8)	100.8 (132.6)	80.8 (112.5)	101.9 (138)
SBL	85 to 235	100.8 (70.4)	122.1 (85.3)	111.2 (81.6)	133.7 (87.2)	111.2 (81.5)	125.2 (86.3)	111.6 (81.7)	102.4 (70.1)	111.7 (81.7)	102.7 (69.7)
SBT	235	124.6 (137.8)	221.8 (204)	99.5 (93.2)	114 (98.6)	99.8 (95.2)	118 (101)	120.1 (231)	110.3 (101.9)	133.1 (237.3)	117.6 (103.9)
SBR	235	34.7 (43.5)	90.6 (67.9)	22.1 (25.2)	31.1 (28.2)	19.2 (25.2)	29 (27.9)	29.4 (29.6)	26.2 (24.6)	29.2 (29.4)	26.2 (24.5)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.

2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.2.1.6 Chartwell Road / Cornwall Road

Queuing results at the Chartwell Road / Cornwall Road intersection are summarized in **Table 72**.

Under existing conditions, the northbound left turn queues exceed existing storage lengths by up to 4 car lengths. These queue spillbacks are currently stored within adjacent through lanes.

Under future background conditions, the northbound left turn queues continue to exceed existing storage lengths by up to 4 car lengths. Site-related impact once the Site is built out is negligible. Queue spillbacks continue to be accommodated within adjacent through lanes as under existing conditions.

As under existing conditions, any queue spillbacks are currently being accommodated within adjacent through lanes. This behaviour is expected to continue under future conditions. To align with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, road improvements are not being recommended at this intersection, in order to accommodate Phase 1. This recommendation will however be revisited with the subsequent applications for each phase of the development.

Table 72 Chartwell Road / Cornwall Road

	Storage (metres)	Existing		2036 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBL	40	1.3 (1.8)	6.3 (7.1)	1.3 (1.9)	6.5 (7.9)	1.4 (2)	6.5 (8)	1.6 (2.2)	6.4 (9.3)	1.6 (2.2)	6.4 (9.8)
EBT	195	24.3 (13.7)	54 (27.8)	28.6 (15.7)	63.2 (32.5)	29 (15.8)	64.2 (32.6)	46.6 (24.2)	86.3 (49.4)	48.2 (24.3)	86.3 (51.5)
WBL	50	2.2 (2.4)	9.5 (8.7)	2.3 (2.6)	10.1 (9.5)	2.3 (2.6)	10.3 (9.6)	2.7 (2.9)	10.6 (11)	2.8 (2.9)	10.7 (11.4)
WBT	>500	17.4 (17.8)	39 (35)	18 (20.4)	40.3 (41.1)	18.3 (20.8)	41.1 (41.9)	29.4 (32.1)	55.1 (64.1)	30.3 (32.6)	55.1 (67.7)
NBL	25	20 (9.7)	50.1 (25.4)	21.9 (11.9)	54.6 (31.9)	22.1 (11.9)	54.8 (32.1)	28.7 (14.6)	70.4 (40.6)	29.2 (14.7)	70.9 (41.6)
NBT	295	6 (6.9)	19.7 (20.1)	6.5 (6.9)	21.4 (21.3)	6.6 (8)	21.3 (23.5)	11.8 (12)	33.9 (34.5)	12 (13.3)	33.9 (37.9)
SBL	40	2.5 (4.6)	9.6 (14.2)	2.8 (4.6)	10.4 (15.1)	4.5 (5)	14.7 (15.9)	3.6 (5.7)	13.1 (18.9)	5.9 (6.1)	18.7 (20.7)
SBT	60	5.5 (3.5)	16.6 (11.2)	6 (3.5)	18 (11.8)	7.7 (3.9)	21.6 (12.9)	10.6 (5.6)	29 (18.1)	13 (6)	33.7 (19.7)
SBR	35	0 (0)	4.2 (6.6)	0 (0)	4.6 (6.8)	0 (0)	4.5 (6.8)	0 (0)	5.4 (8.1)	0 (0)	5.4 (8.2)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.

4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.2.1.7 QEW-Hwy 403 Ramps / Royal Windsor Drive / South Service Road East

Queuing results at the QEW Hwy 403 Ramps / Royal Windsor Drive / South Service Road East intersection are summarized in **Table 73**.

Under existing conditions, the northbound left-turn queues exceed existing storage lengths by up to 1 car length. These queue spillbacks are currently stored within adjacent through lanes.

Under future background conditions, the northbound left-turn queues continue to exceed existing storage lengths by up to 1 car length. Site-related impact once the Site is built out is minimal. Queue spillbacks continue to be accommodated within adjacent through lanes as under existing conditions. The intersection offers an alternative access point to the QEW-Hwy 403 at the Trafalgar ramps.

As under existing conditions, any queue spillbacks are currently being accommodated within adjacent through lanes. This behaviour is expected to continue under future conditions. To align with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, road improvements are not being recommended at this intersection, in order to accommodate Phase 1. This recommendation will however be revisited with the subsequent applications for each phase of the development.

Table 73 QEW-Hwy 403 Ramps / Royal Windsor Drive / South Service Road East

	Storage (metres)	Existing		2036 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBL	115 to 180	1.1 (0.1)	2.5 (0.5)	1.1 (0.1)	2.5 (0.5)	1.1 (0.1)	2.5 (0.5)	1.5 (0.1)	3.5 (0.6)	1.5 (0.1)	3.5 (0.6)
EBT	>500	36.1 (38.6)	53.4 (57)	36.1 (38.6)	53.4 (60.2)	36.1 (38.6)	53.4 (62)	61.4 (67.6)	93.4 (104.8)	61.4 (69.1)	93.4 (106.6)
WBL	155	6.3 (5.1)	11.6 (10.9)	6.3 (6.3)	11.6 (13.1)	6.3 (6.8)	11.6 (13.9)	8.7 (8.9)	16.3 (18.3)	8.7 (9.5)	16.3 (19.3)
WBT	>500	28.2 (20.4)	39 (50.6)	28.2 (20.4)	39 (50.6)	28.2 (20.4)	39 (50.6)	41.5 (32.2)	57.9 (78.4)	41.5 (32.2)	57.9 (78.4)
NBL	20	1.1 (10.5)	4.8 (22.4)	1.1 (10.5)	4.8 (22.4)	1.1 (10.5)	4.8 (22.4)	1.1 (14.2)	4.7 (27.5)	1.1 (14.2)	4.7 (27.5)
NBT	>500	2.3 (3.3)	7.9 (10)	4.4 (3.3)	12.2 (10)	4.4 (3.3)	12.2 (10)	5.7 (4.5)	14.1 (11.7)	5.7 (4.5)	14.1 (11.7)
NBR	70	0 (0)	1 (20.9)	0 (0)	8.8 (21.7)	0 (0)	14.9 (21.9)	0 (0)	14.7 (24)	0 (0)	17.6 (24)
SBT	>500	11.3 (8.1)	23.8 (18)	11.3 (9.3)	23.8 (19.9)	11.3 (9.3)	23.8 (19.9)	14.8 (11.6)	28.4 (23.4)	14.8 (11.6)	28.4 (23.4)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.2.2 Unsignalized Intersection Queuing (2036)

Queuing results at the unsignalized intersections, including Site driveways, are summarized in **Table 74**.

Under all future conditions, queues are expected to be contained within provided storage lengths.

Table 74 Unsignalized Intersections

	Storage (metres)	Existing	2036 Horizon Year			
			Future Background	Future Total	Future Background With Corridor Growth	Future Total With Corridor Growth
		95th	95th	95th	95th	95th
Trafalgar Road / Argus Road						
EBR	110	0.7 (1.7)	1.7 (2.3)	1.8 (2.5)	2 (3.3)	2 (3.3)
South Service Road East / Davis Road						
WBTLR	230	0.5 (4.9)	5.1 (9.2)	15.2 (18.7)	6.1 (12)	19.4 (25.7)
SBTL	>500	0.2 (0.4)	0.2 (0.5)	0.2 (0.6)	0.2 (0.5)	0.2 (0.6)
Chartwell Road / South Service Road East						
WBTL	>500	2.1 (1.5)	2.1 (1.6)	2.3 (1.6)	3.1 (2.2)	3.3 (2.2)
NBLR	330	5.9 (19.1)	6.3 (20.6)	7.4 (26.3)	12.7 (47.7)	15 (62.9)
Local Street A / South Service Road East						
WBTL	>500	Does not exist.		0.1 (0.8)	Does not exist.	0.1 (0.8)
NBLR	100			24.3 (6.8)		32.4 (8.9)
Local Street B / South Service Road East						
WBTL	250	Does not exist.		0.5 (2.2)	Does not exist.	0.5 (2.2)
NBLR	95			1 (1.8)		1 (1.8)
Local Street A / Davis Road						
EBTL	250	Does not exist.		0.5 (2.2)	Does not exist.	0.5 (2.2)

	Storage (metres)	Existing	2036 Horizon Year			
			Future Background	Future Total	Future Background With Corridor Growth	Future Total With Corridor Growth
		95th	95th	95th	95th	95th
SBTLR	95			1 (1.8)		1 (1.8)
Local Street A / Block 1 (Phase 1) Driveway						
WBLR	20	Does not exist.		7.1 (2.2)	Does not exist.	7.1 (2.2)
SBTL	100			0.1 (0.4)		0.1 (0.4)
Block 1 (Phase 1) Driveway / Davis Road						
EBTL	80	Does not exist.		0.5 (2.4)	Does not exist.	0.5 (2.4)
SBLR	30			5.3 (1.9)		5.3 (1.9)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.3 Full Buildout (2046) Queuing

13.3.1 Signalized Intersection Queuing (2046)

13.3.1.1 Trafalgar Road / Iroquois Shore Road / Leighland Avenue

Queuing results at the Trafalgar Road / Iroquois Shore Road / Leighland Avenue intersection are summarized in **Table 75**.

Under existing conditions, the westbound right-turn and northbound right-turn queues exceed existing storage lengths by up to 5 and 4 car lengths, respectively (in Synchro, every 7.6m represents one car length including headways). These queue spillbacks are currently stored within adjacent through lanes.

Under future conditions, traffic signal timings were optimized to better serve travel demand at the intersection.

Under future background conditions, the same two movements continue to exceed existing storage lengths and exceed storage by up to 6 car lengths. With the Site development, the same two movements continue to exceed storage lengths. The westbound right turn exceeds storage by up to 11 car lengths. Additionally, the southbound left turn also begins to exceed storage by up to 5 car lengths. Queue spillbacks continue to be accommodated within adjacent through lanes as under existing conditions.

Despite the critical movements identified from the queuing review, in keeping with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, further road improvements should not be recommended at this location. Significant road and transit improvements are already planned for the area that result in residual vehicle capacity even in the 2046 horizon year. No further improvements, with the exception of traffic signal timing optimization, are recommended at this time but will be reviewed with the applications for each subsequent phase of the development (as was done for Phase 1 in this report). Queuing conditions at this intersection will be monitored in as development progresses.

Table 75 Trafalgar Road / Iroquois Shore Road / Leighland Avenue

	Storage (metres)	Existing		2046 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBL	45	5.8 (18.1)	12.9 (31)	6.7 (19.6)	14.4 (33.5)	6.7 (19.6)	14.4 (33.5)	6.5 (19.6)	14.4 (33.5)	6.5 (19.6)	14.4 (33.5)
EBT	430	27.3 (33.7)	49 (63.9)	28.5 (34.1)	48 (60.7)	28.5 (34.1)	48 (60.7)	52.8 (77)	95.7 (130.8)	52.8 (77)	95.7 (130.8)
EBR	430	68.3 (29.3)	146.8 (86.8)	57.2 (44.2)	96 (74.6)	57.2 (44.2)	96 (74.6)	57.2 (44.2)	96 (74.6)	57.2 (44.2)	96 (74.6)
WBL	165	98.8 (112.4)	116.5 (135)	104.5 (117.8)	145.7 (158.5)	104.5 (117.8)	145.7 (158.5)	104.5 (117.8)	145.7 (158.5)	104.5 (117.8)	145.7 (158.5)
WBT	260	11.2 (34.5)	22.3 (56.2)	12.6 (36)	23.9 (56.6)	12.6 (36)	23.9 (56.6)	22.7 (69.5)	39.1 (99.7)	22.7 (69.5)	39.1 (99.7)
WBR	20	0 (22.2)	14.8 (53.6)	12.9 (26.9)	40.1 (60.4)	59.8 (31.4)	103.6 (68.1)	19.4 (53)	48.9 (88.9)	67.6 (63.2)	114.7 (103.4)
NBL	130	27.5 (58.8)	61.7 (89.3)	28.1 (54)	72.1 (76.7)	27.8 (54)	71.5 (76.7)	24.7 (64)	24.9 (28.5)	24.7 (64)	24.9 (28.5)
NBT	250	82 (143.2)	94.5 (153)	70.4 (139.2)	86.1 (162.6)	71.7 (137.5)	85.9 (162.6)	145.8 (491.9)	135.3 (170.6)	145.8 (491.9)	135.3 (170.6)
NBR	250	57.9 (211.6)	206.5 (274.5)	53.5 (218.8)	218.7 (272.6)	54.1 (221.4)	219.6 (277.1)	69.4 (216.1)	70.7 (16.8)	69.4 (216.1)	70.7 (16.8)
SBL	85	30.2 (21.2)	45.9 (44.9)	29.3 (38.7)	45.6 (75)	35.6 (59.2)	68.2 (118.5)	52.3 (38.3)	108.1 (74.3)	77.4 (58.8)	136.9 (117.8)
SBT	330	210.6	248.9	188	209.6	188	209.6	545.7	564.9	545.7	564.9

	Storage (metres)	Existing		2046 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
		(106.8)	(124)	(116.7)	(134.2)	(116.7)	(134.2)	(288.9)	(317.9)	(288.9)	(317.9)
SBR	70	0 (0)	0 (3.1)	0 (0)	0 (3)	0 (0)	0 (3)	0 (0)	0 (3)	0 (0)	0 (3)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.3.1.2 Trafalgar Road / North Service Road East / QEW-Hwy 403 Westbound Off-Ramp

Queuing results at the Trafalgar Road / North Service Road East / QEW-Hwy 403 Westbound Off-Ramp intersection are summarized in **Table 76**.

Under existing conditions, the northbound and southbound through queues exceed existing storage lengths by up to 7 and 16 car lengths, respectively. These queue spillbacks are currently stored within adjacent through lanes.

Under future conditions, signal timings were optimized to better serve travel demand at the intersection.

Under future background conditions, the southbound through queues continue to exceed storage lengths by up to 18 car lengths. Additionally, the westbound right turn queue exceeds storage by up to 2 car lengths. Site-related impact once the Site is built out is negligible, especially since there is the option to use the future full Royal Windsor interchange. Queue spillbacks continue to be accommodated within adjacent through lanes as under existing conditions.

As previously mentioned, in keeping with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, further road improvements should not be recommended at this location. Significant road and transit improvements are already planned for the area that result in residual vehicle capacity even in the 2046 horizon year. No further improvements, with the exception of traffic signal timing optimization, are recommended at this time but will be reviewed with the applications for each subsequent phase of the development (as was done for Phase 1 in this report). Queuing conditions at this intersection will be monitored in as development progresses.

Table 76 Trafalgar Road / North Service Road / QEW-Hwy 403 Westbound Off-Ramp

	Storage (metres)	Existing		2046 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBL	70	1.2 (5.3)	4.4 (10.9)	1.2 (5.2)	4.4 (12.3)	1.2 (5.2)	4.4 (12.3)	1.1 (5.2)	4.4 (12.3)	1.1 (5.2)	4.4 (12.3)
EBR	500	56.4 (60)	73.5 (77.9)	56.5 (60.6)	74 (89.6)	56.5 (60.6)	74 (89.6)	49.4 (59.8)	72.7 (89.6)	49.4 (59.8)	72.7 (89.6)
WBL	300	50.7 (59.8)	75.1 (79.6)	54.2 (70.3)	78.9 (104)	54.2 (70.3)	78.9 (104)	94.6 (151.2)	160.7 (230.3)	94.6 (151.2)	160.7 (230.3)
WBT	300	50.7 (58.9)	75.1 (78.3)	54.2 (72.2)	78.9 (106.5)	54.2 (72.2)	78.9 (106.5)	95 (146.2)	161.3 (224.6)	95 (146.2)	161.3 (224.6)
WBR	120	19.1 (73.4)	43.9 (101.7)	29.5 (75.4)	54.5 (128.1)	29.5 (75.4)	54.5 (128.1)	82.7 (247.4)	150.2 (330.6)	82.7 (247.4)	150.2 (330.6)
NBT	285	21.4 (128.9)	95.5 (336.4)	66.7 (125.4)	88.9 (196)	66.9 (124.8)	88.5 (196)	367.4 (778.4)	343.9 (471.7)	367.4 (778.4)	343.9 (471.7)
SBTR	250	322.3 (232.2)	367.3 (252.7)	240.4 (199.9)	386.5 (220.9)	240.4 (199.9)	386.5 (220.9)	923.2 (642.9)	671 (577.1)	923.2 (642.9)	671 (577.1)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.3.1.3 Trafalgar Road / QEW-Hwy 403 Eastbound Off-Ramp

Queuing results at the Trafalgar Road / QEW-Hwy 403 Eastbound Off-Ramp intersection are summarized in **Table 77**.

Under existing conditions, the eastbound right-turn queues exceed existing storage lengths by up to 2 car lengths. These queue spillbacks are currently stored within adjacent through lanes.

Under future conditions, signal timings were optimized to better serve travel demand at the intersection.

Under future background conditions, the eastbound right-turn queues continue to exceed storage lengths by up to 4 car lengths. Site-related impact once the Site is built out is negligible, especially since there is the option to use the future full Royal Windsor interchange. Queue spillbacks continue to be accommodated within adjacent through lanes as under existing conditions.

As previously mentioned, in keeping with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, further road improvements should not be recommended at this location. Significant road and transit improvements are already planned for the area that result in residual vehicle capacity even in the 2046 horizon year. No further improvements, with the exception of traffic signal timing optimization, are recommended at this time but will be reviewed with the applications for each subsequent phase of the development (as was done for Phase 1 in this report). Queuing conditions at this intersection will be monitored in as development progresses.

Table 77 Trafalgar Road / QEW-Hwy 403 Eastbound Off-Ramp

	Storage (metres)	Existing		2046 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBL	180 to 235 (dual)	123.5 (146.5)	150.1 (175.7)	101.1 (134.3)	122.8 (161.1)	101.1 (134.3)	122.8 (161.1)	281.3 (386.8)	325 (429.5)	281.3 (386.8)	325 (429.5)
EBR	240	170.4 (89.3)	252.3 (127.2)	184.7 (161.6)	269.9 (238.1)	184.7 (161.6)	269.9 (238.1)	494.3 (359)	579 (440.7)	494.3 (359)	579 (440.7)
NBT	305	37.2 (100.5)	41.7 (116.6)	66.4 (176.8)	74.3 (133.2)	66.4 (175.5)	74.3 (133.5)	282.3 (503.6)	66.9 (424.9)	282.3 (503.6)	66.1 (424.7)
SBT	305	143.9 (61.8)	86.4 (83.6)	191.8 (102.3)	216 (131.9)	191.8 (102.3)	216 (131.9)	608 (449.9)	277.5 (206.5)	608 (449.9)	277.5 (206.5)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.3.1.4 Trafalgar Road / Cross Avenue / South Service Road East

Queuing results at the Trafalgar Road / Cross Avenue / South Service Road East intersection are summarized in **Table 78**.

Under existing conditions, the eastbound left and westbound right-turn queues exceed existing storage lengths by up to 2 and 3 car lengths, respectively. These queue spillbacks are currently stored within adjacent through lanes.

Under future conditions, traffic signal timings were optimized to better serve travel demand at the intersection.

Under future background conditions, the same two movements continue to exceed storage lengths by up to 8 car lengths (the eastbound left turn). Site-related impact once the Site is built out is negligible, since Site drivers will not use this movement. Queue spillbacks continue to be accommodated within adjacent through lanes as under existing conditions.

As previously mentioned, in keeping with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, further road improvements should not be recommended at this location. Significant road and transit improvements are already planned for the area that result in residual vehicle capacity, even in the 2046 horizon year. No further improvements, with the exception of traffic signal timing optimization, are recommended at this time but will be reviewed with the applications for each subsequent phase of the development (as was done for Phase 1 in this report). Queuing conditions at this intersection will be monitored in as development progresses.

Table 78 Trafalgar Road / Cross Avenue / South Service Road East

	Storage (metres)	Existing		2046 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBL	130	60.2 (117)	75.4 (143.5)	101.5 (142.3)	125.6 (186.1)	101.5 (142.3)	125.6 (186.1)	101.5 (142.3)	125.6 (186.1)	101.5 (142.3)	125.6 (186.1)
EBT	180	17.2 (20.1)	35.3 (39.8)	98.8 (32.9)	122.3 (45.3)	98.8 (36.7)	122.3 (50.1)	105.2 (38.6)	129.7 (52.2)	105.2 (42.5)	129.7 (57)
EBR	50	-- (--)	-- (--)	17.5 (0)	44.9 (15.9)	19.5 (0)	47.4 (16)	19.5 (0)	47.4 (15.9)	20 (0)	48 (16)
WBL	50	12.1 (10.8)	20.8 (20.6)	12.2 (10.7)	23.1 (20.1)	23.5 (13.2)	38.6 (23.7)	12.2 (10.7)	23.1 (20.1)	23.5 (13.2)	40 (23.7)
WBT	180	16 (20.3)	29.9 (37.5)	21.3 (65)	33.5 (96.7)	31.1 (68.5)	45.6 (103.4)	28.7 (78.5)	42.6 (115.8)	38.7 (85.2)	63.5 (122.8)
WBR	50	0 (23.7)	0 (72.4)	1.8 (34)	18.2 (61.4)	1.8 (34)	18.2 (61.4)	1.8 (34)	18.2 (61.4)	1.8 (34)	18.2 (61.4)
NBL	115	14.2 (13)	29.2 (26.2)	27.3 (50.9)	39.6 (73.1)	27.3 (51)	38.9 (71.1)	24.9 (49.8)	37.7 (55.4)	25 (50)	36.3 (51.7)
NBT	240	52.8 (96.6)	83.5 (82)	95.8 (93.5)	108.1 (111.5)	96.7 (97.8)	110.9 (114.8)	302 (265.5)	322.6 (279.8)	302.6 (265.4)	322.9 (264.5)
SBL	55	17.1 (14.2)	34.5 (25.6)	73 (43.9)	82.3 (60.6)	72.6 (43.4)	81.9 (59.9)	75 (45.3)	41.9 (33.3)	75.1 (45.4)	42 (33.4)
SBT	305	107.6 (101.5)	185.4 (145.5)	153.9 (170.6)	169.3 (220.5)	153.9 (170.6)	169.3 (220.5)	442.5 (419.4)	156.5 (277)	442.5 (419.4)	156.5 (277)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.

2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.3.1.5 Trafalgar Road / Cornwall Road

Queuing results at the Trafalgar Road / Cornwall Road intersection are summarized in **Table 79**.

Under existing conditions, the westbound right-turn queues exceed existing storage lengths by up to 1 car length. These queue spillbacks are currently stored within adjacent through lanes.

Under future conditions, traffic signal timings were optimized to better serve travel demand at the intersection.

Under future background conditions, the westbound right turn exceeds storage lengths by up to 12 car lengths. The westbound through exceeds its storage length by 2 car lengths. Site-related impact once the Site is built out is negligible. Queue spillbacks continue to be accommodated within adjacent through lanes as under existing conditions.

As previously mentioned, in keeping with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, further road improvements should not be recommended at this location. Significant road and transit improvements are already planned for the area that result in residual vehicle capacity even in the 2046 horizon year. No further improvements, with the exception of traffic signal timing optimization, are recommended at this time but will be reviewed with the applications for each subsequent phase of the development (as was done for Phase 1 in this report). Queuing conditions at this intersection will be monitored in as development progresses.

Table 79 Trafalgar Road / Cornwall Road

	Storage (metres)	Existing		2046 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBL	85 to 120 (dual)	39.6 (49.6)	69.2 (78)	47.6 (56)	80.4 (87.1)	48 (56.4)	80.4 (87)	48 (56.4)	80.1 (87)	48 (56.4)	80.1 (87)
EBT	120	56.9 (57.4)	77.2 (68.7)	69.1 (58)	93.6 (75.7)	70 (63.3)	93.6 (83.4)	128.3 (104.4)	166.4 (127.1)	128.3 (109.4)	166.4 (132.6)
WBL	85	4.7 (9.4)	9.9 (15.5)	5.7 (8.8)	13.1 (17.6)	21.2 (14.2)	35.7 (24.9)	5.8 (9)	13.1 (17.6)	21.2 (14.2)	43.1 (24.9)
WBT	85	45.6 (67.6)	52.8 (74.8)	49.9 (73.6)	66.6 (93.1)	56.3 (76.2)	73.9 (96)	95.2 (143.5)	119.3 (182.2)	103 (147)	134.2 (187.3)
WBR	100	37.6 (57.2)	85.5 (102.6)	65 (106.2)	150.5 (190.3)	65 (106.2)	150.5 (190.3)	90.1 (116.1)	178.2 (201.5)	90.1 (116.1)	178.2 (201.5)
NBL	45	6.7 (8.1)	15.6 (19.1)	6.5 (9.6)	12.6 (18.1)	6.3 (9.4)	12.6 (18.1)	6.3 (9.4)	12.6 (18.1)	6.3 (9.4)	12.6 (18.1)
NBT	65 to 245	57.6 (66)	83.1 (101.1)	62.4 (89.4)	79.5 (109.8)	65.3 (100.7)	84.1 (124.8)	115 (175.4)	140.8 (220.3)	120.9 (202.3)	147.6 (247.5)
SBL	85 to 235	100.8 (70.4)	122.1 (85.3)	111.5 (81.1)	127.5 (82)	111.3 (81)	127.3 (82.2)	112.2 (81.4)	84.7 (54.4)	112.2 (81.3)	84.5 (54.7)
SBT	235	124.6 (137.8)	221.8 (204)	113.2 (111.1)	138.5 (107.8)	117.7 (108.6)	150.1 (110.8)	475.3 (399.8)	289.1 (117.5)	497.2 (406.4)	306.2 (120.7)
SBR	235	34.7 (43.5)	90.6 (67.9)	23.8 (32.1)	34.4 (30.7)	22.5 (30.6)	35.2 (30.9)	38.4 (37.7)	26.8 (22.8)	39.7 (38.1)	27.9 (23.3)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.

2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.3.1.6 Chartwell Road / Cornwall Road

Queuing results at the Chartwell Road / Cornwall Road intersection are summarized in **Table 80**.

Under existing conditions, the northbound left-turn queues exceed existing storage lengths by up to 4 car lengths. These queue spillbacks are currently stored within adjacent through lanes.

Under future background conditions, the northbound left-turn queues exceed existing storage lengths by up to 5 car lengths. Site-related impact once the Site is built out is negligible. Queue spillbacks continue to be accommodated within adjacent through lanes as under existing conditions.

As previously mentioned, in keeping with the policy and planning initiatives for the Midtown Oakville area that encourage sustainable travel, further road improvements should not be recommended at this location. Significant road and transit improvements are already planned for the area that result in residual vehicle capacity even in the 2046 horizon year. No further improvements, with the exception of traffic signal timing optimization, are recommended at this time but will be reviewed with the applications for each subsequent phase of the development (as was done for Phase 1 in this report). Queuing conditions at this intersection will be monitored in as development progresses.

Table 80 Chartwell Road / Cornwall Road

	Storage (metres)	Existing		2046 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBL	40	1.3 (1.8)	6.3 (7.1)	1.4 (2.1)	6.4 (8.6)	1.7 (2.2)	6.4 (9.2)	2.3 (3.2)	6.8 (14.4)	2.3 (3.3)	6.8 (15.3)
EBT	195	24.3 (13.7)	54 (27.8)	32.3 (17.1)	67.5 (35.5)	39.8 (17.5)	69.8 (38.3)	105.3 (45.7)	133.3 (83.6)	108.1 (47.5)	136.8 (86.8)
WBL	50	2.2 (2.4)	9.5 (8.7)	2.4 (2.8)	10.4 (10.3)	2.9 (2.9)	10.5 (10.9)	4.4 (4)	16.3 (14.9)	4.5 (4.1)	18.5 (15.2)
WBT	>500	17.4 (17.8)	39 (35)	19.1 (23.2)	40.8 (47)	22.6 (24.4)	40.6 (51.9)	63 (65.3)	80.1 (118.1)	63 (69.7)	80.1 (126.2)
NBL	25	20 (9.7)	50.1 (25.4)	23.6 (14.3)	57.8 (39)	26 (14.6)	61.6 (40.8)	45.5 (26.9)	85 (53.2)	48.4 (28.2)	96.2 (53.5)
NBT	295	6 (6.9)	19.7 (20.1)	7 (7)	22.3 (22.4)	7.6 (10.2)	22.9 (29.8)	25 (24.9)	43.8 (48.8)	25 (31.4)	43.8 (56.9)
SBL	40	2.5 (4.6)	9.6 (14.2)	6.1 (5)	18.5 (16.8)	10.9 (6.3)	28.5 (20.5)	11.4 (9.6)	23.7 (23.2)	18.9 (12.5)	35.6 (28.1)
SBT	60	5.5 (3.5)	16.6 (11.2)	9.7 (3.9)	25.6 (13.4)	16.7 (5.5)	38.9 (17.8)	28.5 (12.9)	47 (27.9)	40 (16.4)	62.9 (32.6)
SBR	35	0 (0)	4.2 (6.6)	0 (0)	4.6 (7)	0 (0)	4.8 (7.1)	0 (0)	5.4 (8.7)	0 (0)	5.4 (8.7)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.

4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.3.1.7 QEW-Hwy 403 Ramps / Royal Windsor Drive / South Service Road East

Queuing results at the QEW-Hwy 403 Ramps / Royal Windsor Drive / South Service Road East intersection are summarized in **Table 81**.

Under existing conditions, the northbound left-turn queues exceed existing storage lengths by up to 1 car length. These queue spillbacks are currently stored within adjacent through lanes. No improvements are recommended as the interchange is planned to be reconfigured.

Table 81 QEW-Hwy 403 Ramps / Royal Windsor Drive / South Service Road East

	Storage (metres)	Existing		2046 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBL	115 to 180 (dual)	1.1 (0.1)	2.5 (0.5)	To be reconfigured into a full interchange.							
EBT	>500	36.1 (38.6)	53.4 (57)								
WBL	155	6.3 (5.1)	11.6 (10.9)								
WBT	>500	28.2 (20.4)	39 (50.6)								
NBL	20	1.1 (10.5)	4.8 (22.4)								
NBT	>500	2.3 (3.3)	7.9 (10)								
NBR	70	0 (0)	1 (20.9)								
SBT	>500	11.3 (8.1)	23.8 (18)								

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.3.1.8 South Service Road East / Davis Road / Argus Road Extension

Queuing results at the South Service Road East / Davis Road / Argus Road Extension intersection are summarized in **Table 82**.

Under all conditions, queues are contained within provided storage lengths.

Table 82 South Service Road East / Davis Road / Argus Road Extension

	Storage (metres)	Existing		2046 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBT	170	Currently under stop control.		0.5 (0.3)	2.7 (1.3)	0.5 (0.3)	2.7 (1.3)	0.6 (0.3)	2.9 (1.3)	0.6 (0.3)	2.9 (1.3)
WBL	30			4.9 (8.6)	12.5 (19.2)	9.2 (9.5)	17.7 (16.9)	6.8 (12.3)	16.6 (23.2)	12.6 (17.5)	33.2 (31.6)
WBT	310			4.2 (17)	10.7 (33)	3.9 (14.6)	8.7 (23.5)	5.7 (24.2)	14.2 (39.8)	5.4 (27.2)	11.5 (44.7)
NBT	200			38.1 (41.2)	55.3 (54.6)	38.1 (44.2)	55.3 (58)	59.7 (59.3)	76.1 (78.1)	59.7 (62.8)	76.1 (82.5)
SBT	285			37.4 (63.8)	53.3 (77.8)	37.4 (64.6)	53.3 (79.5)	64.7 (104.4)	81.4 (130.7)	64.7 (104.1)	81.4 (130.9)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.3.1.9 New N-S Arterial Street / Davis Road

Queuing results at the New N-S Arterial Street / Davis Road intersection are summarized in **Table 83** and **Table 84** under the base configuration and the configuration with the BRT, respectively.

Under all future conditions, even with the BRT-only lanes, queues are expected to be contained within provided storage lengths.

Table 83 New N-S Arterial Street / Davis Road (Base Configuration)

	Storage (metres)	Existing		2046 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBL	30	Does not exist.		7.4 (0.9)	16.6 (2.4)	10.8 (2.5)	22.4 (7.3)	7.3 (0.9)	16.3 (1.6)	10.8 (2.5)	22.2 (7.1)
EBT	40			-- (--)	-- (--)	0 (0.4)	0 (6.3)	-- (--)	-- (--)	0 (0.3)	0 (5.5)
WBL	30			-- (--)	-- (--)	3.1 (1)	8.4 (4.1)	-- (--)	-- (--)	3.1 (1.1)	8.9 (4.1)
WBT	40			-- (--)	-- (--)	0 (0)	0 (0)	-- (--)	-- (--)	0 (0)	0 (0)
NBT	175			23.9 (7.3)	37 (14.4)	33.3 (9.8)	49 (19.1)	23.9 (7.3)	37 (14.4)	33.3 (8.9)	48.3 (21)
NBL	30			-- (--)	-- (--)	3.7 (13.9)	7 (29.3)	-- (--)	-- (--)	3.7 (12.5)	7 (29.3)
SBT	285			0 (0)	0 (0)	0.4 (0.8)	7.1 (11)	0 (0)	0 (0)	0.4 (0.8)	7.1 (11)
SBL	30			-- (--)	-- (--)	5.3 (16.7)	13.2 (29.8)	-- (--)	-- (--)	5.3 (16.7)	13.2 (29.8)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

Table 84 New N-S Arterial Street / Davis Road (With BRT Configuration)

	Storage (metres)	Existing		2046 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBL	30	Does not exist.		7.8 (0.9)	18.0 (2.4)	13.8 (2.5)	31.5 (7.3)	7.7 (0.9)	17.1 (1.6)	13.8 (2.7)	29.9 (7.5)
EBT	40			-- (--)	-- (--)	0.0 (0.4)	0.0 (6.3)	-- (--)	-- (--)	0.0 (0.3)	0.0 (5.9)
WBL	30			-- (--)	-- (--)	4.5 (0.9)	11.4 (4.1)	-- (--)	-- (--)	4.5 (1.2)	11.8 (4.4)
WBT	40			-- (--)	-- (--)	0.0 (0.0)	0.0 (0.0)	-- (--)	-- (--)	0.0 (0.0)	0.0 (0.0)
NBT	175			49.0 (14.3)	76.0 (28.7)	68.0 (20.1)	95.3 (36.9)	49.0 (14.3)	76.0 (28.7)	68.1 (18.1)	95.3 (38.3)
NBL	30			-- (--)	-- (--)	3.7 (13.0)	6.9 (26.8)	-- (--)	-- (--)	3.7 (11.7)	6.8 (27.9)
NBR[4]	175			-- (--)	-- (--)	0.0 (0.0)	0.0 (0.7)	-- (--)	-- (--)	0.0 (0.0)	0.0 (2.1)
SBR[4]	285			0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	8.0 (19.7)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	8.0 (19.2)
SBL	30			-- (--)	-- (--)	4.8 (16.7)	12.1 (29.6)	-- (--)	-- (--)	4.8 (16.3)	12.1 (28.8)
SBT	285			-- (--)	-- (--)	0.7 (1.7)	3.1 (5.9)	-- (--)	-- (--)	0.7 (1.7)	3.1 (5.7)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).

3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.
5. This is the BRT only travel lane and is not an exclusive right turn lane. However, right turns are permitted to use the BRT lanes to complete their right turn movements if they merge into the bus lanes for a short distance.

13.3.1.10 New N-S Arterial Street / Cross Avenue

Queuing results at the New N-S Arterial Street / Cross Avenue intersection are summarized in **Table 85**.

Under all future conditions, queues are expected to be contained within provided storage lengths.

Table 85 New N-S Arterial Street / Cross Avenue

	Storage (metres)	Existing		2046 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBL	100	Does not exist.		31.8 (9.2)	44 (15.8)	40.1 (12.4)	54 (20.1)	31.8 (9.2)	44 (15.8)	40.1 (12.4)	54 (20.1)
EBT	140			37.1 (11.7)	44 (16.5)	48.4 (15.2)	56.1 (20.5)	37.1 (11.7)	44 (16.5)	48.4 (15.2)	56.1 (20.5)
WBT	130			6.4 (28.7)	5.2 (17.9)	12.7 (49.3)	16.3 (32.7)	6.5 (12.8)	5.2 (17.5)	9.6 (25.7)	19.5 (69)
WBL	30			-- (--)	-- (--)	12.3 (2.6)	19.2 (6)	-- (--)	-- (--)	9.8 (2.4)	22.4 (9.7)
NBL	30			-- (--)	-- (--)	2 (6.3)	6.8 (15.9)	-- (--)	-- (--)	2 (6.3)	6.8 (15.9)
NBT	240			-- (--)	-- (--)	0.6 (3.1)	5.9 (12.7)	-- (--)	-- (--)	0.6 (3.1)	5.9 (12.7)
SBL	40			-- (--)	-- (--)	13.7 (5.4)	28.3 (15.5)	-- (--)	-- (--)	13.8 (5.5)	28.9 (15.7)
SBT	175			-- (--)	-- (--)	2.2 (1.3)	7.1 (5.7)	-- (--)	-- (--)	2.2 (1.3)	7.2 (5.8)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.3.1.11 New N-S Arterial Street / Iroquois Shore Road

Queuing results at the New N-S Arterial Street / Iroquois Shore Road intersection are summarized in **Table 86**.

Under all future conditions, queues are expected to be contained within provided storage lengths.

Table 86 New N-S Arterial Street / Iroquois Shore Road

	Storage (metres)	Existing		2046 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBT	405	Does not exist.		41.7 (65.4)	84.7 (145.7)	64.4 (90.9)	102 (159.2)	46.6 (72.9)	94.4 (166.5)	71.7 (101.7)	111.7 (195.5)
WBL	100			1.6 (4.5)	7.3 (17.8)	6.4 (22.1)	21.6 (71.5)	1.6 (4.5)	7.6 (17.8)	6.7 (28.8)	24 (80)
WBT	470			29.4 (36.3)	60.8 (96.8)	43.1 (36.3)	69.3 (96.8)	31.5 (42.3)	65 (113)	46.2 (42.3)	73.2 (113)
NBL	540			32.3 (6.2)	46 (12.5)	62.7 (14.6)	85.2 (23.3)	32.3 (6.2)	46 (12.5)	62.7 (14.6)	85.9 (23.3)
NBR	540			17.2 (0)	32.5 (11.1)	48.6 (0)	73.1 (15.7)	19.9 (0)	35.2 (11.1)	51.6 (0)	76.7 (15.7)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.3.1.12 Chartwell Road / Cross Avenue Extension

Queuing results at the Chartwell Road / Cross Avenue Extension intersection are summarized in **Table 87**.

Under all future conditions, queues are expected to be contained within provided storage lengths.

Table 87 Chartwell Road / Cross Avenue Extension

	Storage (metres)	Existing		2046 Horizon Year							
				Future Background		Future Total		Future Background With Corridor Growth		Future Total With Corridor Growth	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
EBT	245	Does not exist.		23.2 (4.2)	20 (7.3)	57.1 (11.9)	48.7 (20.6)	25.3 (4.2)	20 (7.3)	49.2 (15.1)	50.6 (24.2)
WBT	>500			1.8 (9.5)	6.5 (19.5)	5.7 (32.8)	12.4 (56.6)	2.5 (14.4)	6.5 (26.1)	7.4 (46.8)	15.7 (73.7)
NBT	115			23 (41.9)	32.8 (58.7)	25.8 (56.6)	39.6 (78.1)	33.8 (77.8)	49.3 (100.1)	34.3 (89.7)	47.4 (116.4)
SBT	340			17.1 (19.7)	26.7 (32.8)	32.7 (21.9)	69.6 (38.9)	30.4 (27)	53.1 (39.4)	68.1 (23.7)	98.7 (51.3)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

13.3.2 Unsignalized intersection Queuing (2046)

Queuing results at the unsignalized intersections, including Site driveways, are summarized in **Table 88**.

Under all future conditions, queues are expected to be contained within provided storage lengths.

Table 88 Unsignalized Intersections

	Storage (metres)	Existing	2046 Horizon Year			
			Future Background	Future Total	Future Background With Corridor Growth	Future Total With Corridor Growth
		95th	95th	95th	95th	95th
Trafalgar Road / Argus Road						
EBR	110	0.7 (1.7)	7.9 (4)	7.9 (4)	8.9 (6)	8.9 (6)
South Service Road East / Davis Road						
WBTLR	230	0.5 (4.9)	To be signalized.			
SBTL	>500	0.2 (0.4)				
Chartwell Road / South Service Road East						
WBTL	>500	2.1 (1.5)	2.1 (1.6)	2.4 (1.6)	4.3 (3.1)	4.9 (3.3)
NBLR	330	5.9 (19.1)	6.1 (20)	10.5 (52.1)	30.4 (153.2)	55 (301.3)
Local Street A / South Service Road East						
WBTL	300	Does not exist.		0.3 (1.2)	Does not exist.	0.3 (1.3)
NBLR	100			3.6 (1.1)		4.1 (1.3)
Local Street B / South Service Road East						
WBTL	250	Does not exist.		0.3 (1.2)	Does not exist.	0.3 (1.4)
NBLR	95			0.0 (0.0)		0.0 (0.0)
Local Street A / Davis Road						
EBTLR	250	Does not exist.		0 (0.3)	Does not exist.	0 (0.3)
WBTLR	80			0.1 (0.2)		0.1 (0.2)
NBTLR	100			1.5 (4.5)		1.5 (4.5)
SBTLR	30			7.3 (3.5)		7.3 (3.5)
Local Street B / Davis Road						
EBLR	70	Does not exist.		5 (1.5)	Does not exist.	5 (1.5)
NBTL	30			0.6 (1.2)		0.6 (1.2)
Local Street A / Cross Avenue						
EBL	30	Does not exist.		0.0 (0.3)	Does not exist.	0.0 (0.3)

	Storage (metres)	Existing	2046 Horizon Year			
			Future Background	Future Total	Future Background With Corridor Growth	Future Total With Corridor Growth
		95th	95th	95th	95th	95th
SBL	30			15.4 (4.7)		15.4 (4.7)
SBR	70			0.3 (0.4)		0.3 (0.4)
Local Street B / Cross Avenue						
EBL	125	Does not exist.		0.3 (1.7)	Does not exist.	0.3 (1.6)
SBL	30			19.1 (10.8)		19.1 (9.2)
SBR	70			4.4 (2.1)		4.4 (1.7)
Local Street A / Block 1 Driveway						
WBLR	20	Does not exist.		9.8 (3.3)	Does not exist.	9.8 (3.3)
SBTL	100			0.2 (1.1)		0.2 (1.1)
Local Street B / Block 2 Driveway						
EBLR	20	Does not exist.		4.6 (1.3)	Does not exist.	4.6 (1.3)
NBTL	45			0.2 (1.1)		0.2 (1.1)
Block 1 Driveway / Block 3 Driveway / Davis Road						
EBTLR	80	Does not exist.		0.1 (0.8)	Does not exist.	0.1 (0.8)
WBTLR	70			0.4 (1.3)		0.4 (1.3)
NBTLR	25			3.0 (1.3)		3.0 (1.3)
SBTLR	30			4.7 (2.3)		4.7 (2.3)
Block 2 Driveway / Block 4 Driveway / Davis Road						
EBTLR	50	Does not exist.		0.3 (1.5)	Does not exist.	0.3 (1.5)
WBTLR	70			0.2 (0.4)		0.2 (0.4)
NBTLR	20			4.1 (1.8)		4.1 (1.8)
SBTLR	20			7.7 (3.0)		7.7 (3.0)
Local Street A / Block 3 Driveway						
WBLR	15	Does not exist.		4.9 (3.1)	Does not exist.	4.9 (3.1)
SBTL	35			0.1 (0.3)		0.1 (0.3)
Local Street B / Block 4 Driveway						

	Storage (metres)	Existing	2046 Horizon Year			
			Future Background	Future Total	Future Background With Corridor Growth	Future Total With Corridor Growth
		95th	95th	95th	95th	95th
EBLR	15	Does not exist.		5.2 (2.6)	Does not exist.	5.2 (2.6)
NBTL	70			0.5 (2.3)		0.5 (2.3)

Notes:
1. XX (XX) – Weekday Morning (Weekday Afternoon) Peak Hours.
2. All storage lengths and queues are in metres (m).
3. Highlighted values in the table above represent critical movements based upon Halton Region, Town of Oakville and Ministry of Transportation Ontario guidelines, depending on the applicable jurisdiction for each corridor.
4. Storage lengths are measured based on existing conditions from Google aerial view where appropriate. For future intersection movements, storage lengths are only estimates and subject to change based on the final design. Where exclusive turn lanes are not provided, storage lengths are measured to the downstream intersection, key travel corridor or rail line. Ramp storage lengths are measured to the bullnose.

14.0 SUMMARY & CONCLUSIONS

BA Group has been retained by South Service Holding Corp. (the "**Applicant**") to provide transportation consulting services for a Draft Plan of Subdivision application to permit the redevelopment of 420-468 South Service Road East, in the Town of Oakville (the "**Site**").

An OPA application for the Site was first submitted to the Town of Oakville in November 2024 for a mixed-use master planned community. As part of that application, BA Group prepared a transportation study titled "*420-468 South Service Road East, Proposed Mixed-Use Development, Urban Transportation Considerations*" dated November 2024.

The Site Master Plan was subsequently revised in response to Town, public and other stakeholder comments, and a revised OPA and ZBA application was made to the Town in October 2025. As part of that application, BA Group prepared a report titled "*420-468 South Service Road East, Proposed Mixed-Use Development, Urban Transportation Considerations*" dated October 2025. The Town has since provided comments on the revised application.

On July 7, 2026, Town Council adopted site-specific Zoning By-law 2026-073 and Zoning By-law 2026-074 which amended the in-force Liveable Oakville Plan (OPA 83) and the in-force Town of Oakville Zoning By-law 2014-014, respectively. The site-specific bylaws permit residential and mixed uses on the Site, establish maximum heights (38 stories) and densities, establish future public road right-of-way widths, and introduce site-specific requirements on built form, massing, parkland, vehicle parking, bicycle parking and other policies.

The Site Master Plan has since been revised to respond to the requirements of the site-specific zoning bylaws as well as Town comments. A Draft Plan of Subdivision application is now being made to establish the development blocks, public street network and conceptual phasing plan. The transportation elements of the Site Master Plan generally remain the same as the October 2025 application, including the proposed public street network, block structure, open space network, site accesses, internal site circulation, and parking and loading arrangements. A key change, from a traffic impact perspective, is a reduction in maximum tower heights across the Site from 48 stories to 38 stories, which in turn decreases the total development floor area.

As a result of the reduction in the development floor area, the traffic generation of the development will decrease. This report has been updated to reflect the reduced number of residential units and to address all comments provided by the Town, Region and the Ministry Transportation Ontario (MTO).

Key findings of this transportation assessment are summarized below.

Current vs. October 2025 Submission

1. The revised Site Master Plan includes four blocks with a total of 5,600 residential units and 9,118 m^2 GFA of retail. Since the October 2025 submission, the number of residential units has been reduced from 6,945 to 5,600, which represents a 19.4% reduction. The non-residential GFA remains the same.
2. Other key revisions to the master plan from the October 2025 submission include:
    - A reduction in maximum tower heights across the Site from 48 stories to 38 stories;
    - A refinement in the placement of towers and podiums across the development blocks; the tower locations remain generally the same;

- A refinement in the arrangement of the open spaces, while maintaining the overall open space strategy;
- A minor shift in proposed driveway locations on Davis Road to respond to the revised arrangement of buildings and open spaces; and
- Moving the existing GE building in the northwest quadrant of the Site south from the 14m MTO setback and into the Site, and introducing a circular driveway to provide emergency vehicle, pick-up/drop-off and servicing access to the building.

3. Other transportation elements of the Site Master Plan remain the same, including:
    - The overall block structure of the Site, including four development quadrants defined by the new public road network;
    - The alignment, right-of-way and functional design of the new public street network;
    - The proposed site accesses onto the public street network. As discussed above, the locations of the proposed driveways on Davis Road have been slightly shifted to respond to the revised arrangement of buildings and open spaces, but the overall access arrangements remain the same;
    - The internal site circulation including pedestrian circulation, pick-up/drop-off and parking access arrangements;
    - The loading arrangements; and
    - The vehicle and bicycle parking arrangements.

Proposed Public Street Network

4. The development blocks will be framed by a network of east-west and north-south streets including:
    - Street A – A new north-south local street along the western edge of the Site connecting between South Service Road East and Cross Avenue;
    - Street B – A new north-south local street along the eastern edge of the Site connecting between South Service Road East and Cross Avenue;
    - South Service Road – An existing east-west local road along the north edge of the Site;
    - Davis Road – A new east-west collector road through the centre of the Site connecting from west of Trafalgar Road (where it becomes Argus Road) to Street B;
    - Cross Avenue – A new east-west arterial road along the south edge of the Site connecting from west of Trafalgar Road to Chartwell Road east of the Site; and
    - North-South Arterial – A new north-south arterial road through the centre of the Site connecting from Iroquois Shore Road in the north to Cornwall Road in the south. The North-South Arterial road will have an overpass over the QEW to the north of the Site, and an underpass under the Metrolinx/CN rail corridor to the south of the Site.
5. The new public street network will provide access for all modes and generally aligns with the transportation network contained in the Oakville Midtown Official Plan Amendment (the “Midtown OPA”).

6. To better align with the Site's western property boundary and to facilitate the efficient development of the blocks, the following minor changes to the Draft Midtown Oakville OPA street network are being proposed:

    - The Draft Midtown Oakville OPA illustrates a new north-street local street along the western border of the Site that connects between South Service Road East and Davis Road. The development proposal extends this north-south street (proposed as Local Street A) southward from Davis Road to connect to Cross Avenue. The extension of this local road will provide improved connectivity for all modes of travel and better serve the access and circulation needs of the revised development proposal.

    - The north-south local street (Local Street A) on the west side of the Site, is proposed to be shifted slightly further west to align with the western property limits of the Site so that Local Street A is within the Site boundaries.

    - The addition of two active-only crossings of the planned New N-S Arterial street that bypass the QEW-Hwy 403 and the Metrolinx/CN rail corridor. On the north side of the Site (between South Service Road East and Davis Road), the active-only crossing will be in the form of an underpass under the New N-S Arterial Street. Between Davis Road and Cross Avenue, the active-only crossing will be in the form of an overpass over the New N-S Arterial Street.

    - The east-west Collector Street (Davis Road), adjacent to the proposed Block 1 within the Site, will adopt a tangent alignment versus the "curved" alignment illustrated in the Draft Midtown Oakville OPA. This tangent alignment produces a more uniform development block on the north side of Davis Road, that also provides a more regular shape to maximize the efficient massing of buildings.

7. The proposed changes enhance the functionality of the Draft Midtown Oakville OPA transportation network. The remainder of the proposed new street network remains consistent with the Draft Midtown Oakville OPA, including the extension of Davis Road, Cross Avenue through the Site and the New N-S Arterial Street that with an overpass across the QEW-Hwy 403 to the north and a "rail-over-road" underpass across the Metrolinx / CN rail corridor to the south

Vehicle Parking

8. On July 7, 2026, Town Council adopted site-specific Zoning By-law 2026-074 which established maximum vehicle parking supply ratios for the Site.

9. The parking supply for each building will be refined and determined at the SPA stage and will fall within the maximum requirements of the zoning bylaw.

Bicycle Parking

10. On July 7, 2026, Town Council adopted site-specific Zoning By-law 2026-074 which established minimum bicycle parking requirements for the Site.

11. The bicycle parking supply for each building will be refined and determined at the SPA stage and will meet the minimum requirements of the zoning bylaw.

Loading Considerations

12. The Town of Oakville's Zoning By-law 2014-014 does not include a requirement for a minimum number of loading spaces.

13. Regardless of the absence of a zoning bylaw requirement, there is a practical requirement for an appropriate loading supply for the Site that reflects the intensification being proposed.

14. The loading facilities for each building, including the design of vehicle manoeuvring' areas, will be refined during the SPA stage. The loading supply strategy will be evaluated against the practical, functional, and policy requirements associated with the various types of loading operations that would be experienced on a daily basis.

Transportation Demand Management

15. A TDM strategy has been developed to ensure that the proposed development sets a sustainable precedent in urban development (e.g. increase vehicle occupancy and reduced vehicle kilometres travelled) and encourages the use of alternative travel modes.

16. TDM measures proposed as part of the development include, but are not limited to:

    - Provision of a reduced resident parking supply;
    - Provision of unbundled parking from unit cost;
    - Provision of convenient pick-up and drop-off facilities within and around the development blocks to facilitate passenger pick-up and drop-off via shared use mobility services, short-term small scale residential deliveries;
    - Consideration to provide car share spaces on the Site;
    - Provision of a bicycle parking supply that meets the Zoning By-law standards and consideration for a range of facility types (i.e. cargo bicycle parking);
    - Consideration to provide bike share stations on the Site;
    - Provision of bicycle repair stations;
    - Consideration to provide private or shared micromobility devices; and;
    - Provision of direct pedestrian and cycling connections to building entrances, bicycle parking facilities, nearby transit stops, and the external / public network.

Transportation Impact Assessment

17. The traffic operations analysis has been undertaken for the weekday morning and afternoon peak hours.

18. Given the future character of Midtown Oakville as a transit-oriented context, it is expected that the currently observed trends of negligible growth along key travel corridors will continue. Declining or negligible growth trends are expected to continue, especially given the rise in local development and densification. As the area approaches capacity into the future, it is expected that local neighbourhood traffic would begin to displace non-local traffic that is currently encouraged to pass through the area. Study area corridors and the QEW-Hwy 403 ramps that were once attractive alternatives to other route options will more likely be avoided, due to local traffic utilizing more capacity during peak travel periods.

19. Future transit infrastructure improvements, such as the Trafalgar Bus Rapid Transit, will cause a necessary shift in existing travel mode choice that would further reduce the reliance on single-occupancy vehicles and congestion and delays in the area. This projection would be consistent with the designation of Midtown Oakville as an “Anchor Mobility Hub” (by Metrolinx) and a “Major Transit Station Area” (by Halton Region). On this basis, it is most likely that corridor growth volumes on key corridors will remain negligible or even decline, as the Midtown Oakville area evolves into the future.

20. As requested by the Town and MTO, the analysis undertaken in this study considered: 1) a base case where the area will not experience corridor growth, in keeping with the designation as a transit-oriented community neighbourhood and 2) a sensitivity case where corridor growth assumptions are included in the analysis of all future horizons.

21. A summary of the traffic analysis scenarios considered for the traffic analysis is as follows:
    - Phase 1 build-out (**2031**):
        - 2031 Base traffic analysis (**without** additional corridor growth)
        - 2031 Sensitivity traffic analysis (**with** additional corridor growth)
    - 5 years beyond build-out of Phase 1 (**2036**):
        - 2036 Base traffic analysis (**without** additional corridor growth)
        - 2036 Sensitivity traffic analysis (**with** additional corridor growth)
    - Ultimate buildout of the entire Site (**2046**) - 20 years from the date of this study:
        - 2046 Base traffic analysis (**without** additional corridor growth)
        - 2046 Sensitivity traffic analysis (**with** additional corridor growth)

22. Phase 1 of the Site is expected to generate **430 and 435 two-way gross vehicle trips** during the morning and afternoon peak hours, respectively. With consideration for internal Site trip interactions, Phase 1 is expected to generate **420 and 405 two-way external vehicle trips**, during the morning and afternoon peak hours, respectively, inclusive of residential and retail trips.

23. The full buildout of the Site is expected to generate **1,425 and 1,575 two-way gross vehicle trips** during the morning and afternoon peak hours, respectively. With consideration for internal Site trip interactions, the Site is expected to generate **1,395 and 1,405 two-way external vehicle trips**, during the morning and afternoon peak hours, respectively, inclusive of residential and retail trips.

Phase 1 Analysis

24. With Phase 1, under future total conditions **without corridor growth**, signalized intersections along Trafalgar Road generally will operate at busy but acceptable conditions in the weekday peak hours, with overall v/c ratios ranging from 0.81 to 0.96. Under future total conditions **with the sustained corridor growth** assumptions requested by the Town and MTO for the relevant corridors, intersections along Trafalgar Road will operate at over-capacity conditions, with overall v/c ratios ranging from 0.99 to 1.17.

25. Under all conditions, the unsignalized intersections operate at acceptable LOS at LOS D or better in both weekday peak hours. All site driveways operate well at LOS B or better.

26. In general, the 95th percentile queues at the study area intersections can be contained without existing storage lanes or adjacent through lanes. For critical movements at study area intersections (where queues exceed storage), Site-related impacts are mostly negligible or minimal on these movements. No further mitigation measures are recommended at this time.

27. For Phase 1 of the Site, the existing road network will have sufficient capacity to accommodate the proposed development. As the area road network approaches capacity, non-local drivers will be replaced by local traffic. The road improvements that are being contemplated for the wider Midtown Oakville area, are not required, nor recommended to be constructed, in order to accommodate the travel demand related to Phase 1. All study area intersections will operate at typical busy urban conditions and do not require additional mitigation measures, with the exception of traffic signal timing optimization at noted locations.

Full Buildout Analysis

28. With the full buildout of the Site, under future total conditions **without corridor growth**, signalized intersections along Trafalgar Road generally will operate at busy but acceptable conditions in the weekday peak hours, with overall v/c ratios ranging from 0.85 to 0.94. Under future total conditions **with the sustained corridor growth** assumptions requested by the Town and MTO for the relevant corridors, intersections along Trafalgar Road will operate at over-capacity conditions, with overall v/c ratios ranging from 1.18 to 1.66.

29. Other study area signalized intersections (including the two future intersections of the New N-S Arterial with Davis Road and Cross Avenue) will operate well at overall v/c of 0.16 to 0.44 in future total conditions.

30. Most unsignalized intersections operate well. **With sustained corridor growth**, the Chartwell Road / South Service Road East intersection will experience high delays for the minor street (northbound) approach.

31. In general, the 95th percentile queues at the study area intersections can be contained without existing storage lanes or adjacent through lanes. For critical movements at study area intersections (where queues exceed storage), Site-related impacts are mostly negligible or minimal on these movements. No further mitigation measures are recommended at this time.

32. With the full build-out of the Midtown Oakville area, the road network will continue to operate under very busy conditions, with some intersections operating at, or above, their theoretical capacity. This is reflective of a busy urban centre where the majority of mobility needs will be met by non-auto means including

transit (particularly GO, BRT and other bus transit) and active modes (walking and cycling and other micro-mobility), while a smaller proportion of travel needs will continue to be met via private automobile.

33. The planned introduction of significant new road infrastructure in Midtown Oakville, including through the Site, will help support increased traffic volumes to / from Midtown and help to better distribute traffic to / from the surrounding road network.

34. The Site's TDM Plan seeks to encourage and enable travel by non-auto means, while accommodating the smaller proportion of people that own and use a private automobile. TDM strategies that encourage non-auto travel include limiting the Site's parking supply, provision of high-quality bicycle parking, a full suite of TDM measures and the creation of a dense, mixed-use and walkable community within the Site and Midtown Oakville. Most importantly, the Site's proximity to frequent higher-order transit, including GO, the future Trafalgar BRT and other bus services operated by Oakville Transit, will allow residents, employees and visitors of the Site to access local and regional destinations without use of a car.

The proposed development is appropriate and can be accommodated on the future area road network, in consideration of the future transit of Midtown Oakville, the upgraded road network planned in the area and the transit and active oriented nature of the proposed TDM Plan.

Appendix A:
Approved Temporary Land Use Concept Plan – MHBC, May 2024

CONCEPT PLAN

420-468 South Service Road,
Oakville, ON



Subject Lands

SCALE: 1:10,000

SITE STATISTICS

	HA	AC
Total Site Area	**11.049**	**27.302**
Existing Building	0.041	0.100
Small Vehicle Parking	0.173	0.428
Shipping Containers for Public Storage	1.660	4.101
Large Vehicle & Trailer Parking	2.100	5.189
General Storage	0.459	1.135
Ungraded Area	4.443	10.980
Snow Storage	0.361	0.892
45° Lose Stone Slope	0.452	1.117

STORAGE STATISTICS

Small Vehicle Parking	64
Shipping Containers for Public Storage	502
Large Vehicle & Trailer Parking	312

PARKING STATISTICS

	No. of Spots
Customer Parking Area (north)	15

LIGHT POLE (all lighting to be dark sky friendly)

10M BUFFER

VEGETATION COMMUNITY BOUNDARY

NOTE:

NO DEVELOPMENT CONSTRUCTION INCLUDING THE PLACEMENT OF ANY GRAVEL OR CLEAR STONE TO OCCUR WITHIN THE 10M BUFFER OR WESTERLY UNGRADED AREA.

NOTES:

- Total site area determined via site survey
- Delineated site areas are rough approximations only

No.	Date	Issue/Revision	By
5	2024-05-09	Add jersey barrier and light poles	RM
4	2024-05-08	Reduce small car storage area	RM
3	2024-04-10	Revise customer parking; Revise container storage layout	RM
2	2024-04-08	Issued for submission	HH
1	2024-02-23	Revise north customer parking sizes for by-law conformity	RM

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE

204-442 BRANT STREET, BURLINGTON, ON, L7R 2G4 | P: 905.639.8686 | WWW.MHBCPLAN.COM

Date: Friday, May 10, 2024

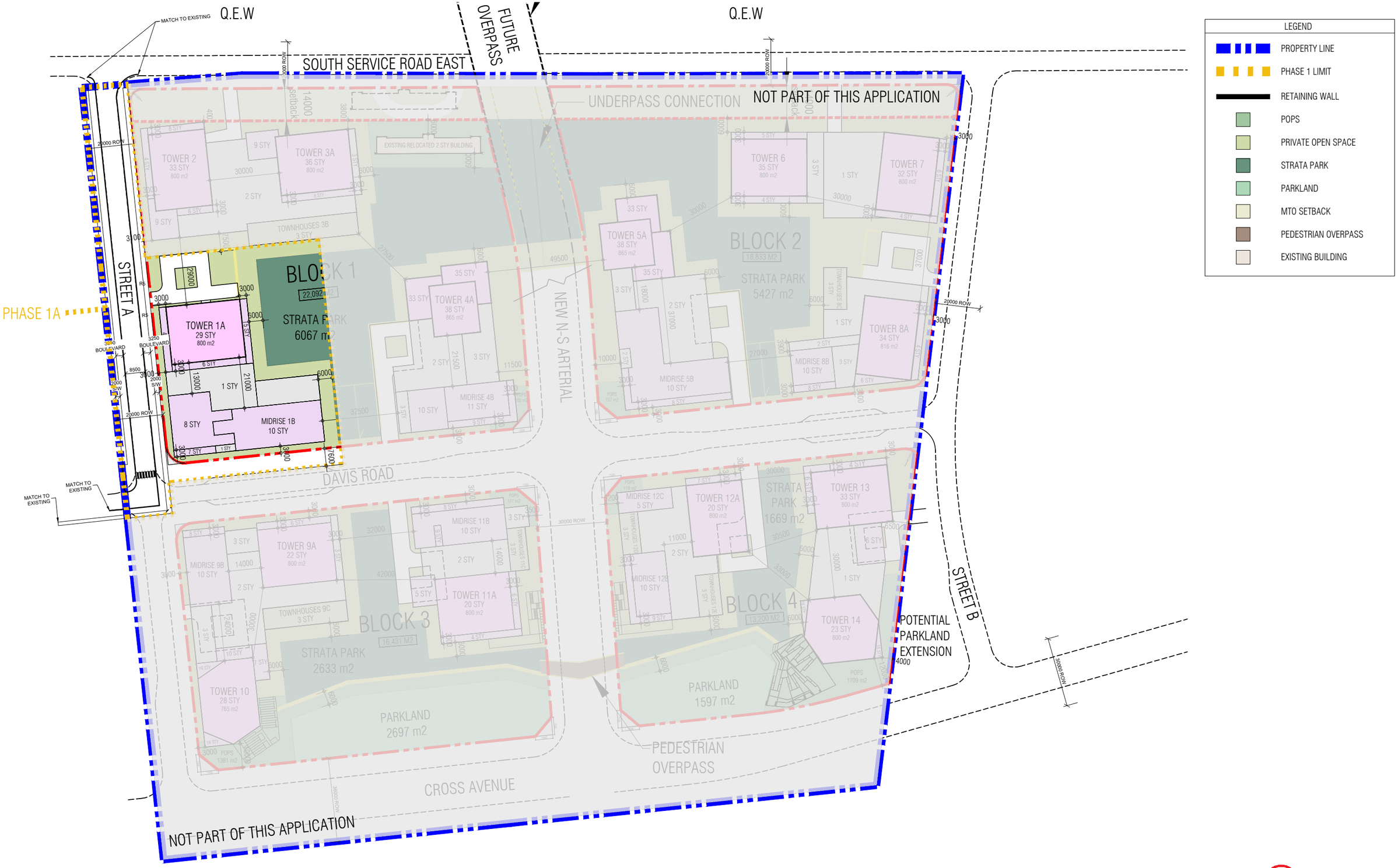
File No.: 1677 - X	**Drawn By:** P.B. / R.M.
Plan Scale: 1:600	**Checked By:** initials

Project:

Part of Lot 12, Concession 3
Trafalgar, Town of Oakville
Region of Halton

Z:\1677\X - 420-468 South Service Road, Oakville\1 - MHBC Documents\Concept Plan\2024-05-10

Appendix B:
Reduced Scale Architectural Plans

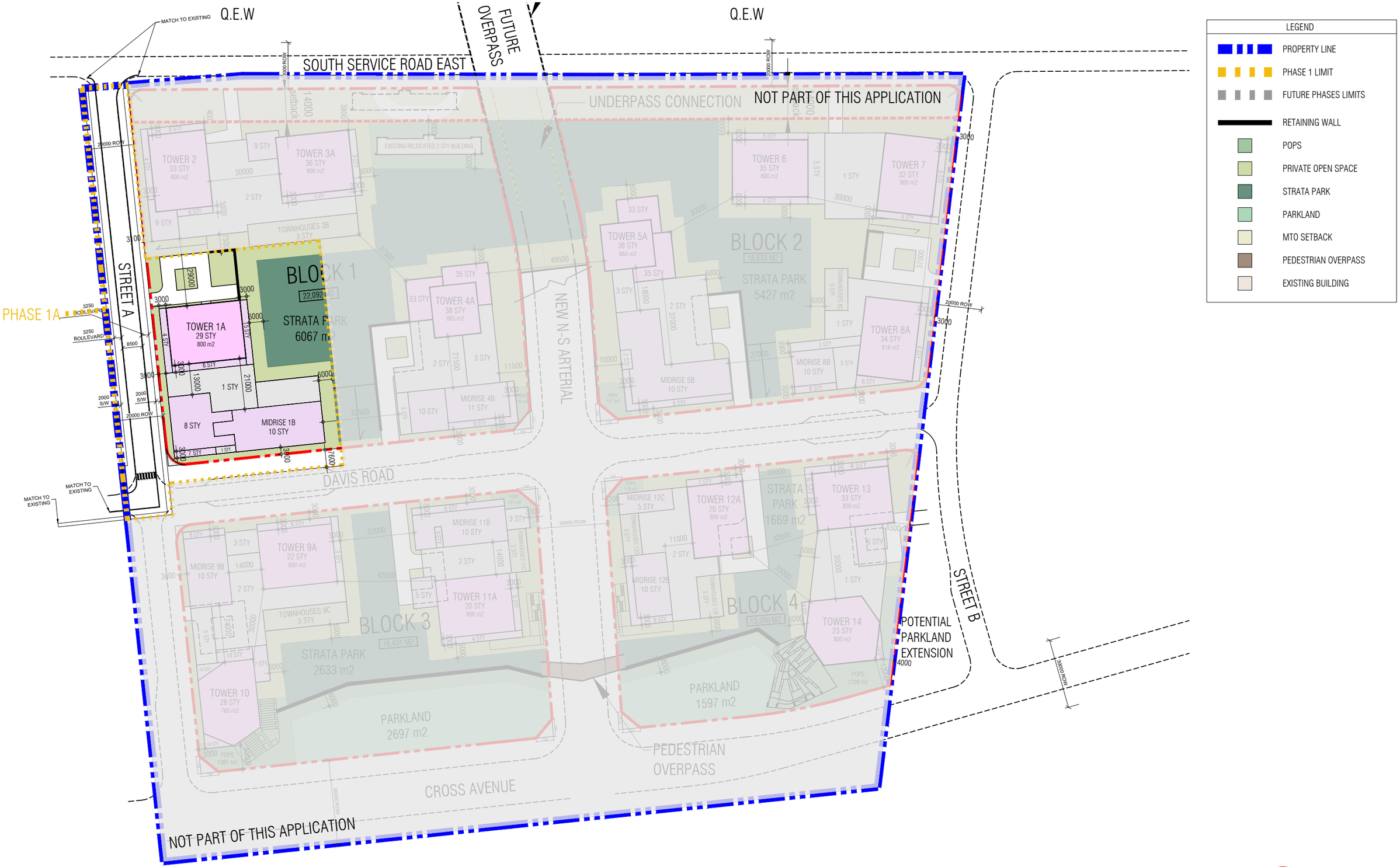


MASTER PLAN

▪ THE ROSE CORPORATION ▪ 420-468 SOUTH SERVICE ROAD ▪ 2127.23 ▪ Sep. 17, 2026

1:1500

GRAZIANI + CORAZZA ARCHITECTS

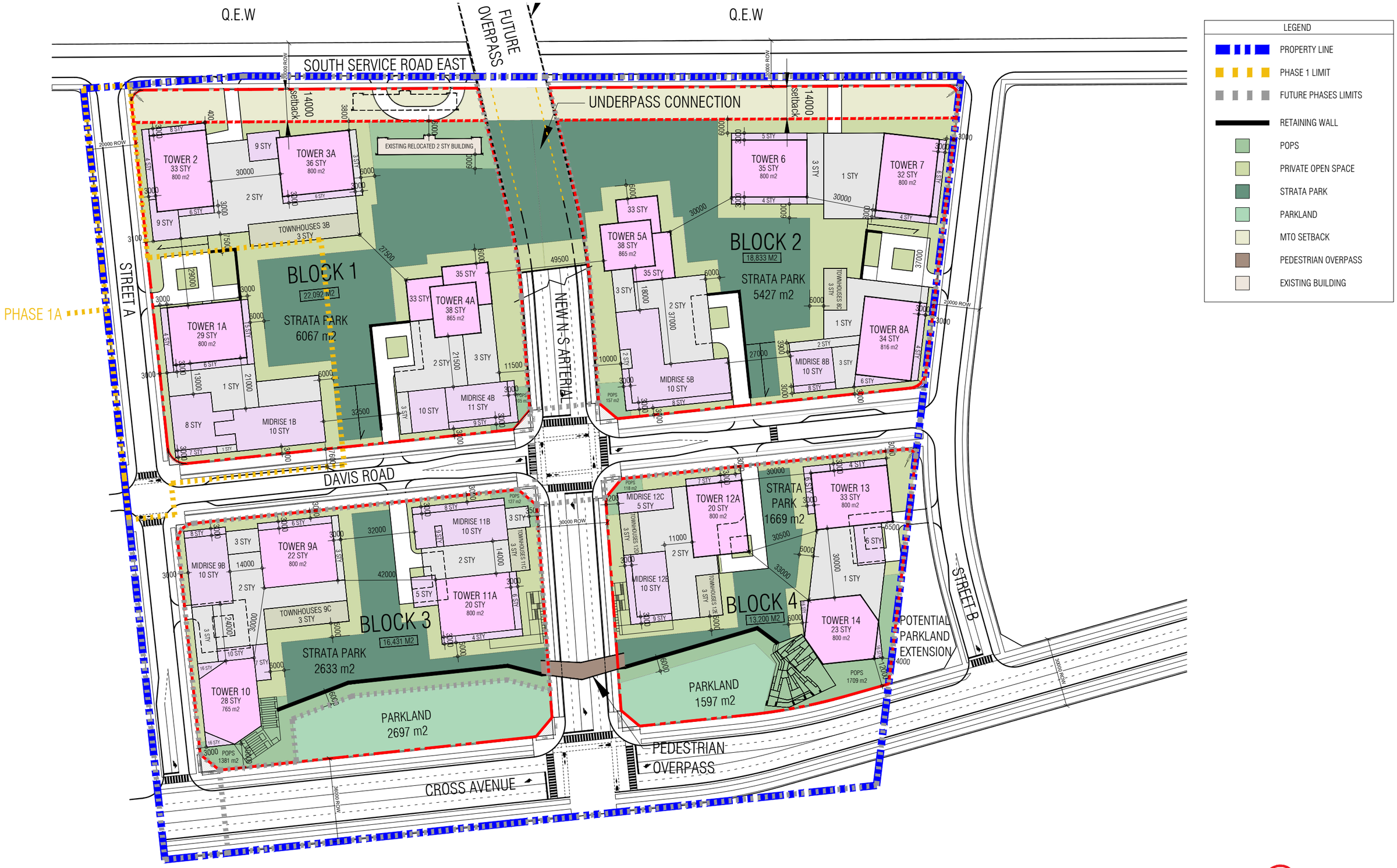


MASTER PLAN - INTERIM

▪ THE ROSE CORPORATION ▪ 420-468 SOUTH SERVICE ROAD ▪ 2127.23 ▪ Sep. 18, 2026

1:1500

GRAZIANI + CORAZZA ARCHITECTS



MASTER PLAN - ULTIMATE

▪ THE ROSE CORPORATION ▪ 420-468 SOUTH SERVICE ROAD ▪ 2127.23 ▪ Sep. 18, 2026

1:1500

GRAZIANI + CORAZZA ARCHITECTS

Appendix C:
Terms of Reference

MEMORANDUM

TO

Matt Krusto, Halton Region

Aquisha Khan, Town of Oakville

Usman Akhtar, MTO

FROM	PROJECT	DATE
Clara Filipetti	6931-03 420-468 South Service Road	September 18, 2024

RE: 420-468 SOUTH SERVICE ROAD – PROPOSED TRAFFIC ANALYSIS TERMS OF REFERENCE

BA Group has been retained by The Rose Corporation to provide transportation consulting services in support of an Official Plan Amendment (OPA) being made to the Town of Oakville for a proposed mixed-use development to be located at the lands municipally known as 420-268 South Service Road East (herein referred to as "the site"), in the southeast quadrant of the Queen Elizabeth Way (QEW) / Trafalgar Road. The 27.3 acre site is a roughly rectangular parcel bounded by the QEW to the north, commercial uses to the west and east, and the Lakeshore West GO rail corridor to the south. The site location is shown in **Exhibit 1**.

The site was formerly the location of the General Electric Canada Lamp Plant. It is currently vacant, with the exception of a 2-storey former GE office building along South Service Road.

A Temporary Use By-law was granted in May 2024 to permit the temporary use of the site for the outdoor storage of trailers, motor vehicles and shipping containers for use as storage containers.

The proposed redevelopment is for a mixed-use community containing in the order of 7,000 units, a mix of non-residential uses and a large public park. A network of new streets is contemplated through the site and through the surrounding Midtown Oakville neighbourhood, consistent with the Town of Oakville's Midtown Oakville Draft OPA (April 2024).



Exhibit 1: Site Location

1.0 SCOPE OF WORK

1.1 Study Area Intersections

The study area is proposed to comprise of the following intersections:

Existing Intersections

- Trafalgar Road & Iroquois Shore Road / Leighland Avenue
- Trafalgar Road & North Service Road / Highway 403 WB Off-Ramp
- Trafalgar Road & Highway 403 EB Off-Ramp
- Trafalgar Road & Argus Road
- Trafalgar Road & Cross Avenue / South Service Road East
- Trafalgar Road & Cornwall Road
- South Service Road East / Davis Road
- South Service Road East / Chartwell Road
- South Service Road East / The Canadian Road & Royal Windsor Drive / Highway 403 WB On/Off Ramp

Future Intersections (to be constructed with the buildout of the site and the Midtown Oakville Road Network)

- Cross Avenue / South Service Road
- Site-related Intersections (to be determined)

1.2 Traffic Analysis Periods

Traffic analysis will be undertaken for the weekday morning and afternoon peak hours within the peak periods of 7:00 a.m. – 9:00 a.m. and 4:00 p.m. – 6:00 p.m., respectively.

1.3 Traffic Analysis Scenarios

Traffic analysis will assume a 20-year buildout for the site as well as the Midtown Oakville OPA road network. The following scenarios will be reviewed:

- Existing Conditions (2024)
- Future Background Conditions (2044), assuming background development traffic (discussed below) and the full buildout of the ultimate road network
- Future Total Conditions (2044), assuming the buildout of the site and the full buildout of the ultimate road network

1.4 Study Guidelines / Policies

The following guidelines will be referenced:

- Halton Region's Transportation Impact Study Guidelines (January 2015)

- Halton Region's Access Management Guideline (January 2015)
- Town of Oakville's Livable by Design Manuals
- Draft Midtown Oakville Official Plan Amendment (2024)

1.5 Data Collection

Traffic data collection, including data related to pedestrians, cyclists, vehicles, trucks, and buses has been undertaken by Spectrum Traffic Data Inc. on behalf of BA Group on Tuesday, June 4th, 2024. The relevant signal timing plans have been requested from the Town of Oakville.

1.6 Background Traffic

1.6.1 General Corridor Growth

Historical counts at intersections along Trafalgar Road in the study area will be reviewed to determine an appropriate corridor growth assumption, if any, to apply along the study area roads.

1.6.2 Background Developments

Potential future developments based on active applications found on the Town of Oakville's development application portal are being reviewed to determine the additional traffic to be added to the study area intersections. The following developments have been identified and will be included as a part of this study:

- 157-165 Cross Avenue
- 177 Cross Avenue
- 207 Cross Avenue & 571 Argus Road
- 570 Argus Road
- 590 Argus Road
- 166 South Service Road
- 271 Cornwall Road
- 349 Davis Road
- 599 Lyons Lane
- 627 Lyons Lane

1.7 Site Trip Generation

Travel demands for vehicles, transit users, cyclists, and pedestrians will be determined using information from the 11th Edition of the ITE Trip Generation Manual.

Additionally, the Transportation Tomorrow Survey (TTS) will be reviewed to determine mode splits, in conjunction with information collected from the proxy site surveys.

1.8 Trip Distribution

Vehicle, pedestrian, transit, and cycling trips will be distributed using information from the TTS as well as a review of existing travel patterns from the turning movement counts.

1.9 Traffic Analysis

Traffic analysis will be undertaken using Synchro 11 software.

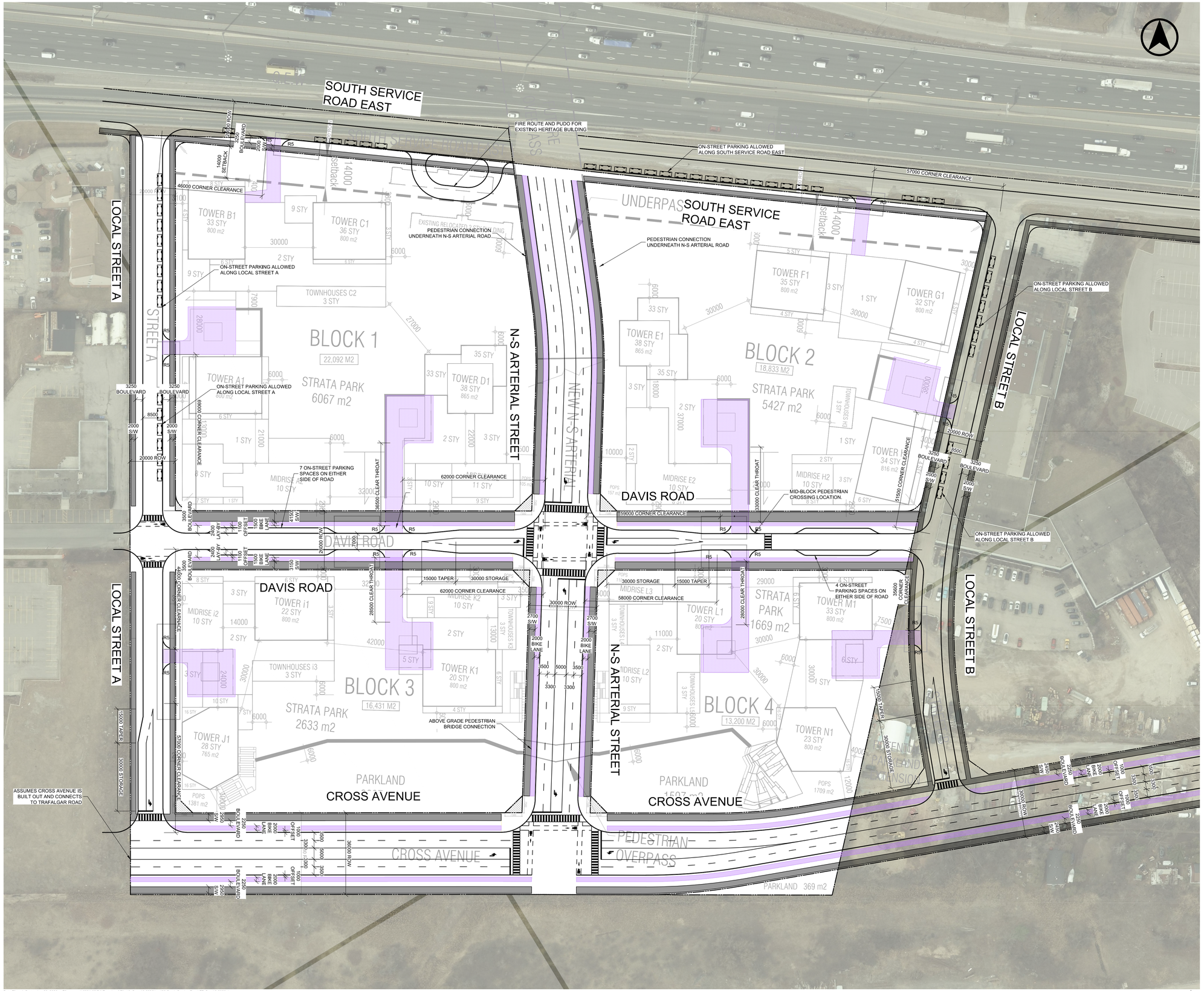
2.0 TRANSPORTATION DEMAND MANAGEMENT

A TDM Plan, which seeks to reduce the number of single-occupant vehicle trips generated by the site, will be provided in the TIS.

3.0 VEHICLE PARKING, LOADING AND BICYCLE PARKING

The appropriateness of the supply of vehicle parking, loading and bicycle parking spaces for the site will be reviewed in the context of relevant Town and Provincial zoning bylaws and policies.

Appendix D:
Functional Plan of Site Street Network



Date Plotted: September 20, 2026 File Name: J:\6931-03\BA\Functional Plan\8. Sept 18-2026\ba-420 South Service Road FD-Sept18-2026.dwg

00 MM-DD-YR INT REVISION NOTE

BA Group
BA Consulting Group Ltd.
1000 – 95 St. Clair Ave. W.
Toronto ON M4V 1N6
TEL 416 961 7110
EMAIL bagroup@bagroup.com
MOVEMENT IN URBAN ENVIRONMENTS
BAGROUP.COM

420 SOUTH SERVICE ROAD

FUNCTIONAL ROAD PLAN

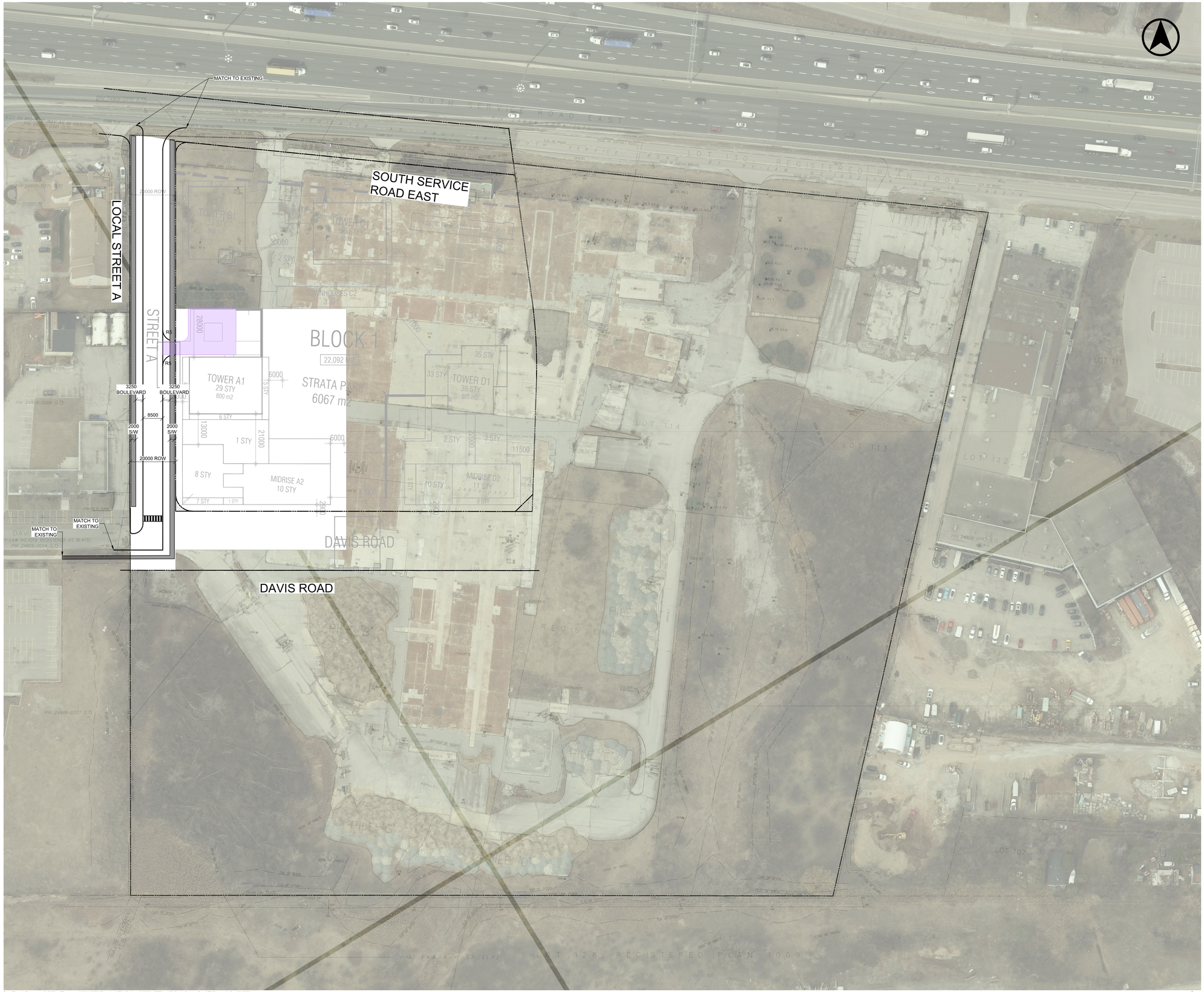
FULL BUILD OUT

Date: September 20, 2026

Project No.: 6931-03

Scale: 1:750 (0, 15, 30m)

FD-03



Date Plotted: September 3, 2026 Filename: J:\6931-03\BA\Functional Plan\7. Aug 18-2026 - SPR\ba-420 South Service Road FD Phase 1A-Sept03-2026.dwg

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MOVEMENT IN URBAN ENVIRONMENTS
BAGROUP.COM

420 SOUTH SERVICE ROAD

FUNCTIONAL ROAD PLAN

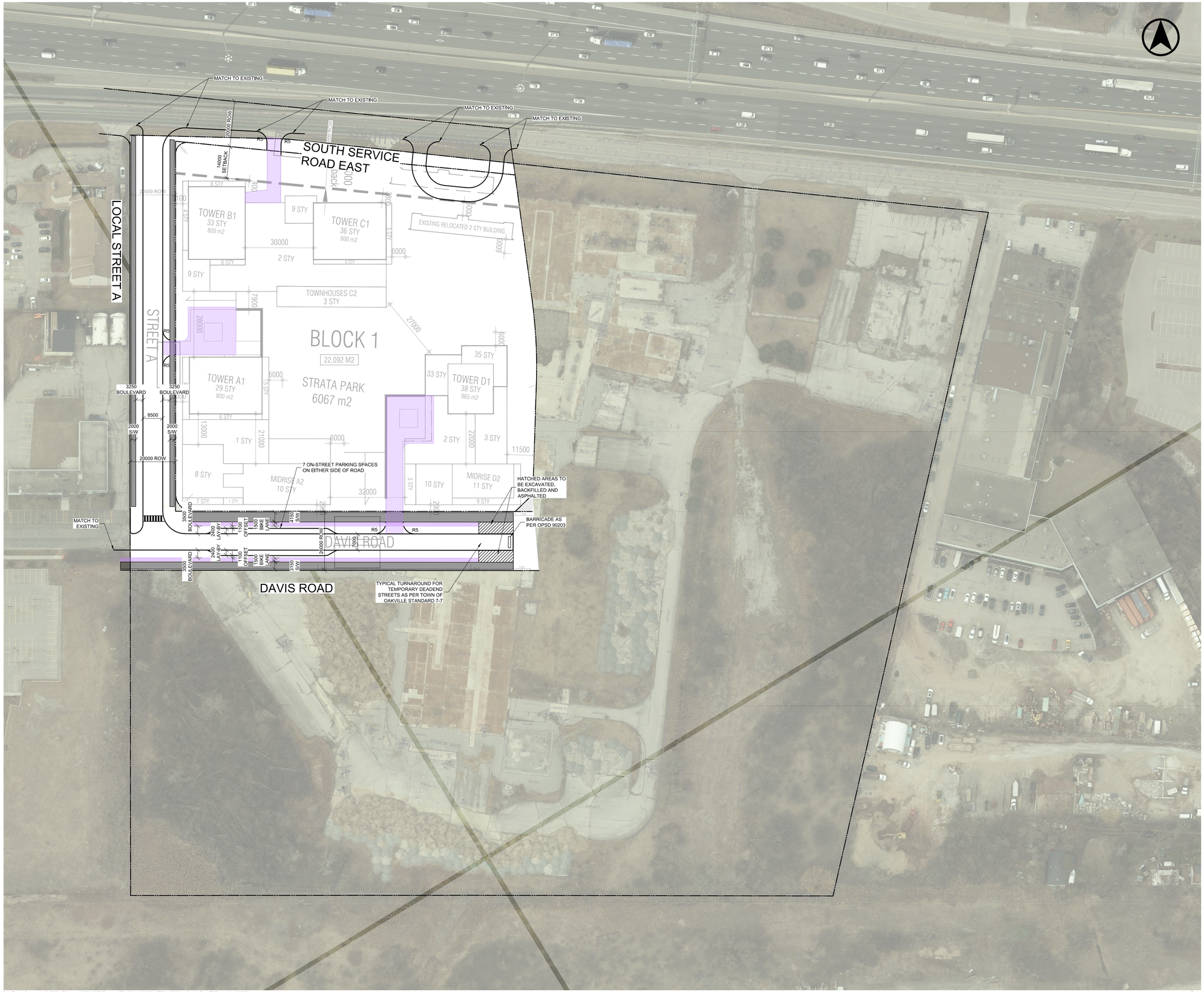
PHASE 1A

Date: September 3, 2026

Project No.: 6931-03

Scale: 1:750 (0, 15, 30m)

FD-01



00 MM-DD-YR INT REVISION NOTE

BA Group

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MOVEMENT IN URBAN ENVIRONMENTS
BAGROUP.COM

420 SOUTH SERVICE ROAD

FUNCTIONAL ROAD PLAN

PHASE 1B

Date: September 18, 2026

Project No.: 6931-03

Scale: 1:750 (0, 15, 30m)

FD-02

Date Plotted: September 18, 2026 Filename: J:\6931-03\BA\Functional Plan\7. Aug 18-2026 - SP\fba-420 South Service Road FD Phase 1-Aug18-2026.dwg

Appendix E:
Proposed Cross-Sections of Site Street Network

Date Plotted: September 30, 2025 Filename: J:\6931-03\BA\Functional Plan\5. Sept 23-2025\ba-420 South Service Rd-Cross Section Elements-Sept 23-2025-6931-03.dwg



STREET A - 20M ROW

Date Plotted: September 30, 2025 Filename: J:\6931-03\BA\Functional Plan\5. Sept 23-2025\ba-420 South Service Rd-Cross Section Elements-Sept 23-2025-6931-03.dwg



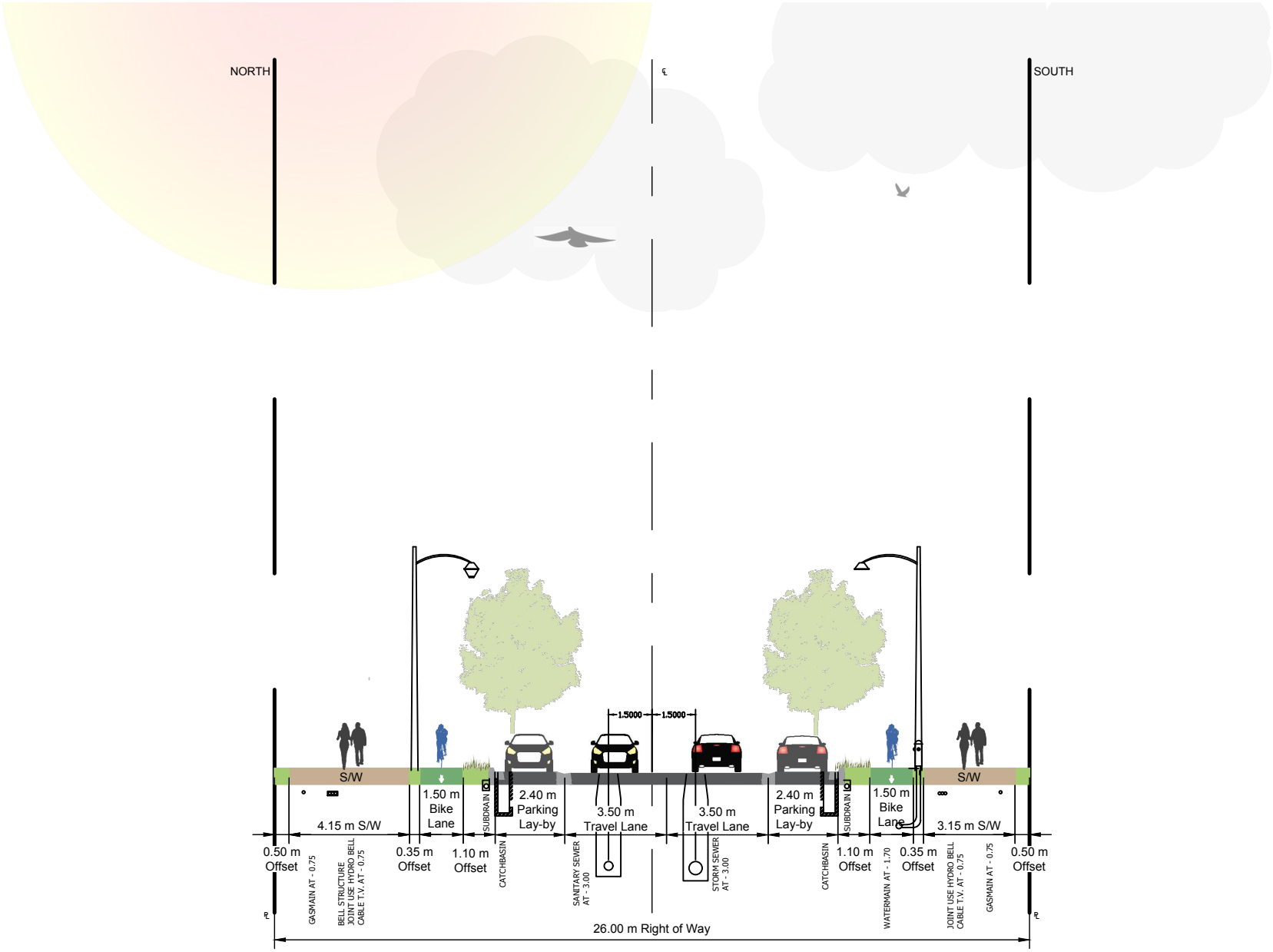
STREET B - 20M ROW

Date Plotted: September 30, 2025 Filename: J:\6931-03\BA\Functional Plan\5. Sept 23-2025\ba-420 South Service Rd-Cross Section Elements-Sept 23-2025-6931-03.dwg



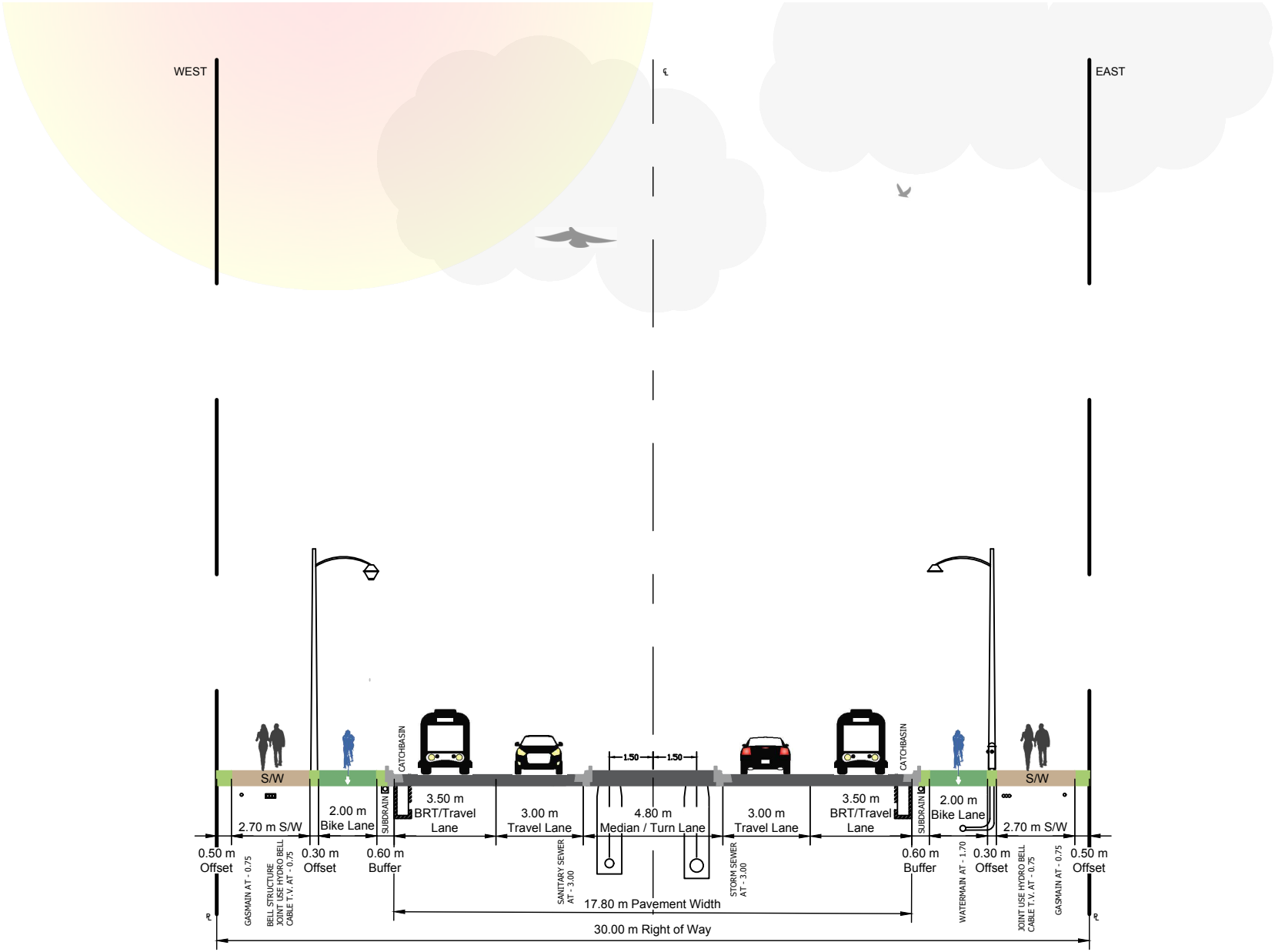
SOUTH SERVICE ROAD EAST - 20M ROW

Date Plotted: September 30, 2025 Filename: J:\6931-03\BA\Functional Plan\5. Sept 23-2025\ba-420 South Service Rd-Cross Section Elements-Sept 23-2025-6931-03.dwg



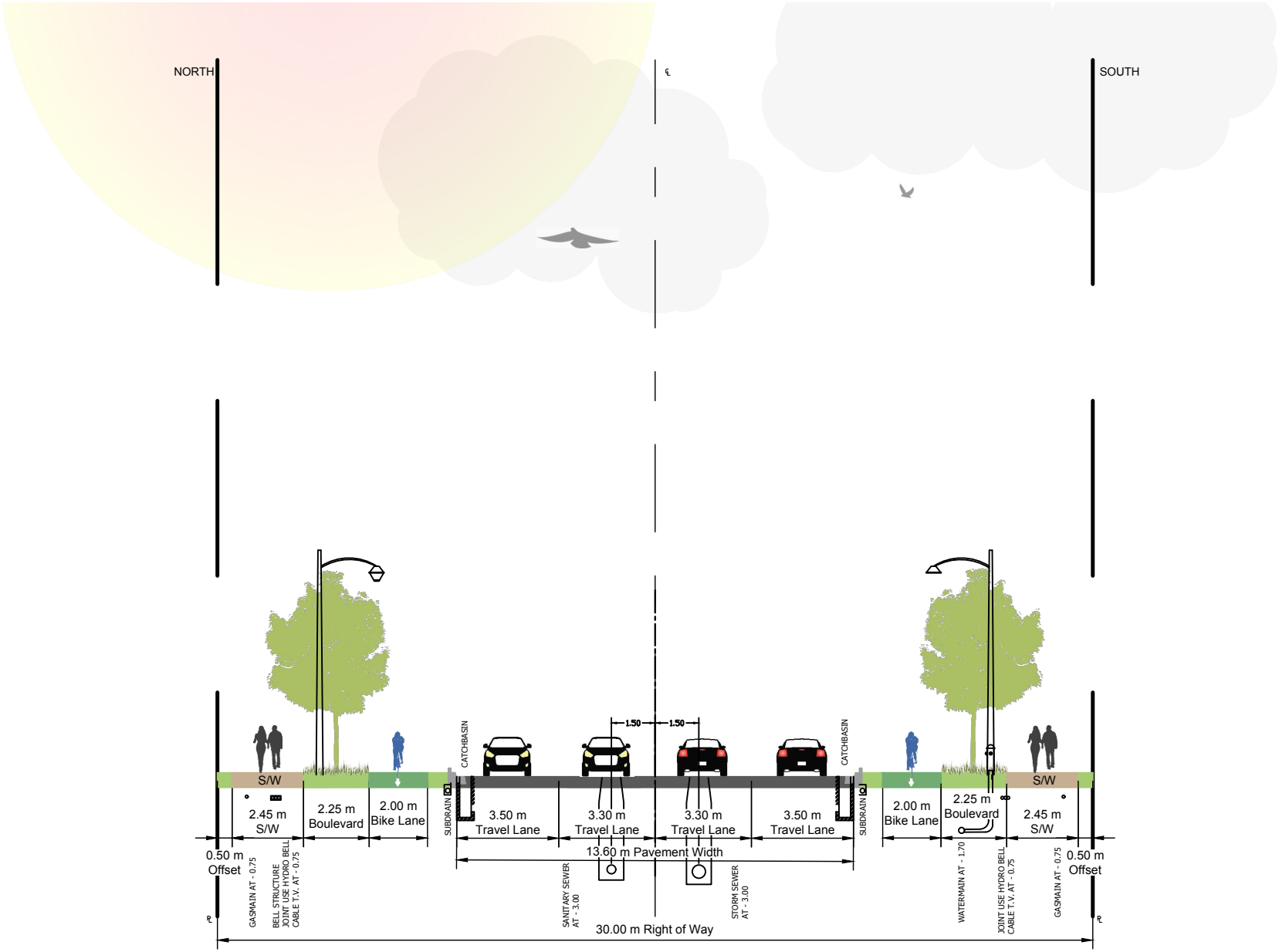
DAVIS ROAD - 26M ROW

Date Plotted: September 30, 2025 Filename: J:\6931-03\BA\Functional Plan\5. Sept 23-2025\ba-420 South Service Rd-Cross Section Elements-Sept 23-2025-6931-03.dwg



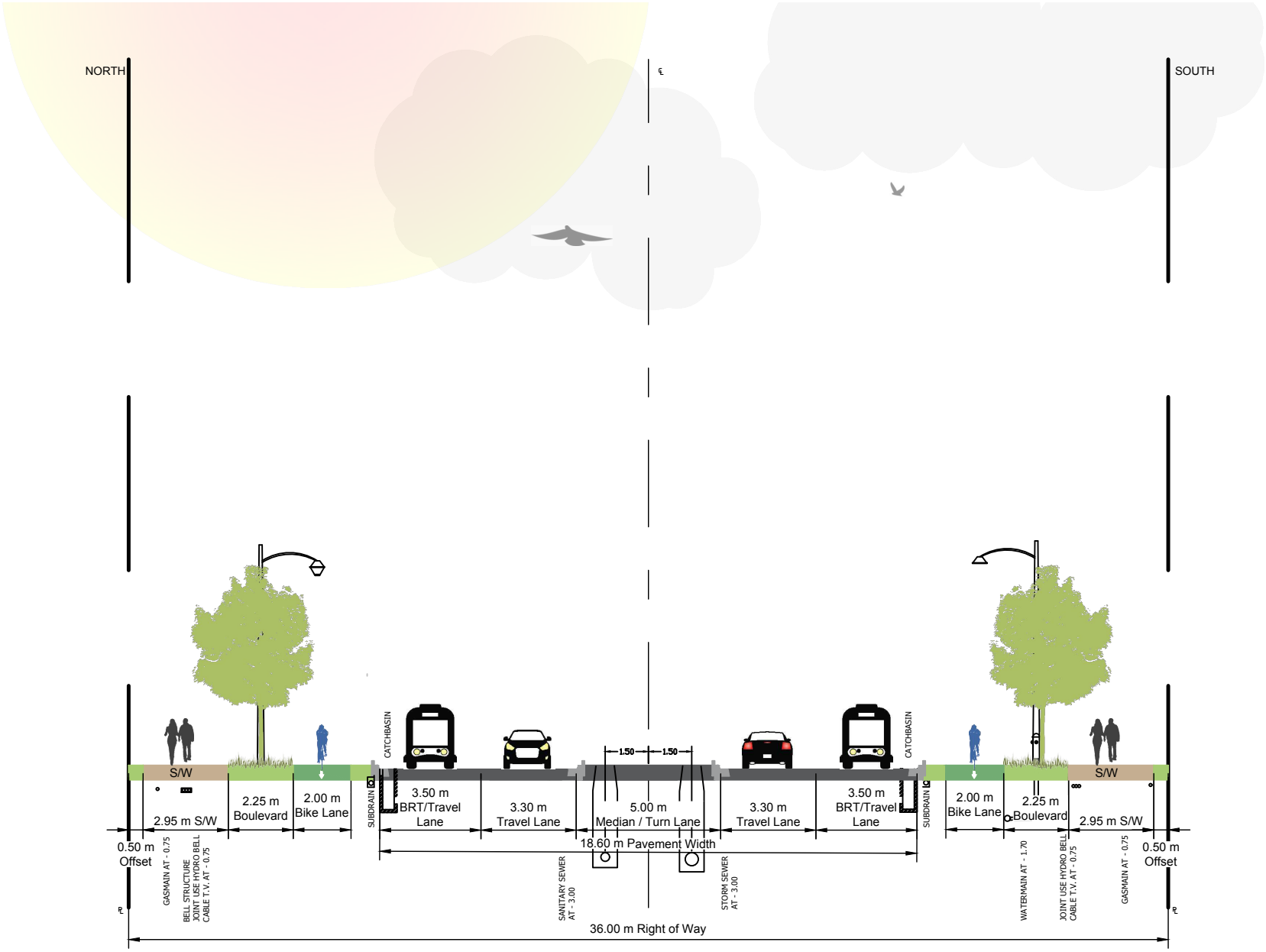
N-S ARTERIAL ROAD - 30M ROW

Date Plotted: September 30, 2025 Filename: J:\6931-03\BA\Functional Plan\5. Sept 23-2025\ba-420 South Service Rd-Cross Section Elements-Sept 23-2025-6931-03.dwg



CROSS AVENUE EAST OF N-S ARTERIAL ROAD - 30M ROW

Date Plotted: September 30, 2025 Filename: J:\6931-03\BA\Functional Plan\5. Sept 23-2025\ba-420 South Service Rd-Cross Section Elements-Sept 23-2025-6931-03.dwg



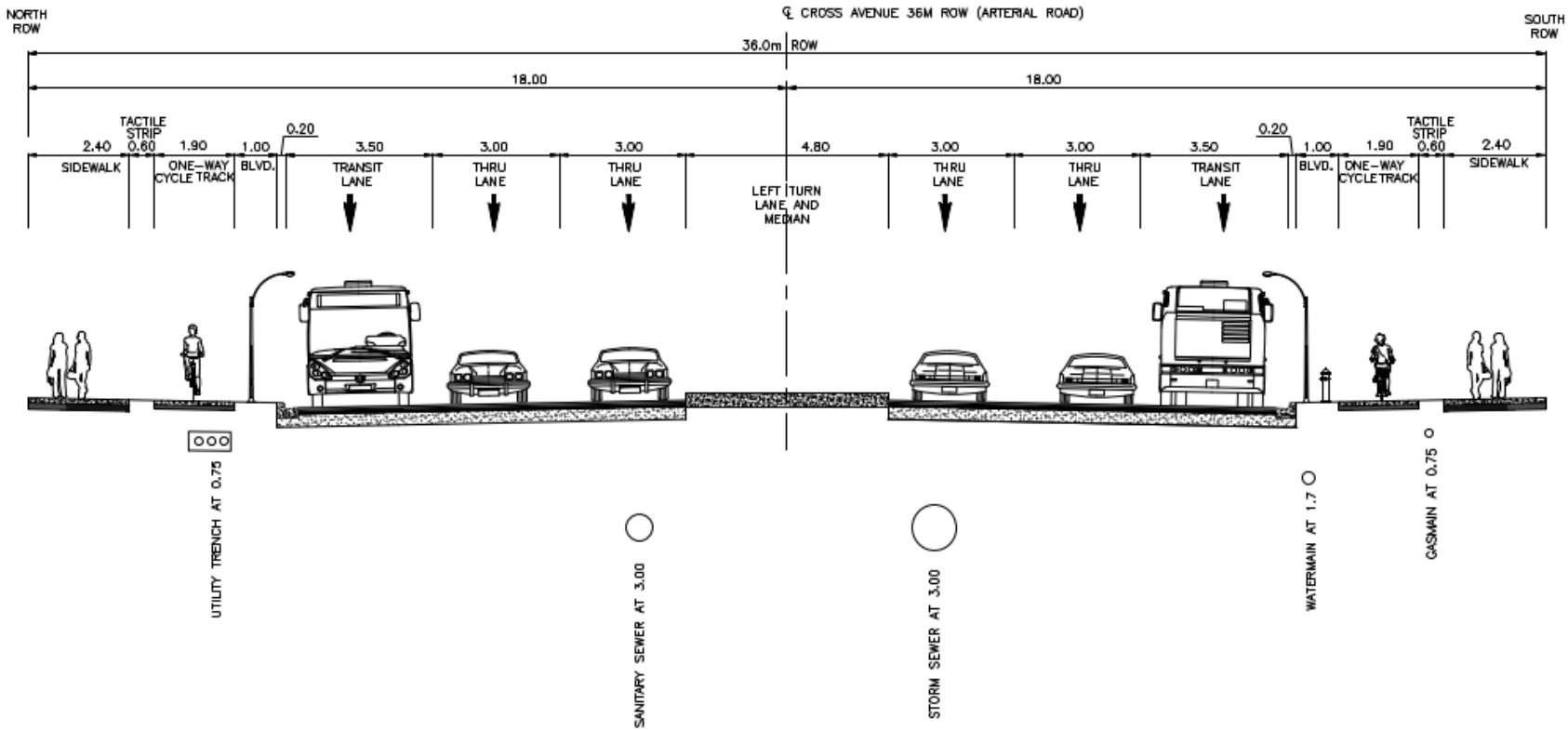
CROSS AVENUE WEST OF N-S ARTERIAL ROAD - 36M ROW

DRAFT
Right of Way Cross Sections for Midtown

For information only.

Illustrations are subject to change following the completion of the Functional Servicing Study, to be undertaken in Phase 5 of the Midtown Program.

DRAFT



CROSS AVENUE 36M ROW–MID–BLOCK TREATMENT
WEST OF NORTH SOUTH CROSSING

NOTES:
1. MINIMUM CURB LANE WITH TO BE CONFIRMED BY OAKVILLE TRANSIT AND OTHER TRANSIT OPERATORS
2. BOULEVARD WIDTH LESS THAN 1.6m MAY NOT BE SUITABLE FOR PLANTING TREES.

NOT FOR CONSTRUCTION

BURNSIDE

Town of Oakville
Transportation and Engineering

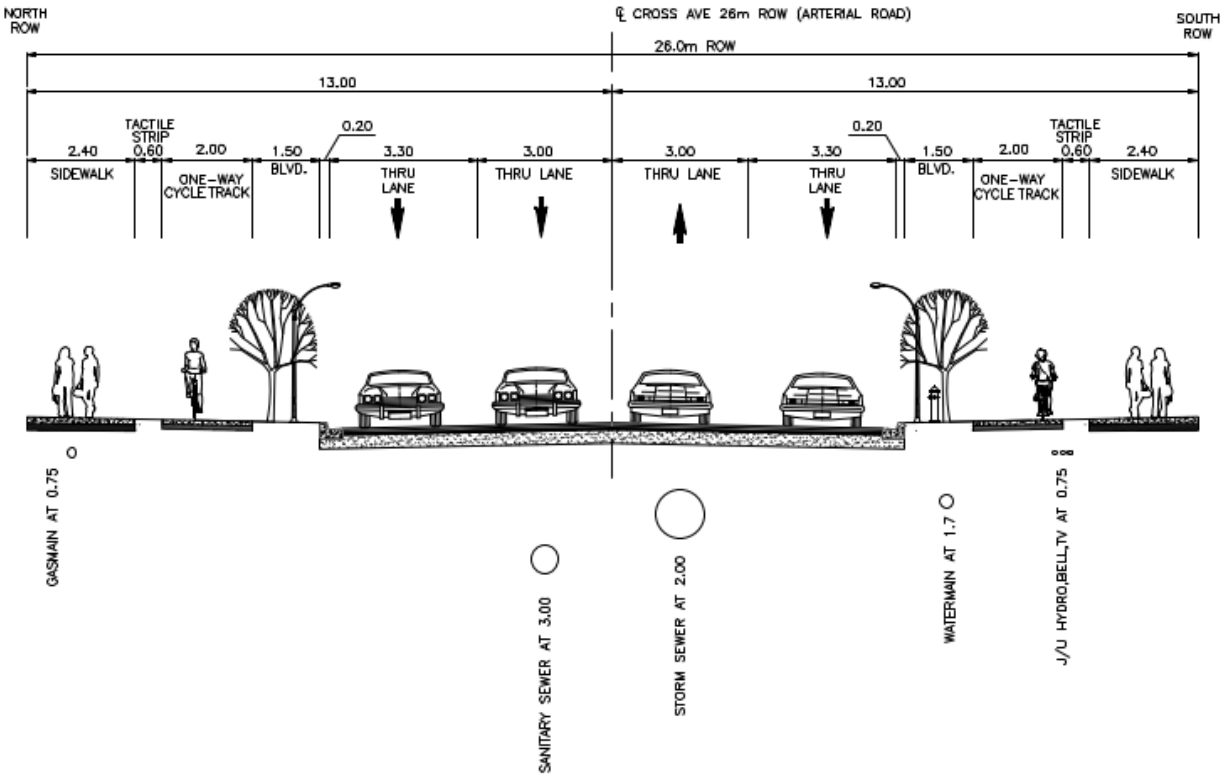
OAKVILLE MIDTOWN EA

CROSS AVENUE 36m ROW -MID-BLOCK TREATMENT

TYP-1

36m ROW

DRAFT



CROSS AVE EAST OF NORTH-SOUTH CROSSING

NOTES:
1. MINIMUM CURB LANE WITH TO BE CONFIRMED BY OAKVILLE TRANSIT AND OTHER TRANSIT OPERATORS
2. BOULEVARD WIDTH LESS THAN 1.6m MAY NOT BE SUITABLE FOR PLANTING TREES.

NOT FOR CONSTRUCTION

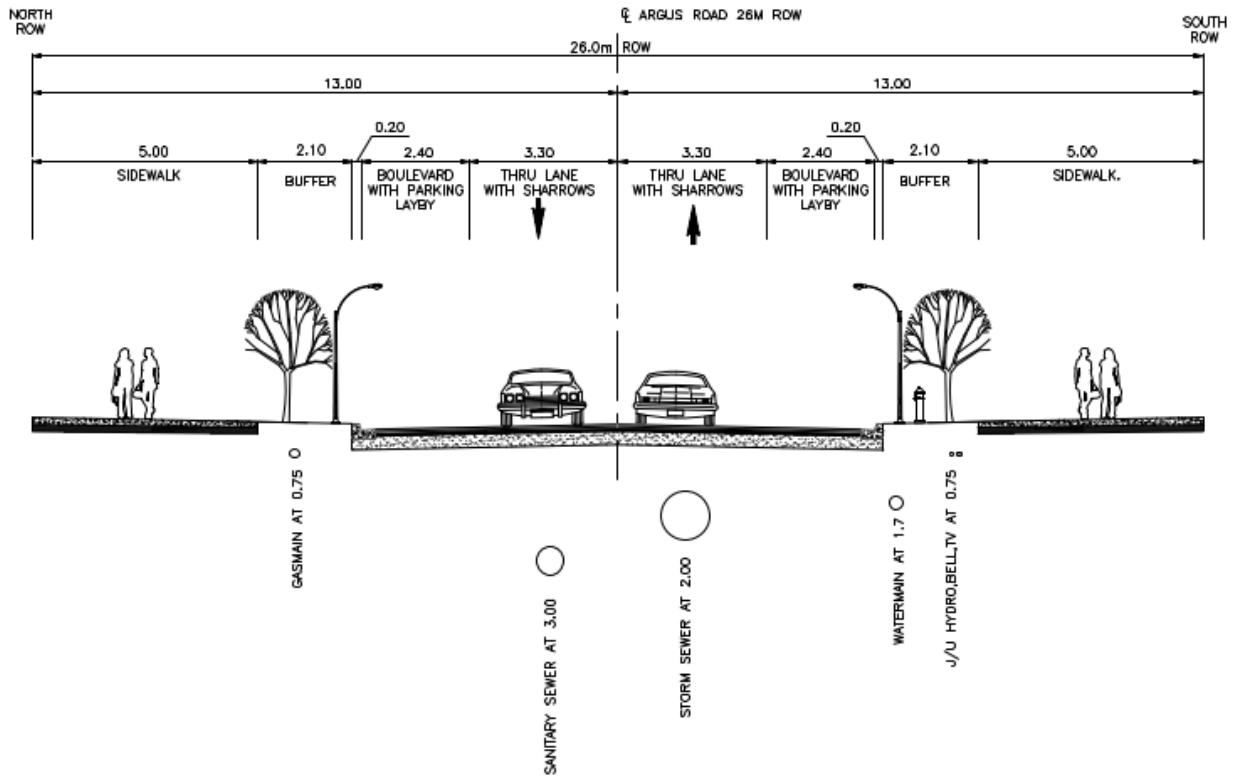
Town of Oakville
Transportation and Engineering

OAKVILLE MIDTOWN EA
CROSS AVENUE EAST OF NORTH-SOUTH CROSSING & CHARTWELL ROAD

TYP-2

26m ROW

DRAFT



ARGUS ROAD 26M ROW–HIGH STREET
PEDESTRANIZED ROAD

CYCLIST TO USE SHARED LANES WITH VEHICLES

NOTES:
1. MINIMUM CURB LANE WITH TO BE CONFIRMED BY OAKVILLE TRANSIT AND OTHER TRANSIT OPERATORS
2. BOULEVARD WIDTH LESS THAN 1.6m MAY NOT BE SUITABLE FOR PLANTING TREES.

NOT FOR CONSTRUCTION

BURNSIDE

Town of Oakville
Transportation and Engineering

OAKVILLE MIDTOWN EA

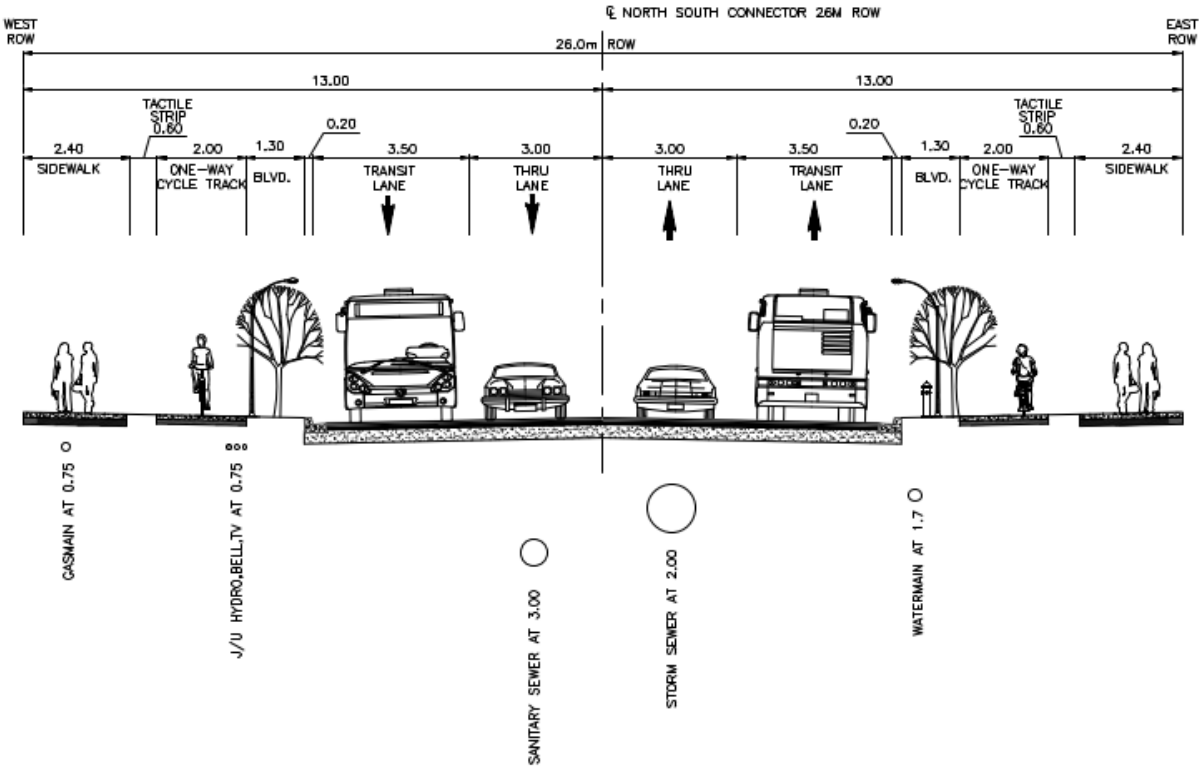
LOCAL ROAD OPTION 1 - TWO SIDED PARKING

CONTRACT NO.

TYP-3

26m ROW

DRAFT



NORTH SOUTH CONNECTOR 26M ROW

NOTES:
1. MINIMUM CURB LANE WITH TO BE CONFIRMED BY OAKVILLE TRANSIT AND OTHER TRANSIT OPERATORS
2. BOULEVARD WIDTH LESS THAN 1.6m MAY NOT BE SUITABLE FOR PLANTING TREES.

NOT FOR CONSTRUCTION

BURNSIDE

Town of Oakville
Transportation and Engineering

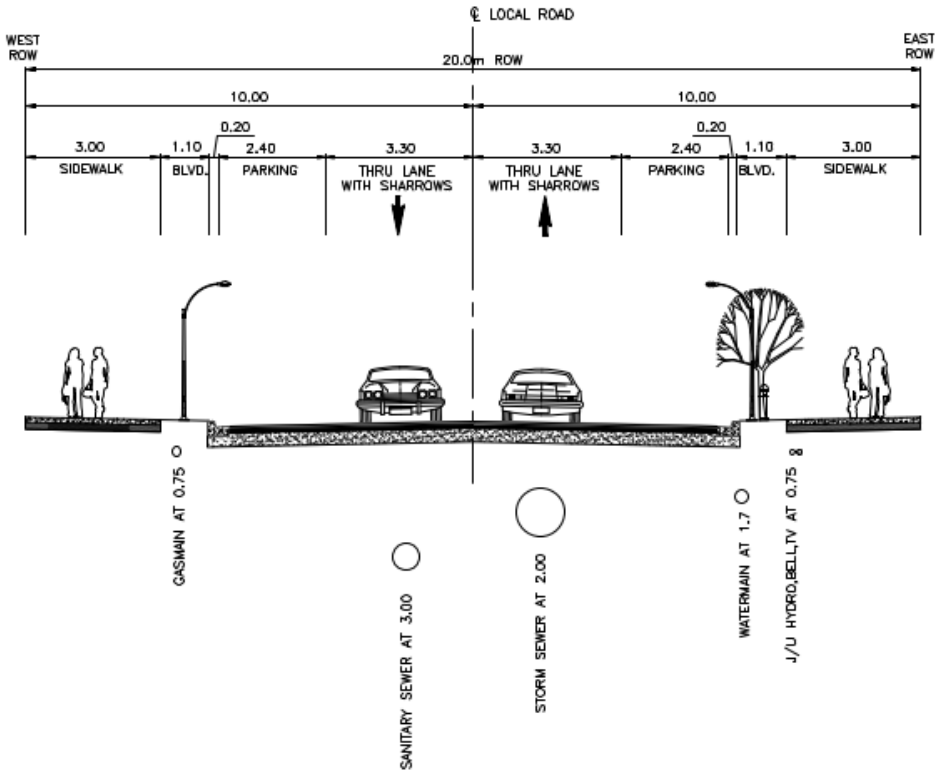
OAKVILLE MIDTOWN EA

LOCAL ROAD OPTION 2 - 1 SIDED PARKING WITH TWO-WAY CYCLE TRACKS

TYP-4

26m ROW

DRAFT



LOCAL ROAD OPTION 1-TWO-SIDED PARKING

CYCLIST TO USE SHARED LANES WITH VEHICLES

NOTES:

1. MINIMUM CURB LANE WITH TO BE CONFIRMED BY OAKVILLE TRANSIT AND OTHER TRANSIT OPERATORS
2. BOULEVARD WIDTH LESS THAN 1.6m MAY NOT BE SUITABLE FOR PLANTING TREES.

NOT FOR CONSTRUCTION

BURNSIDE

Town of Oakville
Transportation and Engineering

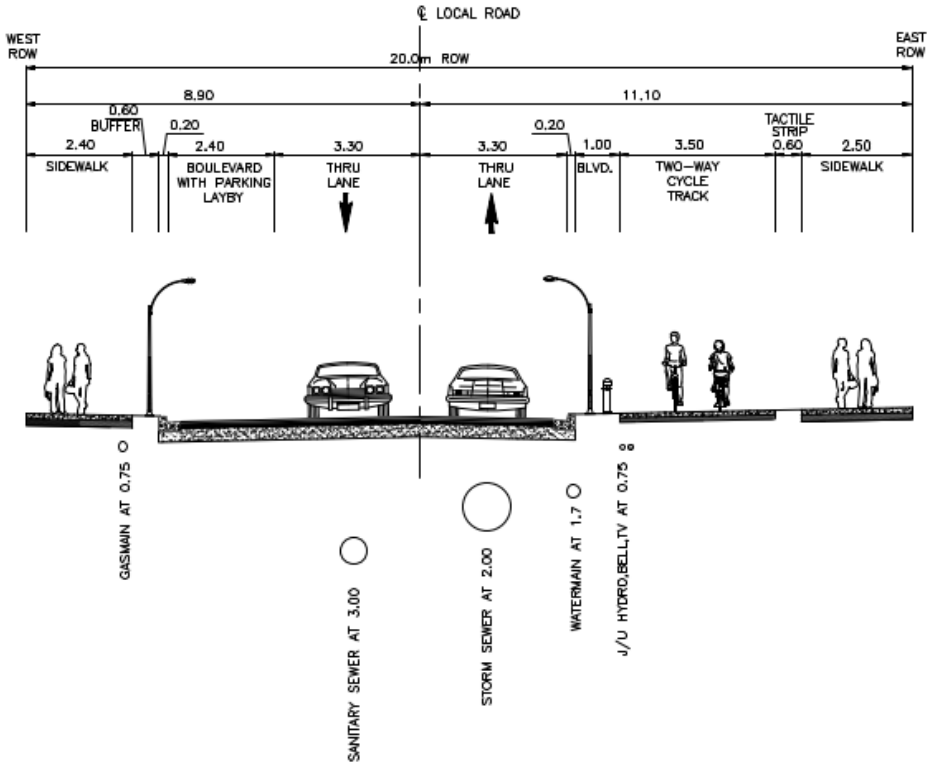
OAKVILLE MIDTOWN EA

LOCAL ROAD OPTION 3 - AT FACILITIES WITH NO PARKING

TYP-5

20m ROW

DRAFT



LOCAL ROAD OPTION 2-1 SIDED PARKING WITH TWO-WAY CYCLE TRACK

NOTES:
1. MINIMUM CURB LANE WITH TO BE CONFIRMED BY OAKVILLE TRANSIT AND OTHER TRANSIT OPERATORS
2. BOULEVARD WIDTH LESS THAN 1.6m MAY NOT BE SUITABLE FOR PLANTING TREES.

NOT FOR CONSTRUCTION

BURNSIDE

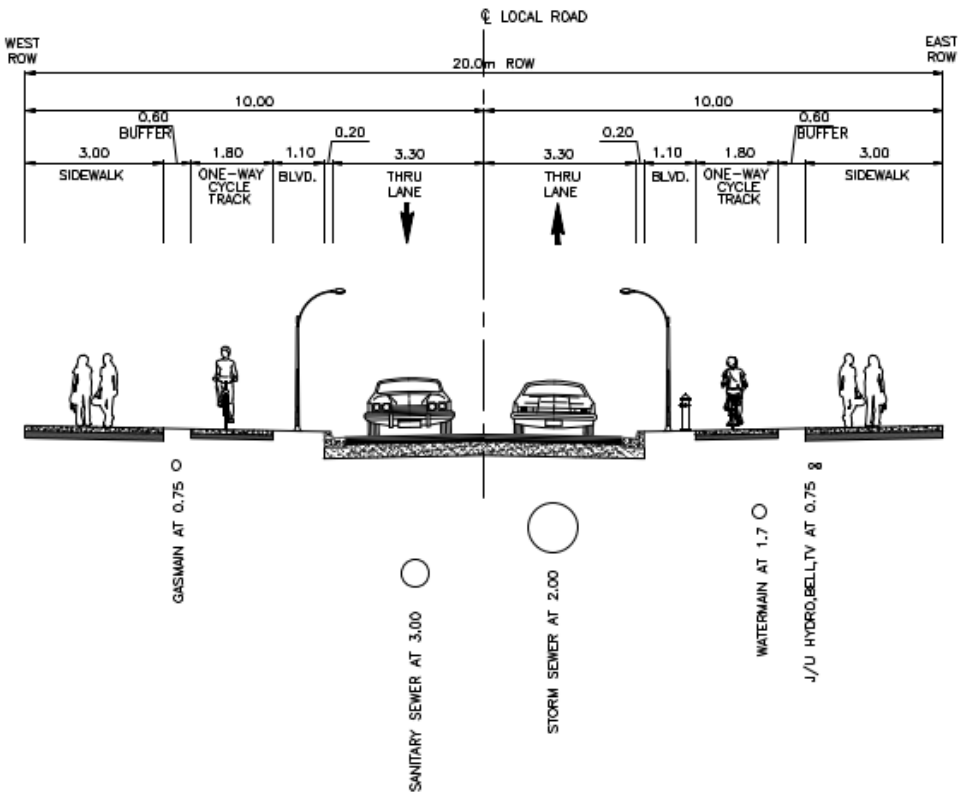
Town of Oakville
Transportation and Engineering

OAKVILLE MIDTOWN EA
NORTH SOUTH CONNECTOR 20m ROW

TYP-6

20m ROW

DRAFT



LOCAL ROAD OPTION 3–AT FACILITIES WITH NO PARKING

NOTES:
1. MINIMUM CURB LANE WITH TO BE CONFIRMED BY OAKVILLE TRANSIT AND OTHER TRANSIT OPERATORS
2. BOULEVARD WIDTH LESS THAN 1.6m MAY NOT BE SUITABLE FOR PLANTING TREES.

NOT FOR CONSTRUCTION

BURNSIDE

Town of Oakville
Transportation and Engineering

OAKVILLE MIDTOWN EA

ARGUS ROAD 20m ROW-HIGH STREET PEDESTRIAN ROAD

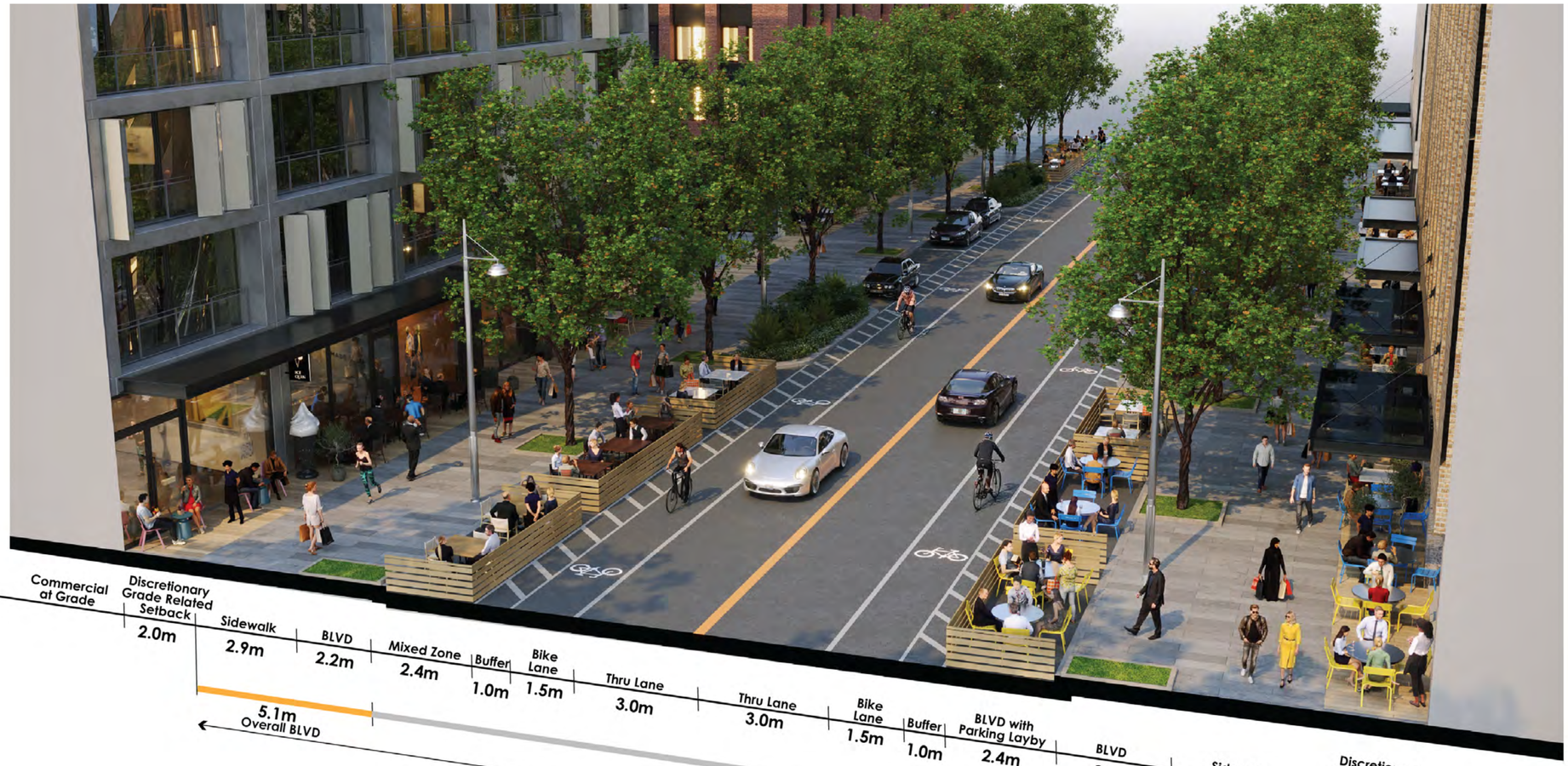
TYP-7

20m ROW

MOBILITY

ARGUS/DAVIS

Argus/Davis is envisioned as a vibrant main street with substantial pedestrian areas and opportunities for outdoor dining. Traffic and bike movement in both directions has been organized to maximize pedestrian mobility and activity.

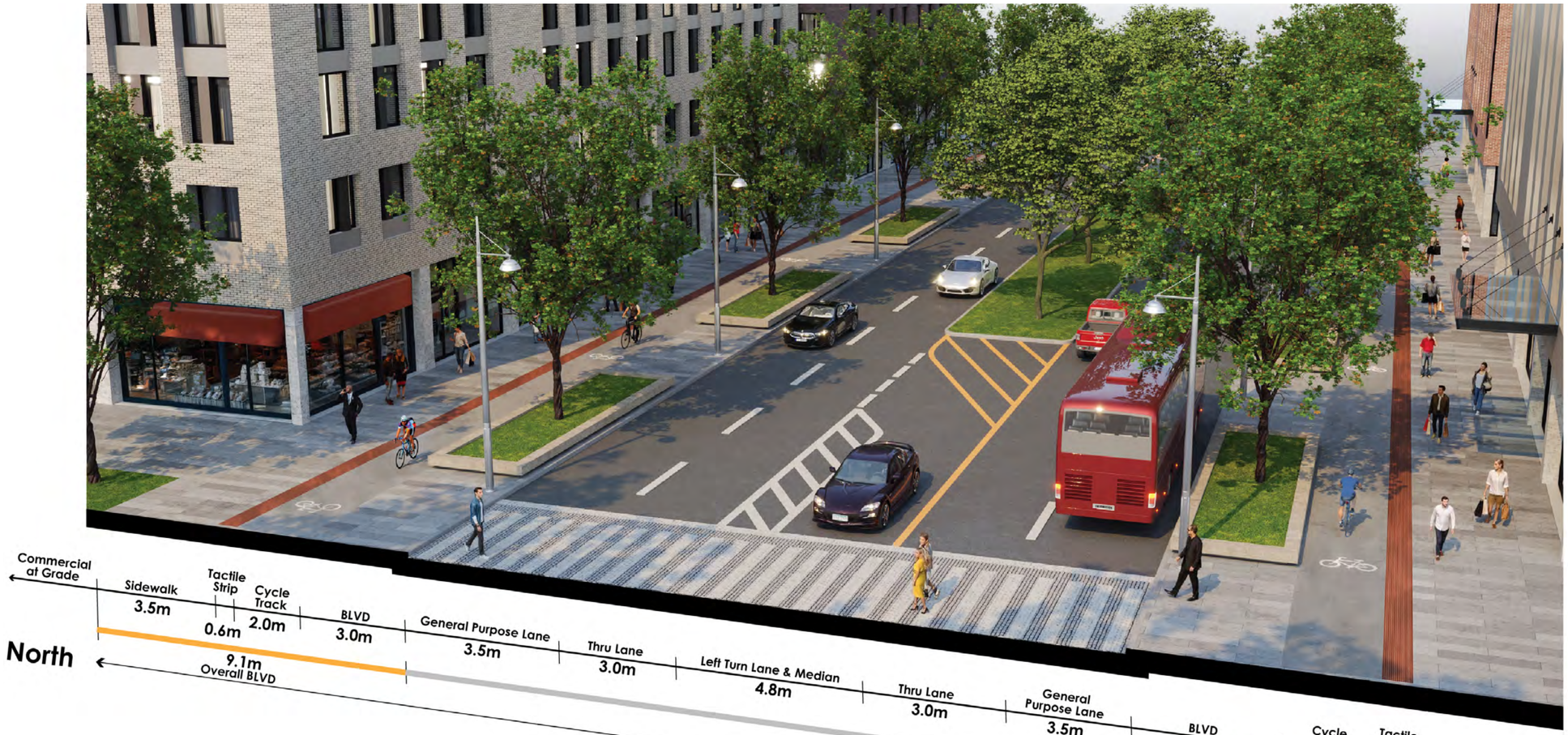




MOBILITY

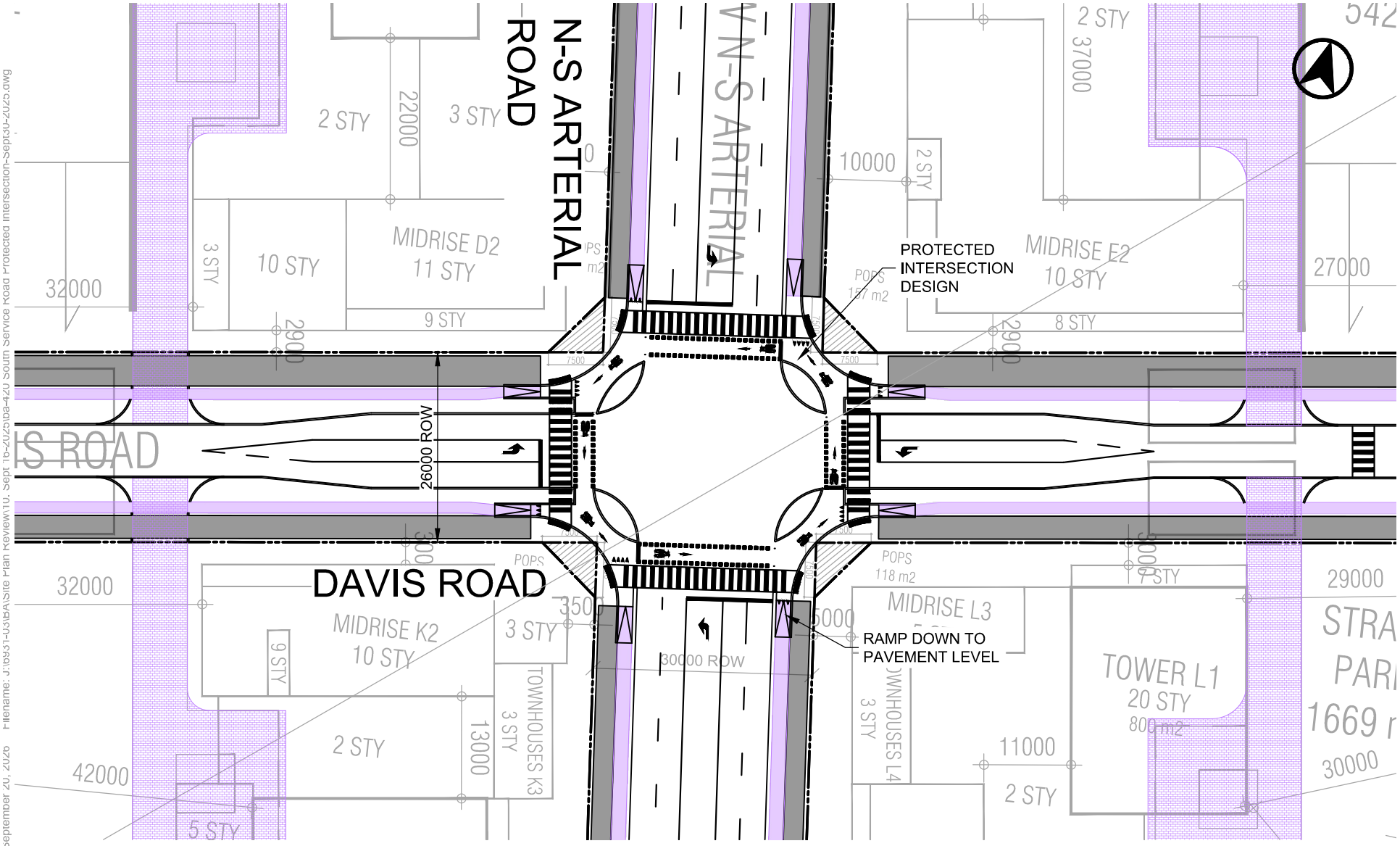
CROSS AVE

Cross Ave provides access to the GO Station, accommodates bus routes, includes bike lanes and a generous public realm that will create a functional and attractive street that offers a high level of transit and pedestrian connectivity.





Appendix F:
Alternative Design – Protected Intersection at N-S Arterial Street at Davis Road



0 15 30m

1:750 Scale

Date Plotted: September 20, 2026 Filename: J:\6931-03\BA\Site Plan Review\10. Sept 18-2026\DBA-420 South Service Road Protected Intersection-Sept30-2026.dwg

BA Group

420 SOUTH SERVICE ROAD

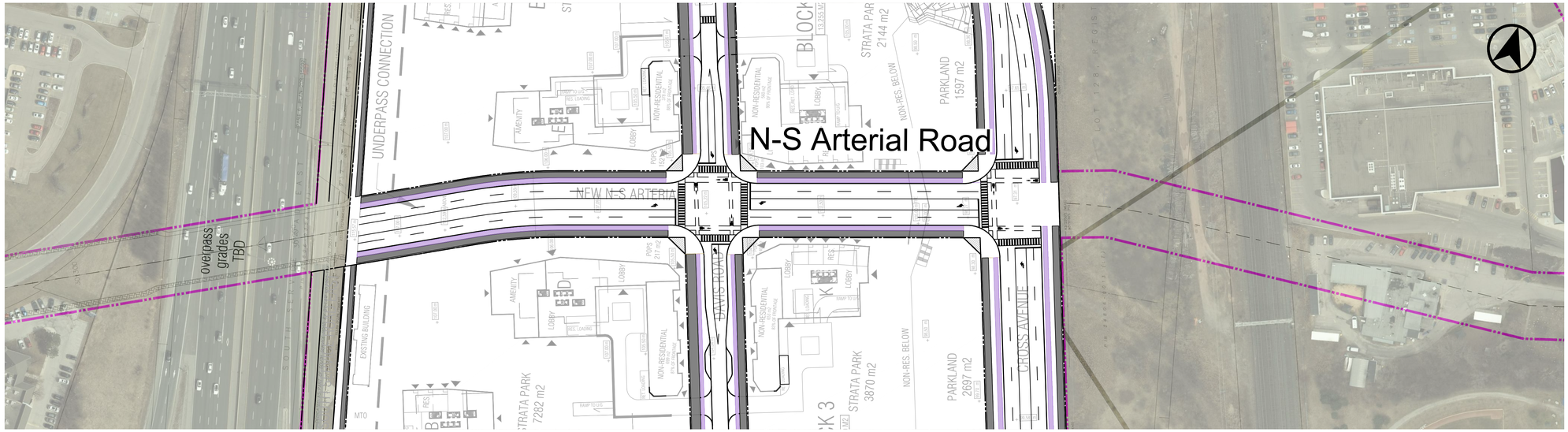
FUNCTIONAL ROAD PLAN

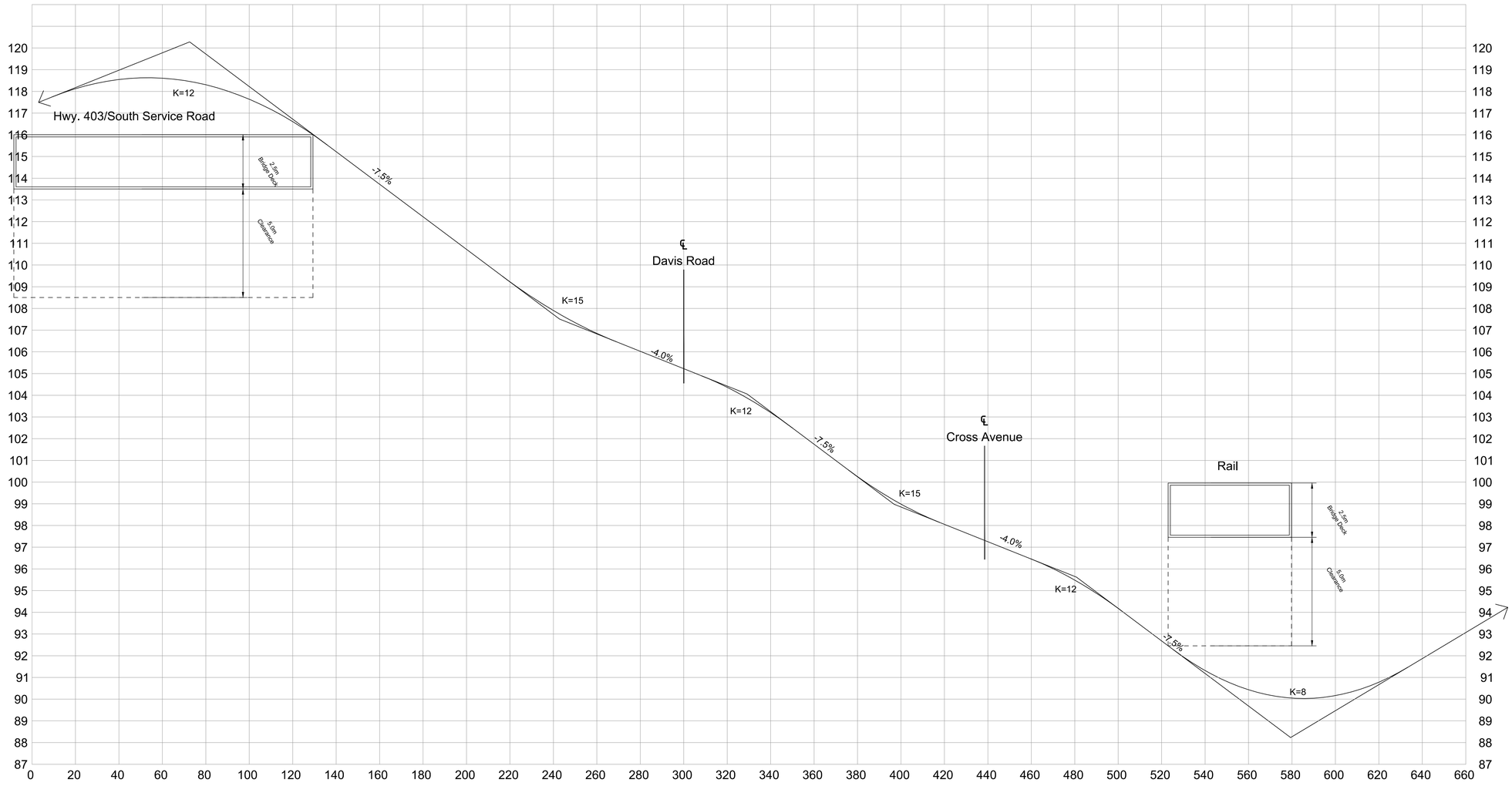
PROTECTED INTERSECTION OPTION

DAVIS ROAD / N-S ARTERIAL ROAD INTERSECTION

Project:	420 South Service Road
Project No.	6931-03
Date:	September 20, 2026
Revised:	--
Drawing No.	SPR-01

Appendix G:
N-S Arterial Street – Vertical Profile





Profile of N-S Arterial Road

GENERAL NOTES

1. DESCRIPTON
2. DESRIPTION

00	MM-DD-YR	INT	REVISION NOTE

BA Group

BA Consulting Group Ltd,
1000 – 55 St. Clair Ave. W,
Toronto ON M4V 1N6
TEL 416 961 7110
EMAIL bagroup@bagroup.com

MOVEMENT IN URBAN ENVIRONMENTS
BAGROUP.COM

420 SOUTH SERVICE ROAD

VERTICAL PROFILE OF N-S ARTERIAL ROAD

Date: Month Day, 2016

Project No.: 0000-00

Scale: 1:1,000 (0 10 20 30 40 50m)

PROFILE-01

Date Plotted: October 9, 2025 Filename: J:\6931-03\BA\Functional Plan\Profiles\ba Alignments With Profiles Jul2-24.dwg

Appendix H:
Phasing Plan



LEGAL DESCRIPTION
PART OF LOT 12, CONCESSION 3, SOUTH OF DUNDAS ST
(GEOGRAPHIC TOWNSHIP OF TRAFALGAR, COUNTY OF HALTON)
AND LOTS 113 AND 114, REGISTERED PLAN 1009
TOWN OF OAKVILLE
REGIONAL MUNICIPALITY OF HALTON

OWNER'S CERTIFICATE

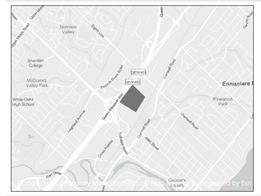
I AUTHORIZE MACNAUGHTON HERMSEN BRITTON CLARKSON PLANNING LIMITED TO SUBMIT THIS PLAN FOR APPROVAL.

Date: _____ **Signature:** _____
Daniel Berholz
South Service Holding Corporation

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LAND TO BE SUBDIVIDED ON THIS PLAN AND THEIR RELATIONSHIP TO THE ADJACENT LANDS ARE ACCURATELY AND CORRECTLY SHOWN

Date: _____ **Signature:** _____
John Yuen
Ontario Land Surveyor (O.L.S.)



Additional Information Required Under Section 51(17) of the Planning Act R.S.O. 1990, c.P.13 as Amended:

A. As Shown
B. As Shown
C. As Shown Above
D. Residential, Commerical, Community, Park, Privately Owned Public Open Space (POPS), Parkland, Stratified Parks
E. Employment, Open Space; As Shown
F. As Shown
F.1. To Be Discussed With Municipality
G. As Shown
H. Municipal Water Supply
I. Silty Clay, Silty Sand, Sand, and Gravel
J. All Services as Required
K. All Services as Required
L. As Shown

SITE STATISTICS

Block No.	Block Name	Phase	Hectares	Acres
1	Development	1A	0.669	1.653
2	Road Widening	1B	0.075	0.185
3	Development	1B	1.751	4.327
4	Road Widening	2	0.079	0.196
5	Development	2	2.128	5.258
6	Development	3	1.372	3.391
7	Parkland	3	0.270	0.666
8	Development	4	1.160	2.867
9	Parkland	4	0.160	0.395
10	Parkland	4	0.037	0.091
Street 'A', Street 'B', Davis Road, Cross Avenue	Rights-of-Way		3.348	8.274
		Total:	**11.049**	**27.302**

No.	DATE	REVISION	BY
9	2026-08-10	Correct right-of-way offsets for Street 'A' and Cross Ave	RM
8	2026-08-10	Revise blocks 1 and 3	RM
7	2026-07-30	Consolidate blocks 2, 6 - 12; Consolidate blocks 3 - 5	RM
6	2026-05-04	Remove blocks within Phases 2, 3, and 4	RM
5	2025-10-22	Populate Section 51(17) Planning Act information	RM
4	2025-10-16	Split easterly POPS block; Add Blocks 10 and 11	RM
3	2025-10-10	Update block delineation lines to match construction phasing	RM
2	2025-08-13	Update line-work as per master plan	RM
1	2025-08-01	Issue preliminary plan	RM

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE
301-12 JAMES STREET NORTH, HAMILTON, ON, L8R 2J9 | P: 905.639.8686 | WWW.MHBCPLAN.COM

Approval Stamp

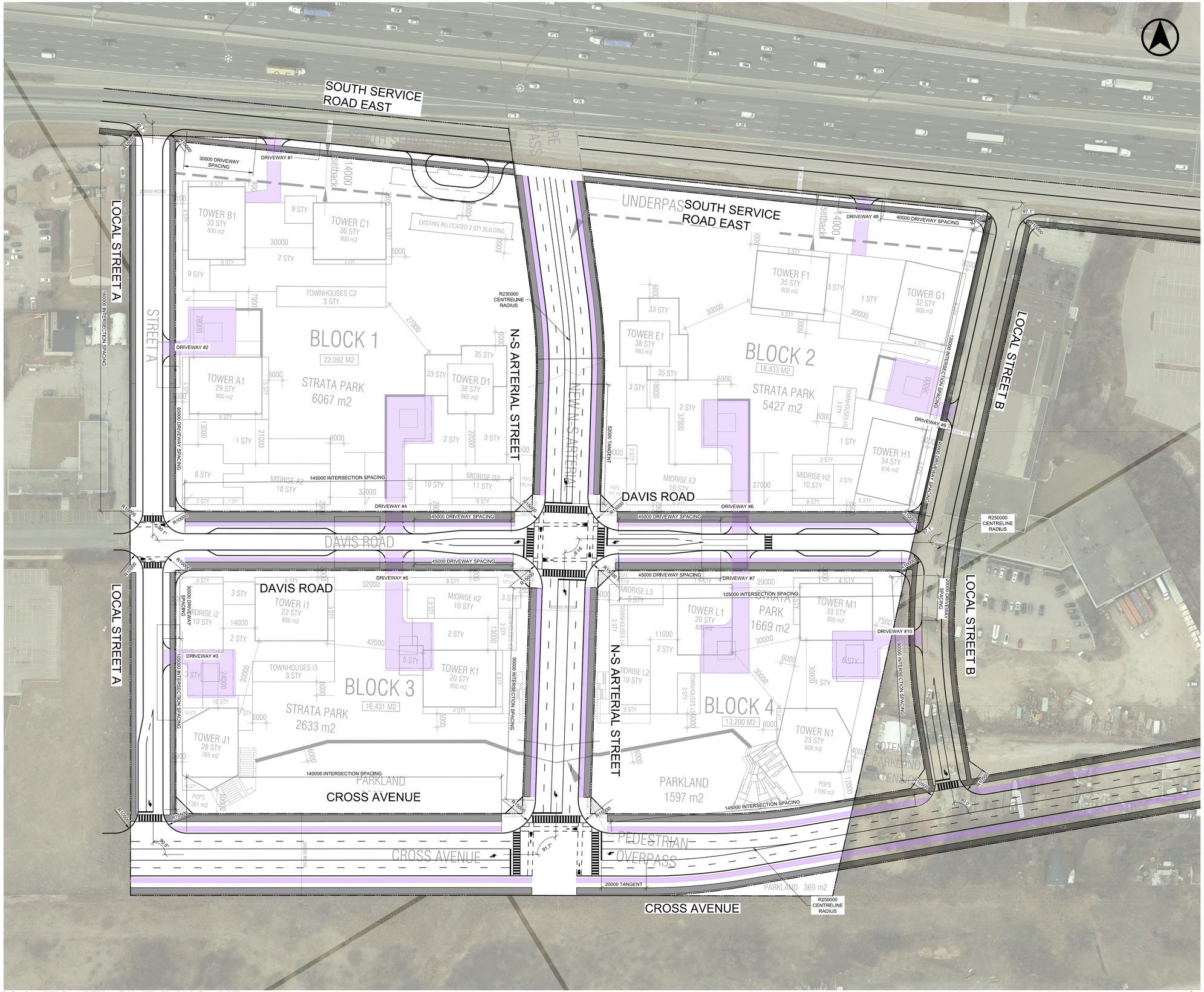
Date: August 11, 2026
File No.: 1677 - X
Plan Scale: 1:600
Drawn By: R.M.
Checked By: D.M.

Project:
The Rose Corporation
420 South Service Rd E

File Name:
Draft Plan of Subdivision

Z:\16774 - 420-468 South Service Road, Oakville\1 - MHBC Documents\Draft Plan of Subdivision\2026.08.11

Appendix I:
Road Design Conformance Review



00 MM-DD-YR INT REVISION NOTE

BA Group

BA Consulting Group Ltd.
1000 – 45 St. Clair Ave. W.
Toronto ON M4V 1N6
TEL 416 961 7110
EMAIL bagroup@bagroup.com

MOVEMENT IN URBAN ENVIRONMENTS
BAGROUP.COM

420 SOUTH SERVICE ROAD

FUNCTIONAL ROAD PLAN

ROAD DESIGN CONFORMANCE REVIEW

Date: September 18, 2026

Project No.: 6931-03

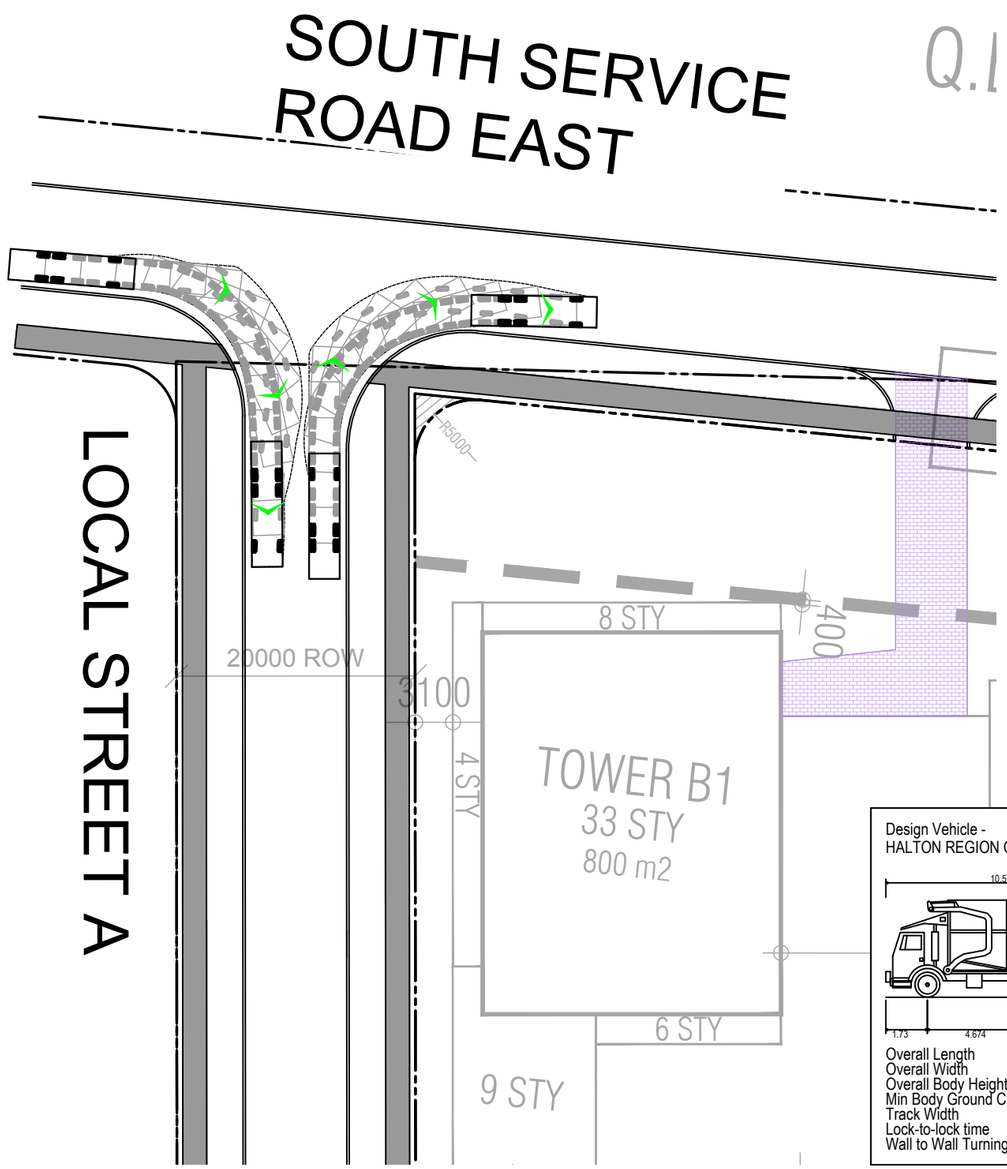
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RD-01

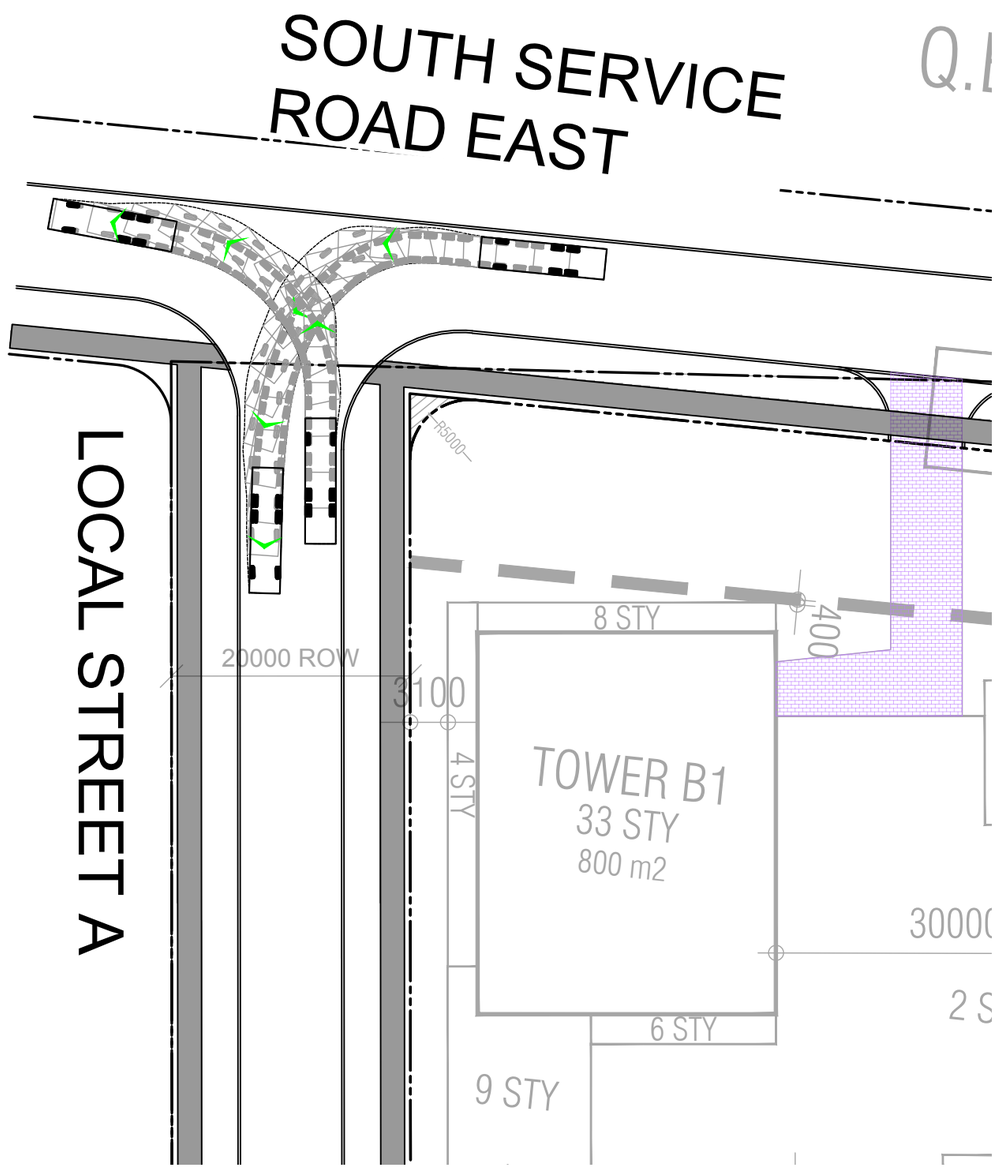
Date Plotted: September 18, 2026 Filename: J:\6931-03\BA\Functional Plan\8. Sept 18-2026\ba-420 South Service Road Dimensions-Sept18-2026.dwg

Appendix J:
Vehicle Manoeuvring Diagram

RIGHT TURNS



LEFT TURNS



Date Plotted: September 20, 2026 Filename: J:\6931-03\BA\Functional Plan\8. Sept 18-2026\ba-420 South Service Road VMD-Sept18-2026.dwg

BA Group

420 SOUTH SERVICE ROAD

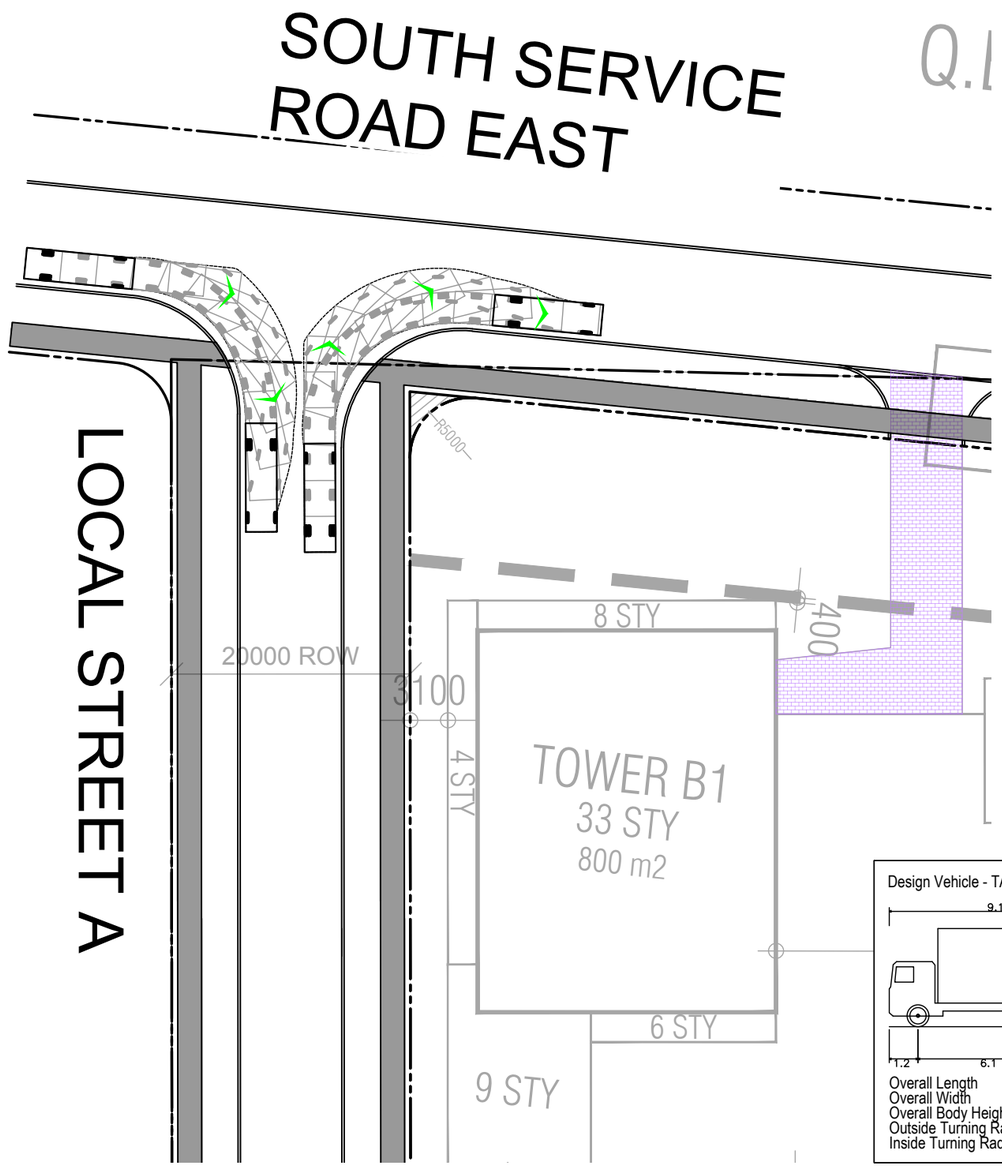
LOCAL STREET A / SOUTH SERVICE ROAD INTERSECTION
VEHICLE MANOEUVRING DIAGRAM
HALTON REGION WASTE COLLECTION TRUCK

Project:	420 South Service Road
Project No.	6931-03
Date:	September 20, 2026
Revised:	--

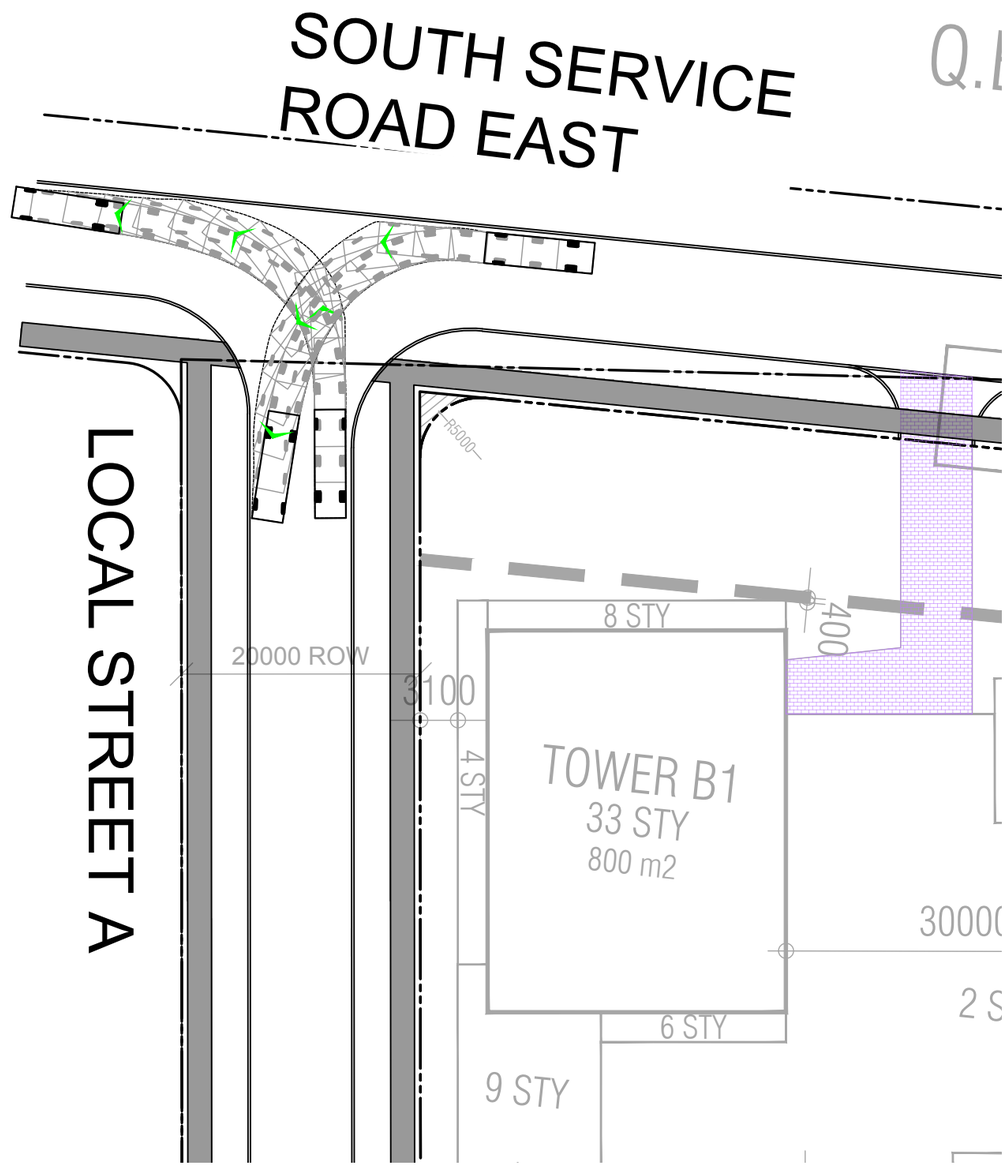
Scale 1:500 (0 5 10 15 20m)

Drawing No. VMD-01

RIGHT TURNS



LEFT TURNS



Date Plotted: September 20, 2026 Filename: J:\6931-03\BA\Functional Plan\8. Sept 18-2026\ba-420 South Service Road VMD-Sept18-2026.dwg

BA Group

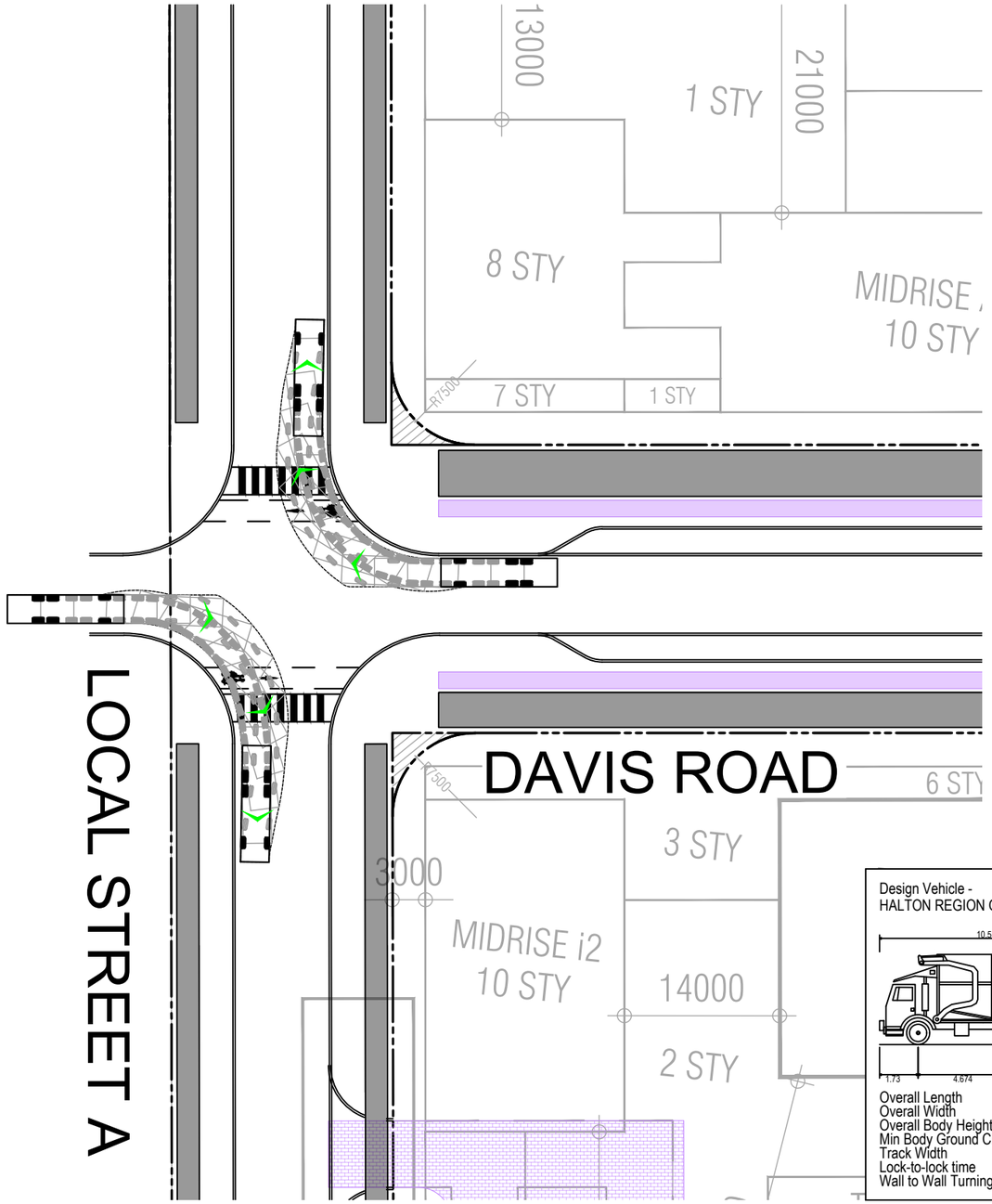
420 SOUTH SERVICE ROAD

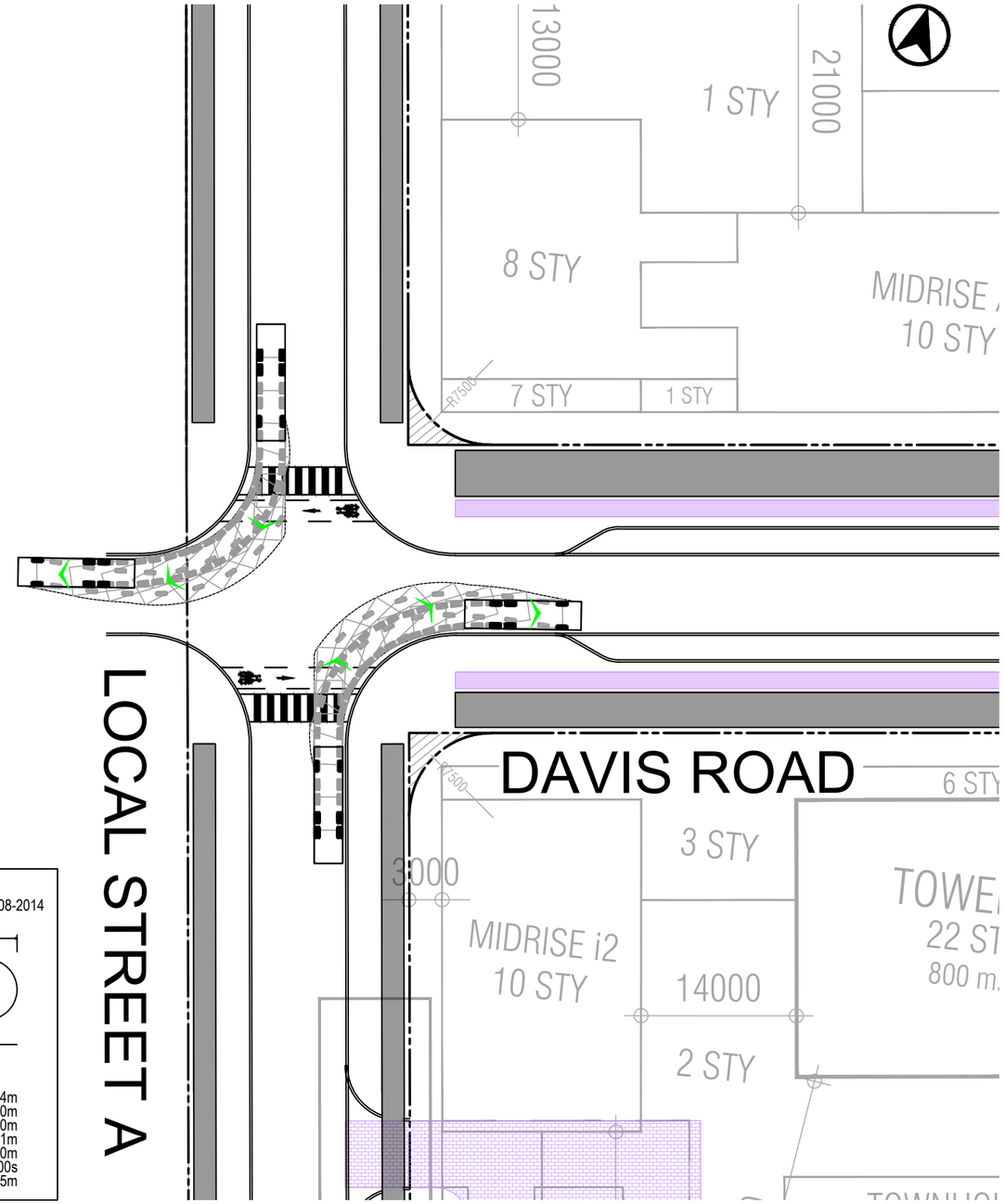
LOCAL STREET A / SOUTH SERVICE ROAD INTERSECTION
VEHICLE MANOEUVRING DIAGRAM
SINGLE UNIT TRUCK

Project:	420 South Service Road
Project No.	6931-03
Date:	September 20, 2026
Revised:	--

Scale 1:500 (0 5 10 15 20m)

Drawing No. VMD-02





Date Plotted: September 20, 2026 Filename: J:\6931-03\BA\Functional Plan\8. Sept 18-2026\ba-420 South Service Road VMD-Sept18-2026.dwg

BA Group

420 SOUTH SERVICE ROAD

LOCAL STREET A / DAVIS ROAD INTERSECTION

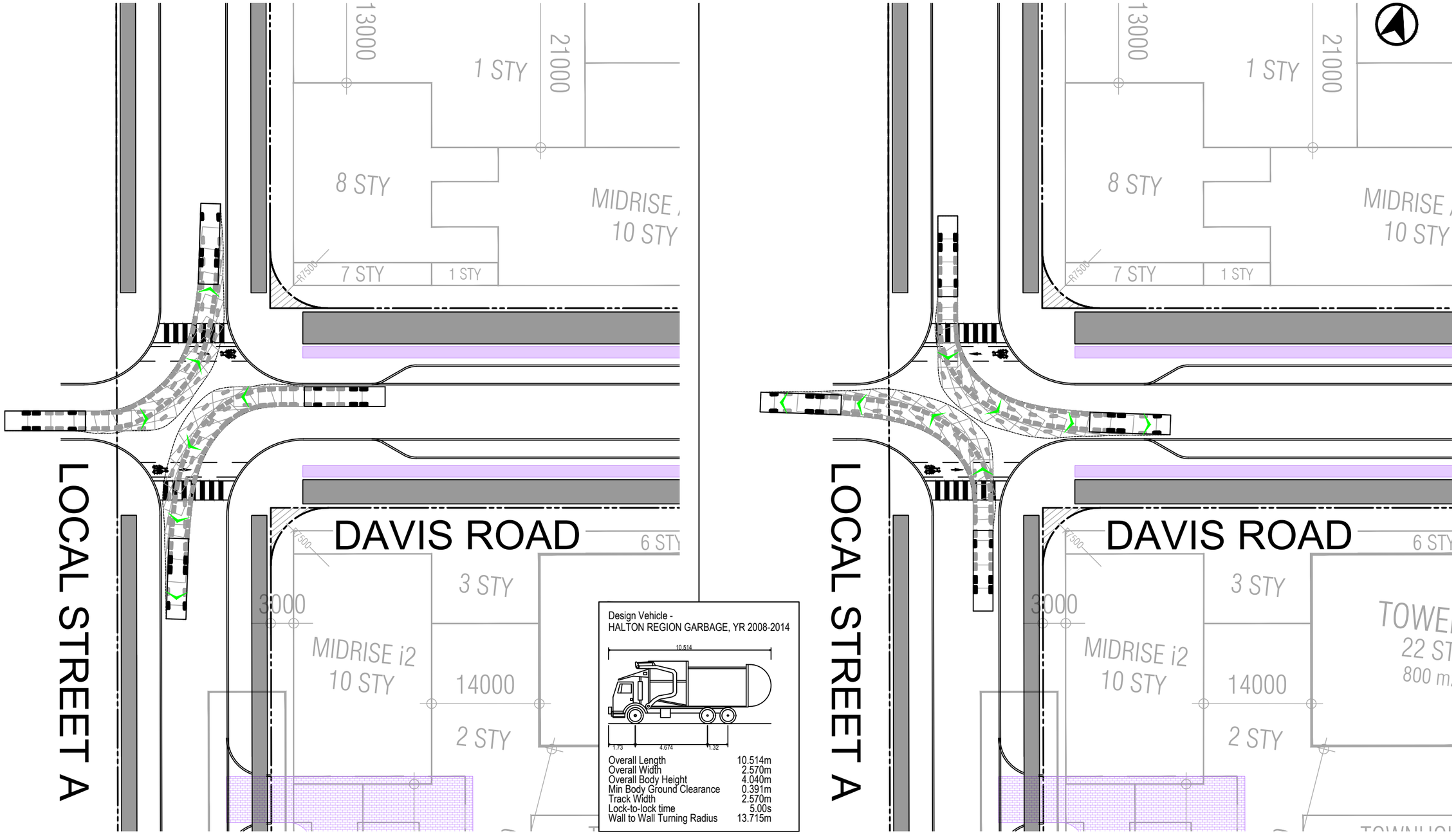
VEHICLE MANOEUVRING DIAGRAM

HALTON REGION WASTE COLLECTION TRUCK - RIGHT TURNS

Project:	420 South Service Road
Project No.	6931-03
Date:	September 20, 2026
Revised:	--

Scale 1:500 (0 5 10 15 20m)

Drawing No. VMD-03



BA Group

420 SOUTH SERVICE ROAD

LOCAL STREET A / DAVIS ROAD INTERSECTION

VEHICLE MANOEUVRING DIAGRAM

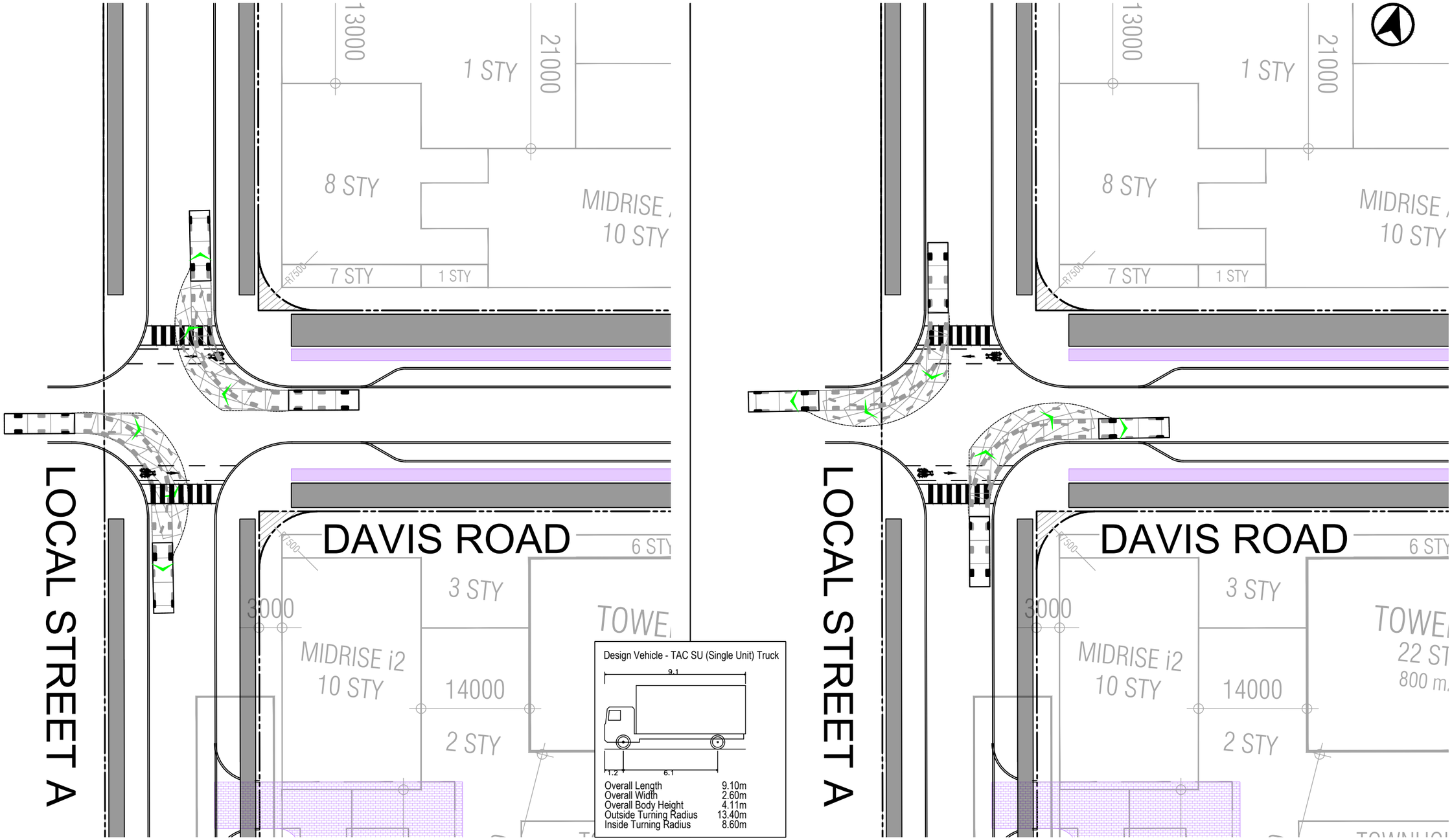
HALTON REGION WASTE COLLECTION TRUCK - LEFT TURNS

Project:	420 South Service Road
Project No.	6931-03
Date:	September 20, 2026
Revised:	--

Scale 1:500 (0 5 10 15 20m)

Drawing No. VMD-04

Date Plotted: September 20, 2026 Filename: J:\6931-03\BA\Functional Plan\8. Sept 18 2026\ba-420 South Service Road VMD-Sept18-2026.dwg



Date Plotted: September 20, 2026 Filename: J:\6931-03\BA\Functional Plan\8. Sept 18-2026\ba-420 South Service Road VMD-Sept18-2026.dwg

BA Group

420 SOUTH SERVICE ROAD

LOCAL STREET A / DAVIS ROAD INTERSECTION

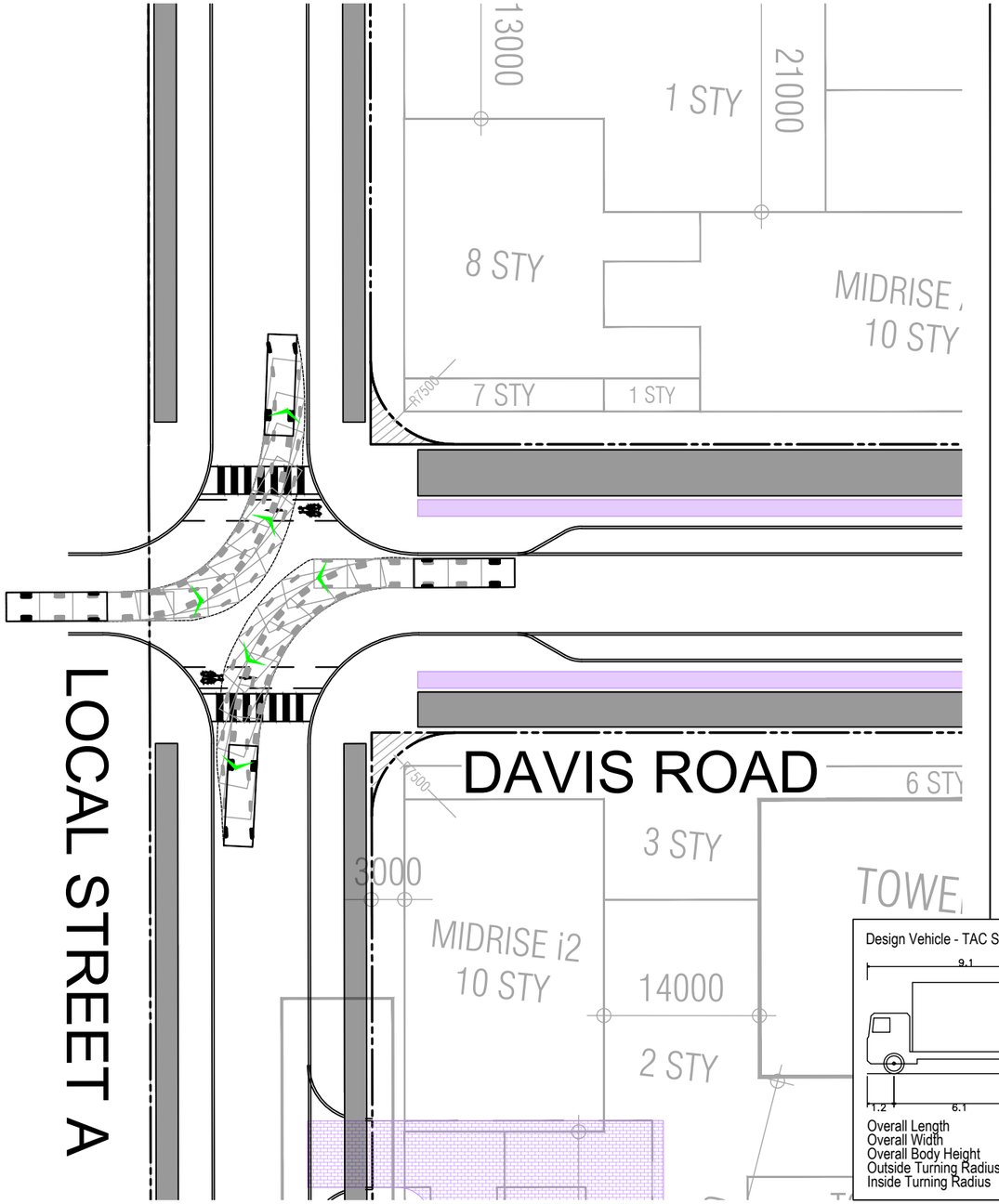
VEHICLE MANOEUVRING DIAGRAM

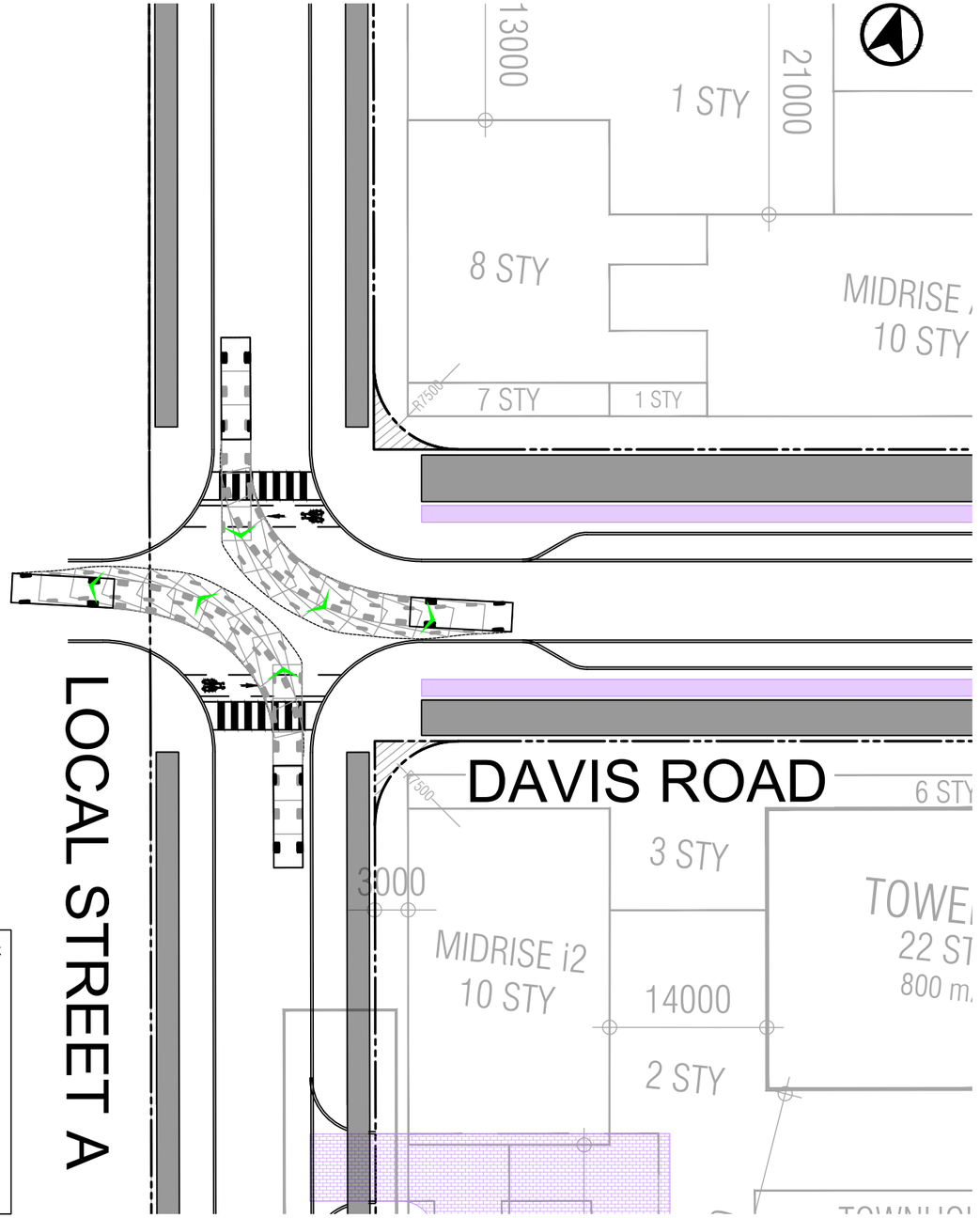
SINGLE UNIT TRUCK - RIGHT TURNS

Project:	420 South Service Road
Project No.	6931-03
Date:	September 20, 2026
Revised:	--

Scale 1:500 (0 5 10 15 20m)

Drawing No. VMD-05





Date Plotted: September 20, 2026 Filename: J:\6931-03\BA\Functional Plan\8. Sept 18-2026\ba-420 South Service Road VMD-Sept18-2026.dwg

BA Group

420 SOUTH SERVICE ROAD

LOCAL STREET A / DAVIS ROAD INTERSECTION

VEHICLE MANOEUVRING DIAGRAM

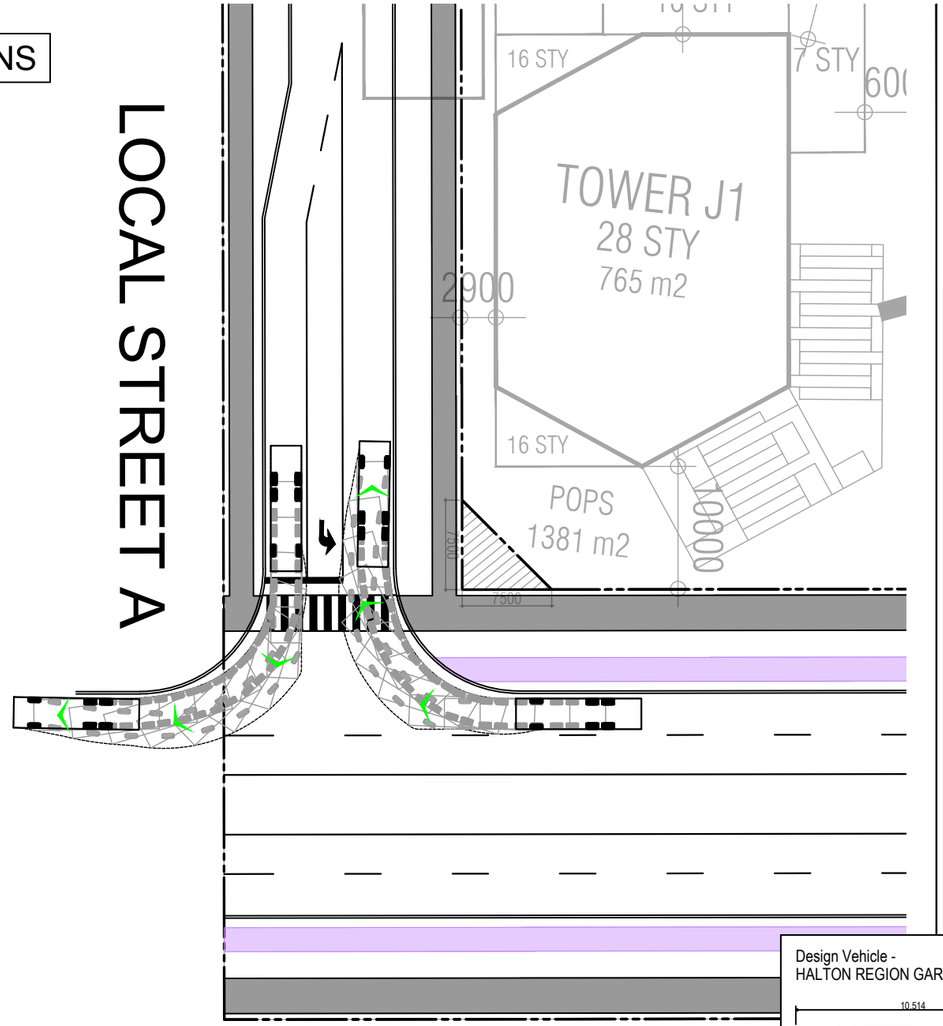
SINGLE UNIT TRUCK - LEFT TURNS

Project:	420 South Service Road
Project No.	6931-03
Date:	September 20, 2026
Revised:	--

Scale 1:500 (0 5 10 15 20m)

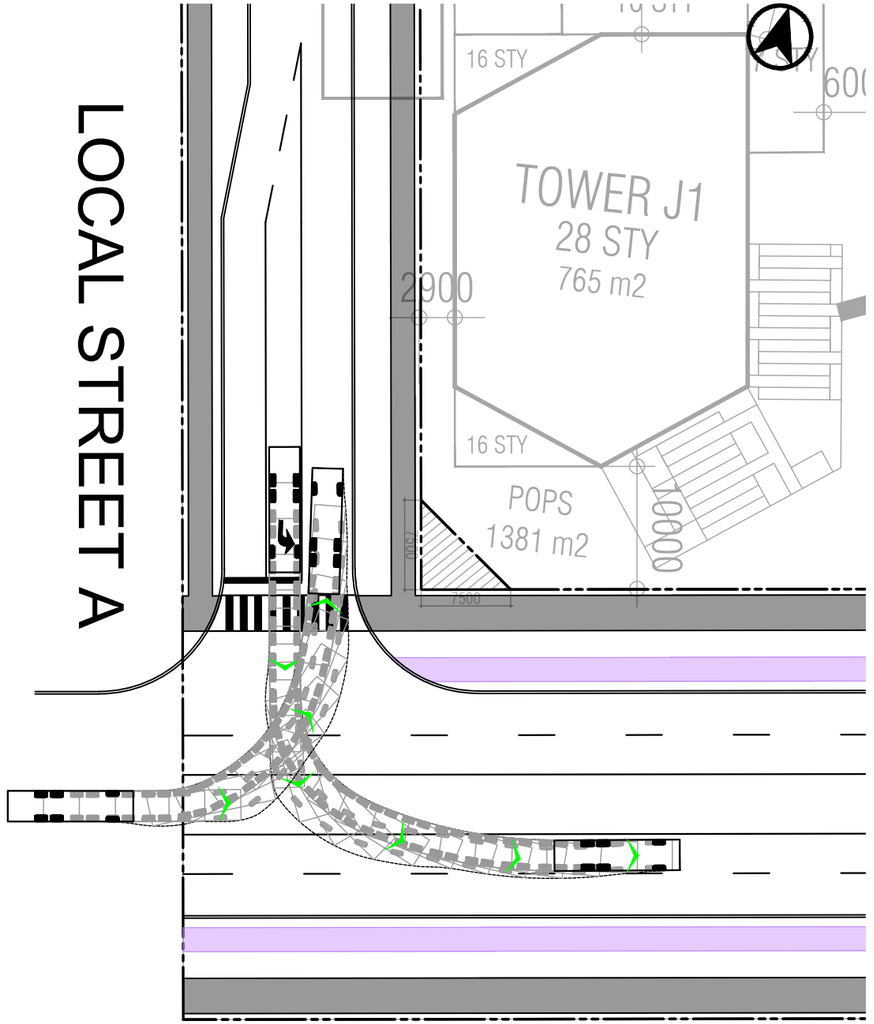
Drawing No. VMD-06

RIGHT TURNS



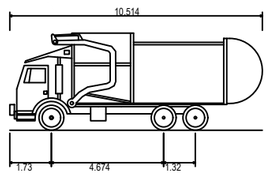
CROSS AVENUE

LEFT TURNS



CROSS AVENUE

Design Vehicle -
HALTON REGION GARBAGE, YR 2008-2014



Overall Length	10.514m
Overall Width	2.570m
Overall Body Height	4.040m
Min Body Ground Clearance	0.391m
Track Width	2.570m
Lock-to-lock time	5.00s
Wall to Wall Turning Radius	13.715m

Date Plotted: September 20, 2026 Filename: J:\6931-03\BA\Functional Plan\8. Sept 18-2026\ba-420 South Service Road VMD-Sept18-2026.dwg

BA Group

420 SOUTH SERVICE ROAD

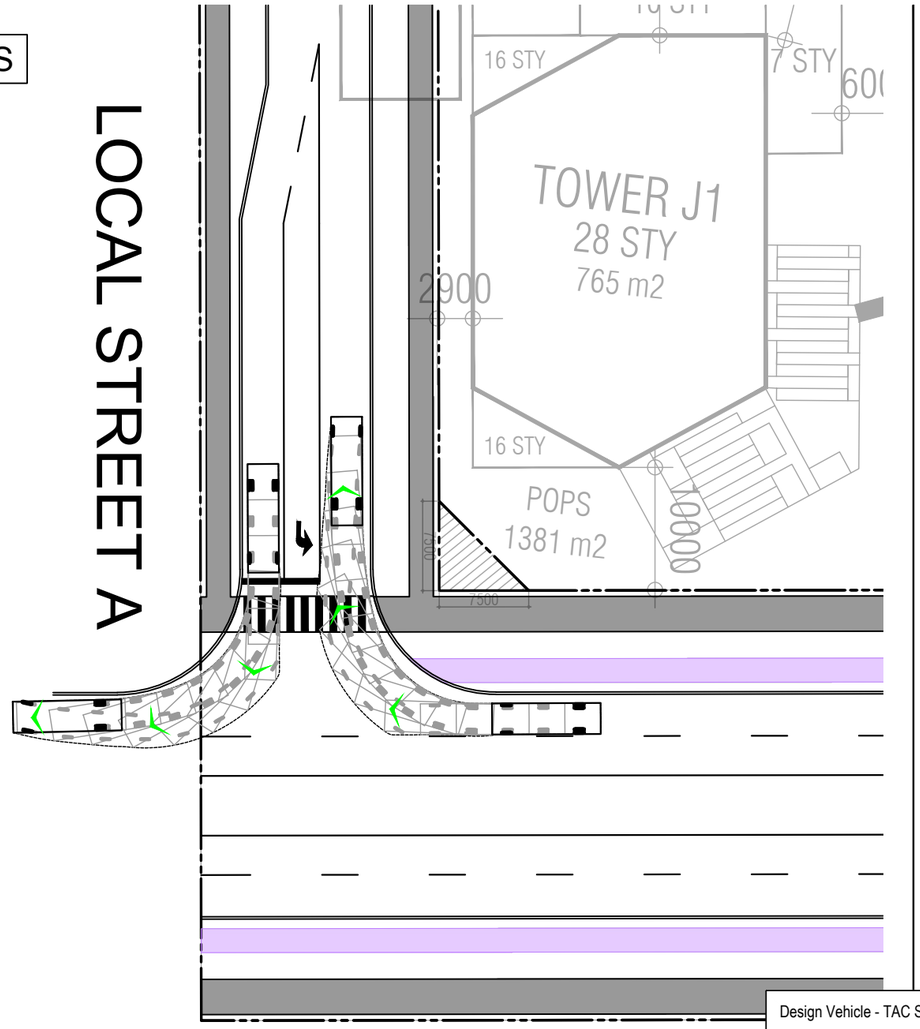
LOCAL STREET A / CROSS AVENUE INTERSECTION
VEHICLE MANOEUVRING DIAGRAM
HALTON REGION WASTE COLLECTION TRUCK

Project:	420 South Service Road
Project No.	6931-03
Date:	September 20, 2026
Revised:	--

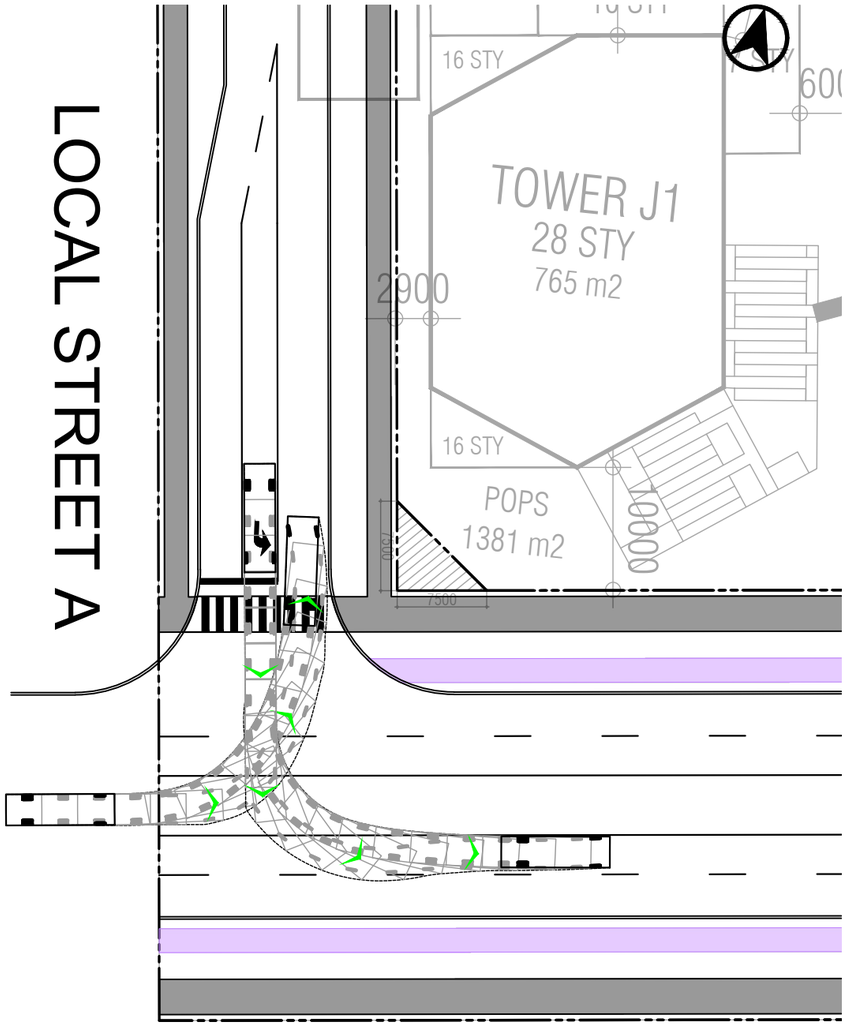
Scale 1:500 — 0 5 10 15 20m

Drawing No. VMD-07

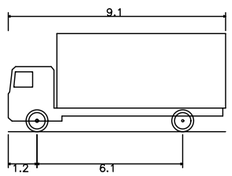
RIGHT TURNS



LEFT TURNS



Design Vehicle - TAC SU (Single Unit) Truck



Overall Length	9.10m
Overall Width	2.60m
Overall Body Height	4.11m
Outside Turning Radius	13.40m
Inside Turning Radius	8.60m

Date Plotted: September 20, 2026 Filename: J:\6931-03\BA\Functional Plan\8. Sept 18-2026\ba-420 South Service Road VMD-Sept18-2026.dwg

BA Group

420 SOUTH SERVICE ROAD

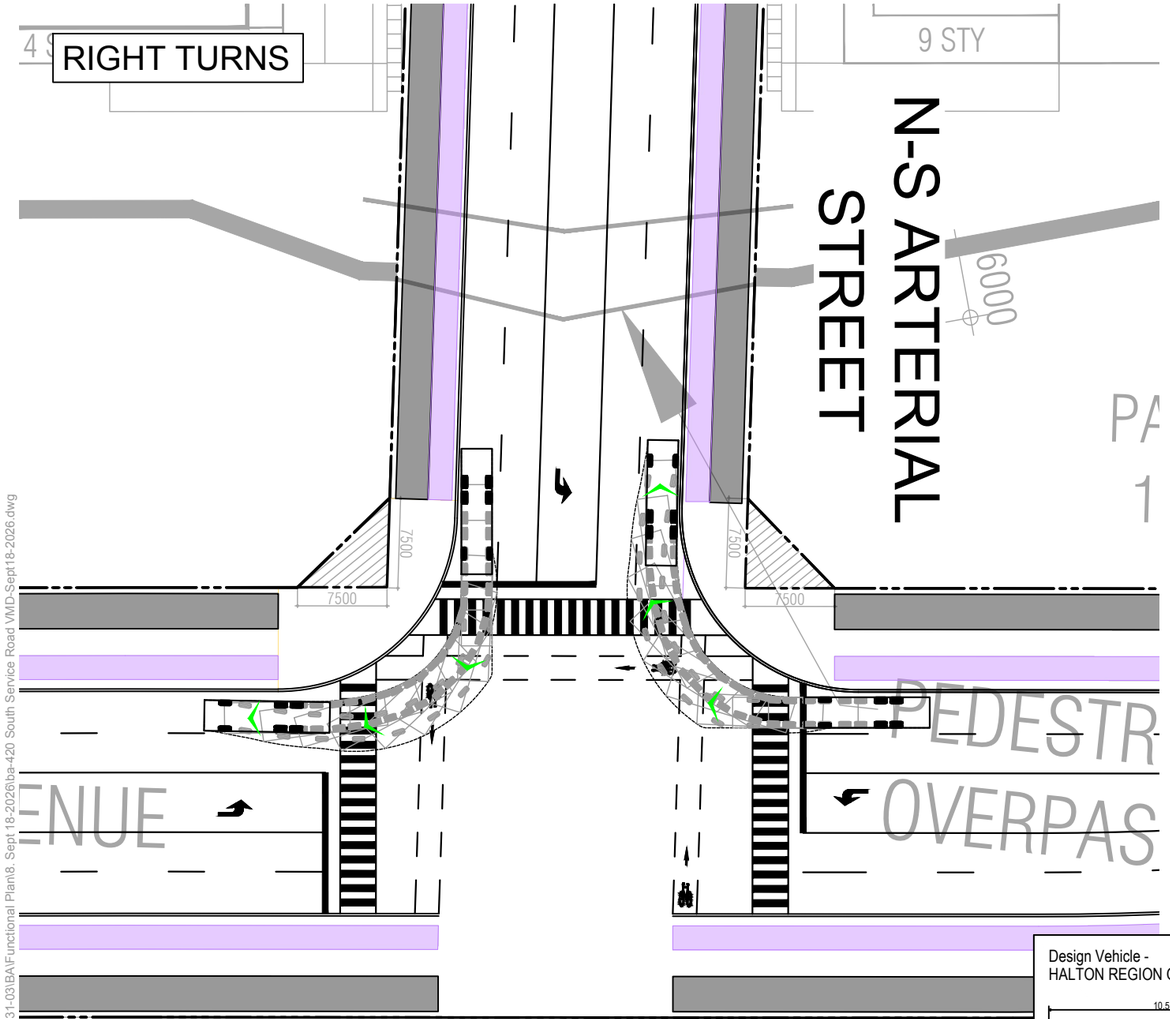
LOCAL STREET A / CROSS AVENUE INTERSECTION
VEHICLE MANOEUVRING DIAGRAM
SINGLE UNIT TRUCK

Project:	420 South Service Road
Project No.	6931-03
Date:	September 20, 2026
Revised:	--

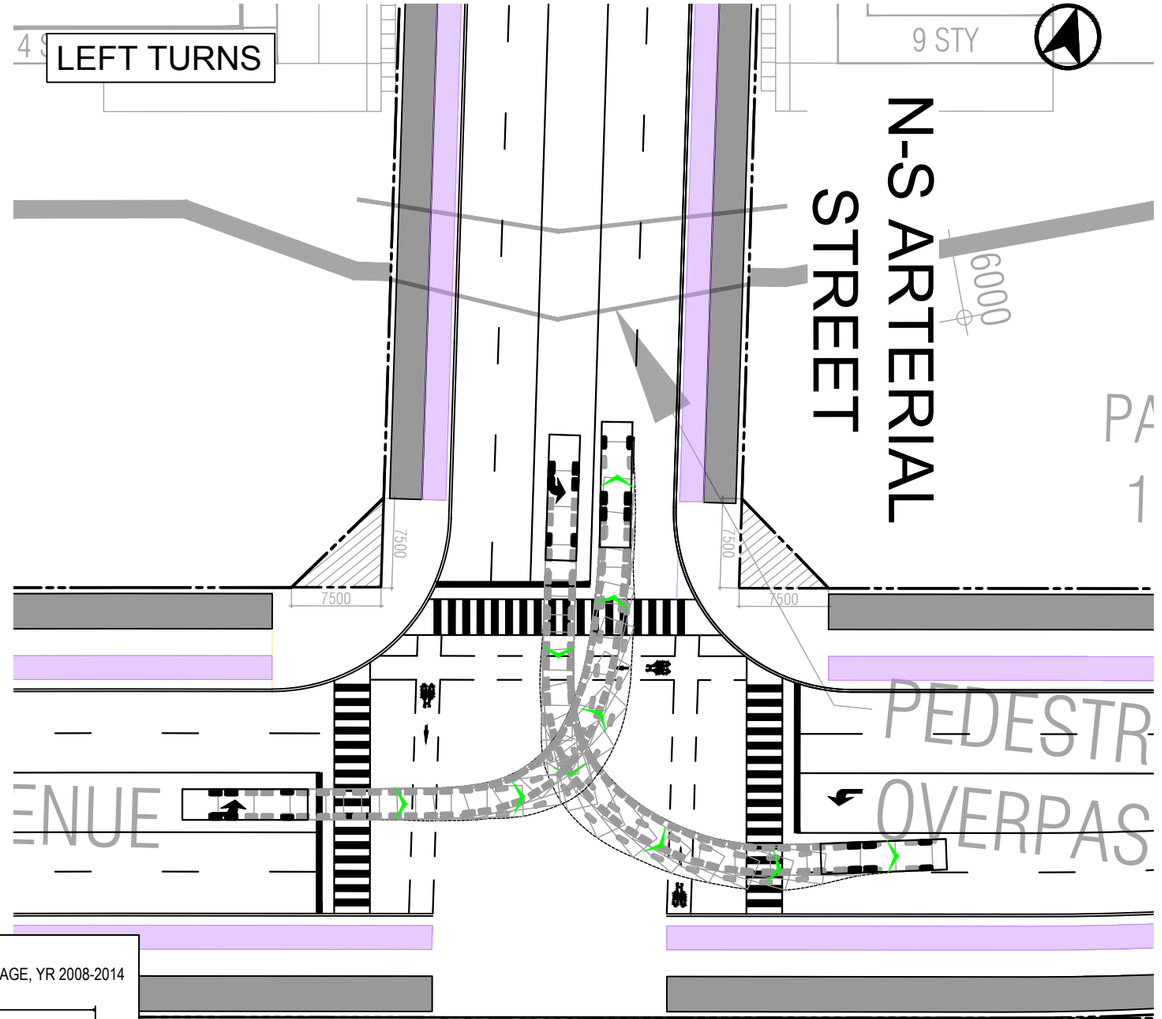
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Drawing No. VMD-08

RIGHT TURNS



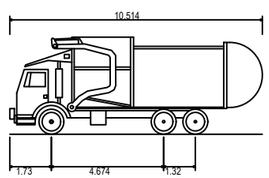
LEFT TURNS



CROSS AVENUE

CROSS AVENUE

Design Vehicle -
HALTON REGION GARBAGE, YR 2008-2014



Overall Length	10.514m
Overall Width	2.570m
Overall Body Height	4.040m
Min Body Ground Clearance	0.391m
Track Width	2.570m
Lock-to-lock time	5.00s
Wall to Wall Turning Radius	13.715m

Date Plotted: September 20, 2026 Filename: J:\6931-03\BA\Functional Plan\8. Sept 18-2026\ba-420 South Service Road VMD-Sept18-2026.dwg

BA Group

420 SOUTH SERVICE ROAD

N-S ARTERIAL STREET / CROSS AVENUE INTERSECTION

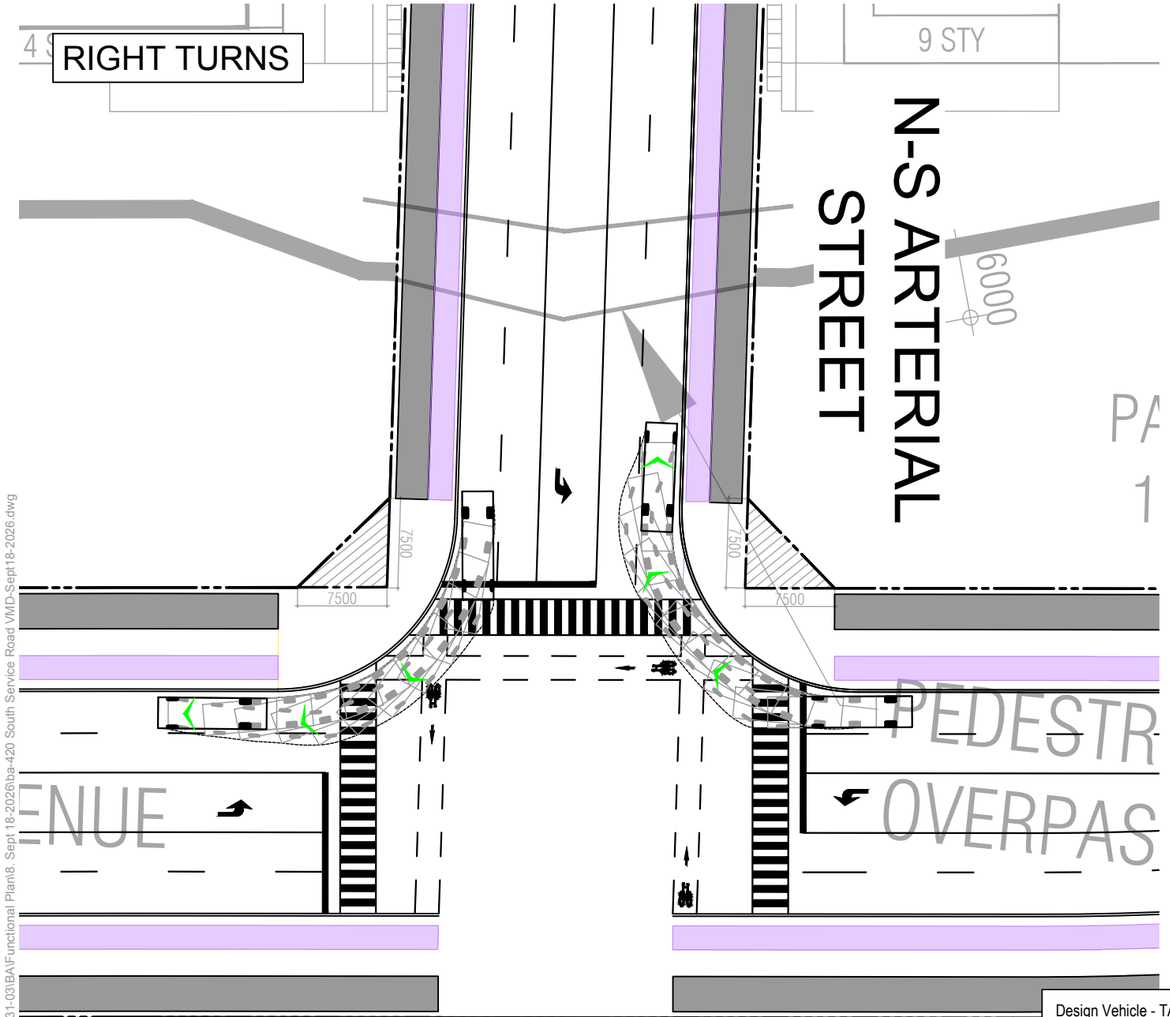
VEHICLE MANOEUVRING DIAGRAM

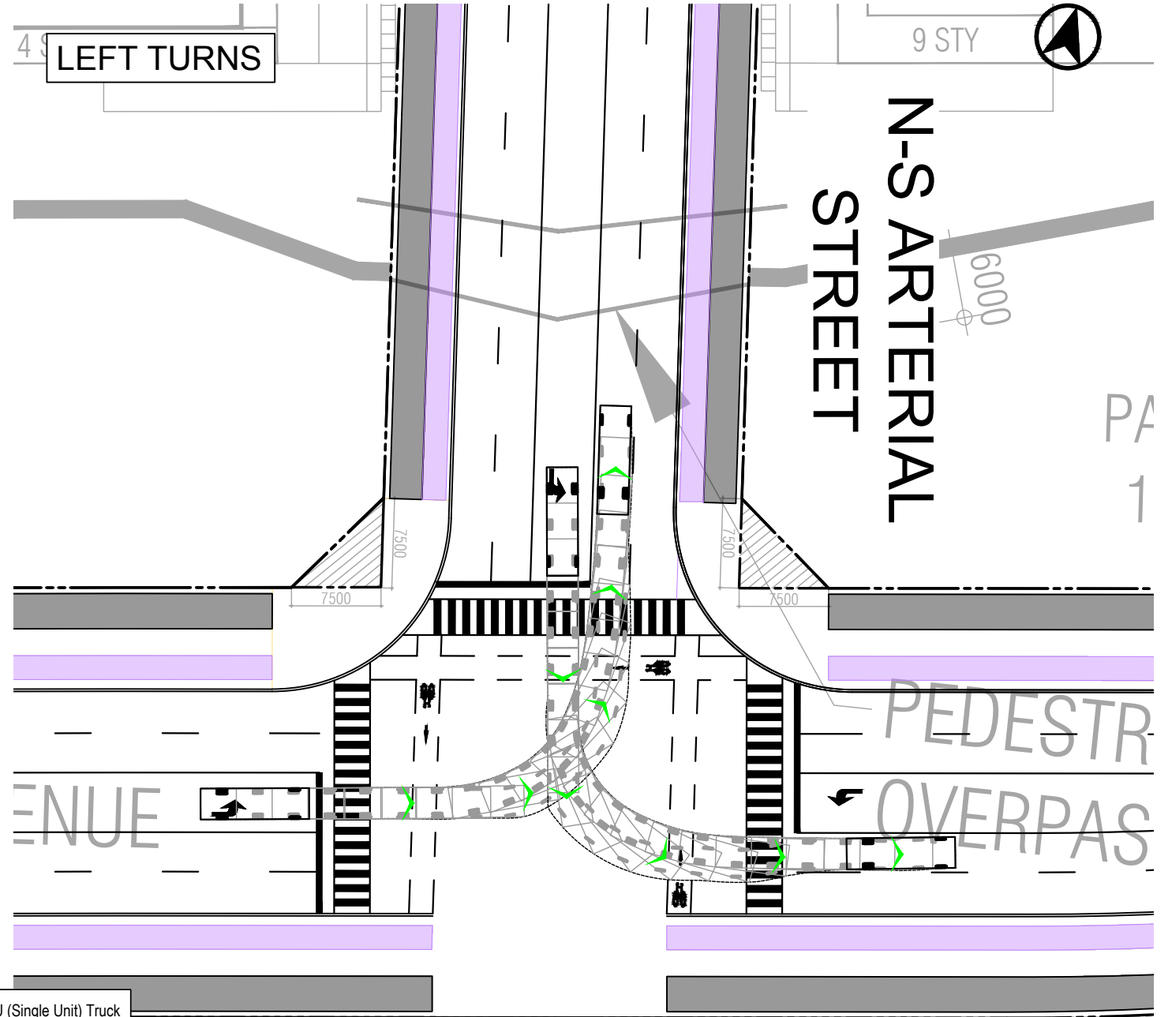
HALTON REGION WASTE COLLECTION TRUCK

Project:	420 South Service Road
Project No.	6931-03
Date:	September 20, 2026
Revised:	--

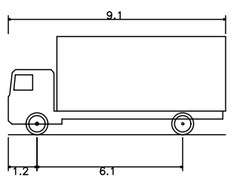
Scale 1:500 0 5 10 15 20m

Drawing No. VMD-09





Design Vehicle - TAC SU (Single Unit) Truck



Overall Length	9.10m
Overall Width	2.60m
Overall Body Height	4.11m
Outside Turning Radius	13.40m
Inside Turning Radius	8.60m

Date Plotted: September 20, 2026 Filename: J:\6931-03\BA\Functional Plan\8. Sept 18-2026\ba-420 South Service Road VMD-Sept18-2026.dwg

BA Group

420 SOUTH SERVICE ROAD

N-S ARTERIAL STREET / CROSS AVENUE INTERSECTION

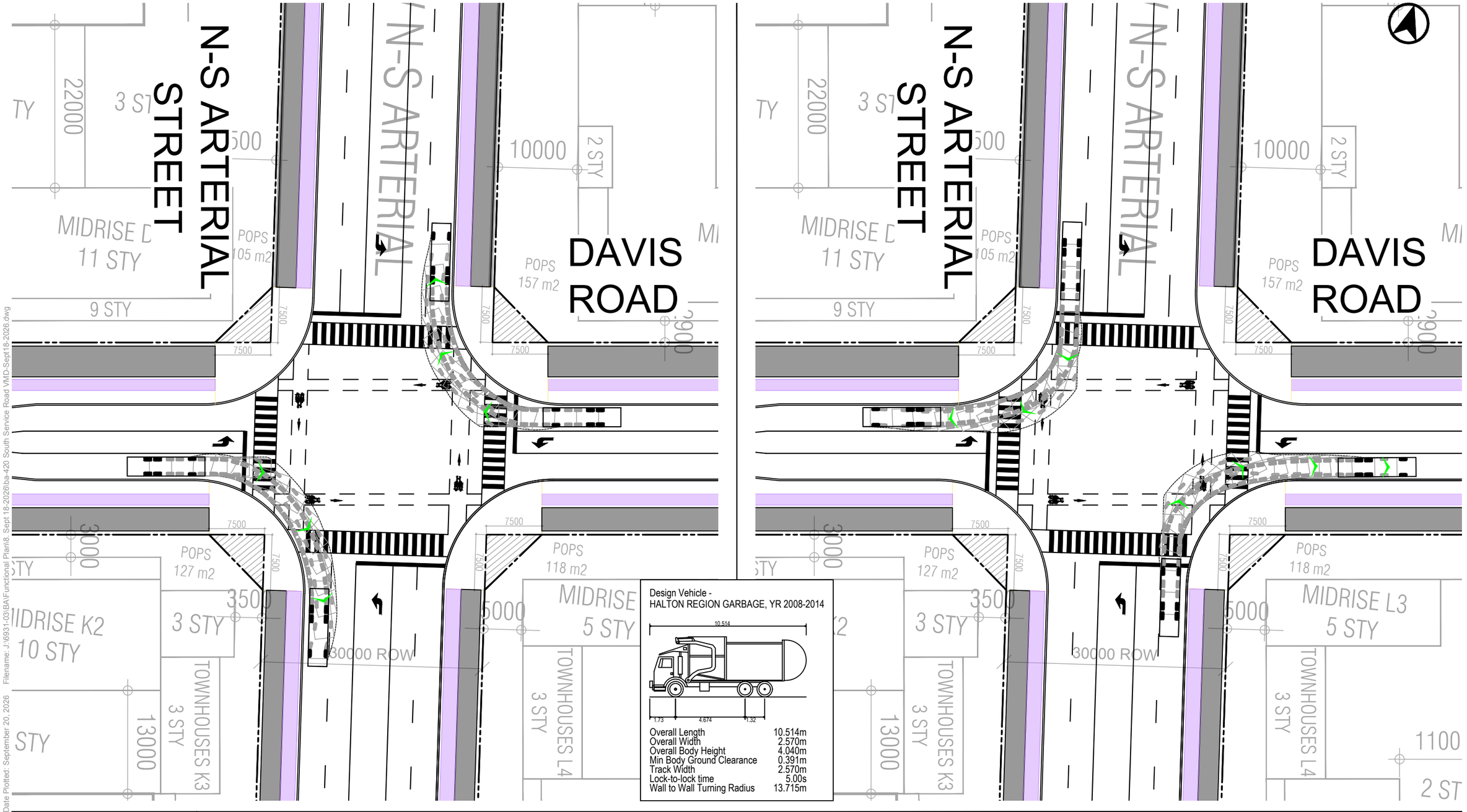
VEHICLE MANOEUVRING DIAGRAM

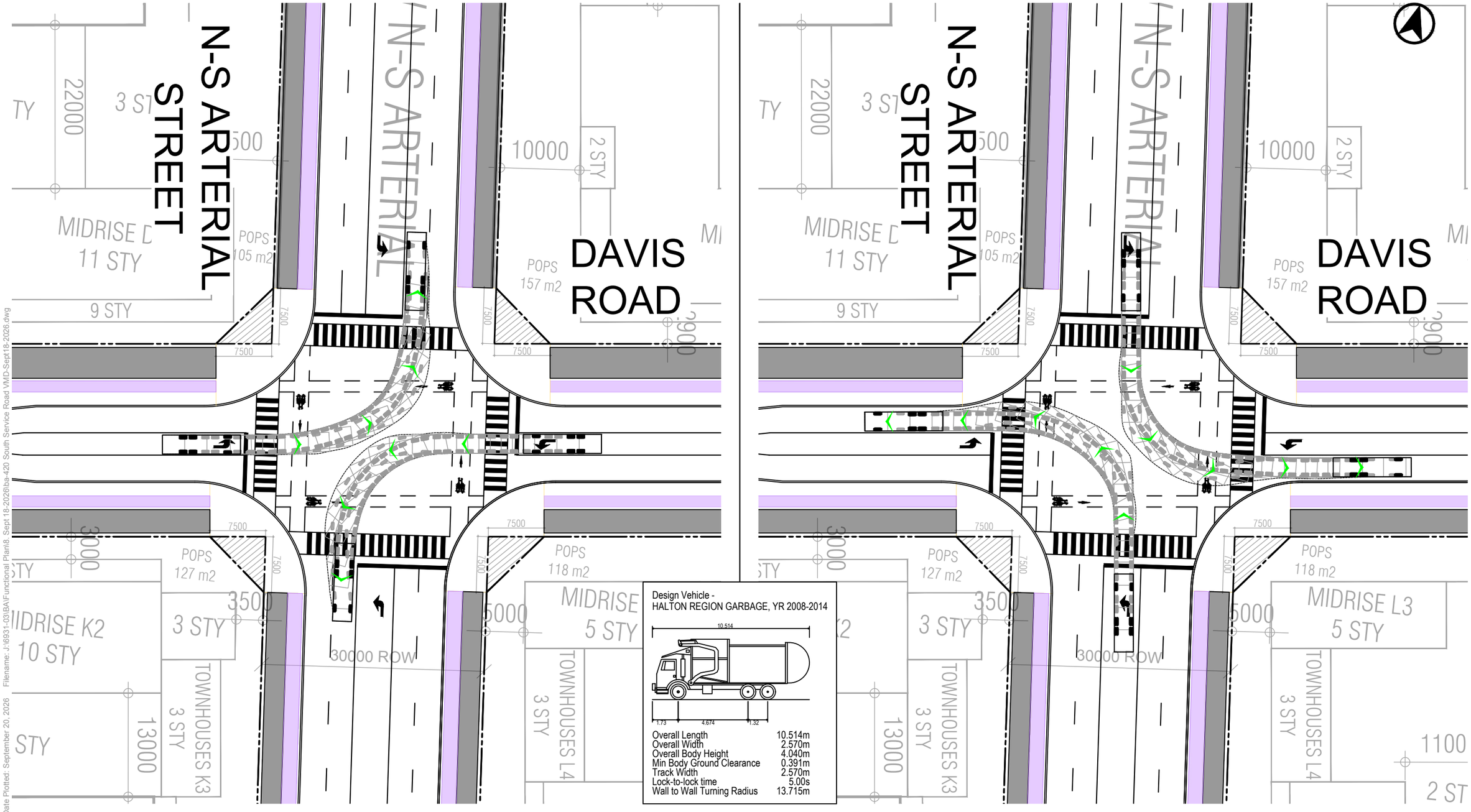
SINGLE UNIT TRUCK

Project:	420 South Service Road
Project No.	6931-03
Date:	September 20, 2026
Revised:	--

Scale 1:500 0 5 10 15 20m

Drawing No. VMD-10


N-S ARTERIAL STREET
N-S ARTERIAL
DAVIS ROAD
MIDRISE D
11 STY
9 STY
3 ST
TY
22000
500
10000
2 STY
POPS
105 m2
POPS
157 m2
7500
7500
7500



Date Plotted: September 20, 2026 Filename: J:\6931-03\BA\Functional Plan\8. Sept 18 2026\ba-420 South Service Road VMD-Sept18-2026.dwg

BA Group

420 SOUTH SERVICE ROAD

N-S ARTERIAL STREET / DAVIS ROAD INTERSECTION

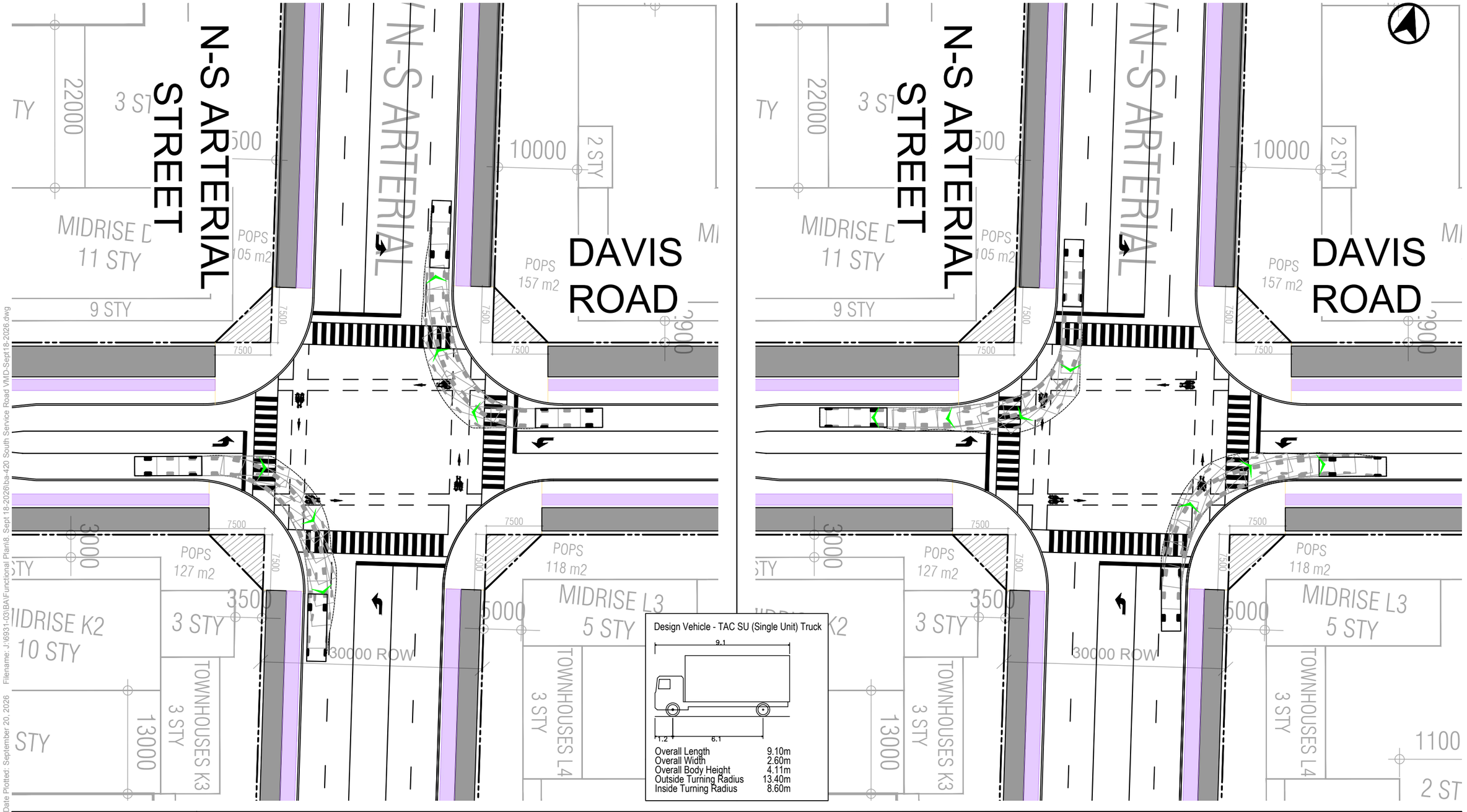
VEHICLE MANOEUVRING DIAGRAM

HALTON REGION WASTE COLLECTION TRUCK - LEFT TURNS

Project:	420 South Service Road
Project No.	6931-03
Date:	September 20, 2026
Revised:	--

Scale 1:500 (0, 5, 10, 15, 20m)

Drawing No. VMD-12



Design Vehicle - TAC SU (Single Unit) Truck

Overall Length	9.10m
Overall Width	2.60m
Overall Body Height	4.11m
Outside Turning Radius	13.40m
Inside Turning Radius	8.60m

BA Group

420 SOUTH SERVICE ROAD

N-S ARTERIAL STREET / DAVIS ROAD INTERSECTION

VEHICLE MANOEUVRING DIAGRAM

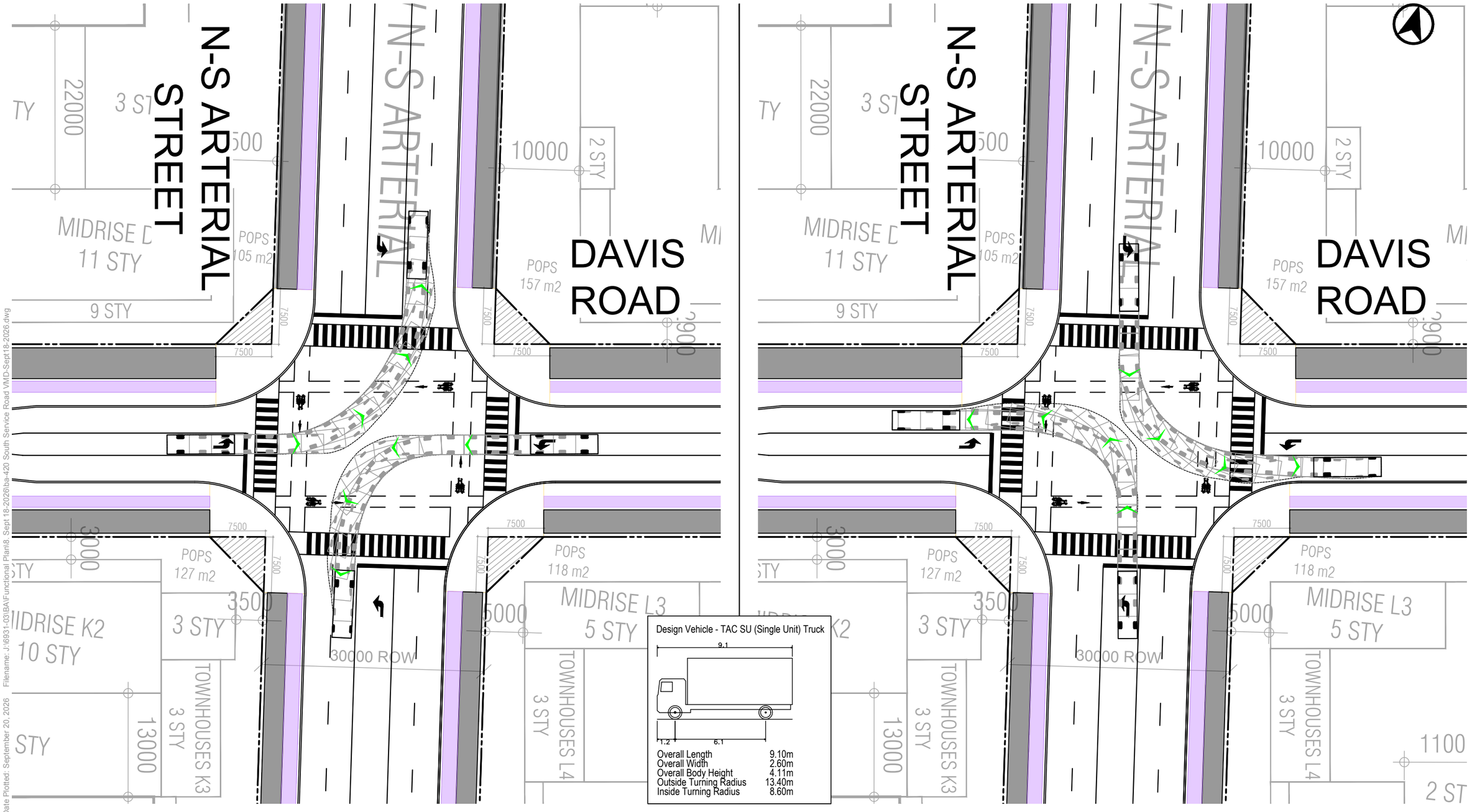
SINGLE UNIT TRUCK - RIGHT TURNS

Project:	420 South Service Road
Project No.	6931-03
Date:	September 20, 2026
Revised:	--

Scale 1:500 (0, 5, 10, 15, 20m)

Drawing No. VMD-13

Date Plotted: September 20, 2026 Filename: J:\6931-03\BA\Functional Plan\8. Sept 18-2026\ba-420 South Service Road VMD-Sept18-2026.dwg



Design Vehicle - TAC SU (Single Unit) Truck

Overall Length	9.10m
Overall Width	2.60m
Overall Body Height	4.11m
Outside Turning Radius	13.40m
Inside Turning Radius	8.60m

Date Plotted: September 20, 2026 Filename: J:\6931-03\BA\Functional Plan\8. Sept 18-2026\ba-420 South Service Road VMD-Sept18-2026.dwg

BA Group

420 SOUTH SERVICE ROAD

N-S ARTERIAL STREET / DAVIS ROAD INTERSECTION

VEHICLE MANOEUVRING DIAGRAM

SINGLE UNIT TRUCK - LEFT TURNS

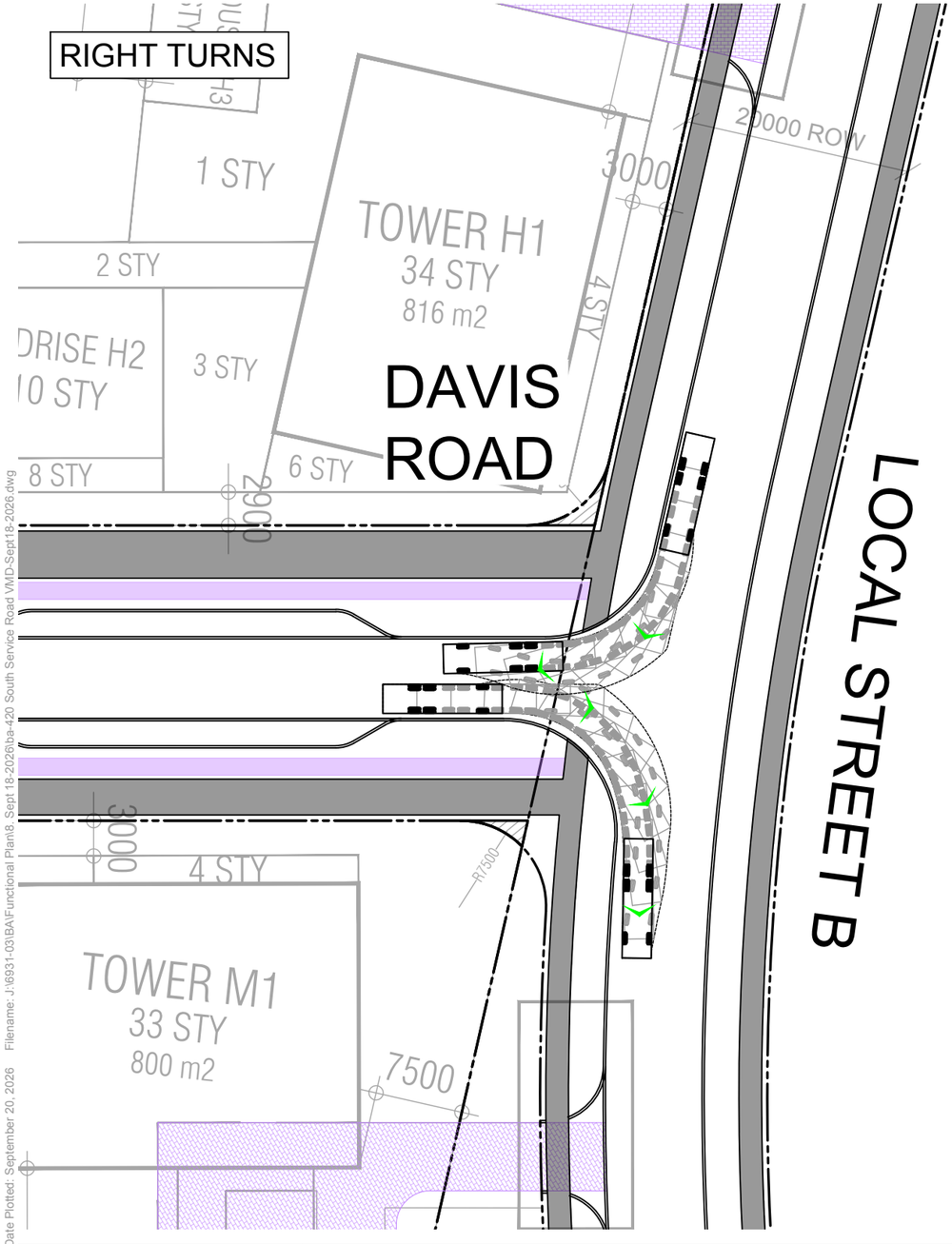
Project:	420 South Service Road
Project No.	6931-03
Date:	September 20, 2026
Revised:	--

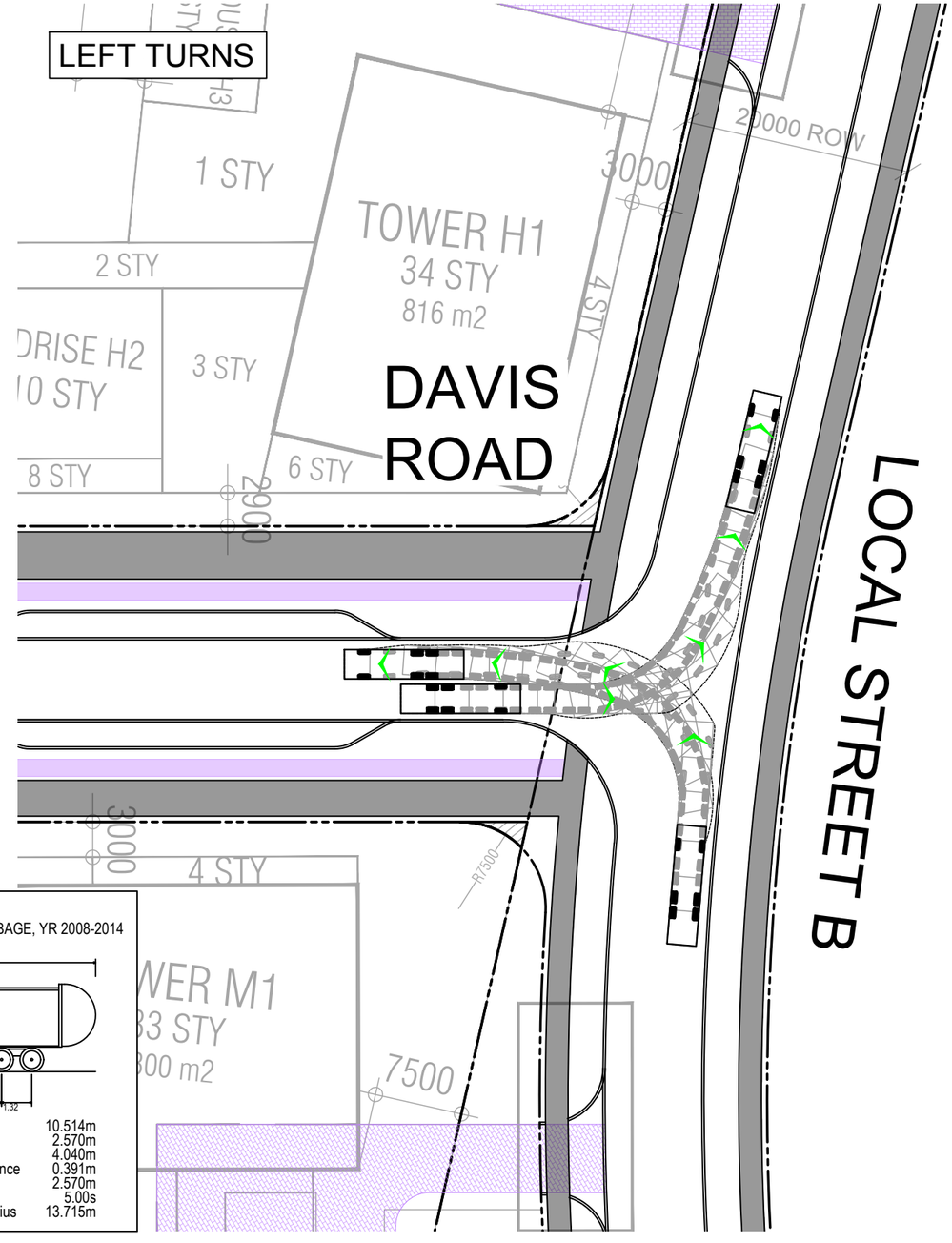
Scale 1:500 (0, 5, 10, 15, 20m)

Drawing No. VMD-14

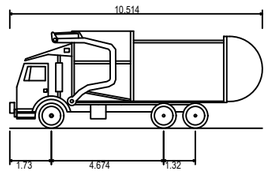
RIGHT TURNS

LEFT TURNS





Design Vehicle -
HALTON REGION GARBAGE, YR 2008-2014



Overall Length	10.514m
Overall Width	2.570m
Overall Body Height	4.040m
Min Body Ground Clearance	0.391m
Track Width	2.570m
Lock-to-lock time	5.00s
Wall to Wall Turning Radius	13.715m

Date Plotted: September 20, 2026 Filename: J:\6931-03\BA\Functional Plan\8. Sept 18-2026\ba-420 South Service Road VMD-Sept18-2026.dwg

BA Group

420 SOUTH SERVICE ROAD

LOCAL STREET B / DAVIS ROAD INTERSECTION

VEHICLE MANOEUVRING DIAGRAM

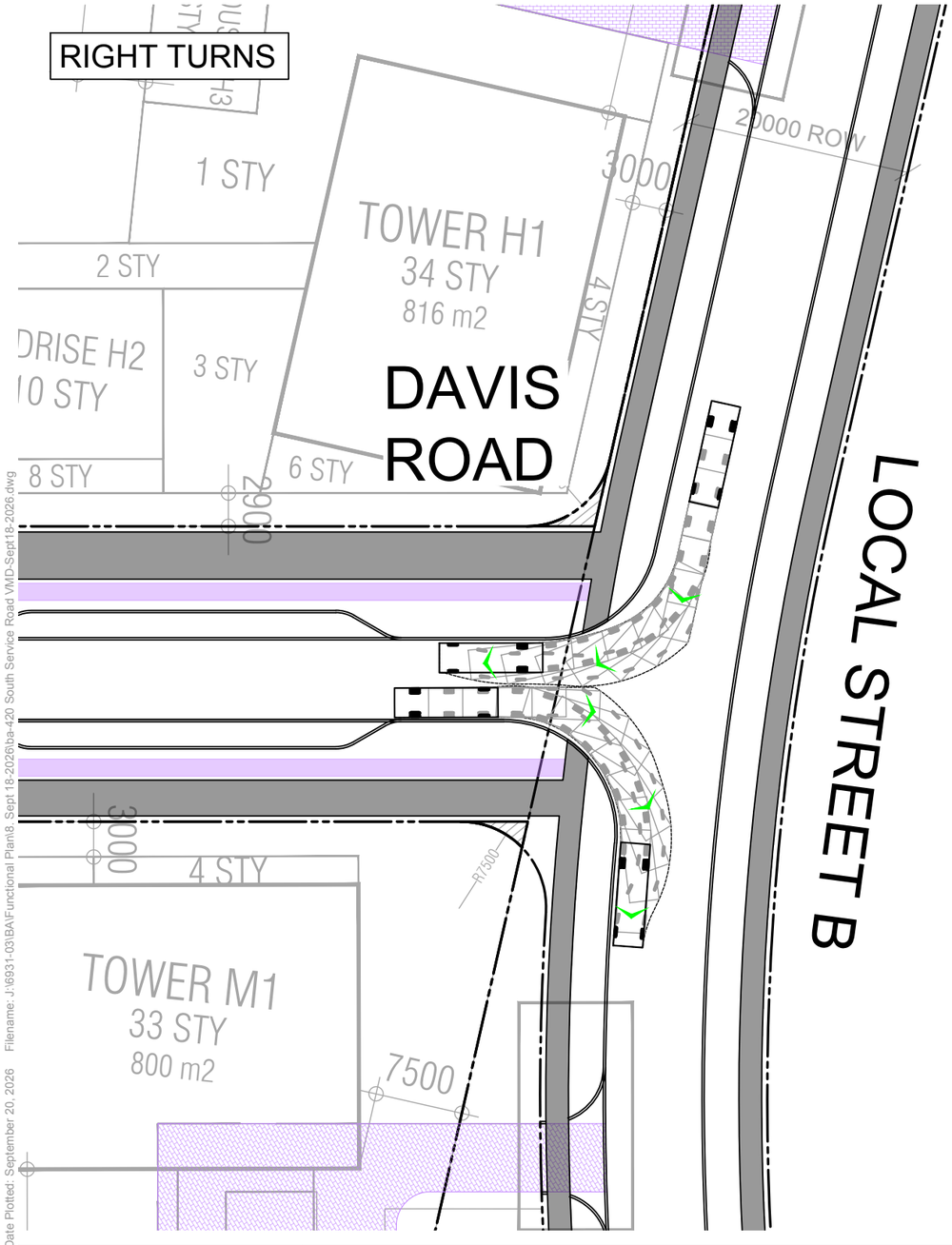
HALTON REGION WASTE COLLECTION TRUCK

Project:	420 South Service Road
Project No.	6931-03
Date:	September 20, 2026
Revised:	--

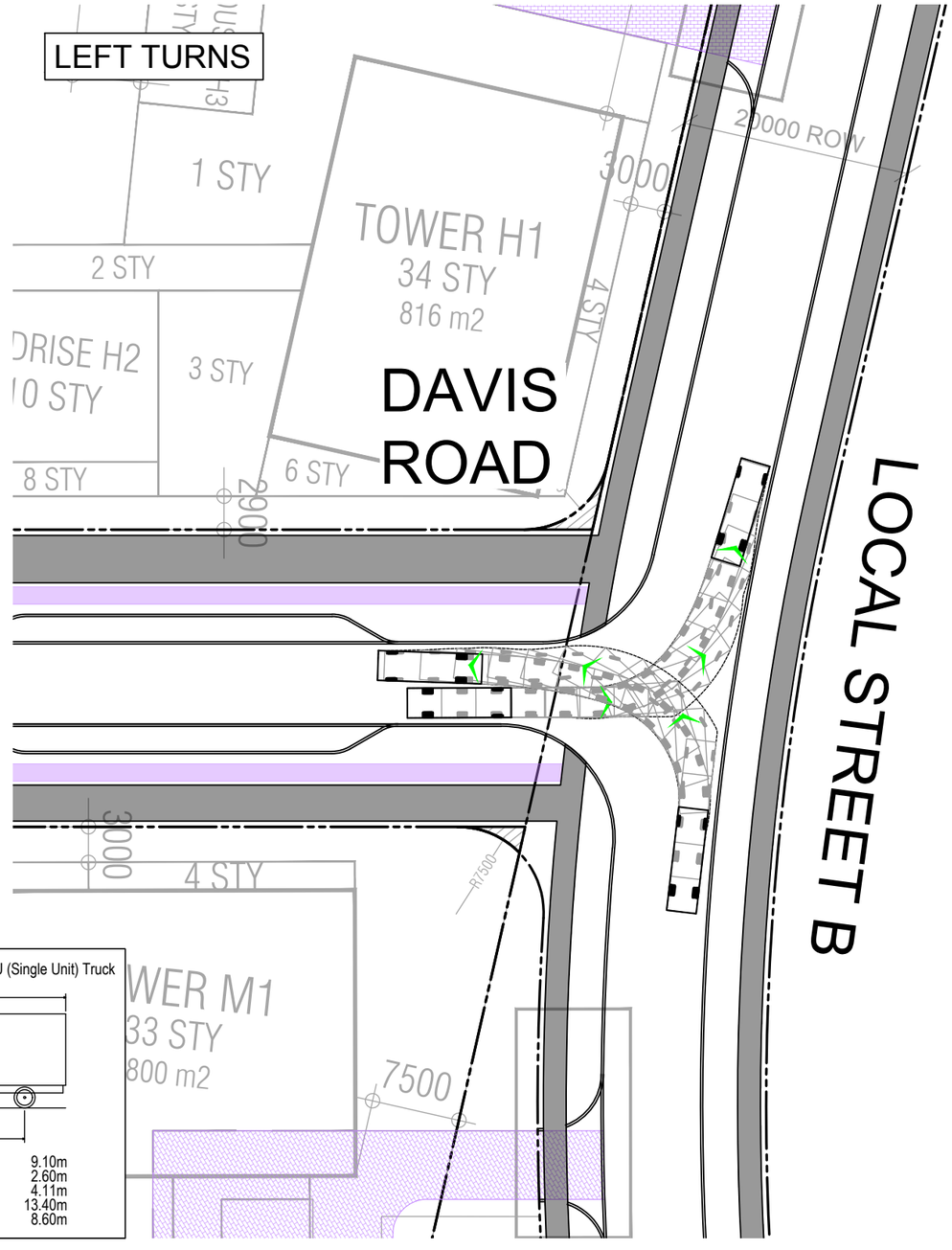
Scale 1:500 (0 5 10 15 20m)

Drawing No. VMD-15

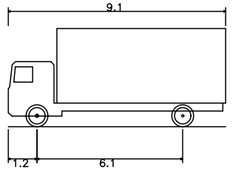
RIGHT TURNS



LEFT TURNS



Design Vehicle - TAC SU (Single Unit) Truck



Overall Length	9.10m
Overall Width	2.60m
Overall Body Height	4.11m
Outside Turning Radius	13.40m
Inside Turning Radius	8.60m

Date Plotted: September 20, 2026 Filename: J:\6931-03\BA\Functional Plan\8. Sept 18-2026\ba-420 South Service Road VMD-Sept18-2026.dwg

BA Group

420 SOUTH SERVICE ROAD

LOCAL STREET B / DAVIS ROAD INTERSECTION

VEHICLE MANOEUVRING DIAGRAM

SINGLE UNIT TRUCK

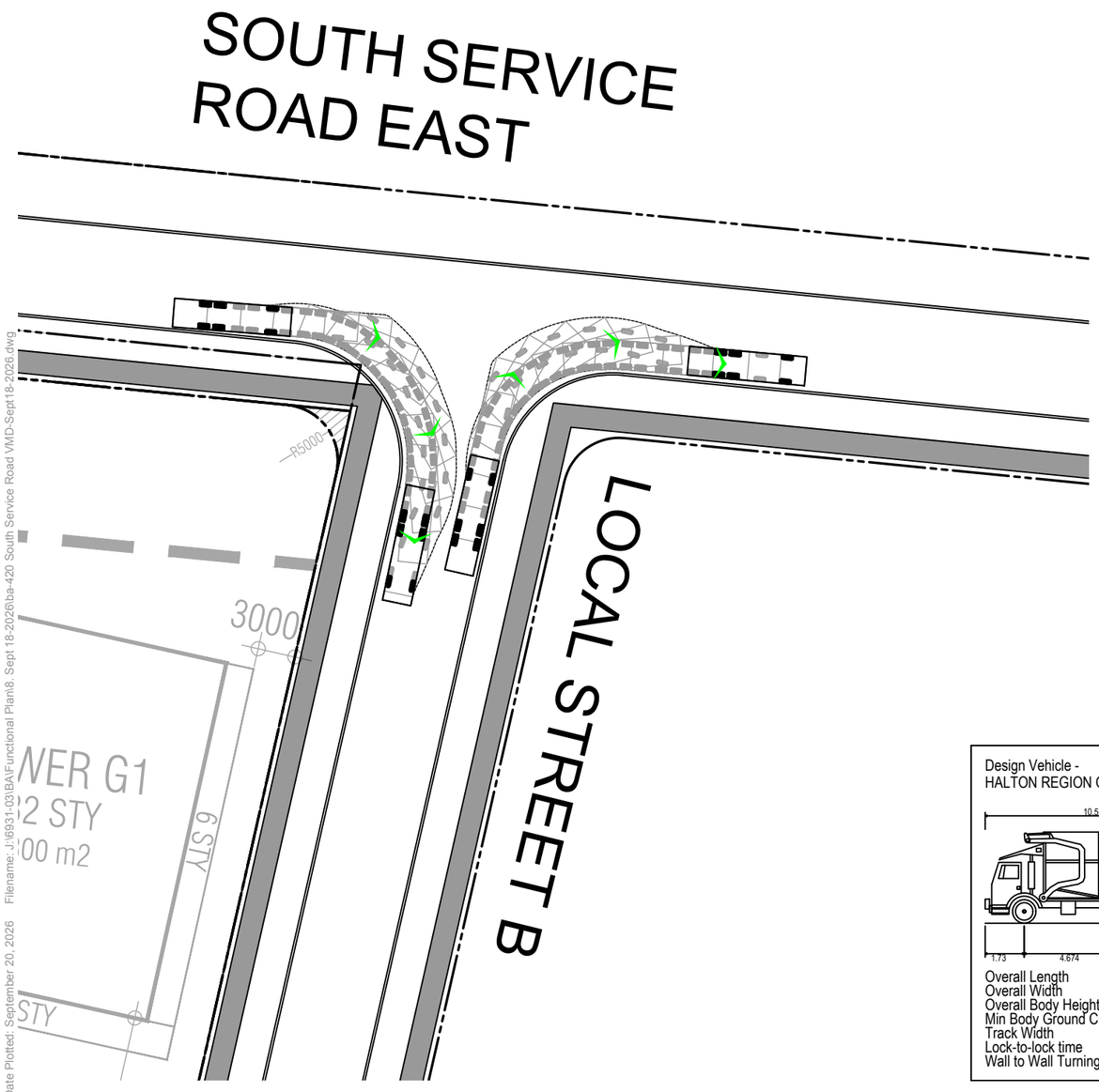
Project:	420 South Service Road
Project No.	6931-03
Date:	September 20, 2026
Revised:	--

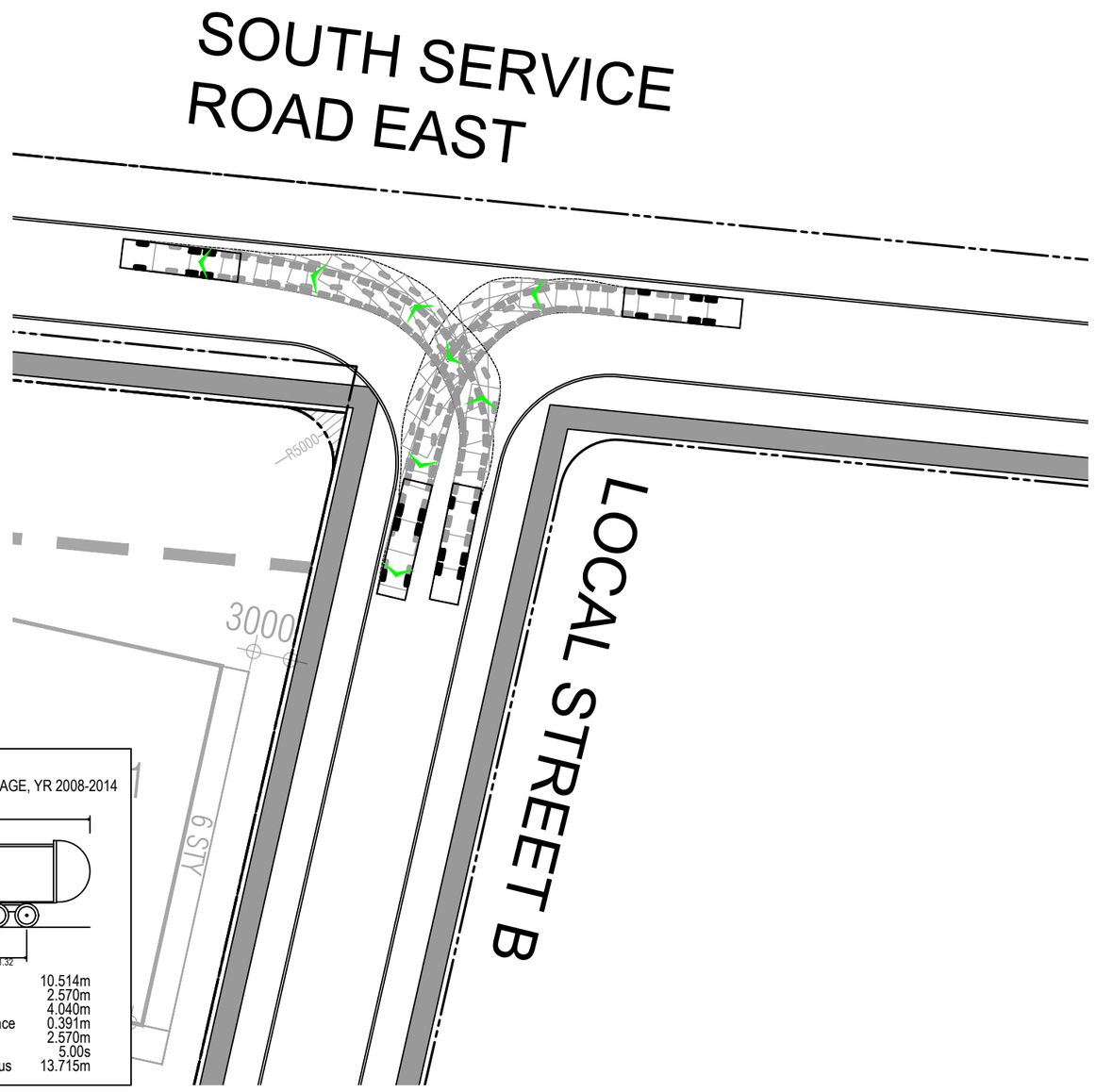
Scale 1:500 (0 5 10 15 20m)

Drawing No. VMD-16

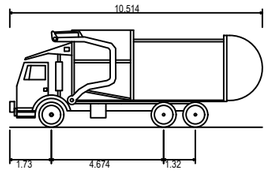
RIGHT TURNS

LEFT TURNS





Design Vehicle -
HALTON REGION GARBAGE, YR 2008-2014



Overall Length	10.514m
Overall Width	2.570m
Overall Body Height	4.040m
Min Body Ground Clearance	0.391m
Track Width	2.570m
Lock-to-lock time	5.00s
Wall to Wall Turning Radius	13.715m

Date Plotted: September 20, 2026 Filename: J:\6931-03\BA\Functional Plan\8. Sept 18-2026\ba-420 South Service Road VMD-Sept18-2026.dwg

BA Group

420 SOUTH SERVICE ROAD

LOCAL STREET B / SOUTH SERVICE ROAD EAST INTERSECTION

VEHICLE MANOEUVRING DIAGRAM

HALTON REGION WASTE COLLECTION TRUCK

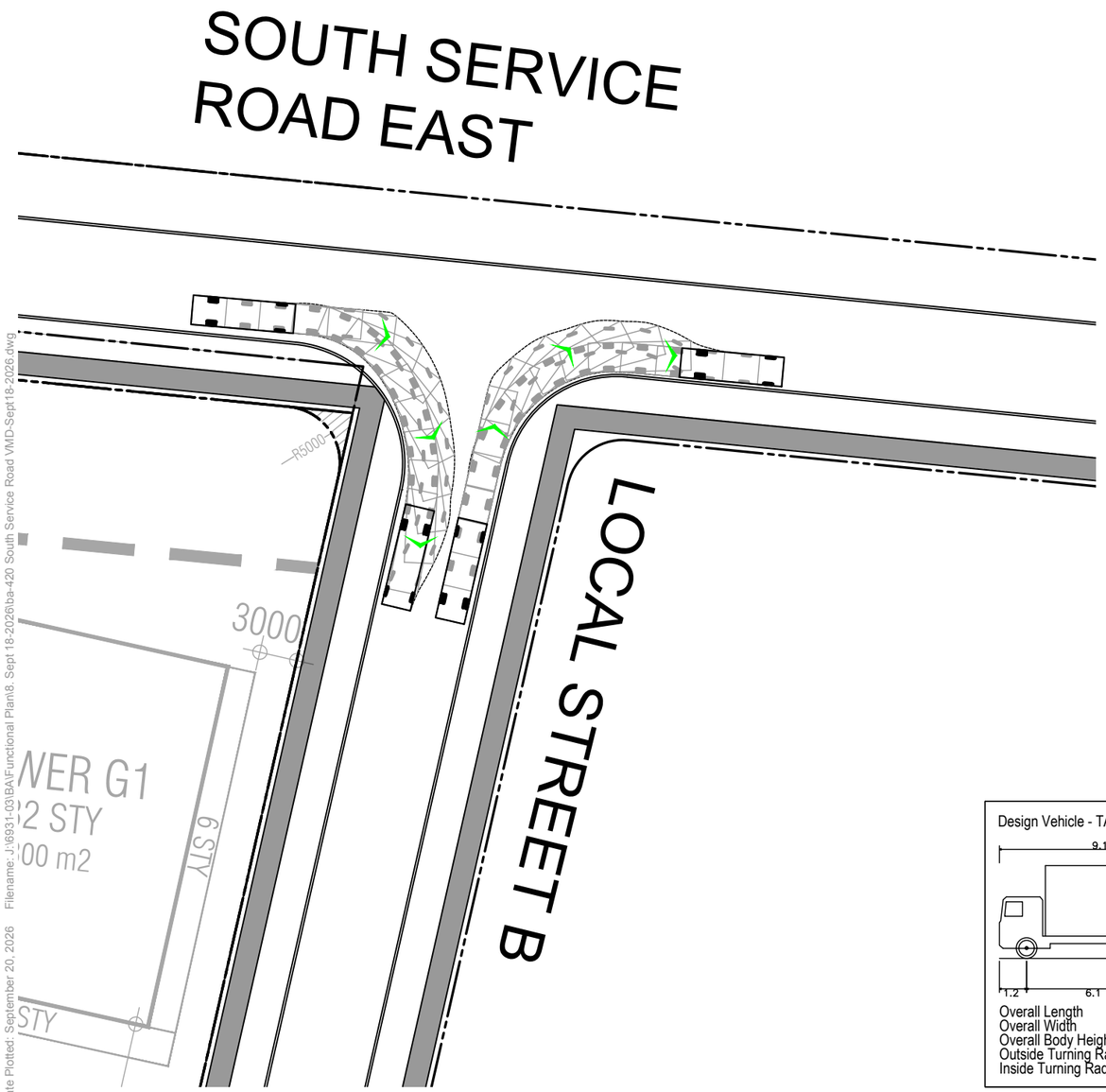
Project:	420 South Service Road
Project No.	6931-03
Date:	September 20, 2026
Revised:	--

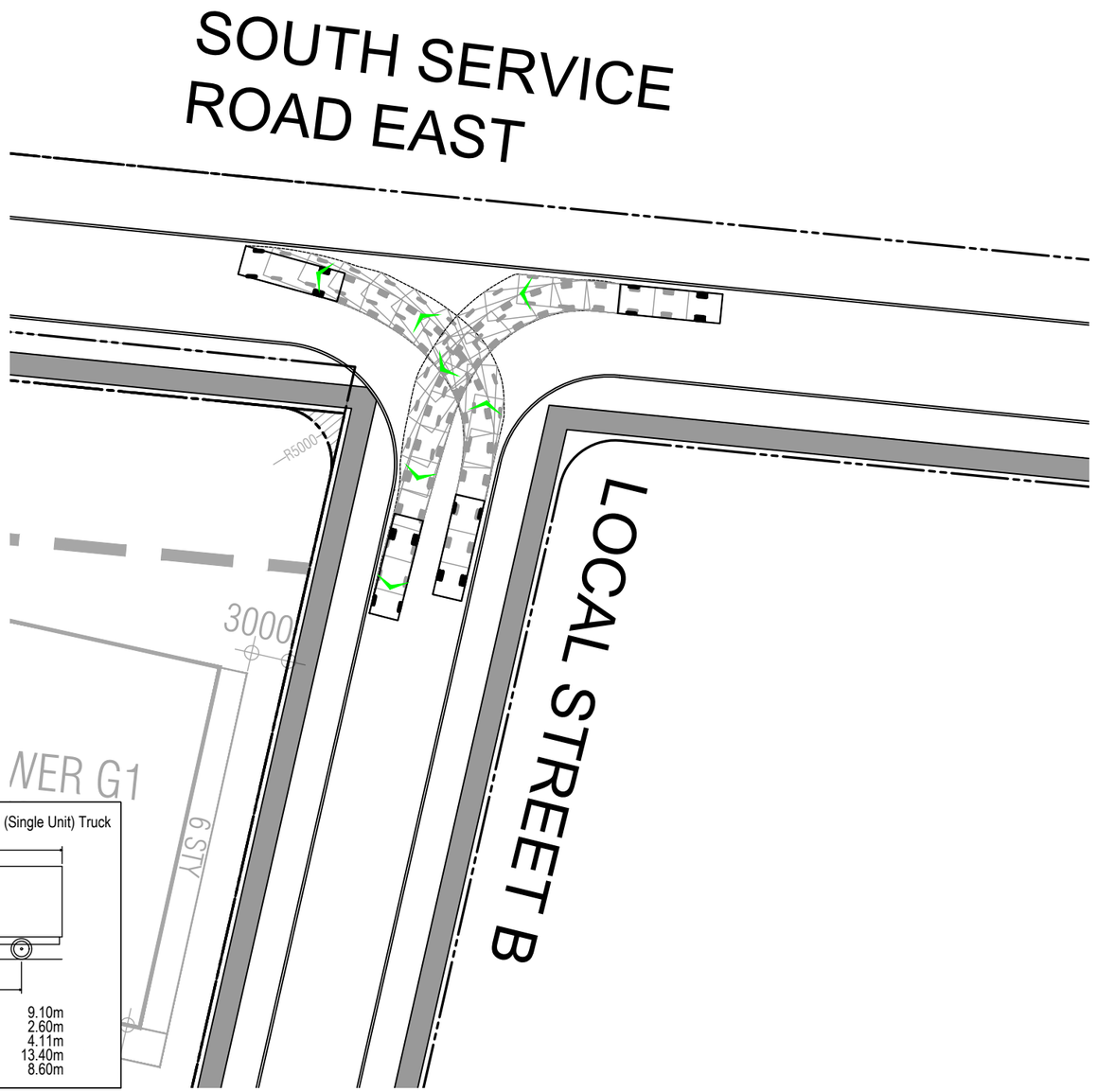
Scale 1:500 (0, 5, 10, 15, 20m)

Drawing No. VMD-17

RIGHT TURNS

LEFT TURNS





Design Vehicle - TAC SU (Single Unit) Truck

Overall Length	9.10m
Overall Width	2.60m
Overall Body Height	4.11m
Outside Turning Radius	13.40m
Inside Turning Radius	8.60m

Date Plotted: September 20, 2026 Filename: J:\6931-03\BA\Functional Plan\8. Sept 18-2026\ba-420 South Service Road VMD-Sept18-2026.dwg

BA Group

420 SOUTH SERVICE ROAD

LOCAL STREET B / SOUTH SERVICE ROAD EAST INTERSECTION

VEHICLE MANOEUVRING DIAGRAM

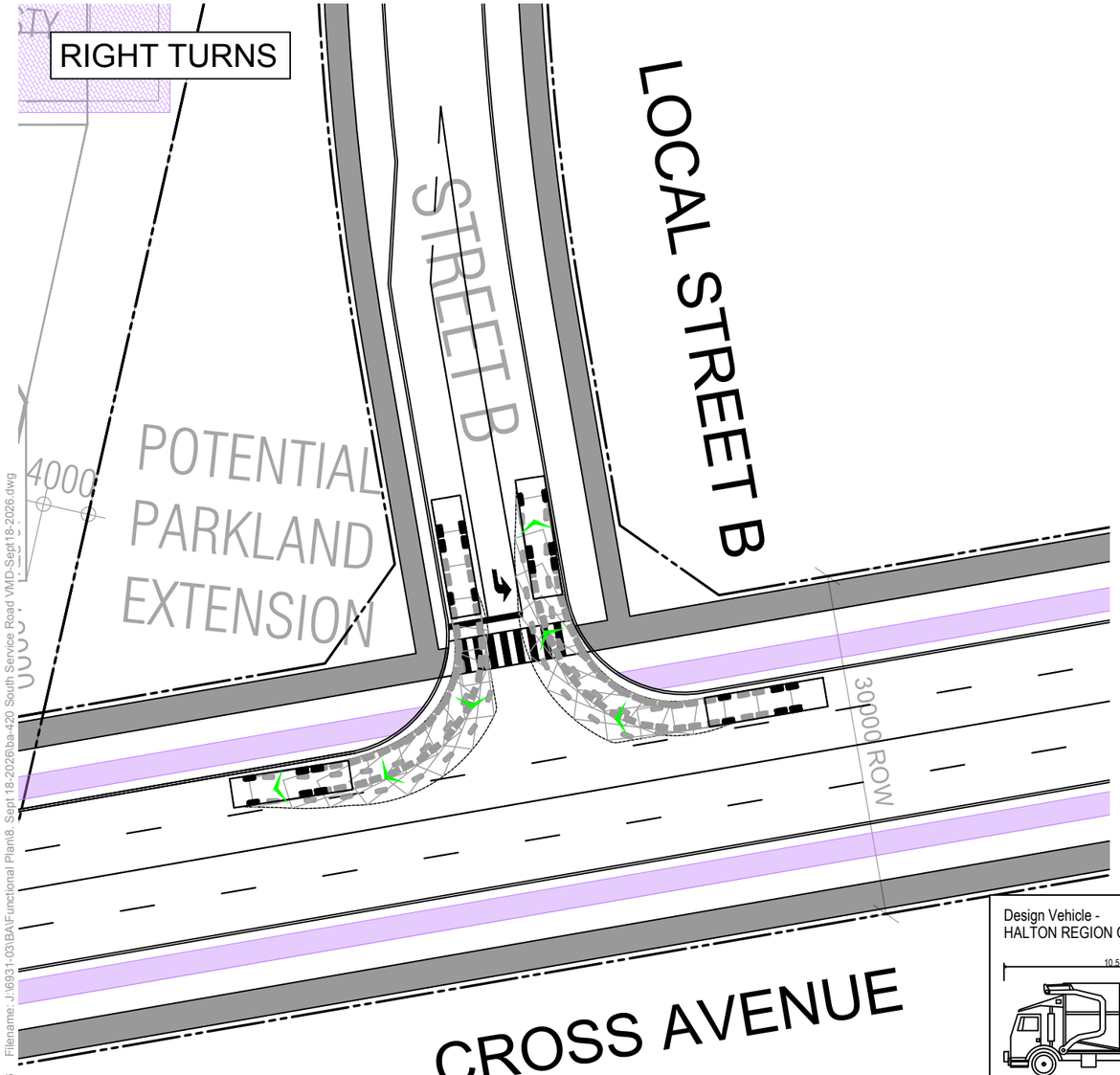
SINGLE UNIT TRUCK

Project:	420 South Service Road
Project No.	6931-03
Date:	September 20, 2026
Revised:	--

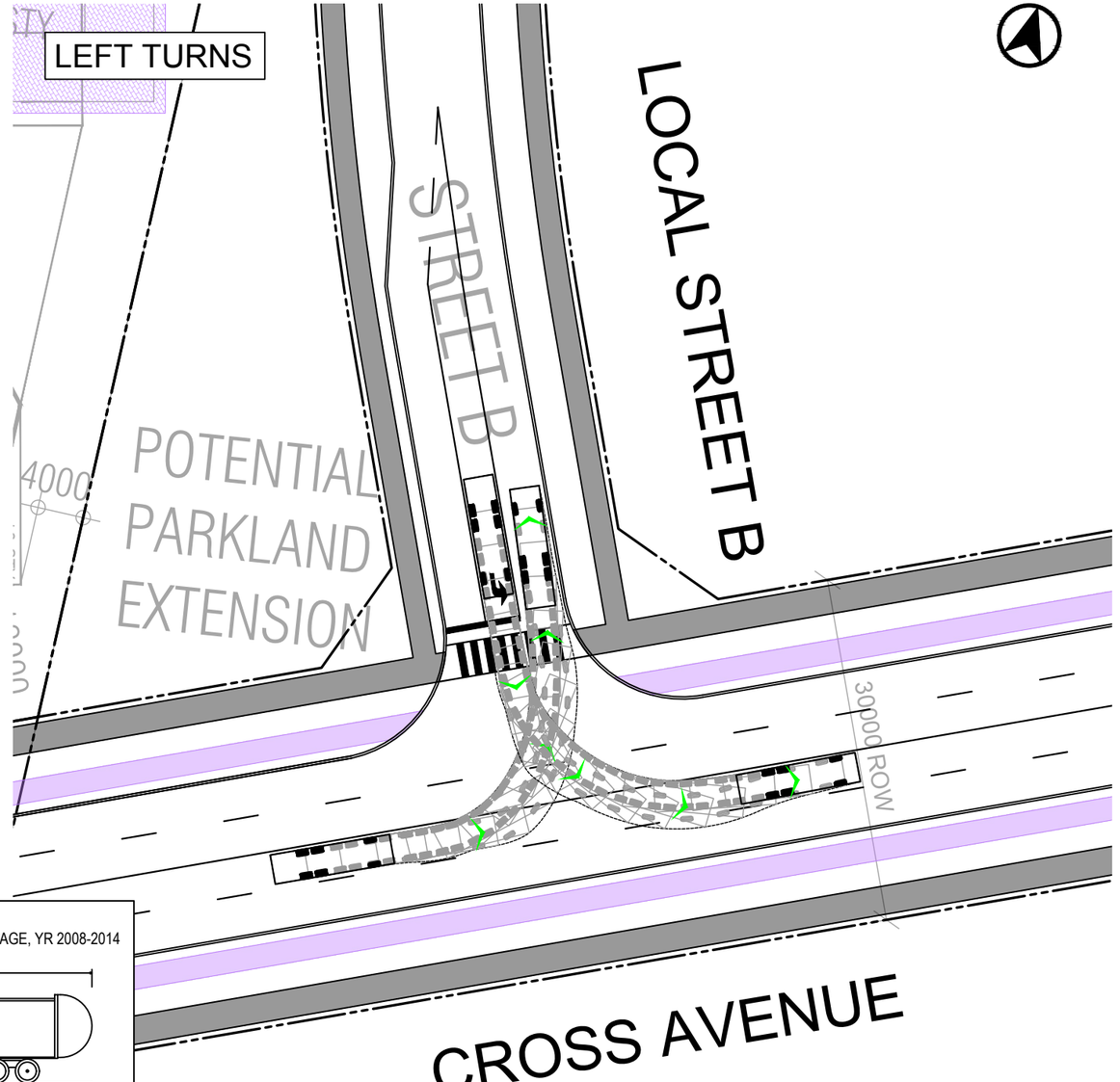
Scale 1:500 (0, 5, 10, 15, 20m)

Drawing No. VMD-18

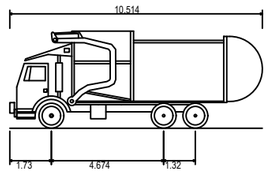
RIGHT TURNS



LEFT TURNS



Design Vehicle -
HALTON REGION GARBAGE, YR 2008-2014



Overall Length	10.514m
Overall Width	2.570m
Overall Body Height	4.040m
Min Body Ground Clearance	0.391m
Track Width	2.570m
Lock-to-lock time	5.00s
Wall to Wall Turning Radius	13.715m

BA Group

420 SOUTH SERVICE ROAD

LOCAL STREET B / CROSS AVENUE INTERSECTION

VEHICLE MANOEUVRING DIAGRAM

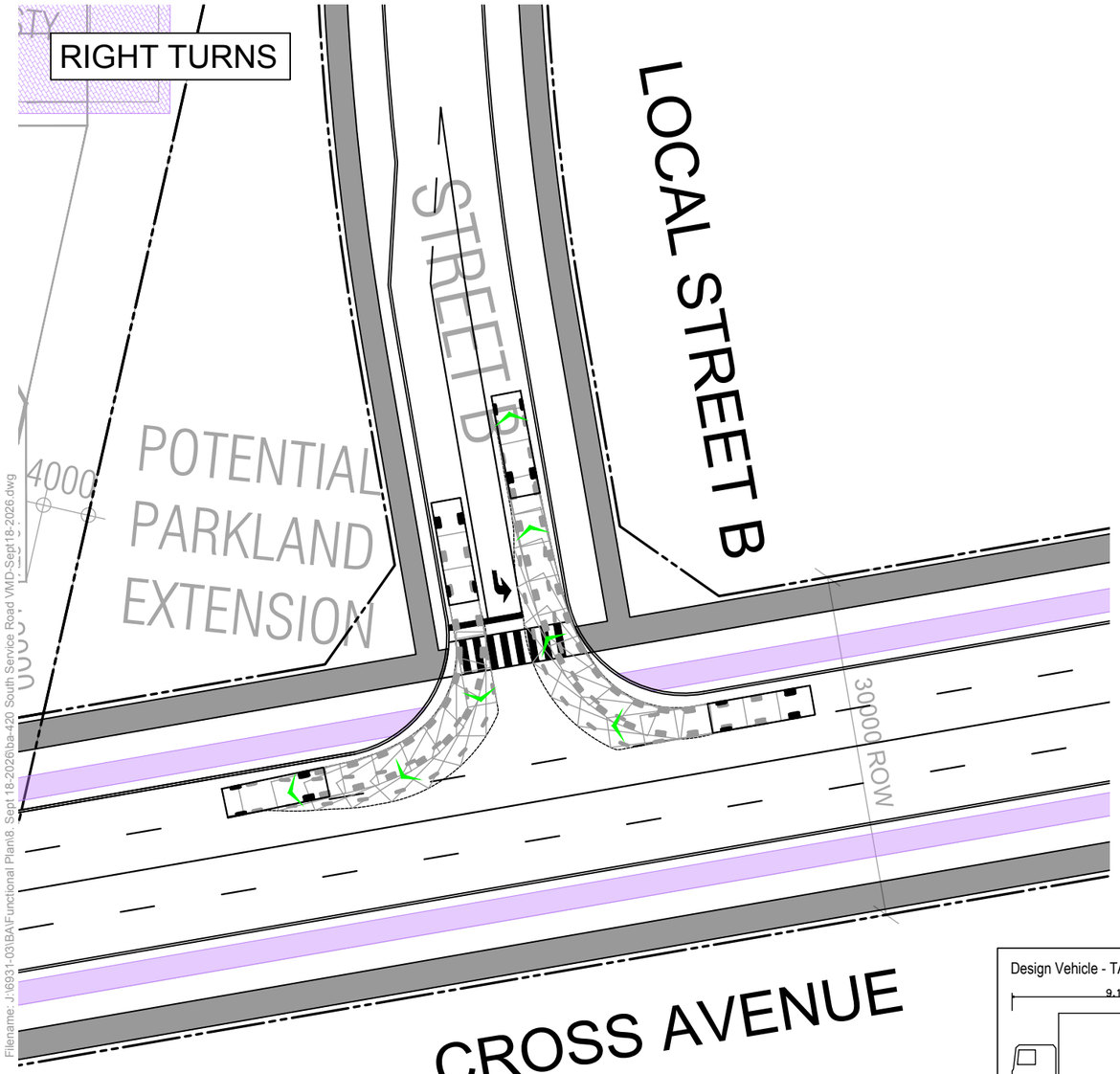
HALTON REGION WASTE COLLECTION TRUCK

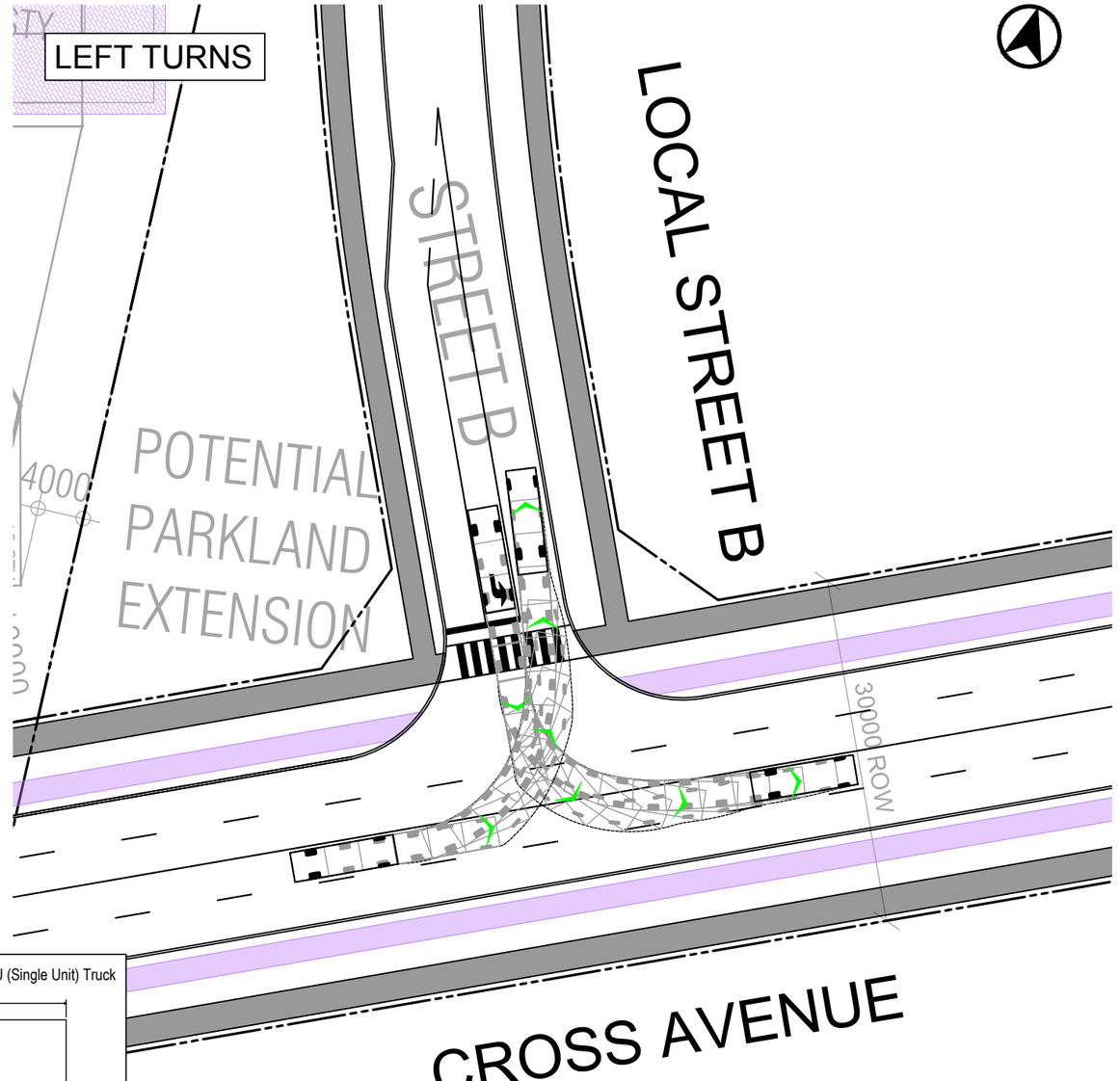
Project:	420 South Service Road
Project No.	6931-03
Date:	September 20, 2026
Revised:	--

Scale 1:500 — 0 5 10 15 20m

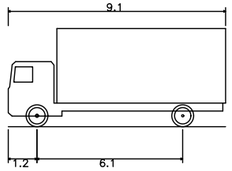
Drawing No. VMD-19

Date Plotted: September 20, 2026 Filename: J:\6931-03\BA\Functional Plan\8. Sept 18-2026\ba-420 South Service Road VMD-Sept18-2026.dwg





Design Vehicle - TAC SU (Single Unit) Truck



Overall Length	9.10m
Overall Width	2.60m
Overall Body Height	4.11m
Outside Turning Radius	13.40m
Inside Turning Radius	8.60m

BA Group

420 SOUTH SERVICE ROAD

LOCAL STREET B / CROSS AVENUE INTERSECTION
VEHICLE MANOEUVRING DIAGRAM
SINGLE UNIT TRUCK

Project:	420 South Service Road
Project No.	6931-03
Date:	September 20, 2026
Revised:	--

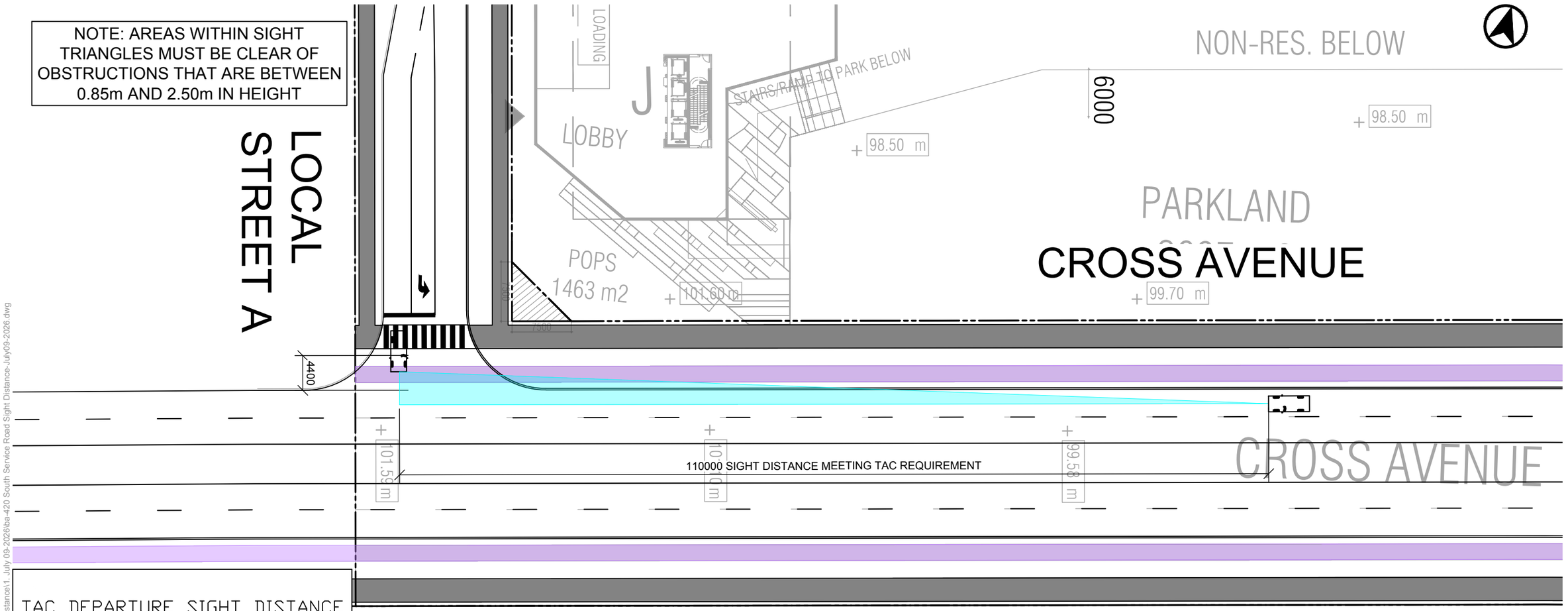
Scale 1:500 (0, 5, 10, 15, 20m)

Drawing No. VMD-20

Date Plotted: September 20, 2026 Filename: J:\6931-03\BA\Functional Plan\8. Sept 18-2026\ba-420 South Service Road VMD-Sept18-2026.dwg

Appendix K:
Sight Distance Assessment

NOTE: AREAS WITHIN SIGHT TRIANGLES MUST BE CLEAR OF OBSTRUCTIONS THAT ARE BETWEEN 0.85m AND 2.50m IN HEIGHT



TAC DEPARTURE SIGHT DISTANCE	
DESIGN SPEED (KM/H)	SIGHT DISTANCE (M) TAC TABLE 9.9.6
30	55
40	75
50	95
60	110

BA Group

420 SOUTH SERVICE ROAD

SIGHT DISTANCE REVIEW
RIGHT TURN FROM STREET A
DESIGN SPEED OF 60 KM/HR

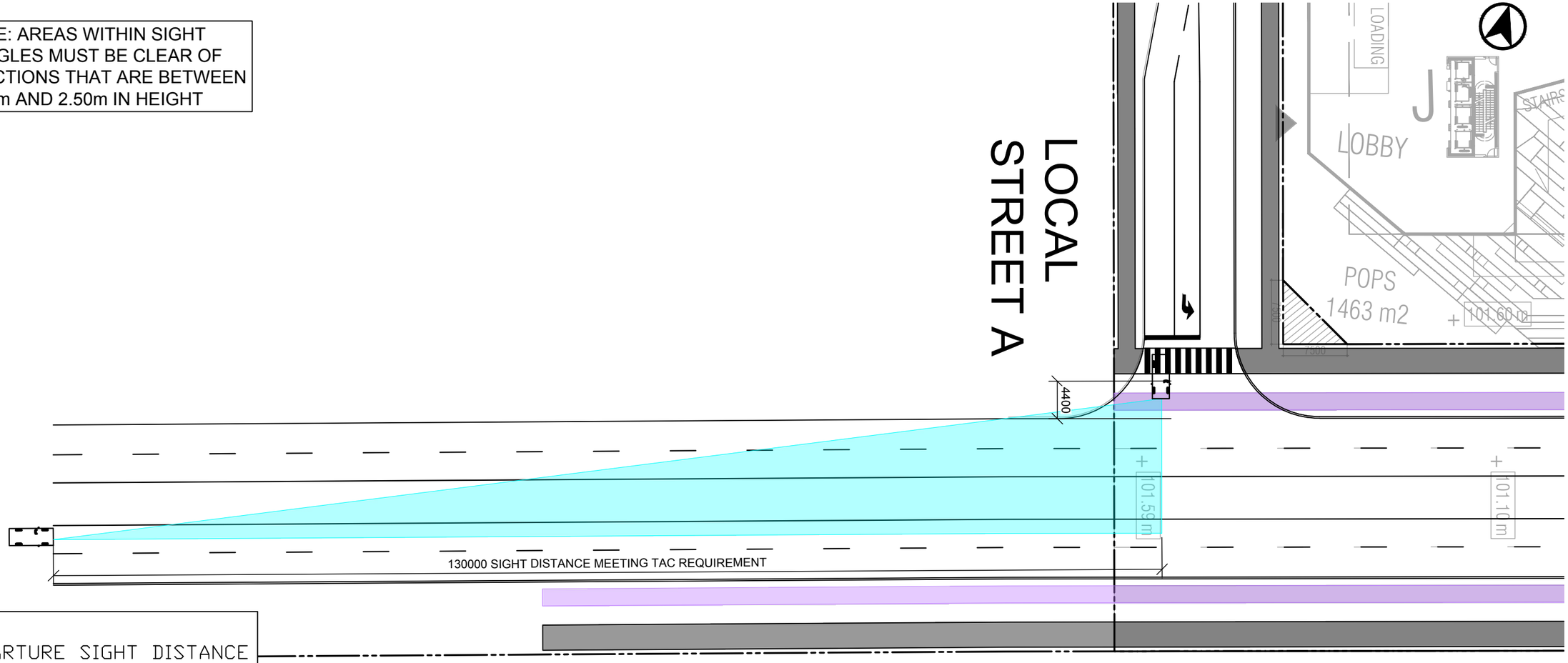
Project: 420 South Service Road
Project No. 6931-03
Date: September 17, 2026
Revised: --

Scale 1:500 0 5 10 15 20m

Drawing No. SD-01

Date Plotted: September 17, 2026 Filename: J:\6931-03\BA\Sight Distance\1. July 09-2026\ba-420 South Service Road Sight Distance-July09-2026.dwg

NOTE: AREAS WITHIN SIGHT TRIANGLES MUST BE CLEAR OF OBSTRUCTIONS THAT ARE BETWEEN 0.85m AND 2.50m IN HEIGHT



CROSS AVENUE

TAC DEPARTURE SIGHT DISTANCE	
DESIGN SPEED (KM/H)	SIGHT DISTANCE (M) TAC TABLE 9.9.4
30	65
40	85
50	105
60	130

BA Group

420 SOUTH SERVICE ROAD
SIGHT DISTANCE REVIEW
LEFT TURN FROM STREET A
DESIGN SPEED OF 60 KM/HR

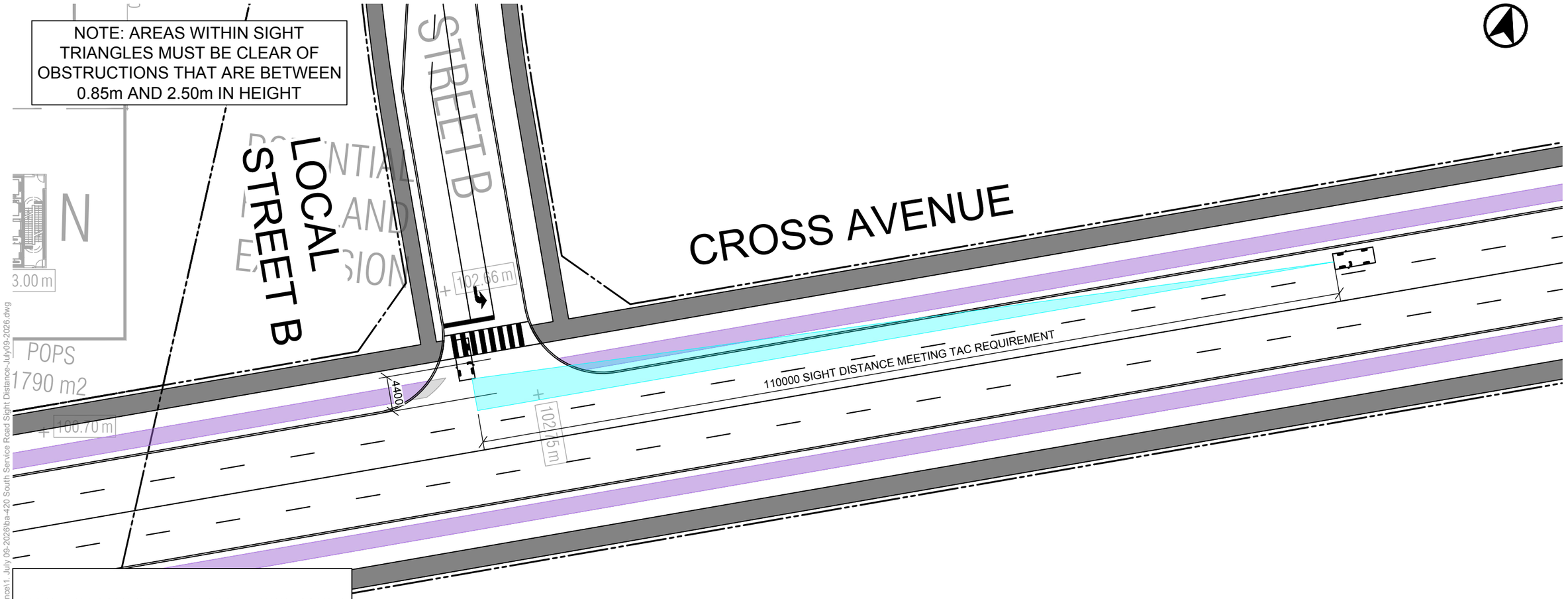
Project: 420 South Service Road
Project No. 6931-03
Date: September 17, 2026
Revised: --

Scale 1:500 (0 5 10 15 20m)

Drawing No. SD-02

Date Plotted: September 17, 2026 Filename: J:\6931-03\BA\Sight Distance\1. July 09-2026\ba-420 South Service Road Sight Distance-July09-2026.dwg

NOTE: AREAS WITHIN SIGHT TRIANGLES MUST BE CLEAR OF OBSTRUCTIONS THAT ARE BETWEEN 0.85m AND 2.50m IN HEIGHT



TAC DEPARTURE SIGHT DISTANCE	
DESIGN SPEED (KM/H)	SIGHT DISTANCE (M) TAC TABLE 9.9.6
30	55
40	75
50	95
60	110

Date Plotted: September 17, 2026 Filename: J:\6931-03\BA\Sight Distance\1. July 09-2026\ba-420 South Service Road Sight Distance-July09-2026.dwg

BA Group

420 SOUTH SERVICE ROAD

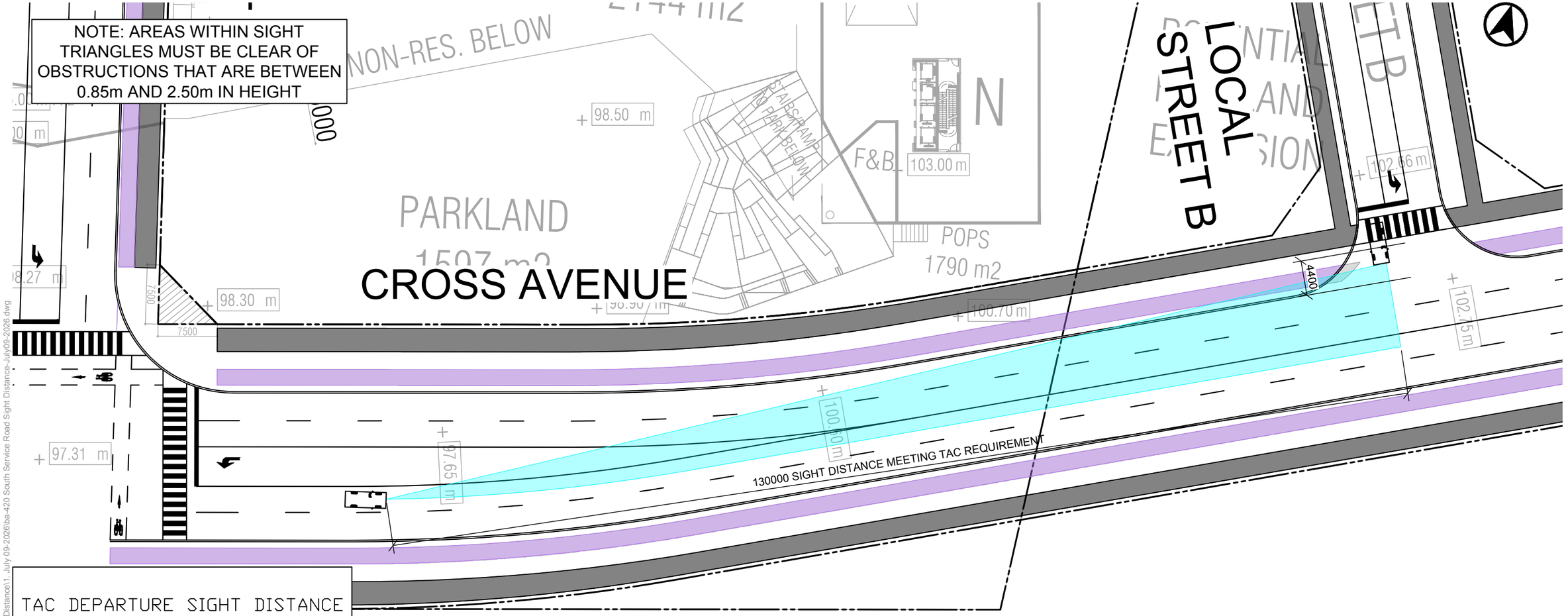
SIGHT DISTANCE REVIEW
RIGHT TURN FROM STREET A
DESIGN SPEED OF 60 KM/HR

Project:	420 South Service Road
Project No.	6931-03
Date:	September 17, 2026
Revised:	--

Scale 1:500 (0 5 10 15 20m)

Drawing No. SD-03

NOTE: AREAS WITHIN SIGHT TRIANGLES MUST BE CLEAR OF OBSTRUCTIONS THAT ARE BETWEEN 0.85m AND 2.50m IN HEIGHT



TAC DEPARTURE SIGHT DISTANCE	
DESIGN SPEED (KM/H)	SIGHT DISTANCE (M) TAC TABLE 9.9.4
30	65
40	85
50	105
60	130

Date Plotted: September 17, 2026 Filename: J:\6931-03\BA\Sight Distance\1. July 09-2026\ba-420 South Service Road Sight Distance-July09-2026.dwg

BA Group

420 SOUTH SERVICE ROAD

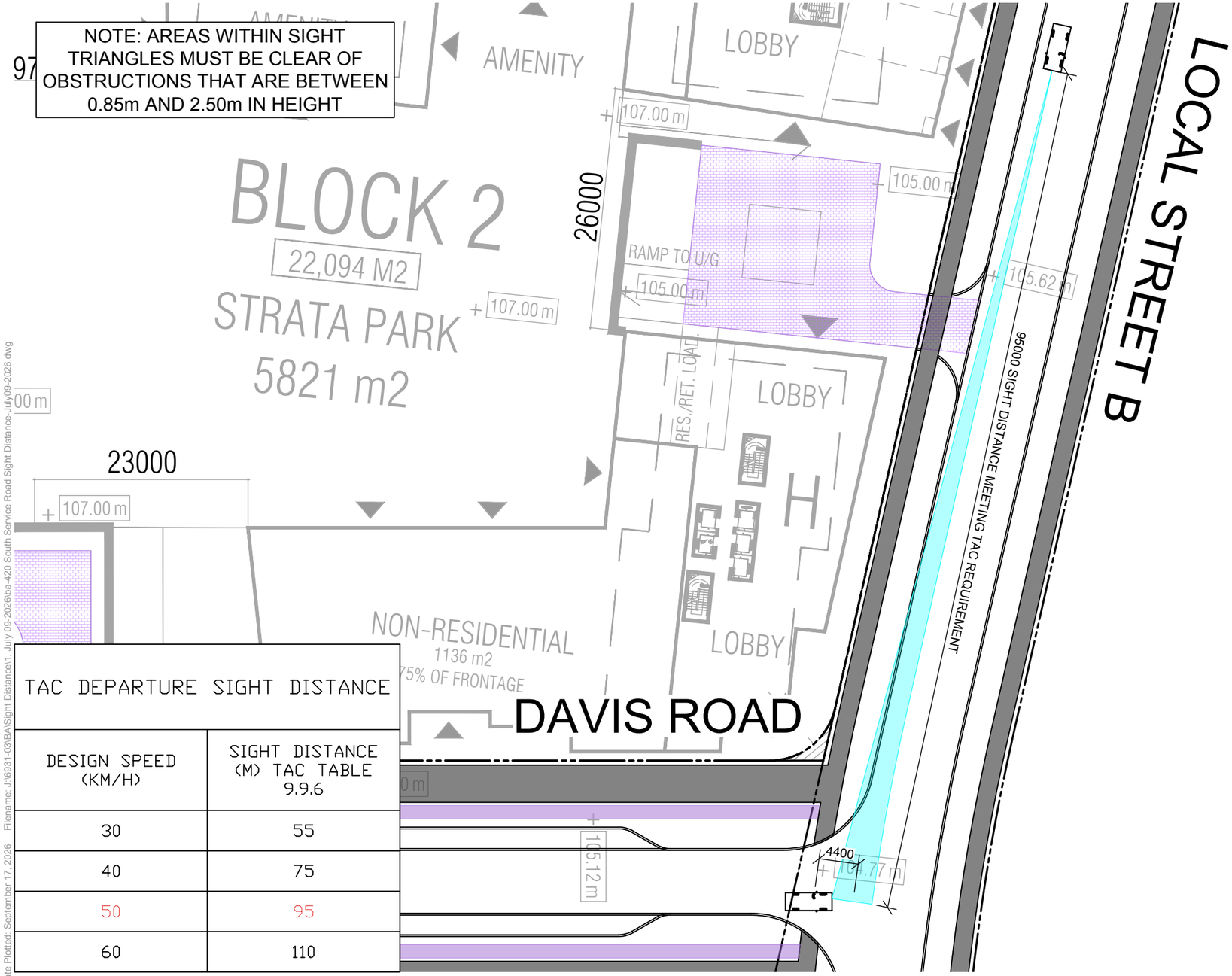
SIGHT DISTANCE REVIEW
LEFT TURN FROM STREET A
DESIGN SPEED OF 60 KM/HR

Project:	420 South Service Road
Project No.	6931-03
Date:	September 17, 2026
Revised:	--

Scale 1:500 (0 5 10 15 20m)

Drawing No. SD-04

NOTE: AREAS WITHIN SIGHT TRIANGLES MUST BE CLEAR OF OBSTRUCTIONS THAT ARE BETWEEN 0.85m AND 2.50m IN HEIGHT



TAC DEPARTURE SIGHT DISTANCE	
DESIGN SPEED (KM/H)	SIGHT DISTANCE (M) TAC TABLE 9.9.6
30	55
40	75
50	95
60	110

Date Plotted: September 17, 2026 Filename: J:\6931-03\BA\Sight Distance\1. July 09-2026\ba-420 South Service Road Sight Distance-July09-2026.dwg

BA Group

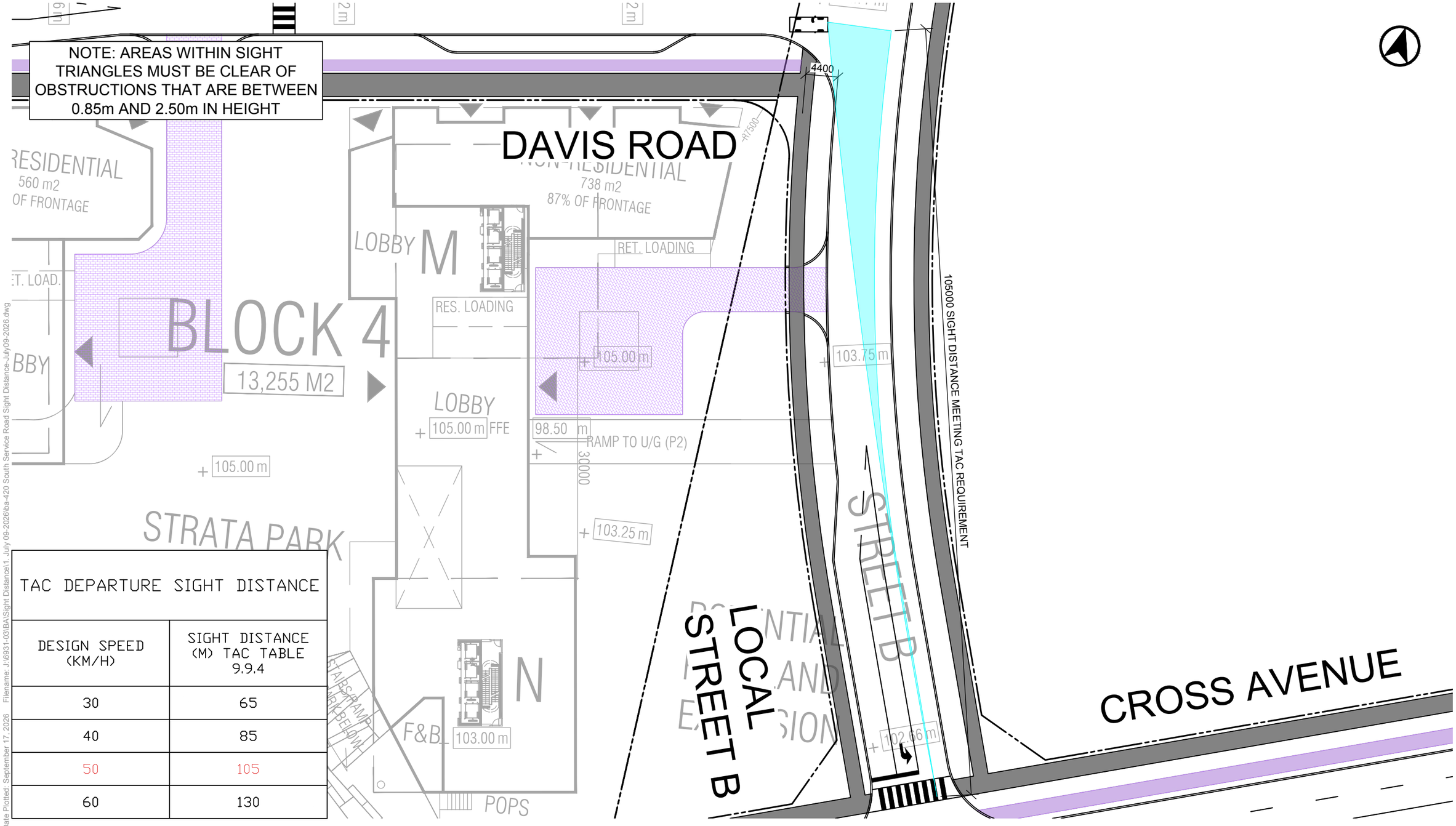
420 SOUTH SERVICE ROAD

SIGHT DISTANCE REVIEW
RIGHT TURN FROM DAVIS ROAD
DESIGN SPEED OF 50 KM/HR

Project:	420 South Service Road
Project No.	6931-03
Date:	September 17, 2026
Revised:	--

Scale 1:500 (0 5 10 15 20m)

Drawing No. SD-05



TAC DEPARTURE SIGHT DISTANCE	
DESIGN SPEED (KM/H)	SIGHT DISTANCE (M) TAC TABLE 9.9.4
30	65
40	85
50	105
60	130

BA Group

420 SOUTH SERVICE ROAD

SIGHT DISTANCE REVIEW
LEFT TURN FROM DAVIS ROAD
DESIGN SPEED OF 50 KM/HR

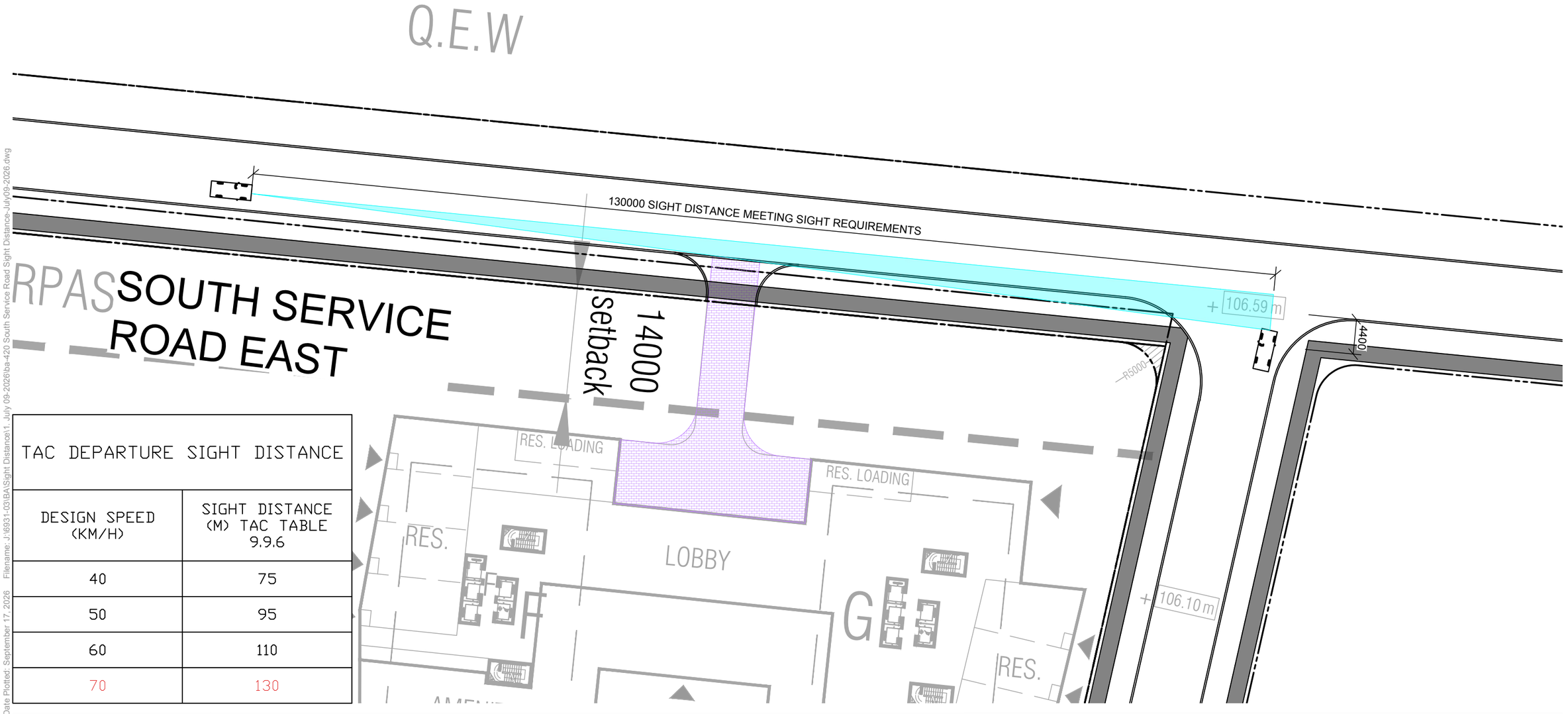
Project:	420 South Service Road
Project No.	6931-03
Date:	September 17, 2026
Revised:	--

Scale 1:500 (0, 5, 10, 15, 20m)

Drawing No. SD-06

Date Plotted: September 17, 2026 Filename: J:\6931-03\BA\Sight Distance\1_July 09-2026\ba-420 South Service Road Sight Distance-July09-2026.dwg

NOTE: AREAS WITHIN SIGHT TRIANGLES MUST BE CLEAR OF OBSTRUCTIONS THAT ARE BETWEEN 0.85m AND 2.50m IN HEIGHT



TAC DEPARTURE SIGHT DISTANCE	
DESIGN SPEED (KM/H)	SIGHT DISTANCE (M) TAC TABLE 9.9.6
40	75
50	95
60	110
70	130

BA Group

420 SOUTH SERVICE ROAD

SIGHT DISTANCE REVIEW
RIGHT TURN FROM DAVIS ROAD
DESIGN SPEED OF 70 KM/HR

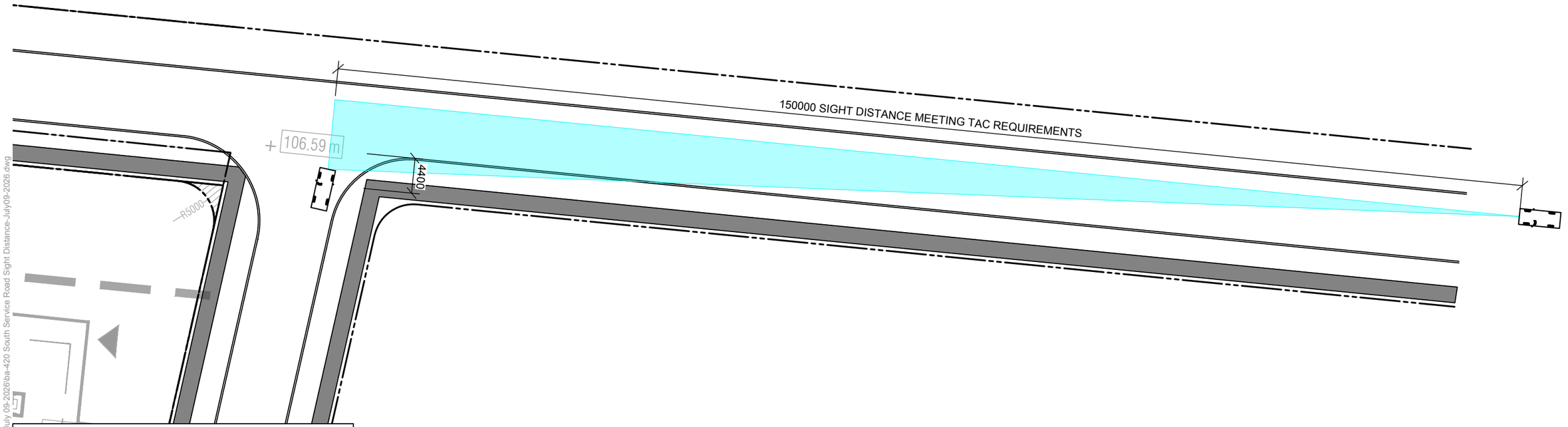
Project:	420 South Service Road
Project No.	6931-03
Date:	September 17, 2026
Revised:	--

Scale 1:500 (0 5 10 15 20m)

Drawing No. SD-07

Date Plotted: September 17, 2026 Filename: J:\6931-03\BA\Sight Distance\1. July 09-2026\ba-420 South Service Road Sight Distance-July09-2026.dwg

NOTE: AREAS WITHIN SIGHT TRIANGLES MUST BE CLEAR OF OBSTRUCTIONS THAT ARE BETWEEN 0.85m AND 2.50m IN HEIGHT



TAC DEPARTURE SIGHT DISTANCE	
DESIGN SPEED (KM/H)	SIGHT DISTANCE (M) TAC TABLE 9.9.4
40	85
50	105
60	130
70	150

Date Plotted: September 17, 2026 Filename: J:\6931-03\BA\Sight Distance\1. July 09-2026\ba-420 South Service Road Sight Distance-July09-2026.dwg

BA Group

420 SOUTH SERVICE ROAD

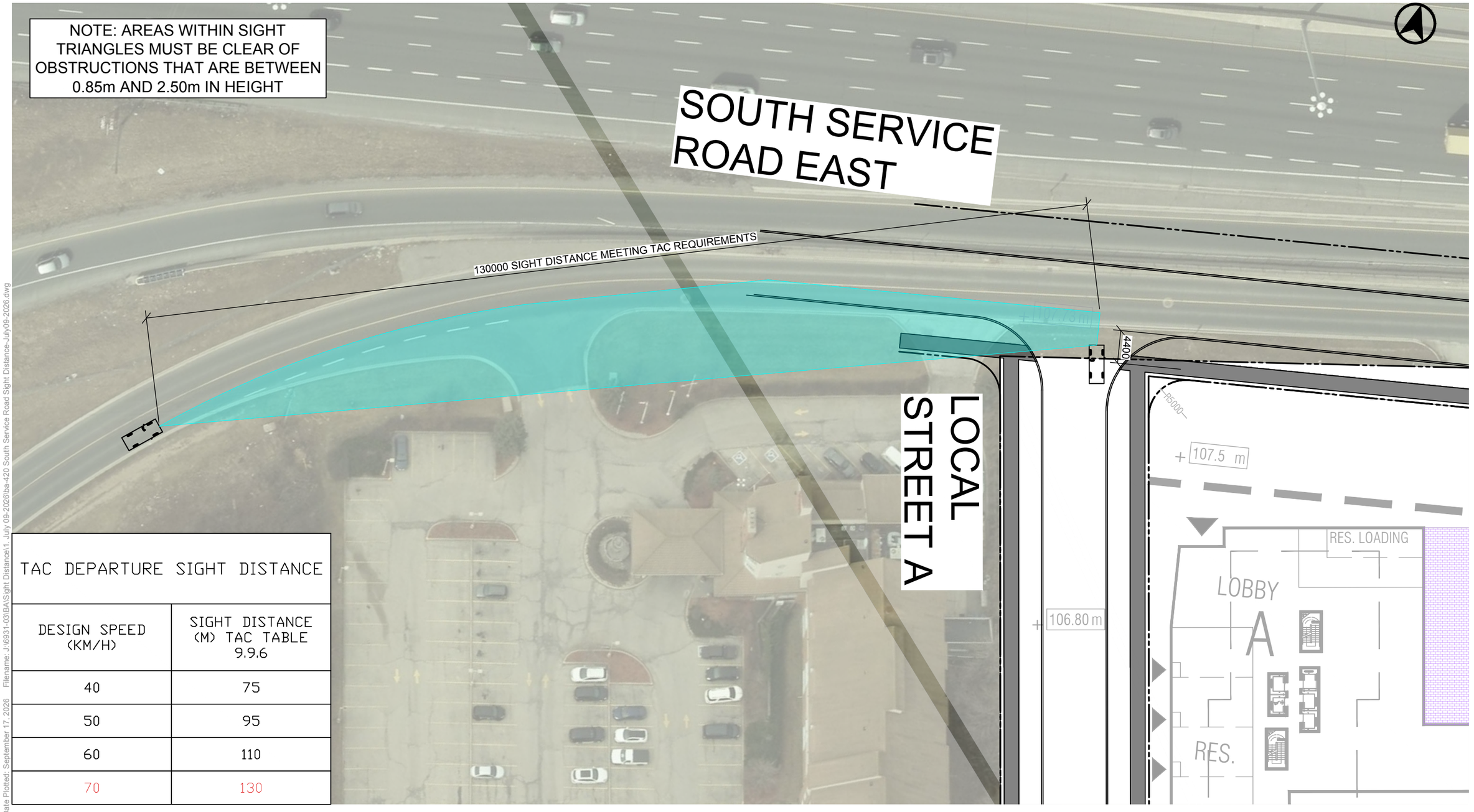
SIGHT DISTANCE REVIEW
LEFT TURN FROM DAVIS ROAD
DESIGN SPEED OF 70 KM/HR

Project:	420 South Service Road
Project No.	6931-03
Date:	September 17, 2026
Revised:	--

Scale 1:500 (0, 5, 10, 15, 20m)

Drawing No. SD-08

NOTE: AREAS WITHIN SIGHT TRIANGLES MUST BE CLEAR OF OBSTRUCTIONS THAT ARE BETWEEN 0.85m AND 2.50m IN HEIGHT



TAC DEPARTURE SIGHT DISTANCE	
DESIGN SPEED (KM/H)	SIGHT DISTANCE (M) TAC TABLE 9.9.6
40	75
50	95
60	110
70	130

Date Plotted: September 17, 2026 Filename: J:\6931-03\BA\Sight Distance\1. July 09-2026\ba-420 South Service Road Sight Distance-July09-2026.dwg

BA Group

420 SOUTH SERVICE ROAD

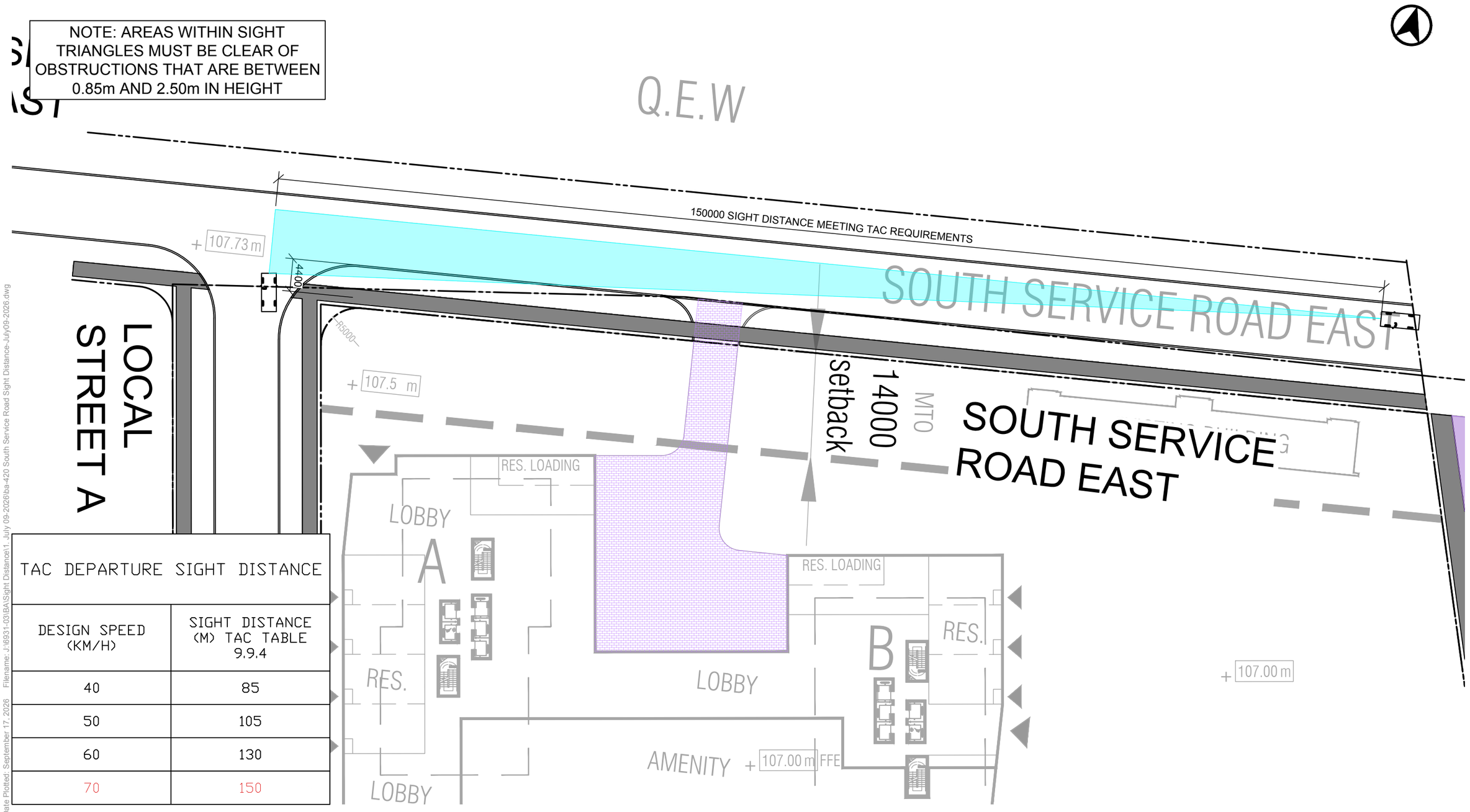
SIGHT DISTANCE REVIEW
RIGHT TURN FROM STREET A
DESIGN SPEED OF 70 KM/HR

Project:	420 South Service Road
Project No.	6931-03
Date:	September 17, 2026
Revised:	--

Scale 1:500 (0 5 10 15 20m)

Drawing No. SD-09

NOTE: AREAS WITHIN SIGHT TRIANGLES MUST BE CLEAR OF OBSTRUCTIONS THAT ARE BETWEEN 0.85m AND 2.50m IN HEIGHT



TAC DEPARTURE SIGHT DISTANCE	
DESIGN SPEED (KM/H)	SIGHT DISTANCE (M) TAC TABLE 9.9.4
40	85
50	105
60	130
70	150

Date Plotted: September 17, 2026 Filename: J:\6931-03\BA\Sight Distance\1 July 09-2026\ba-420 South Service Road Sight Distance-July09-2026.dwg

BA Group

420 SOUTH SERVICE ROAD

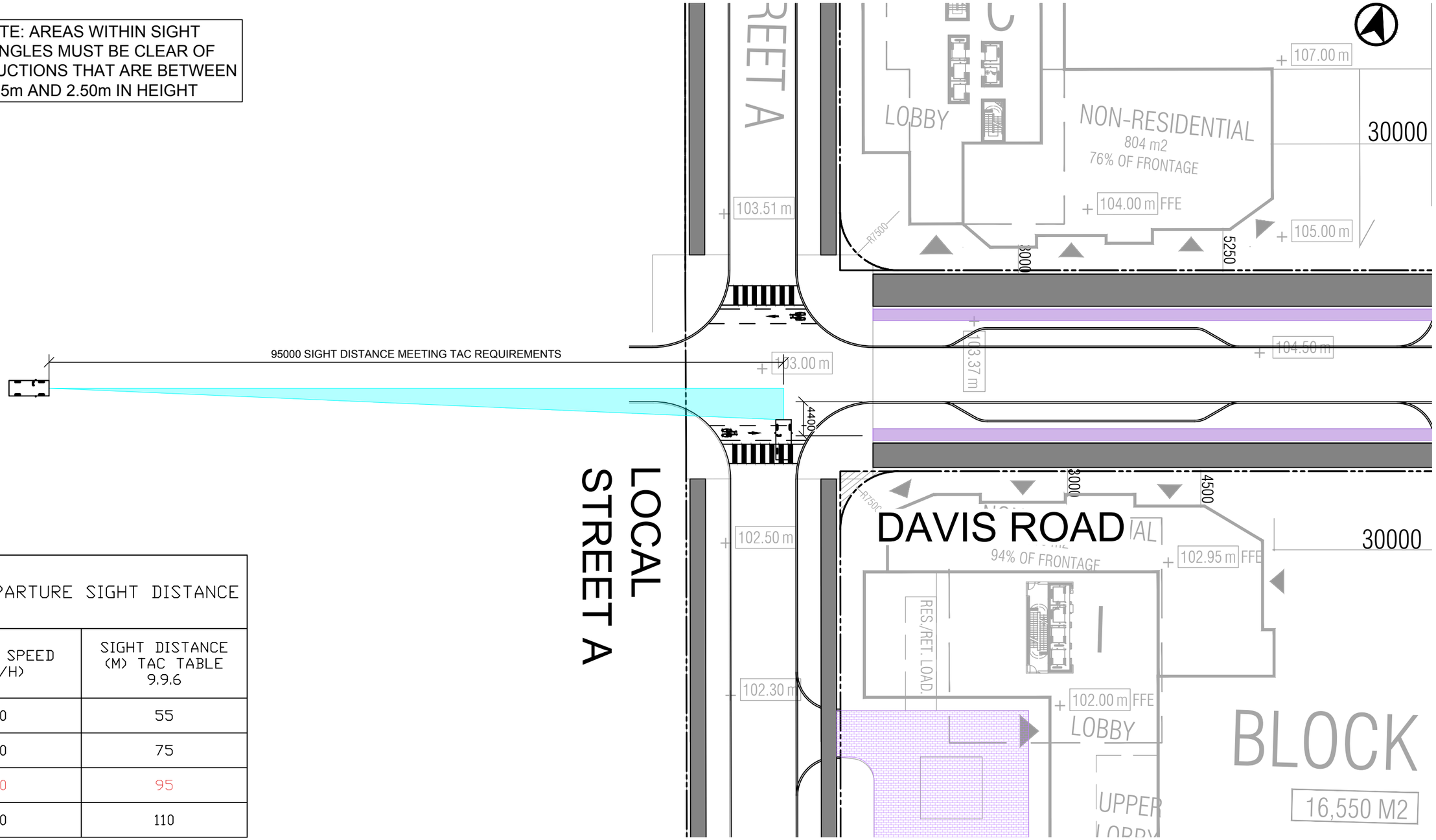
SIGHT DISTANCE REVIEW
LEFT TURN FROM STREET A
DESIGN SPEED OF 70 KM/HR

Project:	420 South Service Road
Project No.	6931-03
Date:	September 17, 2026
Revised:	--

Scale 1:500 (0 5 10 15 20m)

Drawing No. SD-10

NOTE: AREAS WITHIN SIGHT TRIANGLES MUST BE CLEAR OF OBSTRUCTIONS THAT ARE BETWEEN 0.85m AND 2.50m IN HEIGHT



TAC DEPARTURE SIGHT DISTANCE	
DESIGN SPEED (KM/H)	SIGHT DISTANCE (M) TAC TABLE 9.9.6
30	55
40	75
50	95
60	110

Date Plotted: September 17, 2026 Filename: J:\6931-03\BA\Sight Distance\1. July 09-2026\ba-420 South Service Road Sight Distance-July09-2026.dwg

BA Group

420 SOUTH SERVICE ROAD

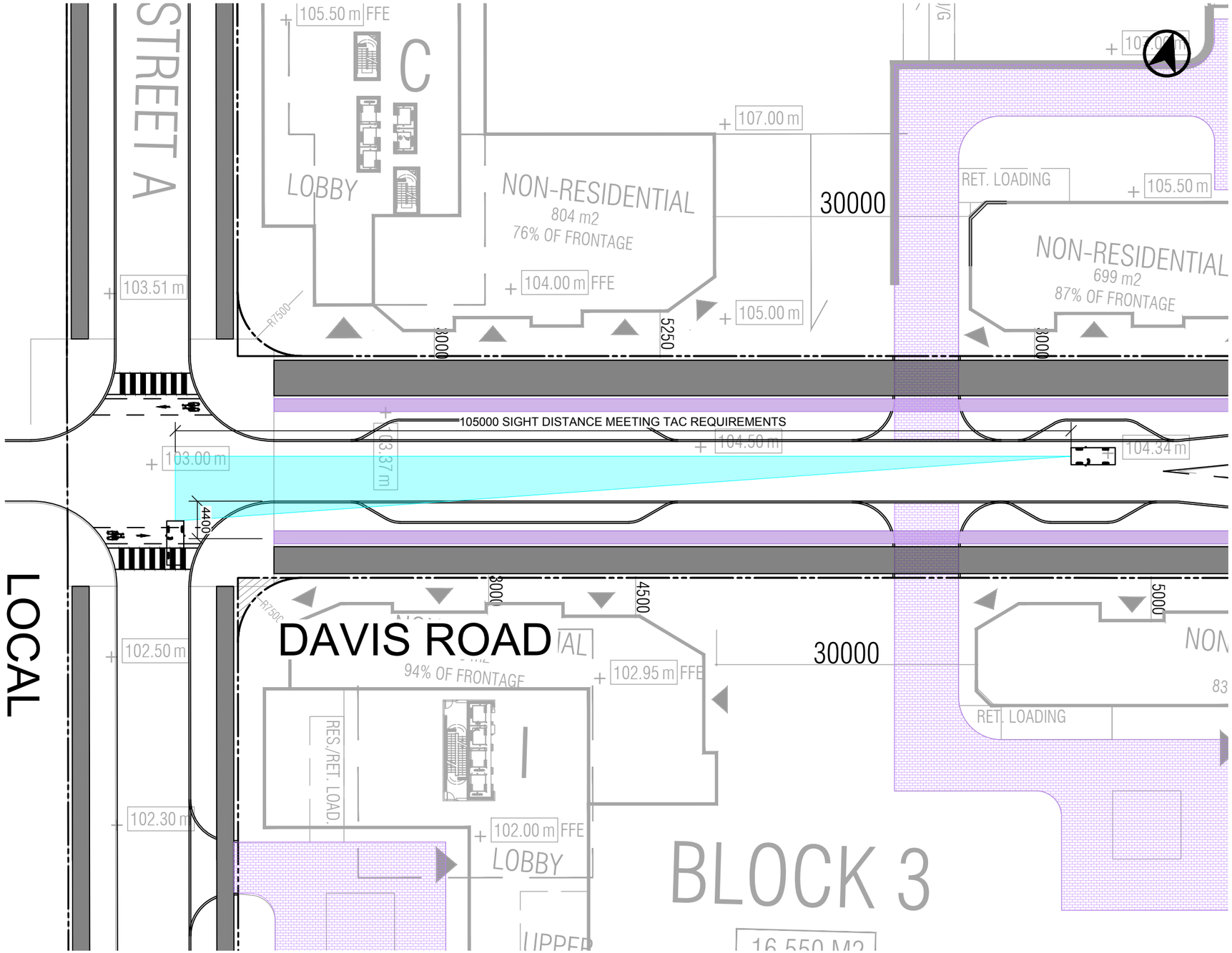
SIGHT DISTANCE REVIEW
RIGHT TURN FROM STREET A
DESIGN SPEED OF 50 KM/HR

Project:	420 South Service Road
Project No.	6931-03
Date:	September 17, 2026
Revised:	--

Scale 1:500 (0 5 10 15 20m)

Drawing No. SD-11

NOTE: AREAS WITHIN SIGHT TRIANGLES MUST BE CLEAR OF OBSTRUCTIONS THAT ARE BETWEEN 0.85m AND 2.50m IN HEIGHT



TAC DEPARTURE SIGHT DISTANCE	
DESIGN SPEED (KM/H)	SIGHT DISTANCE (M) TAC TABLE 9.9.4
30	65
40	85
50	105
60	130

BA Group

420 SOUTH SERVICE ROAD

SIGHT DISTANCE REVIEW
LEFT TURN FROM STREET A
DESIGN SPEED OF 50 KM/HR

Project:	420 South Service Road
Project No.	6931-03
Date:	September 17, 2026
Revised:	--

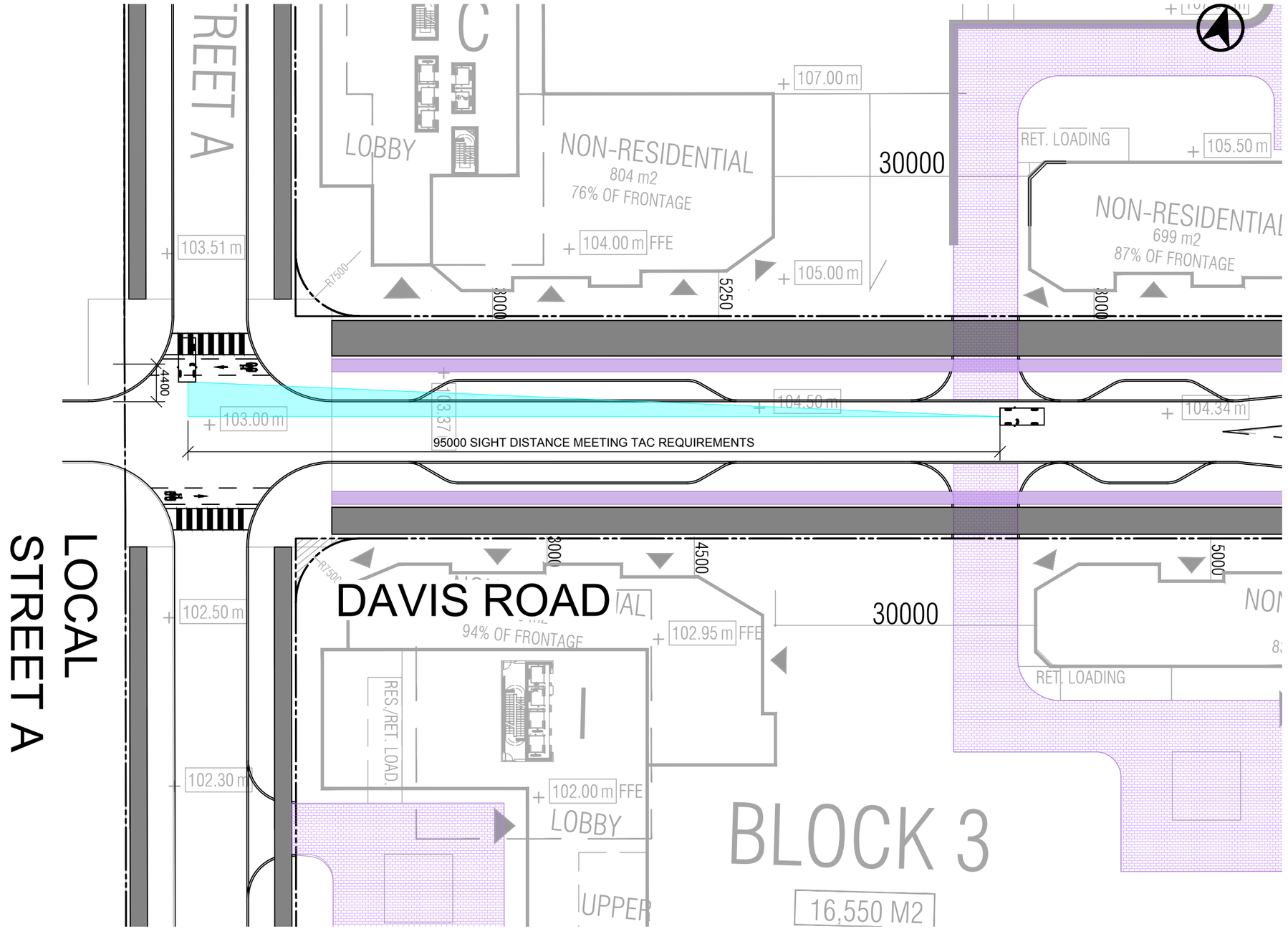
Scale 1:500 (0 5 10 15 20m)

Drawing No. SD-12

Date Plotted: September 17, 2026 Filename: J:\6931-03\BA\Sight Distance\1. July 09-2026\ba-420 South Service Road Sight Distance-July09-2026.dwg

NOTE: AREAS WITHIN SIGHT TRIANGLES MUST BE CLEAR OF OBSTRUCTIONS THAT ARE BETWEEN 0.85m AND 2.50m IN HEIGHT

TAC DEPARTURE SIGHT DISTANCE	
DESIGN SPEED (KM/H)	SIGHT DISTANCE (M) TAC TABLE 9.9.6
30	55
40	75
50	95
60	110



BA Group

420 SOUTH SERVICE ROAD

SIGHT DISTANCE REVIEW
RIGHT TURN FROM STREET A
DESIGN SPEED OF 50 KM/HR

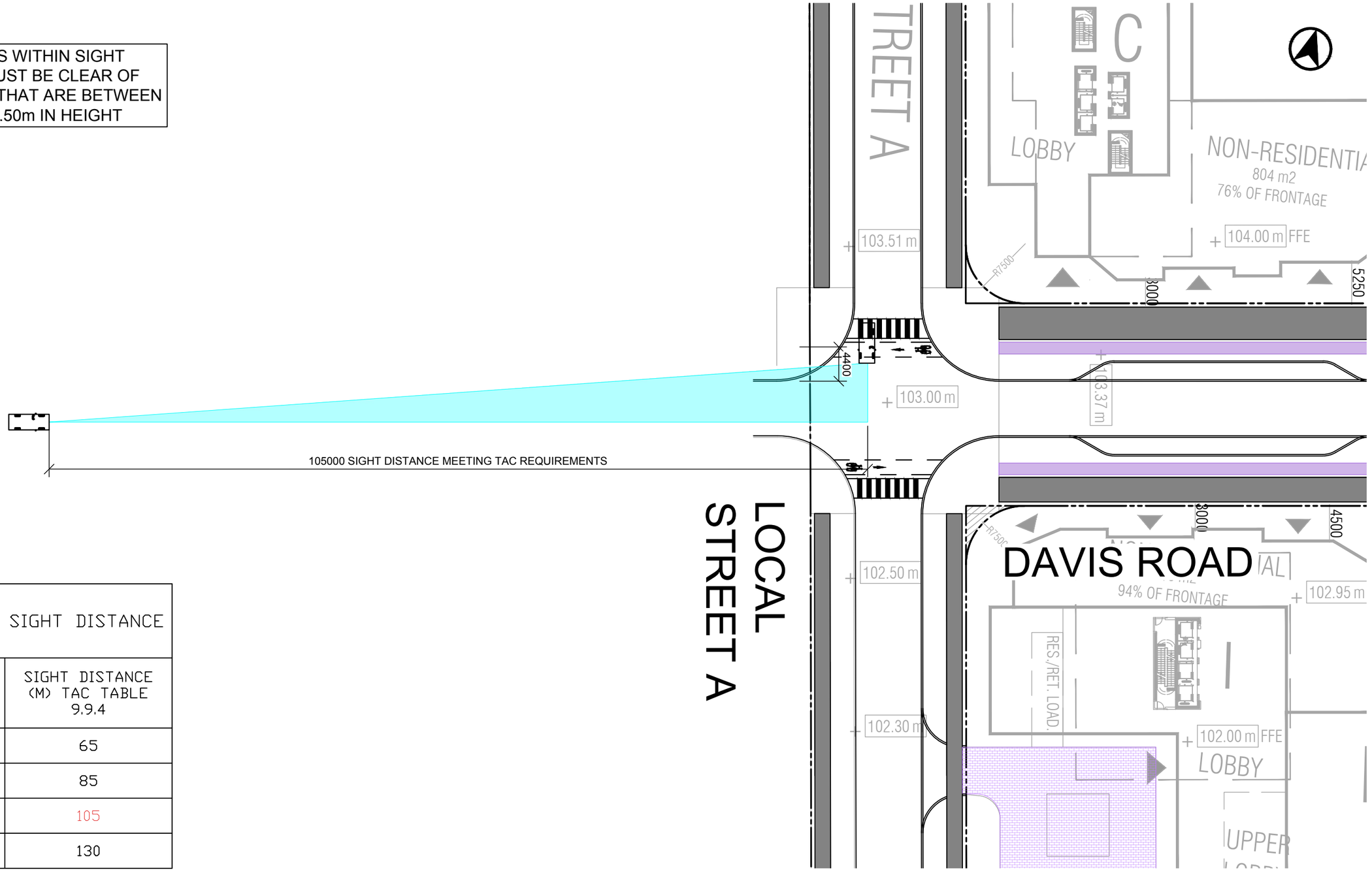
Project:	420 South Service Road
Project No.	6931-03
Date:	September 17, 2026
Revised:	--

Scale 1:500 (0 5 10 15 20m)

Drawing No. SD-13

Date Plotted: September 17, 2026 Filename: J:\6931-03\BA\Sight Distance\1. July 09-2026\ba-420 South Service Road Sight Distance-July09-2026.dwg

NOTE: AREAS WITHIN SIGHT TRIANGLES MUST BE CLEAR OF OBSTRUCTIONS THAT ARE BETWEEN 0.85m AND 2.50m IN HEIGHT



TAC DEPARTURE SIGHT DISTANCE	
DESIGN SPEED (KM/H)	SIGHT DISTANCE (M) TAC TABLE 9.9.4
30	65
40	85
50	105
60	130

Date Plotted: September 17, 2026 Filename: J:\6931-03\BA\Sight Distance\1. July 09-2026\ba-420 South Service Road Sight Distance-July09-2026.dwg

BA Group

420 SOUTH SERVICE ROAD

SIGHT DISTANCE REVIEW
LEFT TURN FROM STREET A
DESIGN SPEED OF 50 KM/HR

Project:	420 South Service Road
Project No.	6931-03
Date:	September 17, 2026
Revised:	--

Scale 1:500 (0 5 10 15 20m)

Drawing No. SD-14

Appendix L:
Traffic Counts

Spectrum

Turning Movement Count
Location Name: TRAFALGAR RD & LEIGHLAND AVE / IROQUIOS SHORE RD
Date: Tue, Jun 04, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Turning Movement Count (1 . TRAFALGAR RD & LEIGHLAND AVE / IROQUIOS SHORE RD)

Start Time	N Approach TRAFALGAR RD						E Approach IROQUOIS SHORE RD						S Approach TRAFALGAR RD						W Approach LEIGHLAND AVE						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	3	225	30	0	5	258	10	5	98	0	0	113	92	120	17	2	0	231	54	9	7	0	4	70	672	
07:15:00	6	348	34	1	3	389	19	3	91	0	1	113	125	142	13	0	0	280	67	14	3	0	6	84	866	
07:30:00	5	396	29	0	9	430	25	5	128	0	2	158	118	168	25	0	0	311	84	17	11	0	6	112	1011	
07:45:00	5	472	34	0	6	511	31	13	145	0	2	189	162	244	42	1	0	449	93	26	14	0	6	133	1282	3831
08:00:00	9	532	40	2	11	583	31	17	186	0	4	234	180	214	41	0	0	435	91	18	6	0	14	115	1367	4526
08:15:00	10	525	46	0	7	581	22	5	176	0	2	203	167	245	35	0	0	447	94	25	7	0	7	126	1357	5017
08:30:00	7	480	60	0	5	547	36	19	156	0	2	211	209	280	25	0	0	514	62	20	7	1	6	90	1362	5368
08:45:00	22	458	49	0	11	529	29	12	166	0	3	207	218	206	43	0	0	467	89	39	14	0	7	142	1345	5431
BREAK																										
16:00:00	22	280	32	0	27	334	58	32	197	0	7	287	181	337	59	2	0	579	72	32	24	0	23	128	1328	
16:15:00	30	290	34	1	16	355	58	27	195	0	2	280	186	393	67	2	0	648	55	30	25	0	22	110	1393	
16:30:00	27	256	26	0	15	309	61	28	171	0	1	260	214	376	76	1	0	667	79	27	31	0	20	137	1373	
16:45:00	35	293	34	0	16	362	57	38	187	0	4	282	218	408	72	1	0	699	41	28	21	0	20	90	1433	5527
17:00:00	33	285	33	0	13	351	81	34	164	0	2	279	195	443	73	1	0	712	72	24	28	0	20	124	1466	5665
17:15:00	25	275	34	0	12	334	87	47	237	0	2	371	234	418	64	1	0	717	78	28	18	0	16	124	1546	5818
17:30:00	22	289	27	0	15	338	60	32	178	0	6	270	226	466	84	1	0	777	88	35	31	0	22	154	1539	5984
17:45:00	25	285	36	0	15	346	56	31	159	0	0	246	225	408	78	1	1	712	72	27	23	0	11	122	1426	5977
Grand Total	286	5689	578	4	186	6557	721	348	2634	0	40	3703	2950	4868	814	13	1	8645	1191	399	270	1	210	1861	**20766**	-
Approach%	4.4%	86.8%	8.8%	0.1%		-	19.5%	9.4%	71.1%	0%		-	34.1%	56.3%	9.4%	0.2%		-	64%	21.4%	14.5%	0.1%		-	-	-
Totals %	1.4%	27.4%	2.8%	0%		31.6%	3.5%	1.7%	12.7%	0%		17.8%	14.2%	23.4%	3.9%	0.1%		41.6%	5.7%	1.9%	1.3%	0%		9%	-	-
Heavy	7	139	10	0		-	17	7	73	0		-	69	147	18	0		-	22	3	1	0		-	-	-
Heavy %	2.4%	2.4%	1.7%	0%		-	2.4%	2%	2.8%	0%		-	2.3%	3%	2.2%	0%		-	1.8%	0.8%	0.4%	0%		-	-	-
Bicycles	0	0	0	0		-	0	5	0	0		-	0	1	0	0		-	0	2	0	0		-	-	-
Bicycle %	0%	0%	0%	0%		-	0%	1.4%	0%	0%		-	0%	0%	0%	0%		-	0%	0.5%	0%	0%		-	-	-

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 08:00 AM - 09:00 AM Weather: Overcast Clouds (17.47 °C)

Start Time	N Approach TRAFALGAR RD						E Approach IROQUOIS SHORE RD						S Approach TRAFALGAR RD						W Approach LEIGHLAND AVE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
08:00:00	9	532	40	2	11	583	31	17	186	0	4	234	180	214	41	0	0	435	91	18	6	0	14	115	1367
08:15:00	10	525	46	0	7	581	22	5	176	0	2	203	167	245	35	0	0	447	94	25	7	0	7	126	1357
08:30:00	7	480	60	0	5	547	36	19	156	0	2	211	209	280	25	0	0	514	62	20	7	1	6	90	1362
08:45:00	22	458	49	0	11	529	29	12	166	0	3	207	218	206	43	0	0	467	89	39	14	0	7	142	1345
Grand Total	48	1995	195	2	34	2240	118	53	684	0	11	855	774	945	144	0	0	1863	336	102	34	1	34	473	**5431**
Approach%	2.1%	89.1%	8.7%	0.1%		-	13.8%	6.2%	80%	0%		-	41.5%	50.7%	7.7%	0%		-	71%	21.6%	7.2%	0.2%		-	**-**
Totals %	0.9%	36.7%	3.6%	0%		41.2%	2.2%	1%	12.6%	0%		15.7%	14.3%	17.4%	2.7%	0%		34.3%	6.2%	1.9%	0.6%	0%		8.7%	**-**
PHF	0.55	0.94	0.81	0.25		0.96	0.82	0.7	0.92	0		0.91	0.89	0.84	0.84	0		0.91	0.89	0.65	0.61	0.25		0.83	**-**
Heavy	3	48	2	0		53	5	2	29	0		36	21	38	7	0		66	9	2	1	0		12	**-**
Heavy %	6.3%	2.4%	1%	0%		2.4%	4.2%	3.8%	4.2%	0%		4.2%	2.7%	4%	4.9%	0%		3.5%	2.7%	2%	2.9%	0%		2.5%	**-**
Lights	45	1947	193	2		2187	113	51	655	0		819	753	907	137	0		1797	327	100	33	1		461	**-**
Lights %	93.8%	97.6%	99%	100%		97.6%	95.8%	96.2%	95.8%	0%		95.8%	97.3%	96%	95.1%	0%		96.5%	97.3%	98%	97.1%	100%		97.5%	**-**
Single-Unit Trucks	2	17	0	0		19	3	2	15	0		20	9	8	4	0		21	2	1	1	0		4	**-**
Single-Unit Trucks %	4.2%	0.9%	0%	0%		0.8%	2.5%	3.8%	2.2%	0%		2.3%	1.2%	0.8%	2.8%	0%		1.1%	0.6%	1%	2.9%	0%		0.8%	**-**
Buses	1	23	2	0		26	2	0	9	0		11	9	26	3	0		38	7	1	0	0		8	**-**
Buses %	2.1%	1.2%	1%	0%		1.2%	1.7%	0%	1.3%	0%		1.3%	1.2%	2.8%	2.1%	0%		2%	2.1%	1%	0%	0%		1.7%	**-**
Articulated Trucks	0	8	0	0		8	0	0	5	0		5	3	4	0	0		7	0	0	0	0		0	**-**
Articulated Trucks %	0%	0.4%	0%	0%		0.4%	0%	0%	0.7%	0%		0.6%	0.4%	0.4%	0%	0%		0.4%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	32	-	-	-	-	-	7	-	-	-	-	-	0	-	-	-	-	-	30	-	**-**
Pedestrians%	-	-	-	-	40.5%		-	-	-	-	8.9%		-	-	-	-	0%		-	-	-	-	38%		**-**
Bicycles on Road	0	0	0	0	0	-	0	1	0	0	0	-	0	0	0	0	0	-	0	1	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	4	-	**-**
Bicycles on Crosswalk%	-	-	-	-	2.5%		-	-	-	-	5.1%		-	-	-	-	0%		-	-	-	-	5.1%		**-**

Spectrum

Turning Movement Count
Location Name: TRAFALGAR RD & LEIGHLAND AVE / IROQUIOS SHORE RD
Date: Tue, Jun 04, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 04:45 PM - 05:45 PM Weather: Overcast Clouds (24.88 °C)

Start Time	N Approach TRAFALGAR RD						E Approach IROQUOIS SHORE RD						S Approach TRAFALGAR RD						W Approach LEIGHLAND AVE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:45:00	35	293	34	0	16	362	57	38	187	0	4	282	218	408	72	1	0	699	41	28	21	0	20	90	1433
17:00:00	33	285	33	0	13	351	81	34	164	0	2	279	195	443	73	1	0	712	72	24	28	0	20	124	1466
17:15:00	25	275	34	0	12	334	87	47	237	0	2	371	234	418	64	1	0	717	78	28	18	0	16	124	1546
17:30:00	22	289	27	0	15	338	60	32	178	0	6	270	226	466	84	1	0	777	88	35	31	0	22	154	1539
Grand Total	115	1142	128	0	56	1385	285	151	766	0	14	1202	873	1735	293	4	0	2905	279	115	98	0	78	492	**5984**
Approach%	8.3%	82.5%	9.2%	0%		-	23.7%	12.6%	63.7%	0%		-	30.1%	59.7%	10.1%	0.1%		-	56.7%	23.4%	19.9%	0%		-	**-**
Totals %	1.9%	19.1%	2.1%	0%		23.1%	4.8%	2.5%	12.8%	0%		20.1%	14.6%	29%	4.9%	0.1%		48.5%	4.7%	1.9%	1.6%	0%		8.2%	**-**
PHF	0.82	0.97	0.94	0		0.96	0.82	0.8	0.81	0		0.81	0.93	0.93	0.87	1		0.93	0.79	0.82	0.79	0		0.8	**-**
Heavy	0	24	0	0		24	0	1	10	0		11	11	26	4	0		41	4	1	0	0		5	**-**
Heavy %	0%	2.1%	0%	0%		1.7%	0%	0.7%	1.3%	0%		0.9%	1.3%	1.5%	1.4%	0%		1.4%	1.4%	0.9%	0%	0%		1%	**-**
Lights	115	1118	128	0		1361	285	150	756	0		1191	862	1709	289	4		2864	275	114	98	0		487	**-**
Lights %	100%	97.9%	100%	0%		98.3%	100%	99.3%	98.7%	0%		99.1%	98.7%	98.5%	98.6%	100%		98.6%	98.6%	99.1%	100%	0%		99%	**-**
Single-Unit Trucks	0	5	0	0		5	0	1	2	0		3	4	7	1	0		12	2	0	0	0		2	**-**
Single-Unit Trucks %	0%	0.4%	0%	0%		0.4%	0%	0.7%	0.3%	0%		0.2%	0.5%	0.4%	0.3%	0%		0.4%	0.7%	0%	0%	0%		0.4%	**-**
Buses	0	16	0	0		16	0	0	6	0		6	6	18	3	0		27	2	1	0	0		3	**-**
Buses %	0%	1.4%	0%	0%		1.2%	0%	0%	0.8%	0%		0.5%	0.7%	1%	1%	0%		0.9%	0.7%	0.9%	0%	0%		0.6%	**-**
Articulated Trucks	0	3	0	0		3	0	0	2	0		2	1	1	0	0		2	0	0	0	0		0	**-**
Articulated Trucks %	0%	0.3%	0%	0%		0.2%	0%	0%	0.3%	0%		0.2%	0.1%	0.1%	0%	0%		0.1%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	50	-	-	-	-	-	11	-	-	-	-	-	0	-	-	-	-	-	76	-	**-**
Pedestrians%	-	-	-	-	33.8%		-	-	-	-	7.4%		-	-	-	-	0%		-	-	-	-	51.4%		**-**
Bicycles on Road	0	0	0	0	0	-	0	3	0	0	0	-	0	1	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	6	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	2	-	**-**
Bicycles on Crosswalk%	-	-	-	-	4.1%		-	-	-	-	2%		-	-	-	-	0%		-	-	-	-	1.4%		**-**

Peak Hour: 08:00 AM - 09:00 AM **Weather: Overcast Clouds (17.47 °C)**



	Bicycles on Crosswalk	Pedestrians
N	2	32
S	0	0
E	4	7
W	4	30

Peak Hour: 04:45 PM - 05:45 PM **Weather: Overcast Clouds (24.88 °C)**



	Bicycles on Crosswalk	Pedestrians
N	6	50
S	0	0
E	3	11
W	2	76

Spectrum

Turning Movement Count
Location Name: TRAFALGAR RD & QEW WB RAMPS / N SERVICE RD
Date: Tue, Jun 04, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Turning Movement Count (2 . TRAFALGAR RD & QEW WB RAMPS / N SERVICE RD)

Start Time	N Approach TRAFALGAR RD						E Approach QEW WB ON RAMPS			S Approach TRAFALGAR RD						W Approach NORTH SERVICE RD E						SW Approach QEW WB ON RAMPS			NE Approach QEW WB OFF RAMPS						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Bear Right N:SW	Thru N:S	UTurn N:N	Peds N:	Approach Total	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Hard Right W:SW	Right W:S	Left W:N	UTurn W:W	Peds W:	Approach Total	UTurn SW:SW	Peds SW:	Approach Total	Hard Right NE:N	Bear Right NE:W	Thru NE:SW	Bear Left NE:S	UTurn NE:NE	Peds NE:	Approach Total		
07:00:00	1	96	266	0	0	363	0	1	0	37	196	0	0	0	233	9	28	1	0	0	38	0	1	0	51	0	0	69	0	1	120	754	
07:15:00	1	143	375	0	0	519	0	2	0	36	225	0	0	0	261	10	19	0	0	4	29	0	4	0	52	0	0	66	0	2	118	927	
07:30:00	0	187	412	0	1	599	0	3	0	63	272	0	0	0	335	15	41	3	0	1	59	0	1	0	47	0	0	95	0	3	142	1135	
07:45:00	1	227	476	0	0	704	0	3	0	59	385	0	0	0	444	22	47	2	0	2	71	0	3	0	81	0	0	79	0	2	160	1379	4195
08:00:00	1	245	560	0	0	806	0	2	0	92	364	0	0	0	456	12	45	0	0	3	57	0	3	0	56	0	1	74	0	3	131	1450	4891
08:15:00	1	286	532	0	1	819	0	1	0	98	418	0	0	0	516	25	31	1	0	6	57	0	5	0	54	0	0	70	0	1	124	1516	5480
08:30:00	3	299	407	0	0	709	0	1	0	91	463	0	0	0	554	12	32	3	0	3	47	0	4	0	41	0	1	83	0	1	125	1435	5780
08:45:00	1	269	455	0	0	725	0	1	0	94	428	0	0	0	522	20	47	1	0	0	68	0	0	0	47	0	0	118	0	1	165	1480	5881
BREAK																																	
16:00:00	4	232	298	0	0	534	0	7	0	103	549	0	0	0	652	36	26	4	0	4	66	0	6	0	63	0	0	82	0	7	145	1397	
16:15:00	6	250	306	0	0	562	0	2	0	105	576	0	0	0	681	25	48	3	0	4	76	0	5	0	71	0	0	89	0	2	160	1479	
16:30:00	2	216	270	0	0	488	0	5	0	80	595	0	0	0	675	29	33	5	0	3	67	0	10	0	74	0	0	107	0	3	181	1411	
16:45:00	3	222	324	0	0	549	0	2	0	94	612	0	0	0	706	28	23	11	0	5	62	0	5	0	84	0	1	94	0	4	179	1496	5783
17:00:00	5	212	283	0	0	500	0	0	0	82	632	0	0	0	714	27	55	6	0	3	88	0	5	0	65	0	0	98	0	1	163	1465	5851
17:15:00	6	233	324	0	1	563	0	4	0	63	601	0	0	0	664	30	52	4	0	5	86	0	5	0	93	0	1	117	0	3	211	1524	5896
17:30:00	2	225	371	0	0	598	0	4	0	65	709	0	0	0	774	16	35	6	0	4	57	0	6	0	100	0	3	90	0	4	193	1622	6107
17:45:00	4	169	350	0	1	523	0	1	0	72	588	0	0	0	660	26	38	9	0	5	73	0	5	0	79	0	0	134	0	3	213	1469	6080
Grand Total	41	3511	6009	0	4	9561	0	39	0	1234	7613	0	0	0	8847	342	600	59	0	52	1001	0	68	0	1058	0	7	1465	0	41	2530	**21939**	-
Approach%	0.4%	36.7%	62.8%	0%		-	0%		-	13.9%	86.1%	0%	0%		-	34.2%	59.9%	5.9%	0%		-	0%		-	41.8%	0%	0.3%	57.9%	0%		-	**-**	-
Totals %	0.2%	16%	27.4%	0%		43.6%	0%		0%	5.6%	34.7%	0%	0%		40.3%	1.6%	2.7%	0.3%	0%		4.6%	0%		0%	4.8%	0%	0%	6.7%	0%		11.5%	**-**	-
Heavy	1	70	156	0		-	0		-	29	208	0	0		-	2	5	1	0		-	0		-	31	0	0	36	0		-	**-**	-
Heavy %	2.4%	2%	2.6%	0%		-	0%		-	2.4%	2.7%	0%	0%		-	0.6%	0.8%	1.7%	0%		-	0%		-	2.9%	0%	0%	2.5%	0%		-	**-**	-
Bicycles	0	0	0	0		-	0		-	0	1	0	0		-	0	0	0	0		-	0		-	0	0	0	0	0		-	**-**	-
Bicycle %	0%	0%	0%	0%		-	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%		-	0%	0%	0%	0%	0%		-	**-**	-

Spectrum

Turning Movement Count
Location Name: TRAFALGAR RD & QEW WB RAMPS / N SERVICE RD
Date: Tue, Jun 04, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 08:00 AM - 09:00 AM Weather: Overcast Clouds (17.47 °C)

Start Time	N Approach TRAFALGAR RD						E Approach QEW WB ON RAMPS			S Approach TRAFALGAR RD						W Approach NORTH SERVICE RD E						SW Approach QEW WB ON RAMPS			NE Approach QEW WB OFF RAMPS						Int. Total (15 min)
	Right	Bear Right	Thru	UTurn	Peds	Approach Total	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Hard Right	Right	Left	UTurn	Peds	Approach Total	UTurn	Peds	Approach Total	Hard Right	Bear Right	Thru	Bear Left	UTurn	Peds	Approach Total	
08:00:00	1	245	560	0	0	806	0	2	0	92	364	0	0	0	456	12	45	0	0	3	57	0	3	0	56	0	1	74	0	3	131	1450
08:15:00	1	286	532	0	1	819	0	1	0	98	418	0	0	0	516	25	31	1	0	6	57	0	5	0	54	0	0	70	0	1	124	1516
08:30:00	3	299	407	0	0	709	0	1	0	91	463	0	0	0	554	12	32	3	0	3	47	0	4	0	41	0	1	83	0	1	125	1435
08:45:00	1	269	455	0	0	725	0	1	0	94	428	0	0	0	522	20	47	1	0	0	68	0	0	0	47	0	0	118	0	1	165	1480
Grand Total	6	1099	1954	0	1	3059	0	5	0	375	1673	0	0	0	2048	69	155	5	0	12	229	0	12	0	198	0	2	345	0	6	545	**5881**
Approach%	0.2%	35.9%	63.9%	0%		-	0%		-	18.3%	81.7%	0%	0%		-	30.1%	67.7%	2.2%	0%		-	0%		-	36.3%	0%	0.4%	63.3%	0%		-	-
Totals %	0.1%	18.7%	33.2%	0%		52%	0%		0%	6.4%	28.4%	0%	0%		34.8%	1.2%	2.6%	0.1%	0%		3.9%	0%		0%	3.4%	0%	0%	5.9%	0%		9.3%	-
PHF	0.5	0.92	0.87	0		0.93	0		0	0.96	0.9	0	0		0.92	0.69	0.82	0.42	0		0.84	0		0	0.88	0	0.5	0.73	0		0.83	-
Heavy	0	32	49	0		81	0		0	13	62	0	0		75	0	1	0	0		1	0		0	5	0	0	15	0		20	-
Heavy %	0%	2.9%	2.5%	0%		2.6%	0%		0%	3.5%	3.7%	0%	0%		3.7%	0%	0.6%	0%	0%		0.4%	0%		0%	2.5%	0%	0%	4.3%	0%		3.7%	-
Lights	6	1067	1905	0		2978	0		0	362	1611	0	0		1973	69	154	5	0		228	0		0	193	0	2	330	0		525	-
Lights %	100%	97.1%	97.5%	0%		97.4%	0%		0%	96.5%	96.3%	0%	0%		96.3%	100%	99.4%	100%	0%		99.6%	0%		0%	97.5%	0%	100%	95.7%	0%		96.3%	-
Single-Unit Trucks	0	17	13	0		30	0		0	5	19	0	0		24	0	1	0	0		1	0		0	2	0	0	10	0		12	-
Single-Unit Trucks %	0%	1.5%	0.7%	0%		1%	0%		0%	1.3%	1.1%	0%	0%		1.2%	0%	0.6%	0%	0%		0.4%	0%		0%	1%	0%	0%	2.9%	0%		2.2%	-
Buses	0	7	32	0		39	0		0	8	39	0	0		47	0	0	0	0		0	0		0	0	0	0	2	0		2	-
Buses %	0%	0.6%	1.6%	0%		1.3%	0%		0%	2.1%	2.3%	0%	0%		2.3%	0%	0%	0%	0%		0%	0%		0%	0%	0%	0%	0.6%	0%		0.4%	-
Articulated Trucks	0	8	4	0		12	0		0	0	4	0	0		4	0	0	0	0		0	0		0	3	0	0	3	0		6	-
Articulated Trucks %	0%	0.7%	0.2%	0%		0.4%	0%		0%	0%	0.2%	0%	0%		0.2%	0%	0%	0%	0%		0%	0%		0%	1.5%	0%	0%	0.9%	0%		1.1%	-
Pedestrians	-	-	-	-	1	-	-	2	-	-	-	-	-	0	-	-	-	-	-	10	-	-	10	-	-	-	-	-	-	3	-	-
Pedestrians%	-	-	-	-	2.8%		-	5.6%		-	-	-	-	0%		-	-	-	-	27.8%		-	27.8%		-	-	-	-	-	8.3%		-
Bicycles on Road	0	0	0	0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%		-	0%		-	-	-	-	0%		-	-	-	-	0%		-	0%		-	-	-	-	-	0%		-
Bicycles on Crosswalk	-	-	-	-	0	-	-	3	-	-	-	-	-	0	-	-	-	-	-	2	-	-	2	-	-	-	-	-	-	3	-	-
Bicycles on Crosswalk%	-	-	-	-	0%		-	8.3%		-	-	-	-	0%		-	-	-	-	5.6%		-	5.6%		-	-	-	-	-	8.3%		-

Spectrum

Turning Movement Count
Location Name: TRAFALGAR RD & QEW WB RAMPS / N SERVICE RD
Date: Tue, Jun 04, 2024 Deployment Lead: David Chu

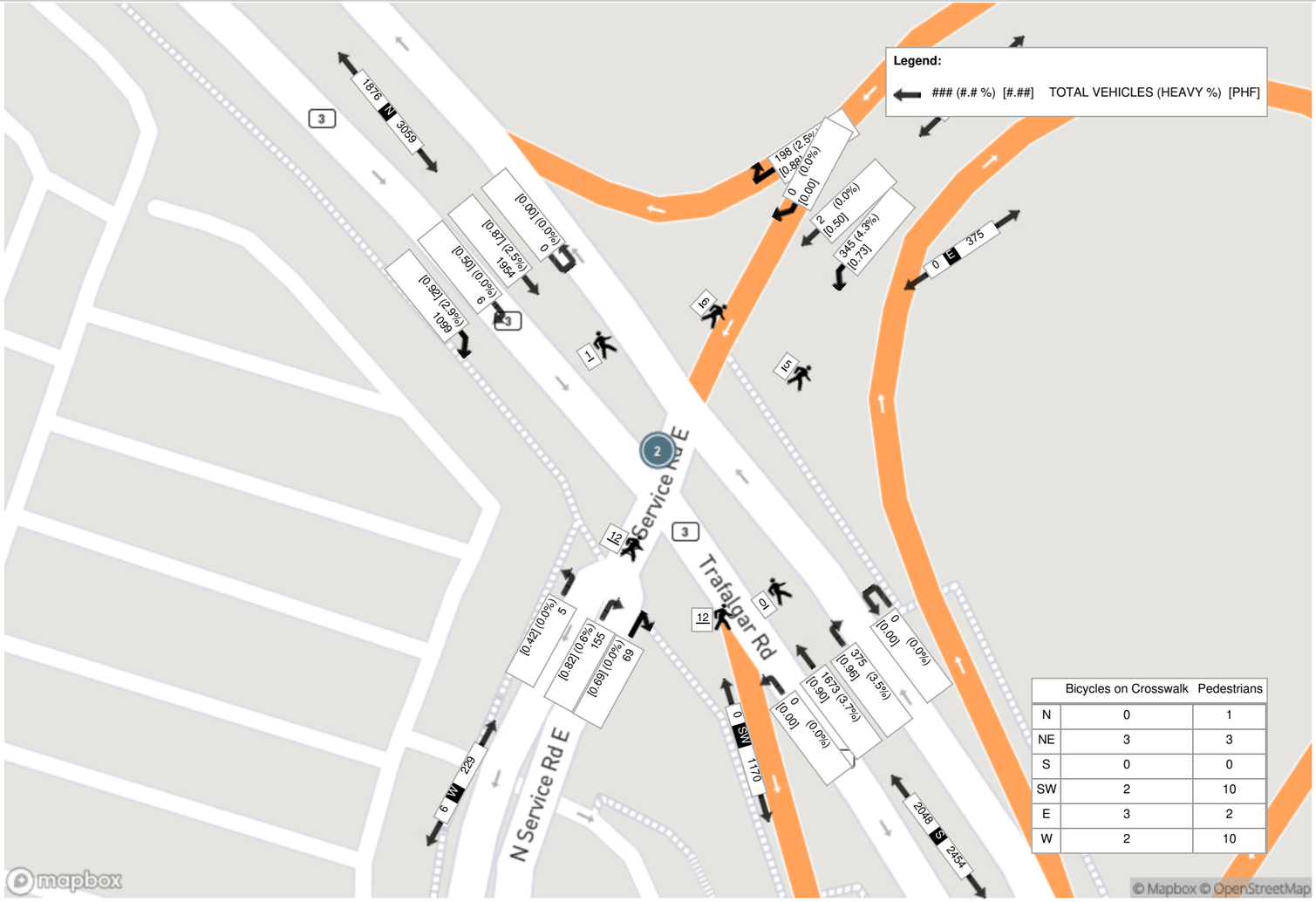
BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 04:45 PM - 05:45 PM Weather: Overcast Clouds (24.88 °C)

Start Time	N Approach TRAFALGAR RD						E Approach QEW WB ON RAMPS			S Approach TRAFALGAR RD						W Approach NORTH SERVICE RD E						SW Approach QEW WB ON RAMPS			NE Approach QEW WB OFF RAMPS						Int. Total (15 min)
	Right	Bear Right	Thru	UTurn	Peds	Approach Total	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Hard Right	Right	Left	UTurn	Peds	Approach Total	UTurn	Peds	Approach Total	Hard Right	Bear Right	Thru	Bear Left	UTurn	Peds	Approach Total	
16:45:00	3	222	324	0	0	549	0	2	0	94	612	0	0	0	706	28	23	11	0	5	62	0	5	0	84	0	1	94	0	4	179	1496
17:00:00	5	212	283	0	0	500	0	0	0	82	632	0	0	0	714	27	55	6	0	3	88	0	5	0	65	0	0	98	0	1	163	1465
17:15:00	6	233	324	0	1	563	0	4	0	63	601	0	0	0	664	30	52	4	0	5	86	0	5	0	93	0	1	117	0	3	211	1524
17:30:00	2	225	371	0	0	598	0	4	0	65	709	0	0	0	774	16	35	6	0	4	57	0	6	0	100	0	3	90	0	4	193	1622
Grand Total	16	892	1302	0	1	2210	0	10	0	304	2554	0	0	0	2858	101	165	27	0	17	293	0	21	0	342	0	5	399	0	12	746	**6107**
Approach%	0.7%	40.4%	58.9%	0%		-	0%		-	10.6%	89.4%	0%	0%		-	34.5%	56.3%	9.2%	0%		-	0%		-	45.8%	0%	0.7%	53.5%	0%		-	-
Totals %	0.3%	14.6%	21.3%	0%		36.2%	0%		0%	5%	41.8%	0%	0%		46.8%	1.7%	2.7%	0.4%	0%		4.8%	0%		0%	5.6%	0%	0.1%	6.5%	0%		12.2%	-
PHF	0.67	0.96	0.88	0		0.92	0		0	0.81	0.9	0	0		0.92	0.84	0.75	0.61	0		0.83	0		0	0.86	0	0.42	0.85	0		0.88	-
Heavy	1	6	32	0		39	0		0	4	39	0	0		43	0	1	0	0		1	0		0	6	0	0	6	0		12	-
Heavy %	6.3%	0.7%	2.5%	0%		1.8%	0%		0%	1.3%	1.5%	0%	0%		1.5%	0%	0.6%	0%	0%		0.3%	0%		0%	1.8%	0%	0%	1.5%	0%		1.6%	-
Lights	15	886	1270	0		2171	0		0	300	2515	0	0		2815	101	164	27	0		292	0		0	336	0	5	393	0		734	-
Lights %	93.8%	99.3%	97.5%	0%		98.2%	0%		0%	98.7%	98.5%	0%	0%		98.5%	100%	99.4%	100%	0%		99.7%	0%		0%	98.2%	0%	100%	98.5%	0%		98.4%	-
Single-Unit Trucks	1	2	6	0		9	0		0	1	10	0	0		11	0	1	0	0		1	0		0	5	0	0	5	0		10	-
Single-Unit Trucks %	6.3%	0.2%	0.5%	0%		0.4%	0%		0%	0.3%	0.4%	0%	0%		0.4%	0%	0.6%	0%	0%		0.3%	0%		0%	1.5%	0%	0%	1.3%	0%		1.3%	-
Buses	0	1	23	0		24	0		0	2	27	0	0		29	0	0	0	0		0	0		0	0	0	0	1	0		1	-
Buses %	0%	0.1%	1.8%	0%		1.1%	0%		0%	0.7%	1.1%	0%	0%		1%	0%	0%	0%	0%		0%	0%		0%	0%	0%	0%	0.3%	0%		0.1%	-
Articulated Trucks	0	3	3	0		6	0		0	1	2	0	0		3	0	0	0	0		0	0		0	1	0	0	0	0		1	-
Articulated Trucks %	0%	0.3%	0.2%	0%		0.3%	0%		0%	0.3%	0.1%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%		0%	0.3%	0%	0%	0%	0%		0.1%	-
Pedestrians	-	-	-	-	1	-	-	7	-	-	-	-	-	0	-	-	-	-	-	12	-	-	17	-	-	-	-	-	-	7	-	-
Pedestrians%	-	-	-	-	1.6%		-	11.5%		-	-	-	-	0%		-	-	-	-	19.7%		-	27.9%		-	-	-	-	-	11.5%		-
Bicycles on Road	0	0	0	0	0	-	0	0	-	0	1	0	0	0	-	0	0	0	0	0	-	0	0	-	0	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%		-	0%		-	-	-	-	0%		-	-	-	-	0%		-	0%		-	-	-	-	-	0%		-
Bicycles on Crosswalk	-	-	-	-	0	-	-	3	-	-	-	-	-	0	-	-	-	-	-	5	-	-	4	-	-	-	-	-	-	5	-	-
Bicycles on Crosswalk%	-	-	-	-	0%		-	4.9%		-	-	-	-	0%		-	-	-	-	8.2%		-	6.6%		-	-	-	-	-	8.2%		-

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

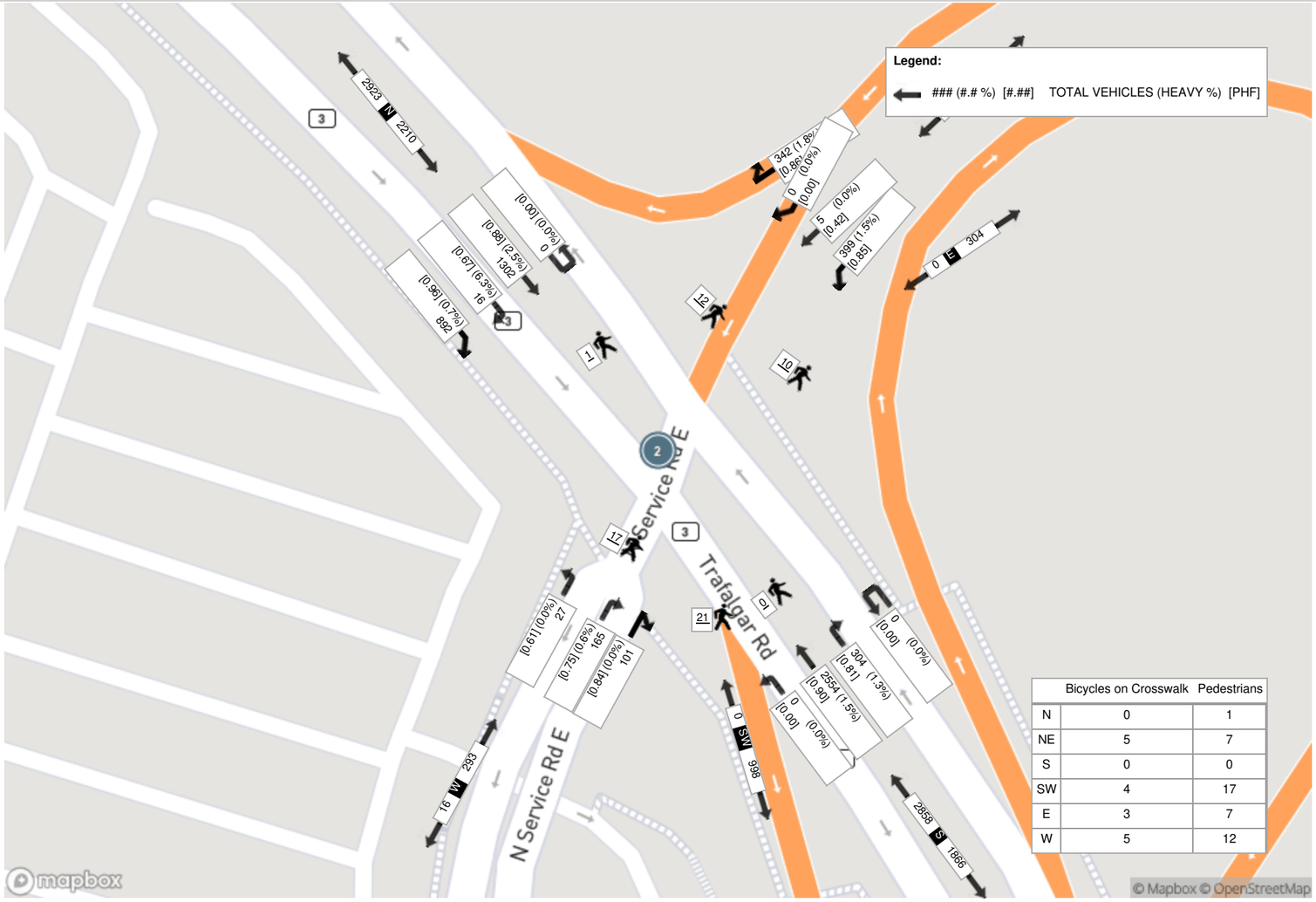
Peak Hour: 08:00 AM - 09:00 AM Weather: Overcast Clouds (17.47 °C)



	Bicycles on Crosswalk	Pedestrians
N	0	1
NE	3	3
S	0	0
SW	2	10
E	3	2
W	2	10

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 04:45 PM - 05:45 PM Weather: Overcast Clouds (24.88 °C)



	Bicycles on Crosswalk	Pedestrians
N	0	1
NE	5	7
S	0	0
SW	4	17
E	3	7
W	5	12

Spectrum

Turning Movement Count
Location Name: TRAFALGAR RD & QEW EB RAMPS
Date: Tue, Jun 04, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Turning Movement Count (3 . TRAFALGAR RD & QEW EB RAMPS)

Start Time	N Approach TRAFALGAR RD					S Approach TRAFALGAR RD				W Approach QEW EB OFF RAMPS					NW Approach QEW EB ON RAMPS			Int. Total (15 min)	Int. Total (1 hr)
	Hard Right N:NW	Thru N:S	UTurn N:N	Peds N:	Approach Total	Thru S:N	UTurn S:S	Peds S:	Approach Total	Right W:S	Left W:N	UTurn W:W	Peds W:	Approach Total	UTurn NW:NW	Peds NW:	Approach Total		
07:00:00	60	305	0	0	365	126	0	0	126	88	112	0	2	200	0	2	0	691	
07:15:00	85	364	0	0	449	143	0	0	143	96	126	0	5	222	0	4	0	814	
07:30:00	77	480	0	0	557	189	0	0	189	116	139	0	0	255	0	1	0	1001	
07:45:00	82	487	0	0	569	245	0	0	245	138	218	0	3	356	0	3	0	1170	3676
08:00:00	104	604	0	0	708	276	0	0	276	147	171	0	4	318	0	3	0	1302	4287
08:15:00	104	521	0	0	625	272	0	0	272	165	245	0	3	410	0	3	0	1307	4780
08:30:00	88	425	0	0	513	332	0	0	332	126	222	0	5	348	0	5	0	1193	4972
08:45:00	94	539	0	0	633	272	0	0	272	144	248	0	0	392	0	0	0	1297	5099
BREAK																			
16:00:00	65	340	0	0	405	453	0	0	453	73	213	0	5	286	0	5	0	1144	
16:15:00	73	369	0	0	442	430	0	0	430	97	238	0	5	335	0	6	0	1207	
16:30:00	55	364	0	0	419	480	0	0	480	81	219	0	9	300	0	8	0	1199	
16:45:00	56	373	0	0	429	407	0	0	407	89	251	0	1	340	0	3	0	1176	4726
17:00:00	74	357	0	0	431	449	0	0	449	84	244	0	7	328	0	5	0	1208	4790
17:15:00	64	407	0	0	471	411	0	0	411	93	300	0	5	393	0	5	0	1275	4858
17:30:00	81	437	0	0	518	522	0	0	522	83	214	0	8	297	0	7	0	1337	4996
17:45:00	64	438	0	0	502	396	0	0	396	99	246	0	5	345	0	5	0	1243	5063
Grand Total	1226	6810	0	0	8036	5403	0	0	5403	1719	3406	0	67	5125	0	65	0	**18564**	-
Approach%	15.3%	84.7%	0%		-	100%	0%		-	33.5%	66.5%	0%		-	0%		-	**-**	-
Totals %	6.6%	36.7%	0%		43.3%	29.1%	0%		29.1%	9.3%	18.3%	0%		27.6%	0%		0%	**-**	-
Heavy	27	170	0		-	173	0		-	39	67	0		-	0		-	**-**	-
Heavy %	2.2%	2.5%	0%		-	3.2%	0%		-	2.3%	2%	0%		-	0%		-	**-**	-
Bicycles	0	3	0		-	1	0		-	0	0	0		-	0		-	**-**	-
Bicycle %	0%	0%	0%		-	0%	0%		-	0%	0%	0%		-	0%		-	**-**	-

Peak Hour: 08:00 AM - 09:00 AM Weather: Overcast Clouds (17.47 °C)

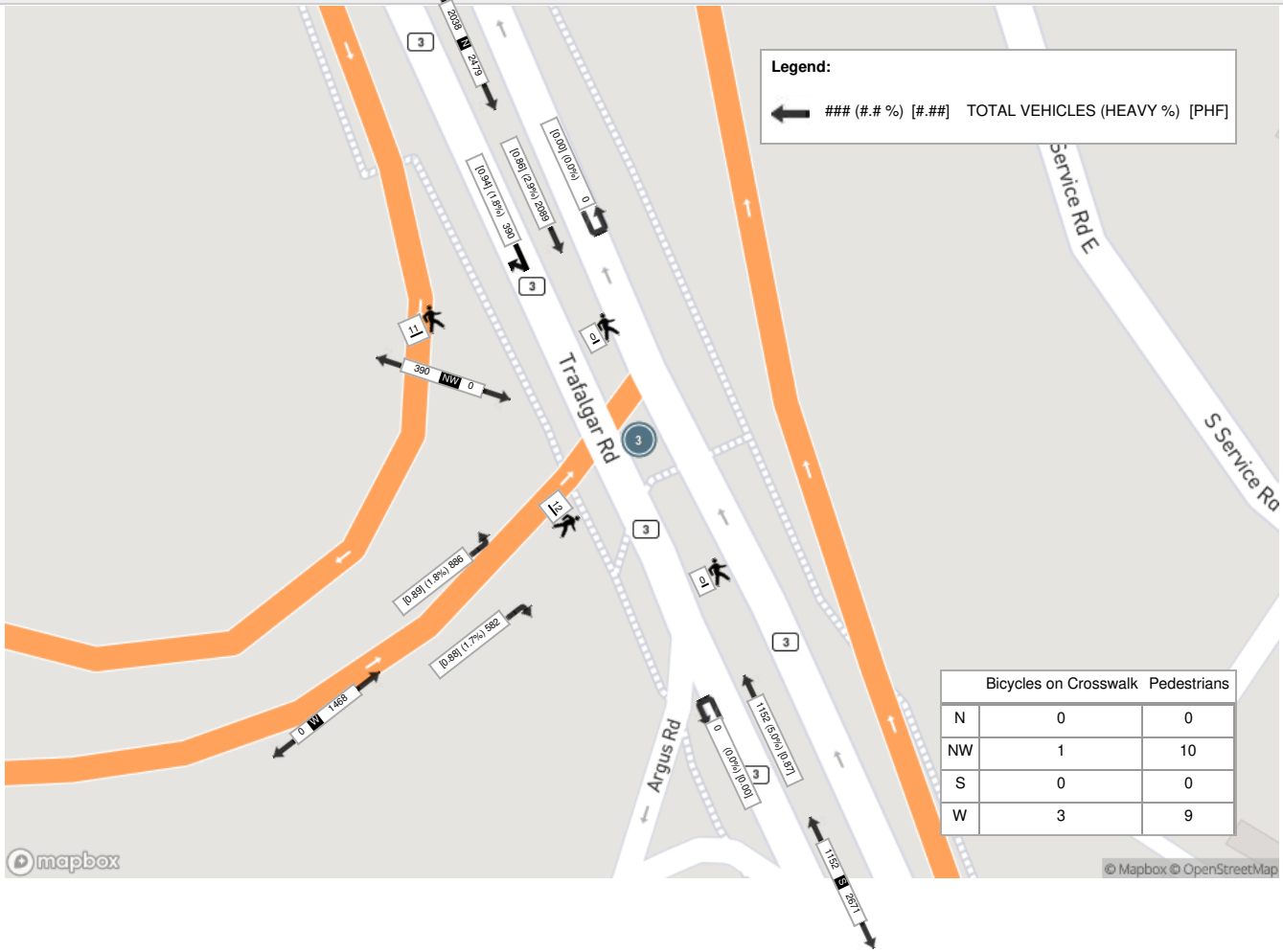
Start Time	N Approach TRAFALGAR RD					S Approach TRAFALGAR RD				W Approach QEW EB OFF RAMPS					NW Approach QEW EB ON RAMPS			Int. Total (15 min)
	Hard Right	Thru	UTurn	Peds	Approach Total	Thru	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	UTurn	Peds	Approach Total	
08:00:00	104	604	0	0	708	276	0	0	276	147	171	0	4	318	0	3	0	1302
08:15:00	104	521	0	0	625	272	0	0	272	165	245	0	3	410	0	3	0	1307
08:30:00	88	425	0	0	513	332	0	0	332	126	222	0	5	348	0	5	0	1193
08:45:00	94	539	0	0	633	272	0	0	272	144	248	0	0	392	0	0	0	1297
Grand Total	390	2089	0	0	2479	1152	0	0	1152	582	886	0	12	1468	0	11	0	**5099**
Approach%	15.7%	84.3%	0%		-	100%	0%		-	39.6%	60.4%	0%		-	0%		-	**-**
Totals %	7.6%	41%	0%		48.6%	22.6%	0%		22.6%	11.4%	17.4%	0%		28.8%	0%		0%	**-**
PHF	0.94	0.86	0		0.88	0.87	0		0.87	0.88	0.89	0		0.9	0		0	**-**
Heavy	7	60	0		67	58	0		58	10	16	0		26	0		0	**-**
Heavy %	1.8%	2.9%	0%		2.7%	5%	0%		5%	1.7%	1.8%	0%		1.8%	0%		0%	**-**
Lights	383	2029	0		2412	1094	0		1094	572	870	0		1442	0		0	**-**
Lights %	98.2%	97.1%	0%		97.3%	95%	0%		95%	98.3%	98.2%	0%		98.2%	0%		0%	**-**
Single-Unit Trucks	3	21	0		24	15	0		15	6	8	0		14	0		0	**-**
Single-Unit Trucks %	0.8%	1%	0%		1%	1.3%	0%		1.3%	1%	0.9%	0%		1%	0%		0%	**-**
Buses	3	32	0		35	41	0		41	4	5	0		9	0		0	**-**
Buses %	0.8%	1.5%	0%		1.4%	3.6%	0%		3.6%	0.7%	0.6%	0%		0.6%	0%		0%	**-**
Articulated Trucks	1	7	0		8	2	0		2	0	3	0		3	0		0	**-**
Articulated Trucks %	0.3%	0.3%	0%		0.3%	0.2%	0%		0.2%	0%	0.3%	0%		0.2%	0%		0%	**-**
Pedestrians	-	-	-	0	-	-	-	0	-	-	-	-	9	-	-	10	-	**-**
Pedestrians%	-	-	-	0%		-	-	0%		-	-	-	39.1%		-	43.5%		**-**
Bicycles on Road	0	0	0	0	-	0	0	0	-	0	0	0	0	-	0	0	-	**-**
Bicycles on Road%	-	-	-	0%		-	-	0%		-	-	-	0%		-	0%		**-**
Bicycles on Crosswalk	-	-	-	0	-	-	-	0	-	-	-	-	3	-	-	1	-	**-**
Bicycles on Crosswalk%	-	-	-	0%		-	-	0%		-	-	-	13%		-	4.3%		**-**

Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (24.88 °C)

Start Time	N Approach TRAFALGAR RD					S Approach TRAFALGAR RD				W Approach QEW EB OFF RAMPS					NW Approach QEW EB ON RAMPS			Int. Total (15 min)
	Hard Right	Thru	UTurn	Peds	Approach Total	Thru	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	UTurn	Peds	Approach Total	
17:00:00	74	357	0	0	431	449	0	0	449	84	244	0	7	328	0	5	0	1208
17:15:00	64	407	0	0	471	411	0	0	411	93	300	0	5	393	0	5	0	1275
17:30:00	81	437	0	0	518	522	0	0	522	83	214	0	8	297	0	7	0	1337
17:45:00	64	438	0	0	502	396	0	0	396	99	246	0	5	345	0	5	0	1243
Grand Total	283	1639	0	0	1922	1778	0	0	1778	359	1004	0	25	1363	0	22	0	**5063**
Approach%	14.7%	85.3%	0%		-	100%	0%		-	26.3%	73.7%	0%		-	0%		-	**-**
Totals %	5.6%	32.4%	0%		38%	35.1%	0%		35.1%	7.1%	19.8%	0%		26.9%	0%		0%	**-**
PHF	0.87	0.94	0		0.93	0.85	0		0.85	0.91	0.84	0		0.87	0		0	**-**
Heavy	6	28	0		34	32	0		32	6	9	0		15	0		0	**-**
Heavy %	2.1%	1.7%	0%		1.8%	1.8%	0%		1.8%	1.7%	0.9%	0%		1.1%	0%		0%	**-**
Lights	277	1611	0		1888	1746	0		1746	353	995	0		1348	0		0	**-**
Lights %	97.9%	98.3%	0%		98.2%	98.2%	0%		98.2%	98.3%	99.1%	0%		98.9%	0%		0%	**-**
Single-Unit Trucks	6	5	0		11	4	0		4	1	4	0		5	0		0	**-**
Single-Unit Trucks %	2.1%	0.3%	0%		0.6%	0.2%	0%		0.2%	0.3%	0.4%	0%		0.4%	0%		0%	**-**
Buses	0	23	0		23	28	0		28	4	1	0		5	0		0	**-**
Buses %	0%	1.4%	0%		1.2%	1.6%	0%		1.6%	1.1%	0.1%	0%		0.4%	0%		0%	**-**
Articulated Trucks	0	0	0		0	0	0		0	1	4	0		5	0		0	**-**
Articulated Trucks %	0%	0%	0%		0%	0%	0%		0%	0.3%	0.4%	0%		0.4%	0%		0%	**-**
Pedestrians	-	-	-	0	-	-	-	0	-	-	-	-	19	-	-	16	-	**-**
Pedestrians%	-	-	-	0%		-	-	0%		-	-	-	40.4%		-	34%		**-**
Bicycles on Road	0	0	0	0	-	0	0	0	-	0	0	0	0	-	0	0	-	**-**
Bicycles on Road%	-	-	-	0%		-	-	0%		-	-	-	0%		-	0%		**-**
Bicycles on Crosswalk	-	-	-	0	-	-	-	0	-	-	-	-	6	-	-	6	-	**-**
Bicycles on Crosswalk%	-	-	-	0%		-	-	0%		-	-	-	12.8%		-	12.8%		**-**

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

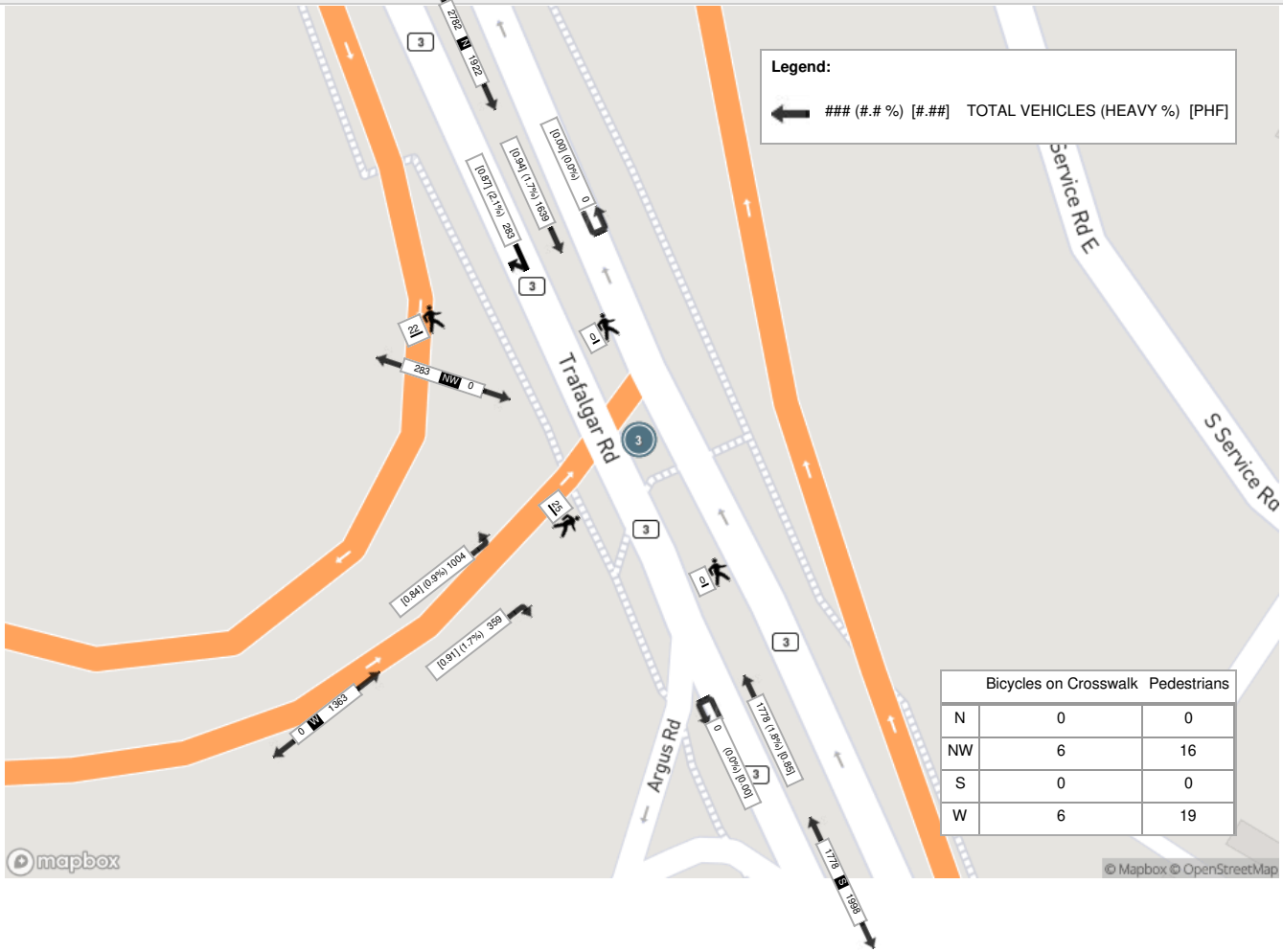
Peak Hour: 08:00 AM - 09:00 AM Weather: Overcast Clouds (17.47 °C)



	Bicycles on Crosswalk	Pedestrians
N	0	0
NW	1	10
S	0	0
W	3	9

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (24.88 °C)



	Bicycles on Crosswalk	Pedestrians
N	0	0
NW	6	16
S	0	0
W	6	19

Spectrum

Turning Movement Count
Location Name: TRAFALGAR RD & CROSS AVE / S SERVICE RD
Date: Tue, Jun 04, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Turning Movement Count (5 . TRAFALGAR RD & CROSS AVE / S SERVICE RD)

Start Time	N Approach TRAFALGAR RD						E Approach SOUTH SERVICE RD E						S Approach TRAFALGAR RD						W Approach CROSS AVE						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	117	150	10	0	0	277	9	2	1	0	2	12	1	139	13	0	0	153	13	6	60	0	0	79	521	
07:15:00	130	184	11	2	0	327	9	8	2	0	1	19	6	139	8	0	1	153	17	6	70	0	5	93	592	
07:30:00	170	255	24	1	0	450	15	3	4	0	3	22	3	174	17	0	4	194	23	6	89	1	0	119	785	
07:45:00	149	307	25	2	0	483	18	6	11	0	2	35	5	239	16	0	1	260	31	8	112	0	1	151	929	2827
08:00:00	157	351	30	2	0	540	22	8	9	0	2	39	8	274	20	0	1	302	20	9	97	0	6	126	1007	3313
08:15:00	123	323	54	1	0	501	24	9	13	0	1	46	3	270	28	0	2	301	27	10	110	0	4	147	995	3716
08:30:00	81	346	44	2	0	473	18	16	19	0	1	53	13	325	22	0	4	360	26	10	105	0	3	141	1027	3958
08:45:00	81	371	44	2	0	498	27	22	15	0	2	64	7	238	19	0	0	264	23	15	92	0	1	130	956	3985
BREAK																										
16:00:00	51	258	25	2	0	336	58	9	16	0	2	83	6	339	20	1	5	366	27	11	176	0	3	214	999	
16:15:00	64	277	26	4	0	371	52	15	13	1	3	81	6	319	22	0	2	347	36	12	193	0	5	241	1040	
16:30:00	66	302	31	4	0	403	63	15	23	0	5	101	9	318	25	0	3	352	19	7	187	0	3	213	1069	
16:45:00	54	252	31	3	0	340	47	17	24	0	1	88	8	300	24	0	2	332	19	18	158	0	3	195	955	4063
17:00:00	91	293	36	3	0	423	70	24	30	0	3	124	5	214	14	0	10	233	18	11	193	0	8	222	1002	4066
17:15:00	95	305	21	9	0	430	76	14	12	0	6	102	4	247	18	1	3	270	20	18	210	0	2	248	1050	4076
17:30:00	104	299	32	8	0	443	54	14	8	0	4	76	11	264	22	0	2	297	28	11	230	0	3	269	1085	4092
17:45:00	98	334	16	1	0	449	45	20	11	0	4	76	4	303	32	0	3	339	22	14	165	0	4	201	1065	4202
Grand Total	1631	4607	460	46	0	6744	607	202	211	1	42	1021	99	4102	320	2	43	4523	369	172	2247	1	51	2789	**15077**	-
Approach%	24.2%	68.3%	6.8%	0.7%		-	59.5%	19.8%	20.7%	0.1%		-	2.2%	90.7%	7.1%	0%		-	13.2%	6.2%	80.6%	0%		-	-	-
Totals %	10.8%	30.6%	3.1%	0.3%		44.7%	4%	1.3%	1.4%	0%		6.8%	0.7%	27.2%	2.1%	0%		30%	2.4%	1.1%	14.9%	0%		18.5%	-	-
Heavy	61	79	10	0		-	13	3	4	0		-	1	85	20	0		-	24	3	105	0		-	-	-
Heavy %	3.7%	1.7%	2.2%	0%		-	2.1%	1.5%	1.9%	0%		-	1%	2.1%	6.3%	0%		-	6.5%	1.7%	4.7%	0%		-	-	-
Bicycles	0	3	0	0		-	0	3	1	0		-	0	0	0	0		-	11	2	1	0		-	-	-
Bicycle %	0%	0.1%	0%	0%		-	0%	1.5%	0.5%	0%		-	0%	0%	0%	0%		-	3%	1.2%	0%	0%		-	-	-

Spectrum

Turning Movement Count
Location Name: TRAFALGAR RD & CROSS AVE / S SERVICE RD
Date: Tue, Jun 04, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 08:00 AM - 09:00 AM Weather: Overcast Clouds (17.47 °C)

Start Time	N Approach TRAFALGAR RD						E Approach SOUTH SERVICE RD E						S Approach TRAFALGAR RD						W Approach CROSS AVE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
08:00:00	157	351	30	2	0	540	22	8	9	0	2	39	8	274	20	0	1	302	20	9	97	0	6	126	1007
08:15:00	123	323	54	1	0	501	24	9	13	0	1	46	3	270	28	0	2	301	27	10	110	0	4	147	995
08:30:00	81	346	44	2	0	473	18	16	19	0	1	53	13	325	22	0	4	360	26	10	105	0	3	141	1027
08:45:00	81	371	44	2	0	498	27	22	15	0	2	64	7	238	19	0	0	264	23	15	92	0	1	130	956
Grand Total	442	1391	172	7	0	2012	91	55	56	0	6	202	31	1107	89	0	7	1227	96	44	404	0	14	544	**3985**
Approach%	22%	69.1%	8.5%	0.3%		-	45%	27.2%	27.7%	0%		-	2.5%	90.2%	7.3%	0%		-	17.6%	8.1%	74.3%	0%		-	**-**
Totals %	11.1%	34.9%	4.3%	0.2%		50.5%	2.3%	1.4%	1.4%	0%		5.1%	0.8%	27.8%	2.2%	0%		30.8%	2.4%	1.1%	10.1%	0%		13.7%	**-**
PHF	0.7	0.94	0.8	0.88		0.93	0.84	0.63	0.74	0		0.79	0.6	0.85	0.79	0		0.85	0.89	0.73	0.92	0		0.93	**-**
Heavy	16	32	6	0		54	4	3	2	0		9	1	37	7	0		45	9	0	30	0		39	**-**
Heavy %	3.6%	2.3%	3.5%	0%		2.7%	4.4%	5.5%	3.6%	0%		4.5%	3.2%	3.3%	7.9%	0%		3.7%	9.4%	0%	7.4%	0%		7.2%	**-**
Lights	426	1359	166	7		1958	87	52	54	0		193	30	1070	82	0		1182	87	44	374	0		505	**-**
Lights %	96.4%	97.7%	96.5%	100%		97.3%	95.6%	94.5%	96.4%	0%		95.5%	96.8%	96.7%	92.1%	0%		96.3%	90.6%	100%	92.6%	0%		92.8%	**-**
Single-Unit Trucks	4	17	5	0		26	2	3	2	0		7	1	18	0	0		19	1	0	5	0		6	**-**
Single-Unit Trucks %	0.9%	1.2%	2.9%	0%		1.3%	2.2%	5.5%	3.6%	0%		3.5%	3.2%	1.6%	0%	0%		1.5%	1%	0%	1.2%	0%		1.1%	**-**
Buses	11	9	0	0		20	0	0	0	0		0	0	19	6	0		25	8	0	23	0		31	**-**
Buses %	2.5%	0.6%	0%	0%		1%	0%	0%	0%	0%		0%	0%	1.7%	6.7%	0%		2%	8.3%	0%	5.7%	0%		5.7%	**-**
Articulated Trucks	1	6	1	0		8	2	0	0	0		2	0	0	1	0		1	0	0	2	0		2	**-**
Articulated Trucks %	0.2%	0.4%	0.6%	0%		0.4%	2.2%	0%	0%	0%		1%	0%	0%	1.1%	0%		0.1%	0%	0%	0.5%	0%		0.4%	**-**
Pedestrians	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	7	-	-	-	-	-	12	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	11.1%		-	-	-	-	25.9%		-	-	-	-	44.4%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	1	1	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	2	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	11.1%		-	-	-	-	0%		-	-	-	-	7.4%		**-**

Spectrum

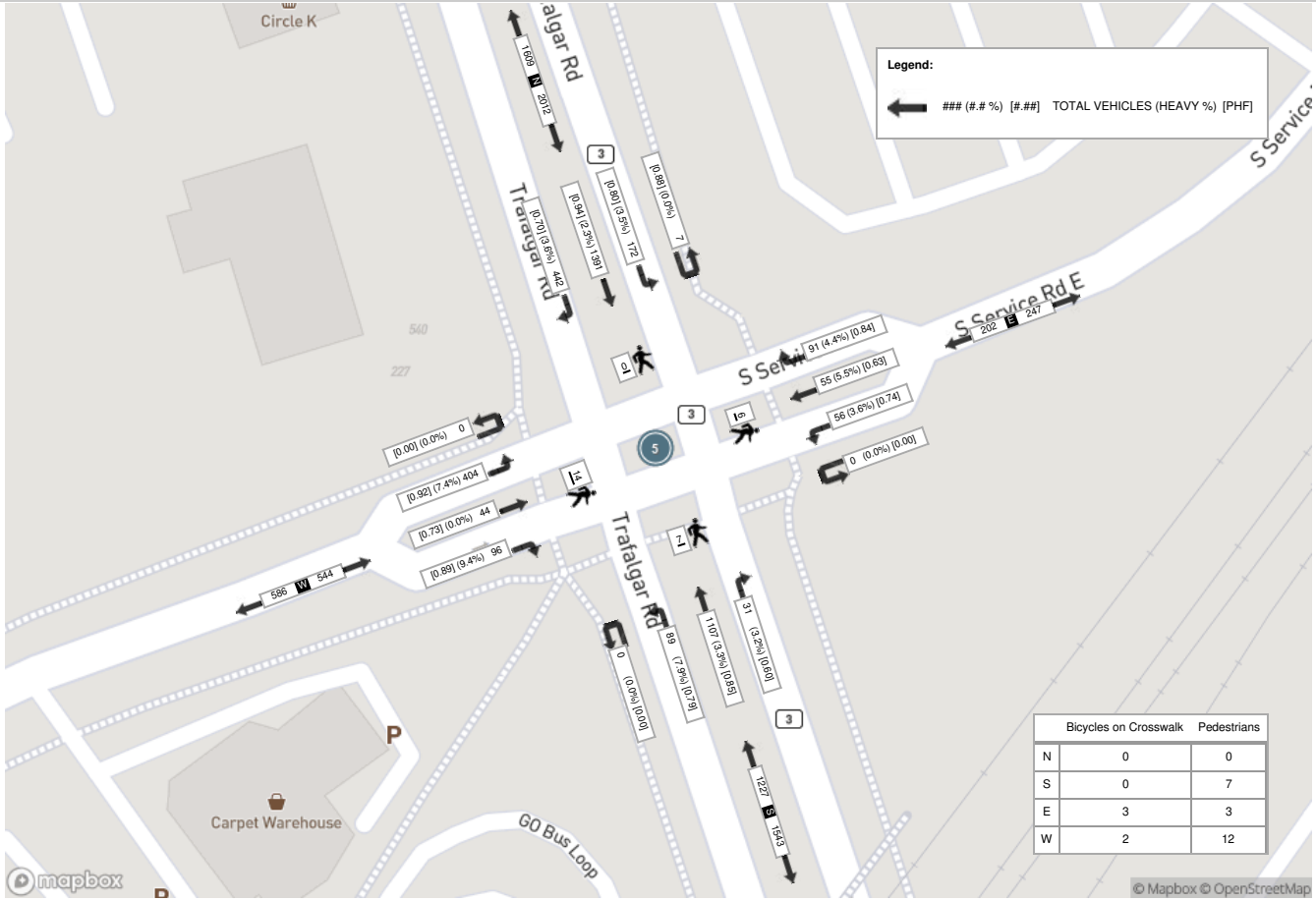
Turning Movement Count
Location Name: TRAFALGAR RD & CROSS AVE / S SERVICE RD
Date: Tue, Jun 04, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (24.88 °C)

Start Time	N Approach TRAFALGAR RD						E Approach SOUTH SERVICE RD E						S Approach TRAFALGAR RD						W Approach CROSS AVE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
17:00:00	91	293	36	3	0	423	70	24	30	0	3	124	5	214	14	0	10	233	18	11	193	0	8	222	1002
17:15:00	95	305	21	9	0	430	76	14	12	0	6	102	4	247	18	1	3	270	20	18	210	0	2	248	1050
17:30:00	104	299	32	8	0	443	54	14	8	0	4	76	11	264	22	0	2	297	28	11	230	0	3	269	1085
17:45:00	98	334	16	1	0	449	45	20	11	0	4	76	4	303	32	0	3	339	22	14	165	0	4	201	1065
Grand Total	388	1231	105	21	0	1745	245	72	61	0	17	378	24	1028	86	1	18	1139	88	54	798	0	17	940	**4202**
Approach%	22.2%	70.5%	6%	1.2%		-	64.8%	19%	16.1%	0%		-	2.1%	90.3%	7.6%	0.1%		-	9.4%	5.7%	84.9%	0%		-	**-**
Totals %	9.2%	29.3%	2.5%	0.5%		41.5%	5.8%	1.7%	1.5%	0%		9%	0.6%	24.5%	2%	0%		27.1%	2.1%	1.3%	19%	0%		22.4%	**-**
PHF	0.93	0.92	0.73	0.58		0.97	0.81	0.75	0.51	0		0.76	0.55	0.85	0.67	0.25		0.84	0.79	0.75	0.87	0		0.87	**-**
Heavy	15	3	3	0		21	2	0	0	0		2	0	6	4	0		10	5	0	27	0		32	**-**
Heavy %	3.9%	0.2%	2.9%	0%		1.2%	0.8%	0%	0%	0%		0.5%	0%	0.6%	4.7%	0%		0.9%	5.7%	0%	3.4%	0%		3.4%	**-**
Lights	373	1228	102	21		1724	243	72	61	0		376	24	1022	82	1		1129	83	54	771	0		908	**-**
Lights %	96.1%	99.8%	97.1%	100%		98.8%	99.2%	100%	100%	0%		99.5%	100%	99.4%	95.3%	100%		99.1%	94.3%	100%	96.6%	0%		96.6%	**-**
Single-Unit Trucks	2	2	2	0		6	1	0	0	0		1	0	4	0	0		4	0	0	2	0		2	**-**
Single-Unit Trucks %	0.5%	0.2%	1.9%	0%		0.3%	0.4%	0%	0%	0%		0.3%	0%	0.4%	0%	0%		0.4%	0%	0%	0.3%	0%		0.2%	**-**
Buses	12	1	1	0		14	1	0	0	0		1	0	1	4	0		5	5	0	25	0		30	**-**
Buses %	3.1%	0.1%	1%	0%		0.8%	0.4%	0%	0%	0%		0.3%	0%	0.1%	4.7%	0%		0.4%	5.7%	0%	3.1%	0%		3.2%	**-**
Articulated Trucks	1	0	0	0		1	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	**-**
Articulated Trucks %	0.3%	0%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	0.1%	0%	0%		0.1%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	0	-	-	-	-	-	15	-	-	-	-	-	16	-	-	-	-	-	11	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	28.8%		-	-	-	-	30.8%		-	-	-	-	21.2%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	6	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	3.8%		-	-	-	-	3.8%		-	-	-	-	11.5%		**-**

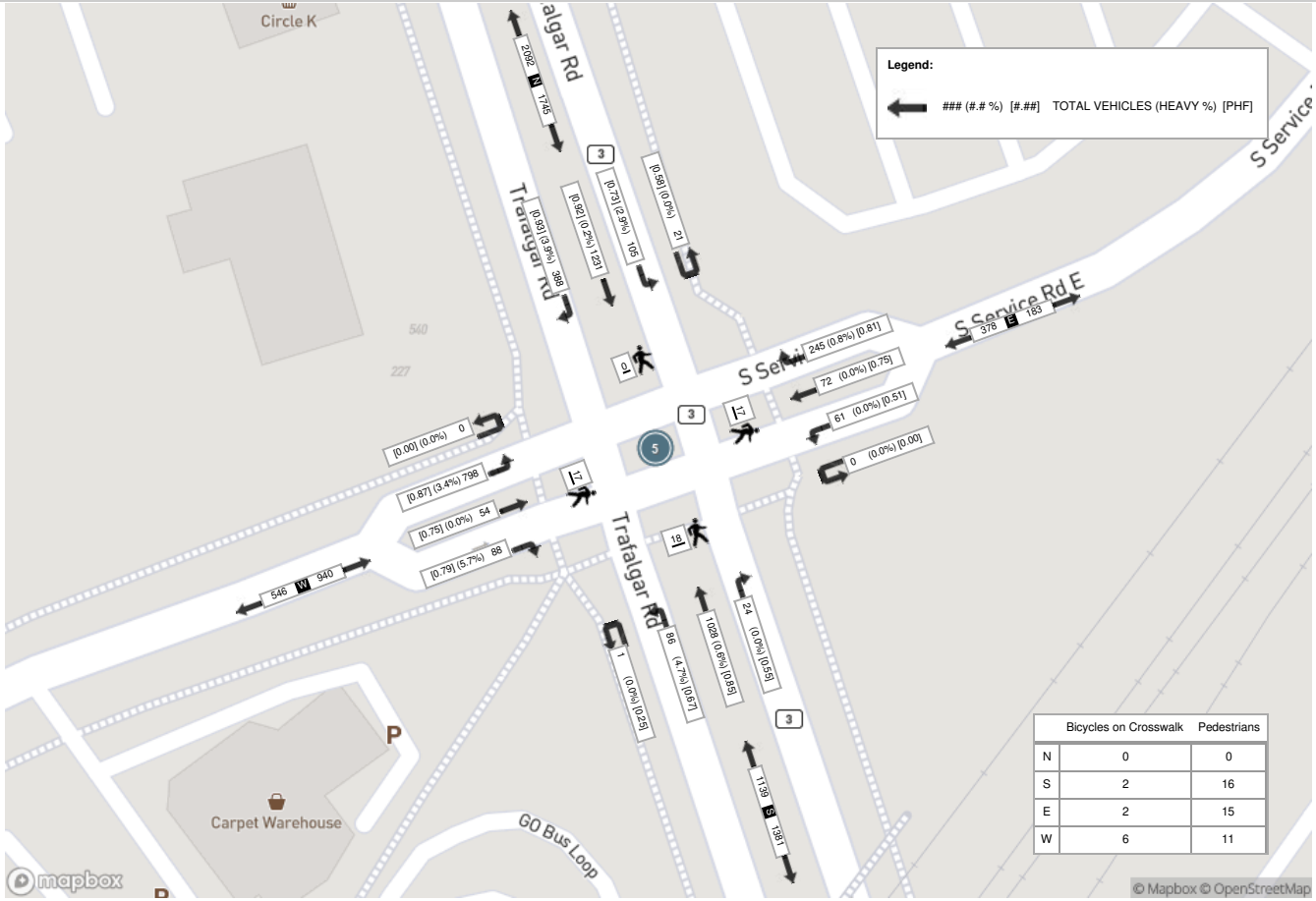
Peak Hour: 08:00 AM - 09:00 AM **Weather: Overcast Clouds (17.47 °C)**



	Bicycles on Crosswalk	Pedestrians
N	0	0
S	0	7
E	3	3
W	2	12

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 05:00 PM - 06:00 PM **Weather: Overcast Clouds (24.88 °C)**



	Bicycles on Crosswalk	Pedestrians
N	0	0
S	2	16
E	2	15
W	6	11

Spectrum

Turning Movement Count
Location Name: TRAFALGAR RD & CORNWALL RD
Date: Tue, Jun 04, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Turning Movement Count (7 . TRAFALGAR RD & CORNWALL RD)

Start Time	N Approach TRAFALGAR RD						E Approach CORNWALL RD						S Approach TRAFALGAR RD						W Approach CORNWALL RD						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	51	57	57	1	7	166	64	38	3	0	1	105	2	48	5	0	0	55	5	23	42	0	0	70	396	
07:15:00	61	68	75	0	8	204	56	38	4	0	2	98	1	54	15	0	3	70	9	43	32	0	3	84	456	
07:30:00	73	91	95	0	12	259	82	54	1	0	9	137	2	64	13	0	3	79	5	57	70	0	7	132	607	
07:45:00	105	113	111	0	4	329	106	75	2	0	1	183	6	69	12	0	4	87	14	83	67	0	6	164	763	2222
08:00:00	108	137	147	0	6	392	141	76	5	0	3	222	10	113	20	0	8	143	24	83	57	0	11	164	921	2747
08:15:00	79	125	165	0	3	369	160	83	5	0	1	248	18	97	19	0	4	134	21	124	74	0	3	219	970	3261
08:30:00	87	139	172	0	6	398	159	83	7	0	2	249	10	96	7	0	1	113	11	72	63	0	3	146	906	3560
08:45:00	100	185	132	0	8	417	139	87	8	2	3	236	11	78	6	0	1	95	10	92	66	0	2	168	916	3713
BREAK																										
16:00:00	68	126	101	0	12	295	178	125	8	0	4	311	17	128	15	0	0	160	6	74	78	0	0	158	924	
16:15:00	78	131	110	0	16	319	140	135	17	0	8	292	14	101	13	0	2	128	17	104	100	0	4	221	960	
16:30:00	94	139	115	0	6	348	132	99	11	0	6	242	14	137	15	0	4	166	12	88	82	0	4	182	938	
16:45:00	57	132	104	0	10	293	133	123	13	0	2	269	12	111	16	0	2	139	11	116	62	0	4	189	890	3712
17:00:00	65	149	116	1	12	331	83	73	7	0	5	163	13	112	16	0	3	141	11	111	70	0	3	192	827	3615
17:15:00	69	140	134	0	20	343	75	154	11	0	5	240	18	97	20	0	10	135	16	140	74	0	11	230	948	3603
17:30:00	66	123	123	0	12	312	89	125	18	0	2	232	15	121	19	0	3	155	25	105	68	0	5	198	897	3562
17:45:00	59	165	147	0	13	371	103	134	11	0	7	248	12	102	10	0	4	124	10	103	69	0	6	182	925	3597
Grand Total	1220	2020	1904	2	155	5146	1840	1502	131	2	61	3475	175	1528	221	0	52	1924	207	1418	1074	0	72	2699	**13244**	-
Approach%	23.7%	39.3%	37%	0%		-	52.9%	43.2%	3.8%	0.1%		-	9.1%	79.4%	11.5%	0%		-	7.7%	52.5%	39.8%	0%		-	**-**	-
Totals %	9.2%	15.3%	14.4%	0%		38.9%	13.9%	11.3%	1%	0%		26.2%	1.3%	11.5%	1.7%	0%		14.5%	1.6%	10.7%	8.1%	0%		20.4%	**-**	-
Heavy	37	21	48	0		-	55	45	2	0		-	4	22	2	0		-	4	45	27	0		-	**-**	-
Heavy %	3%	1%	2.5%	0%		-	3%	3%	1.5%	0%		-	2.3%	1.4%	0.9%	0%		-	1.9%	3.2%	2.5%	0%		-	**-**	-
Bicycles	1	5	17	0		-	0	3	0	0		-	1	2	0	0		-	2	4	0	0		-	**-**	-
Bicycle %	0.1%	0.2%	0.9%	0%		-	0%	0.2%	0%	0%		-	0.6%	0.1%	0%	0%		-	1%	0.3%	0%	0%		-	**-**	-

Peak Hour: 08:00 AM - 09:00 AM Weather: Overcast Clouds (17.47 °C)

Start Time	N Approach TRAFALGAR RD						E Approach CORNWALL RD						S Approach TRAFALGAR RD						W Approach CORNWALL RD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
08:00:00	108	137	147	0	6	392	141	76	5	0	3	222	10	113	20	0	8	143	24	83	57	0	11	164	921
08:15:00	79	125	165	0	3	369	160	83	5	0	1	248	18	97	19	0	4	134	21	124	74	0	3	219	970
08:30:00	87	139	172	0	6	398	159	83	7	0	2	249	10	96	7	0	1	113	11	72	63	0	3	146	906
08:45:00	100	185	132	0	8	417	139	87	8	2	3	236	11	78	6	0	1	95	10	92	66	0	2	168	916
Grand Total	374	586	616	0	23	1576	599	329	25	2	9	955	49	384	52	0	14	485	66	371	260	0	19	697	**3713**
Approach%	23.7%	37.2%	39.1%	0%		-	62.7%	34.5%	2.6%	0.2%		-	10.1%	79.2%	10.7%	0%		-	9.5%	53.2%	37.3%	0%		-	**-**
Totals %	10.1%	15.8%	16.6%	0%		42.4%	16.1%	8.9%	0.7%	0.1%		25.7%	1.3%	10.3%	1.4%	0%		13.1%	1.8%	10%	7%	0%		18.8%	**-**
PHF	0.87	0.79	0.9	0		0.94	0.94	0.95	0.78	0.25		0.96	0.68	0.85	0.65	0		0.85	0.69	0.75	0.88	0		0.8	**-**
Heavy	14	8	18	0		40	24	15	1	0		40	3	9	1	0		13	2	23	10	0		35	**-**
Heavy %	3.7%	1.4%	2.9%	0%		2.5%	4%	4.6%	4%	0%		4.2%	6.1%	2.3%	1.9%	0%		2.7%	3%	6.2%	3.8%	0%		5%	**-**
Lights	360	578	598	0		1536	575	314	24	2		915	46	375	51	0		472	64	348	250	0		662	**-**
Lights %	96.3%	98.6%	97.1%	0%		97.5%	96%	95.4%	96%	100%		95.8%	93.9%	97.7%	98.1%	0%		97.3%	97%	93.8%	96.2%	0%		95%	**-**
Single-Unit Trucks	5	4	9	0		18	7	8	0	0		15	1	5	0	0		6	1	14	5	0		20	**-**
Single-Unit Trucks %	1.3%	0.7%	1.5%	0%		1.1%	1.2%	2.4%	0%	0%		1.6%	2%	1.3%	0%	0%		1.2%	1.5%	3.8%	1.9%	0%		2.9%	**-**
Buses	7	2	7	0		16	16	6	1	0		23	2	4	1	0		7	1	9	5	0		15	**-**
Buses %	1.9%	0.3%	1.1%	0%		1%	2.7%	1.8%	4%	0%		2.4%	4.1%	1%	1.9%	0%		1.4%	1.5%	2.4%	1.9%	0%		2.2%	**-**
Articulated Trucks	2	2	2	0		6	1	1	0	0		2	0	0	0	0		0	0	0	0	0		0	**-**
Articulated Trucks %	0.5%	0.3%	0.3%	0%		0.4%	0.2%	0.3%	0%	0%		0.2%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	20	-	-	-	-	-	8	-	-	-	-	-	12	-	-	-	-	-	16	-	**-**
Pedestrians%	-	-	-	-	30.8%		-	-	-	-	12.3%		-	-	-	-	18.5%		-	-	-	-	24.6%		**-**
Bicycles on Road	0	2	2	0	0	-	0	0	0	0	0	-	1	0	0	0	0	-	1	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	3	-	**-**
Bicycles on Crosswalk%	-	-	-	-	4.6%		-	-	-	-	1.5%		-	-	-	-	3.1%		-	-	-	-	4.6%		**-**

Spectrum

Turning Movement Count
Location Name: TRAFALGAR RD & CORNWALL RD
Date: Tue, Jun 04, 2024 Deployment Lead: David Chu

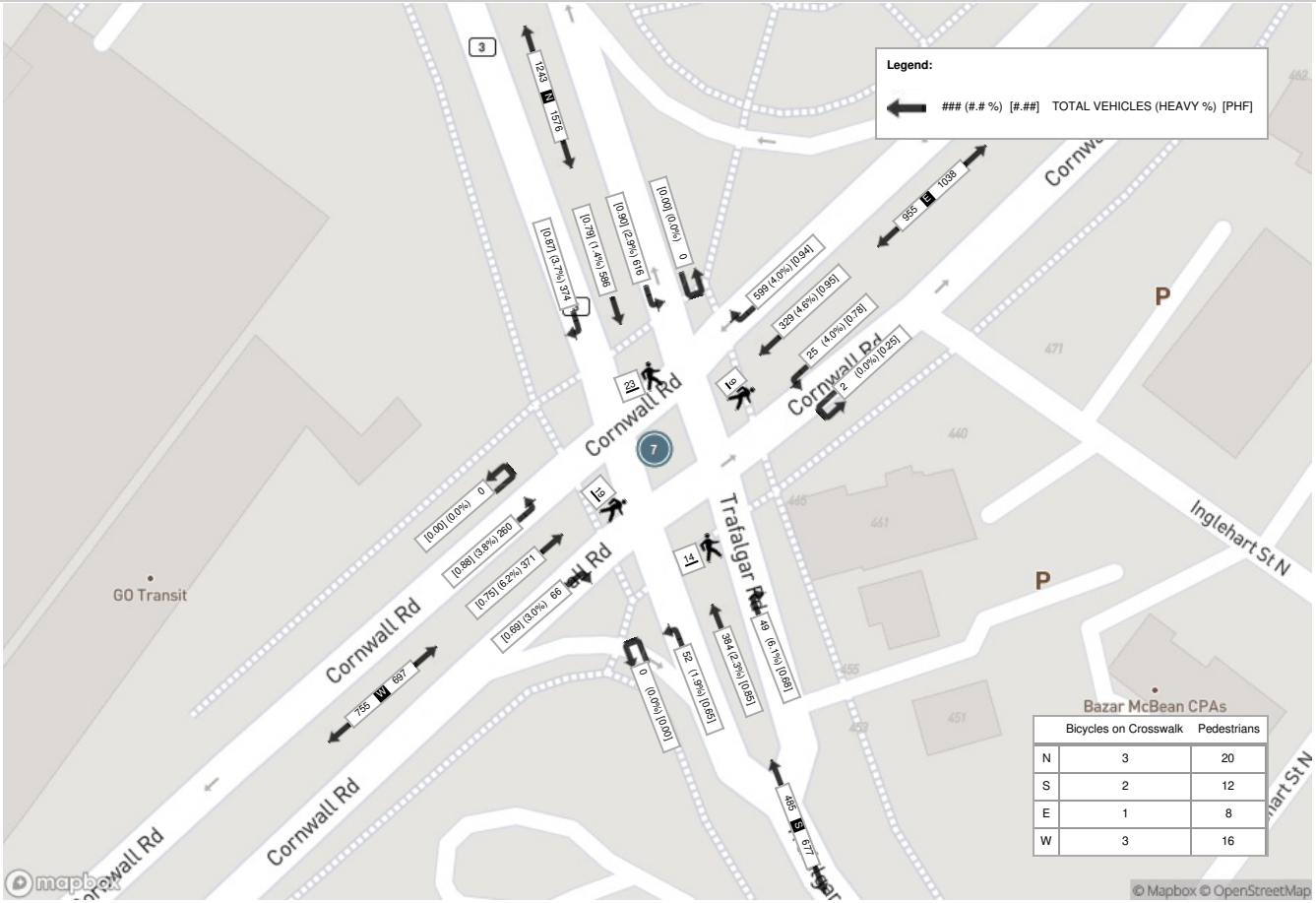
BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 04:00 PM - 05:00 PM Weather: Overcast Clouds (24.88 °C)

Start Time	N Approach TRAFALGAR RD						E Approach CORNWALL RD						S Approach TRAFALGAR RD						W Approach CORNWALL RD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:00:00	68	126	101	0	12	295	178	125	8	0	4	311	17	128	15	0	0	160	6	74	78	0	0	158	924
16:15:00	78	131	110	0	16	319	140	135	17	0	8	292	14	101	13	0	2	128	17	104	100	0	4	221	960
16:30:00	94	139	115	0	6	348	132	99	11	0	6	242	14	137	15	0	4	166	12	88	82	0	4	182	938
16:45:00	57	132	104	0	10	293	133	123	13	0	2	269	12	111	16	0	2	139	11	116	62	0	4	189	890
Grand Total	297	528	430	0	44	1255	583	482	49	0	20	1114	57	477	59	0	8	593	46	382	322	0	12	750	**3712**
Approach%	23.7%	42.1%	34.3%	0%		-	52.3%	43.3%	4.4%	0%		-	9.6%	80.4%	9.9%	0%		-	6.1%	50.9%	42.9%	0%		-	**-**
Totals %	8%	14.2%	11.6%	0%		33.8%	15.7%	13%	1.3%	0%		30%	1.5%	12.9%	1.6%	0%		16%	1.2%	10.3%	8.7%	0%		20.2%	**-**
PHF	0.79	0.95	0.93	0		0.9	0.82	0.89	0.72	0		0.9	0.84	0.87	0.92	0		0.89	0.68	0.82	0.81	0		0.85	**-**
Heavy	12	6	7	0		25	12	9	0	0		21	0	2	1	0		3	0	7	3	0		10	**-**
Heavy %	4%	1.1%	1.6%	0%		2%	2.1%	1.9%	0%	0%		1.9%	0%	0.4%	1.7%	0%		0.5%	0%	1.8%	0.9%	0%		1.3%	**-**
Lights	285	522	423	0		1230	571	473	49	0		1093	57	475	58	0		590	46	375	319	0		740	**-**
Lights %	96%	98.9%	98.4%	0%		98%	97.9%	98.1%	100%	0%		98.1%	100%	99.6%	98.3%	0%		99.5%	100%	98.2%	99.1%	0%		98.7%	**-**
Single-Unit Trucks	2	5	2	0		9	6	5	0	0		11	0	2	1	0		3	0	4	0	0		4	**-**
Single-Unit Trucks %	0.7%	0.9%	0.5%	0%		0.7%	1%	1%	0%	0%		1%	0%	0.4%	1.7%	0%		0.5%	0%	1%	0%	0%		0.5%	**-**
Buses	10	1	4	0		15	6	3	0	0		9	0	0	0	0		0	0	2	2	0		4	**-**
Buses %	3.4%	0.2%	0.9%	0%		1.2%	1%	0.6%	0%	0%		0.8%	0%	0%	0%	0%		0%	0%	0.5%	0.6%	0%		0.5%	**-**
Articulated Trucks	0	0	1	0		1	0	1	0	0		1	0	0	0	0		0	0	1	1	0		2	**-**
Articulated Trucks %	0%	0%	0.2%	0%		0.1%	0%	0.2%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	0.3%	0.3%	0%		0.3%	**-**
Pedestrians	-	-	-	-	37	-	-	-	-	-	16	-	-	-	-	-	7	-	-	-	-	-	11	-	**-**
Pedestrians%	-	-	-	-	44%		-	-	-	-	19%		-	-	-	-	8.3%		-	-	-	-	13.1%		**-**
Bicycles on Road	1	1	1	0	0	-	0	0	0	0	0	-	0	1	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	7	-	-	-	-	-	4	-	-	-	-	-	1	-	-	-	-	-	1	-	**-**
Bicycles on Crosswalk%	-	-	-	-	8.3%		-	-	-	-	4.8%		-	-	-	-	1.2%		-	-	-	-	1.2%		**-**

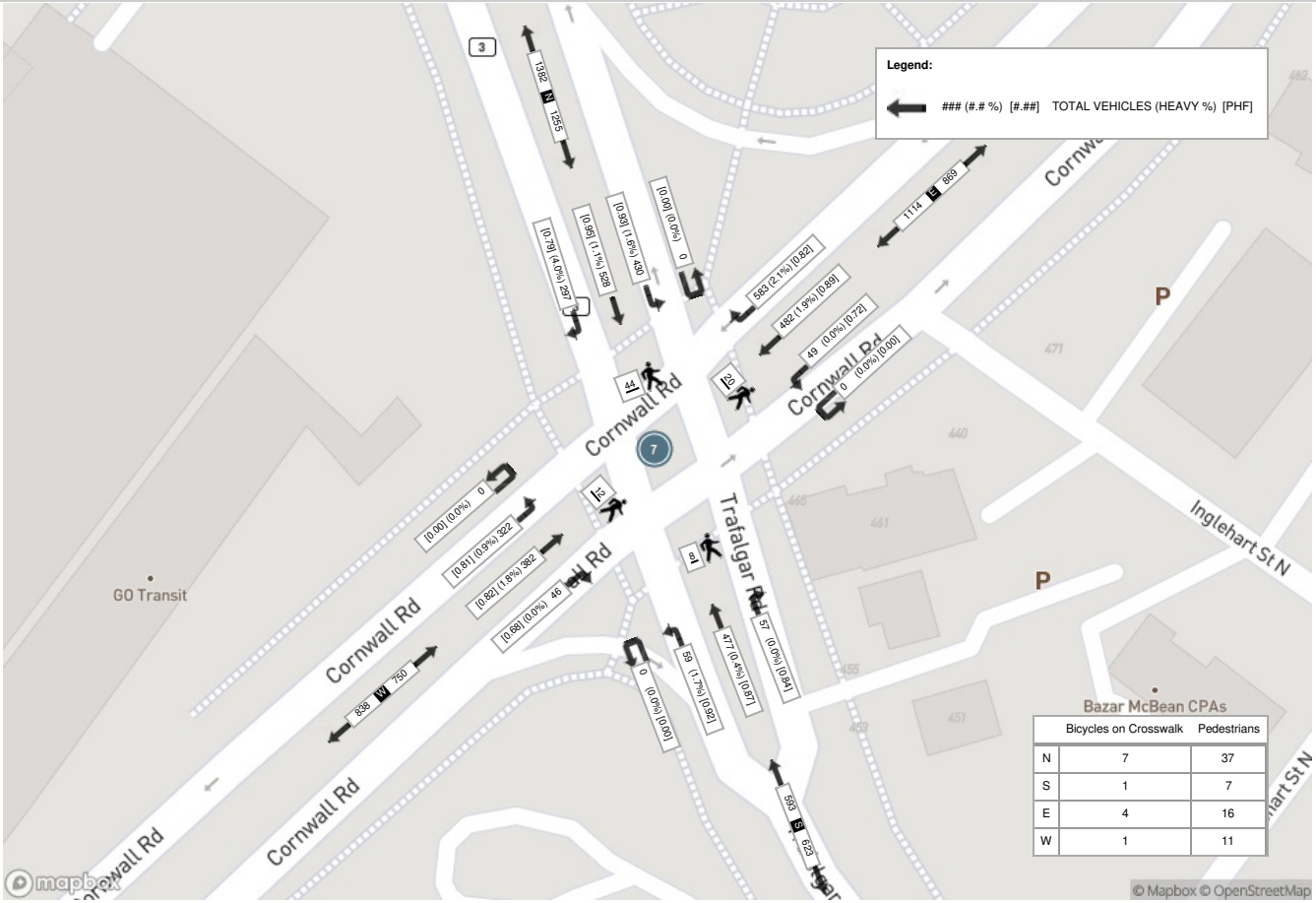
BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 08:00 AM - 09:00 AM **Weather: Overcast Clouds (17.47 °C)**



	Bicycles on Crosswalk	Pedestrians
N	3	20
S	2	12
E	1	8
W	3	16

Peak Hour: 04:00 PM - 05:00 PM Weather: Overcast Clouds (24.88 °C)



	Bicycles on Crosswalk	Pedestrians
N	7	37
S	1	7
E	4	16
W	1	11

Spectrum

Turning Movement Count
Location Name: CORNWALL RD & CHARTWELL RD
Date: Tue, Jun 04, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Turning Movement Count (19 . CORNWALL RD & CHARTWELL RD)

Start Time	N Approach CHARTWELL RD						E Approach CORNWALL RD						S Approach CHARTWELL RD						W Approach CORNWALL RD						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	3	0	2	0	3	5	3	54	3	0	0	60	3	5	11	0	1	19	8	56	1	0	2	65	149	
07:15:00	4	3	1	0	0	8	0	47	10	0	0	57	5	7	20	0	0	32	23	60	0	0	1	83	180	
07:30:00	3	5	5	0	3	13	6	73	4	0	0	83	6	8	21	0	1	35	28	94	1	0	0	123	254	
07:45:00	4	15	11	0	1	30	9	101	4	0	0	114	5	11	24	0	1	40	26	93	4	0	2	123	307	890
08:00:00	5	18	3	0	2	26	10	114	7	0	4	131	10	23	54	0	1	87	43	137	3	0	1	183	427	1168
08:15:00	3	17	13	0	3	33	14	142	9	0	2	165	12	12	63	0	0	87	58	159	7	0	1	224	509	1497
08:30:00	6	23	7	0	0	36	3	140	9	0	0	152	18	14	65	0	0	97	51	138	6	0	1	195	480	1723
08:45:00	13	15	11	0	1	39	6	131	14	0	1	151	20	15	48	0	0	83	26	159	7	0	1	192	465	1881
BREAK																										
16:00:00	20	20	14	0	2	54	18	189	11	0	1	218	12	15	40	0	1	67	19	123	9	0	1	151	490	
16:15:00	9	9	17	0	1	35	22	161	18	0	0	201	9	26	39	0	0	74	23	129	4	0	3	156	466	
16:30:00	14	13	18	0	0	45	23	162	18	0	0	203	12	18	28	0	1	58	27	150	19	0	0	196	502	
16:45:00	7	9	15	0	1	31	21	147	14	0	0	182	14	19	24	0	1	57	23	128	14	0	1	165	435	1893
17:00:00	14	12	15	0	1	41	31	155	12	0	1	198	8	22	33	0	2	63	26	123	13	0	1	162	464	1867
17:15:00	15	9	18	0	1	42	29	146	7	0	0	182	7	17	27	0	2	51	31	149	21	0	2	201	476	1877
17:30:00	20	15	13	0	4	48	30	153	9	0	3	192	9	25	26	0	2	60	36	131	19	1	0	187	487	1862
17:45:00	12	14	7	0	1	33	25	140	13	0	0	178	14	20	24	0	1	58	33	127	12	0	0	172	441	1868
Grand Total	152	197	170	0	24	519	250	2055	162	0	12	2467	164	257	547	0	14	968	481	1956	140	1	17	2578	**6532**	-
Approach%	29.3%	38%	32.8%	0%		-	10.1%	83.3%	6.6%	0%		-	16.9%	26.5%	56.5%	0%		-	18.7%	75.9%	5.4%	0%		-	-	-
Totals %	2.3%	3%	2.6%	0%		7.9%	3.8%	31.5%	2.5%	0%		37.8%	2.5%	3.9%	8.4%	0%		14.8%	7.4%	29.9%	2.1%	0%		39.5%	-	-
Heavy	4	5	5	0		-	4	62	3	0		-	2	2	19	0		-	17	54	3	0		-	-	-
Heavy %	2.6%	2.5%	2.9%	0%		-	1.6%	3%	1.9%	0%		-	1.2%	0.8%	3.5%	0%		-	3.5%	2.8%	2.1%	0%		-	-	-
Bicycles	0	10	0	0		-	0	1	1	0		-	0	0	0	0		-	1	4	1	0		-	-	-
Bicycle %	0%	5.1%	0%	0%		-	0%	0%	0.6%	0%		-	0%	0%	0%	0%		-	0.2%	0.2%	0.7%	0%		-	-	-

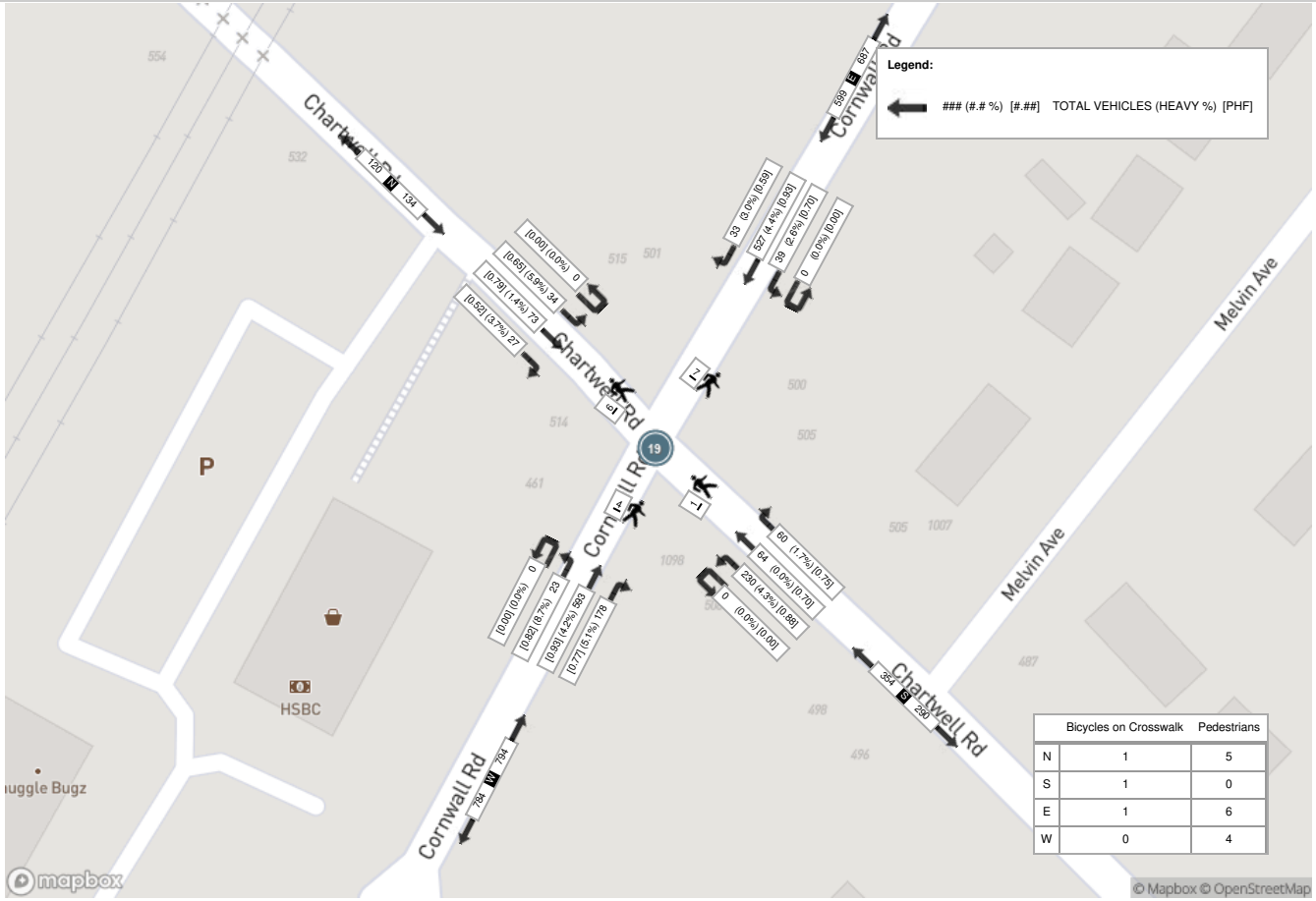
Peak Hour: 08:00 AM - 09:00 AM Weather: Overcast Clouds (17.47 °C)

Start Time	N Approach CHARTWELL RD						E Approach CORNWALL RD						S Approach CHARTWELL RD						W Approach CORNWALL RD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
08:00:00	5	18	3	0	2	26	10	114	7	0	4	131	10	23	54	0	1	87	43	137	3	0	1	183	427
08:15:00	3	17	13	0	3	33	14	142	9	0	2	165	12	12	63	0	0	87	58	159	7	0	1	224	509
08:30:00	6	23	7	0	0	36	3	140	9	0	0	152	18	14	65	0	0	97	51	138	6	0	1	195	480
08:45:00	13	15	11	0	1	39	6	131	14	0	1	151	20	15	48	0	0	83	26	159	7	0	1	192	465
Grand Total	27	73	34	0	6	134	33	527	39	0	7	599	60	64	230	0	1	354	178	593	23	0	4	794	**1881**
Approach%	20.1%	54.5%	25.4%	0%		-	5.5%	88%	6.5%	0%		-	16.9%	18.1%	65%	0%		-	22.4%	74.7%	2.9%	0%		-	**-**
Totals %	1.4%	3.9%	1.8%	0%		7.1%	1.8%	28%	2.1%	0%		31.8%	3.2%	3.4%	12.2%	0%		18.8%	9.5%	31.5%	1.2%	0%		42.2%	**-**
PHF	0.52	0.79	0.65	0		0.86	0.59	0.93	0.7	0		0.91	0.75	0.7	0.88	0		0.91	0.77	0.93	0.82	0		0.89	**-**
Heavy	1	1	2	0		4	1	23	1	0		25	1	0	10	0		11	9	25	2	0		36	**-**
Heavy %	3.7%	1.4%	5.9%	0%		3%	3%	4.4%	2.6%	0%		4.2%	1.7%	0%	4.3%	0%		3.1%	5.1%	4.2%	8.7%	0%		4.5%	**-**
Lights	26	72	32	0		130	32	504	38	0		574	59	64	220	0		343	169	568	21	0		758	**-**
Lights %	96.3%	98.6%	94.1%	0%		97%	97%	95.6%	97.4%	0%		95.8%	98.3%	100%	95.7%	0%		96.9%	94.9%	95.8%	91.3%	0%		95.5%	**-**
Single-Unit Trucks	1	1	2	0		4	1	9	0	0		10	1	0	2	0		3	3	13	2	0		18	**-**
Single-Unit Trucks %	3.7%	1.4%	5.9%	0%		3%	3%	1.7%	0%	0%		1.7%	1.7%	0%	0.9%	0%		0.8%	1.7%	2.2%	8.7%	0%		2.3%	**-**
Buses	0	0	0	0		0	0	12	1	0		13	0	0	8	0		8	6	9	0	0		15	**-**
Buses %	0%	0%	0%	0%		0%	0%	2.3%	2.6%	0%		2.2%	0%	0%	3.5%	0%		2.3%	3.4%	1.5%	0%	0%		1.9%	**-**
Articulated Trucks	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	0	3	0	0		3	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.3%	0%	0%	0%	0%		0%	0%	0.5%	0%	0%		0.4%	**-**
Pedestrians	-	-	-	-	5	-	-	-	-	-	6	-	-	-	-	-	0	-	-	-	-	-	4	-	**-**
Pedestrians%	-	-	-	-	27.8%		-	-	-	-	33.3%		-	-	-	-	0%		-	-	-	-	22.2%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1	1	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	5.6%		-	-	-	-	5.6%		-	-	-	-	5.6%		-	-	-	-	0%		**-**

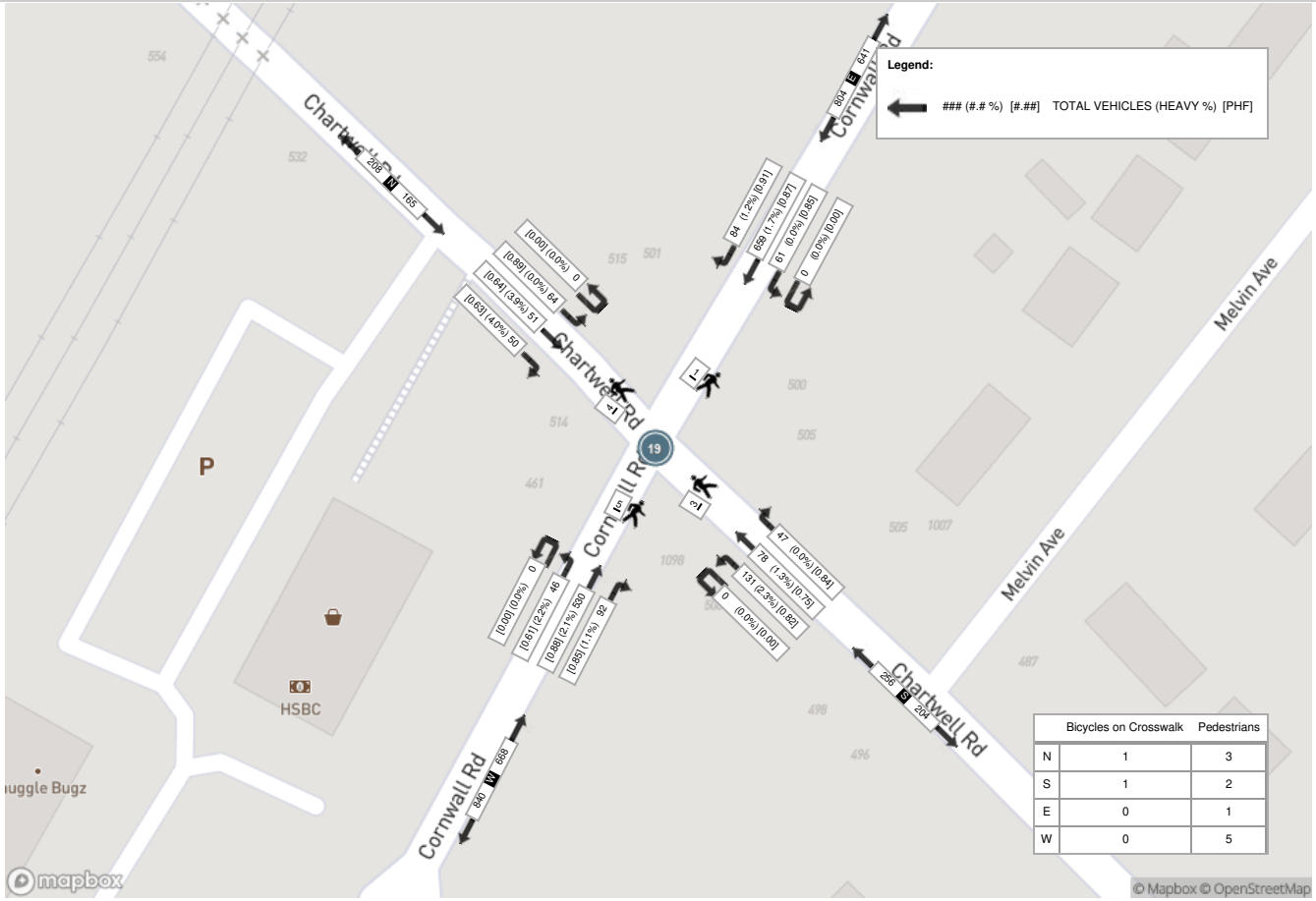
Peak Hour: 04:00 PM - 05:00 PM Weather: Overcast Clouds (24.88 °C)

Start Time	N Approach CHARTWELL RD						E Approach CORNWALL RD						S Approach CHARTWELL RD						W Approach CORNWALL RD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:00:00	20	20	14	0	2	54	18	189	11	0	1	218	12	15	40	0	1	67	19	123	9	0	1	151	490
16:15:00	9	9	17	0	1	35	22	161	18	0	0	201	9	26	39	0	0	74	23	129	4	0	3	156	466
16:30:00	14	13	18	0	0	45	23	162	18	0	0	203	12	18	28	0	1	58	27	150	19	0	0	196	502
16:45:00	7	9	15	0	1	31	21	147	14	0	0	182	14	19	24	0	1	57	23	128	14	0	1	165	435
Grand Total	50	51	64	0	4	165	84	659	61	0	1	804	47	78	131	0	3	256	92	530	46	0	5	668	**1893**
Approach%	30.3%	30.9%	38.8%	0%		-	10.4%	82%	7.6%	0%		-	18.4%	30.5%	51.2%	0%		-	13.8%	79.3%	6.9%	0%		-	**-**
Totals %	2.6%	2.7%	3.4%	0%		8.7%	4.4%	34.8%	3.2%	0%		42.5%	2.5%	4.1%	6.9%	0%		13.5%	4.9%	28%	2.4%	0%		35.3%	**-**
PHF	0.63	0.64	0.89	0		0.76	0.91	0.87	0.85	0		0.92	0.84	0.75	0.82	0		0.86	0.85	0.88	0.61	0		0.85	**-**
Heavy	2	2	0	0		4	1	11	0	0		12	0	1	3	0		4	1	11	1	0		13	**-**
Heavy %	4%	3.9%	0%	0%		2.4%	1.2%	1.7%	0%	0%		1.5%	0%	1.3%	2.3%	0%		1.6%	1.1%	2.1%	2.2%	0%		1.9%	**-**
Lights	48	49	64	0		161	83	648	61	0		792	47	77	128	0		252	91	519	45	0		655	**-**
Lights %	96%	96.1%	100%	0%		97.6%	98.8%	98.3%	100%	0%		98.5%	100%	98.7%	97.7%	0%		98.4%	98.9%	97.9%	97.8%	0%		98.1%	**-**
Single-Unit Trucks	2	2	0	0		4	1	6	0	0		7	0	1	2	0		3	0	5	1	0		6	**-**
Single-Unit Trucks %	4%	3.9%	0%	0%		2.4%	1.2%	0.9%	0%	0%		0.9%	0%	1.3%	1.5%	0%		1.2%	0%	0.9%	2.2%	0%		0.9%	**-**
Buses	0	0	0	0		0	0	5	0	0		5	0	0	0	0		0	0	5	0	0		5	**-**
Buses %	0%	0%	0%	0%		0%	0%	0.8%	0%	0%		0.6%	0%	0%	0%	0%		0%	0%	0.9%	0%	0%		0.7%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	1	0		1	1	1	0	0		2	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0.8%	0%		0.4%	1.1%	0.2%	0%	0%		0.3%	**-**
Pedestrians	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	5	-	**-**
Pedestrians%	-	-	-	-	23.1%		-	-	-	-	7.7%		-	-	-	-	15.4%		-	-	-	-	38.5%		**-**
Bicycles on Road	0	4	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	1	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	7.7%		-	-	-	-	0%		-	-	-	-	7.7%		-	-	-	-	0%		**-**

Peak Hour: 08:00 AM - 09:00 AM **Weather: Overcast Clouds (17.47 °C)**



Peak Hour: 04:00 PM - 05:00 PM **Weather: Overcast Clouds (24.88 °C)**



	Bicycles on Crosswalk	Pedestrians
N	1	3
S	1	2
E	0	1
W	0	5

Spectrum

Turning Movement Count
Location Name: S SERVICE RD & ROYAL WINDSOR DR
Date: Tue, Jun 04, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Turning Movement Count (20 . S SERVICE RD & ROYAL WINDSOR DR)

Start Time	N Approach THE CANADIAN RD						E Approach ROYAL WINDSOR DR						S Approach S SERVICE RD						W Approach ROYAL WINDSOR DR						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	2	1	1	0	0	4	1	65	11	0	0	77	8	1	0	0	0	9	4	133	9	0	0	146	236	
07:15:00	3	2	1	0	1	6	3	81	14	0	0	98	5	1	1	0	0	7	2	136	9	0	0	147	258	
07:30:00	1	3	0	0	0	4	0	103	13	0	0	116	14	2	0	0	0	16	9	144	9	0	0	162	298	
07:45:00	3	8	1	0	0	12	1	137	26	0	0	164	14	2	1	0	0	17	19	171	11	0	0	201	394	1186
08:00:00	4	7	0	0	0	11	0	134	24	0	0	158	12	3	0	0	0	15	17	140	15	0	0	172	356	1306
08:15:00	6	10	1	0	0	17	1	151	28	0	0	180	13	3	0	0	0	16	13	157	13	1	0	184	397	1445
08:30:00	4	21	0	0	0	25	0	130	45	0	0	175	15	0	1	0	0	16	18	161	19	0	0	198	414	1561
08:45:00	2	12	0	0	0	14	0	144	49	0	0	193	15	2	2	0	0	19	20	171	8	0	0	199	425	1592
BREAK																										
16:00:00	13	14	0	0	0	27	1	192	22	0	0	215	36	2	2	0	0	40	15	140	0	0	0	155	437	
16:15:00	3	7	3	0	0	13	1	136	27	0	0	164	39	1	4	0	0	44	6	138	5	0	0	149	370	
16:30:00	10	16	2	0	0	28	2	150	21	0	1	173	48	4	15	0	0	67	9	144	2	2	0	157	425	
16:45:00	6	8	0	0	1	14	1	121	30	0	0	152	37	3	2	0	0	42	9	144	2	2	0	157	365	1597
17:00:00	8	10	1	0	0	19	1	205	26	0	0	232	48	7	11	0	0	66	6	164	4	1	0	175	492	1652
17:15:00	9	12	0	0	0	21	1	174	28	0	0	203	46	1	10	0	0	57	6	174	1	1	0	182	463	1745
17:30:00	12	8	0	0	0	20	2	159	32	0	0	193	49	2	9	0	0	60	8	180	1	1	0	190	463	1783
17:45:00	4	7	0	0	0	11	0	116	28	1	0	145	39	4	13	0	0	56	6	160	0	1	0	167	379	1797
Grand Total	90	146	10	0	2	246	15	2198	424	1	1	2638	438	38	71	0	0	547	167	2457	108	9	0	2741	**6172**	-
Approach%	36.6%	59.3%	4.1%	0%		-	0.6%	83.3%	16.1%	0%		-	80.1%	6.9%	13%	0%		-	6.1%	89.6%	3.9%	0.3%		-	**-**	-
Totals %	1.5%	2.4%	0.2%	0%		4%	0.2%	35.6%	6.9%	0%		42.7%	7.1%	0.6%	1.2%	0%		8.9%	2.7%	39.8%	1.7%	0.1%		44.4%	**-**	-
Heavy	14	8	2	0		-	4	155	16	0		-	15	1	7	0		-	8	159	8	0		-	**-**	-
Heavy %	15.6%	5.5%	20%	0%		-	26.7%	7.1%	3.8%	0%		-	3.4%	2.6%	9.9%	0%		-	4.8%	6.5%	7.4%	0%		-	**-**	-
Bicycles	0	8	0	1		-	0	0	3	0		-	0	2	0	0		-	0	0	0	0		-	**-**	-
Bicycle %	0%	5.5%	0%	0%		-	0%	0%	0.7%	0%		-	0%	5.3%	0%	0%		-	0%	0%	0%	0%		-	**-**	-

Peak Hour: 08:00 AM - 09:00 AM Weather: Overcast Clouds (17.47 °C)

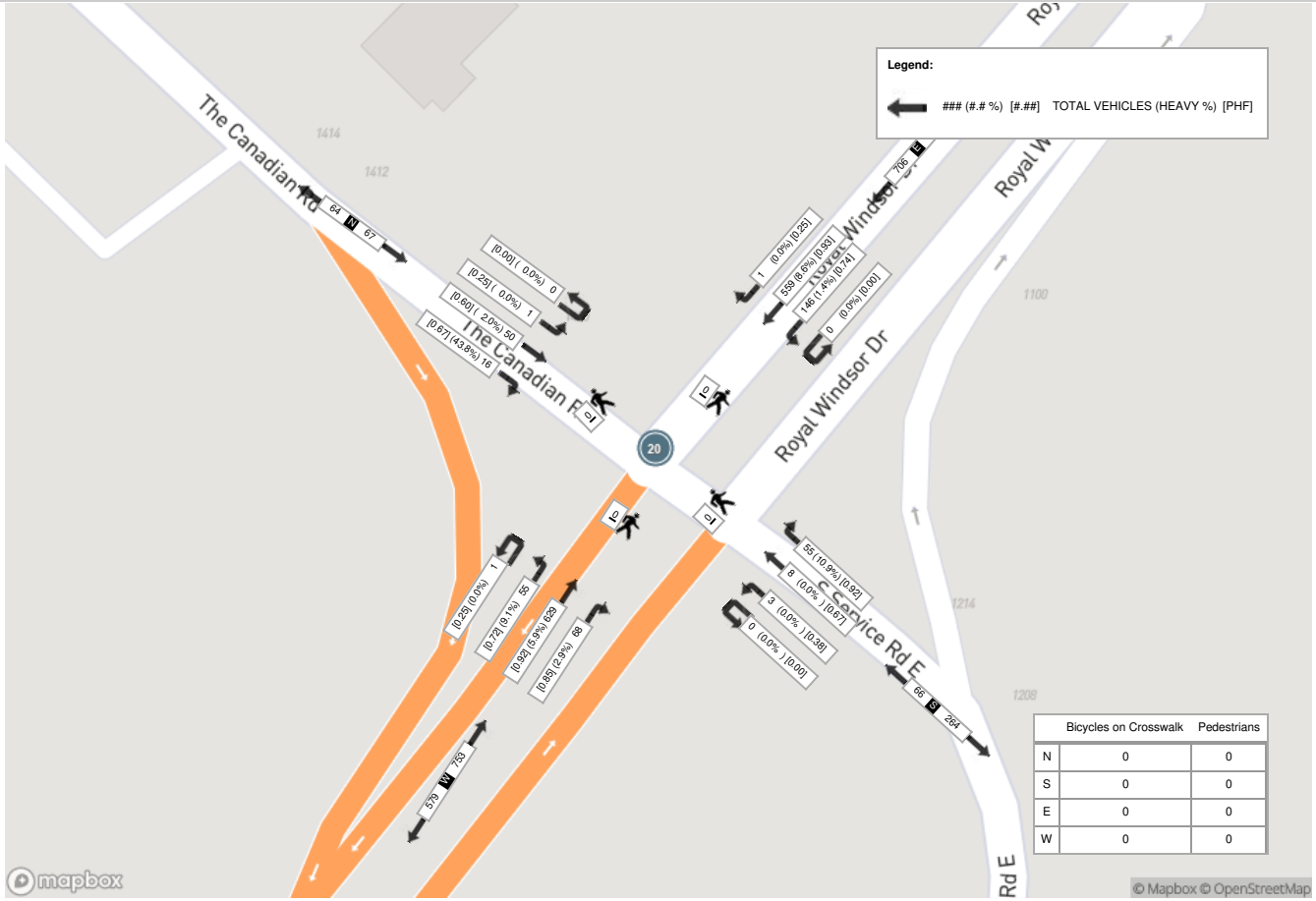
Start Time	N Approach THE CANADIAN RD						E Approach ROYAL WINDSOR DR						S Approach S SERVICE RD						W Approach ROYAL WINDSOR DR						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
08:00:00	4	7	0	0	0	11	0	134	24	0	0	158	12	3	0	0	0	15	17	140	15	0	0	172	356
08:15:00	6	10	1	0	0	17	1	151	28	0	0	180	13	3	0	0	0	16	13	157	13	1	0	184	397
08:30:00	4	21	0	0	0	25	0	130	45	0	0	175	15	0	1	0	0	16	18	161	19	0	0	198	414
08:45:00	2	12	0	0	0	14	0	144	49	0	0	193	15	2	2	0	0	19	20	171	8	0	0	199	425
Grand Total	16	50	1	0	0	67	1	559	146	0	0	706	55	8	3	0	0	66	68	629	55	1	0	753	**1592**
Approach%	23.9%	74.6%	1.5%	0%		-	0.1%	79.2%	20.7%	0%		-	83.3%	12.1%	4.5%	0%		-	9%	83.5%	7.3%	0.1%		-	**-**
Totals %	1%	3.1%	0.1%	0%		4.2%	0.1%	35.1%	9.2%	0%		44.3%	3.5%	0.5%	0.2%	0%		4.1%	4.3%	39.5%	3.5%	0.1%		47.3%	**-**
PHF	0.67	0.6	0.25	0		0.67	0.25	0.93	0.74	0		0.91	0.92	0.67	0.38	0		0.87	0.85	0.92	0.72	0.25		0.95	**-**
Heavy	7	1	0	0		8	0	48	2	0		50	6	0	0	0		6	2	37	5	0		44	**-**
Heavy %	43.8%	2%	0%	0%		11.9%	0%	8.6%	1.4%	0%		7.1%	10.9%	0%	0%	0%		9.1%	2.9%	5.9%	9.1%	0%		5.8%	**-**
Lights	9	49	1	0		59	1	511	144	0		656	49	8	3	0		60	66	592	50	1		709	**-**
Lights %	56.3%	98%	100%	0%		88.1%	100%	91.4%	98.6%	0%		92.9%	89.1%	100%	100%	0%		90.9%	97.1%	94.1%	90.9%	100%		94.2%	**-**
Single-Unit Trucks	7	1	0	0		8	0	16	1	0		17	5	0	0	0		5	1	16	5	0		22	**-**
Single-Unit Trucks %	43.8%	2%	0%	0%		11.9%	0%	2.9%	0.7%	0%		2.4%	9.1%	0%	0%	0%		7.6%	1.5%	2.5%	9.1%	0%		2.9%	**-**
Buses	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	0	1	0	0		1	**-**
Buses %	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.3%	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.1%	**-**
Articulated Trucks	0	0	0	0		0	0	30	1	0		31	1	0	0	0		1	1	20	0	0		21	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	5.4%	0.7%	0%		4.4%	1.8%	0%	0%	0%		1.5%	1.5%	3.2%	0%	0%		2.8%	**-**
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	1	0	-	0	0	0	0	0	-	0	1	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (24.88 °C)

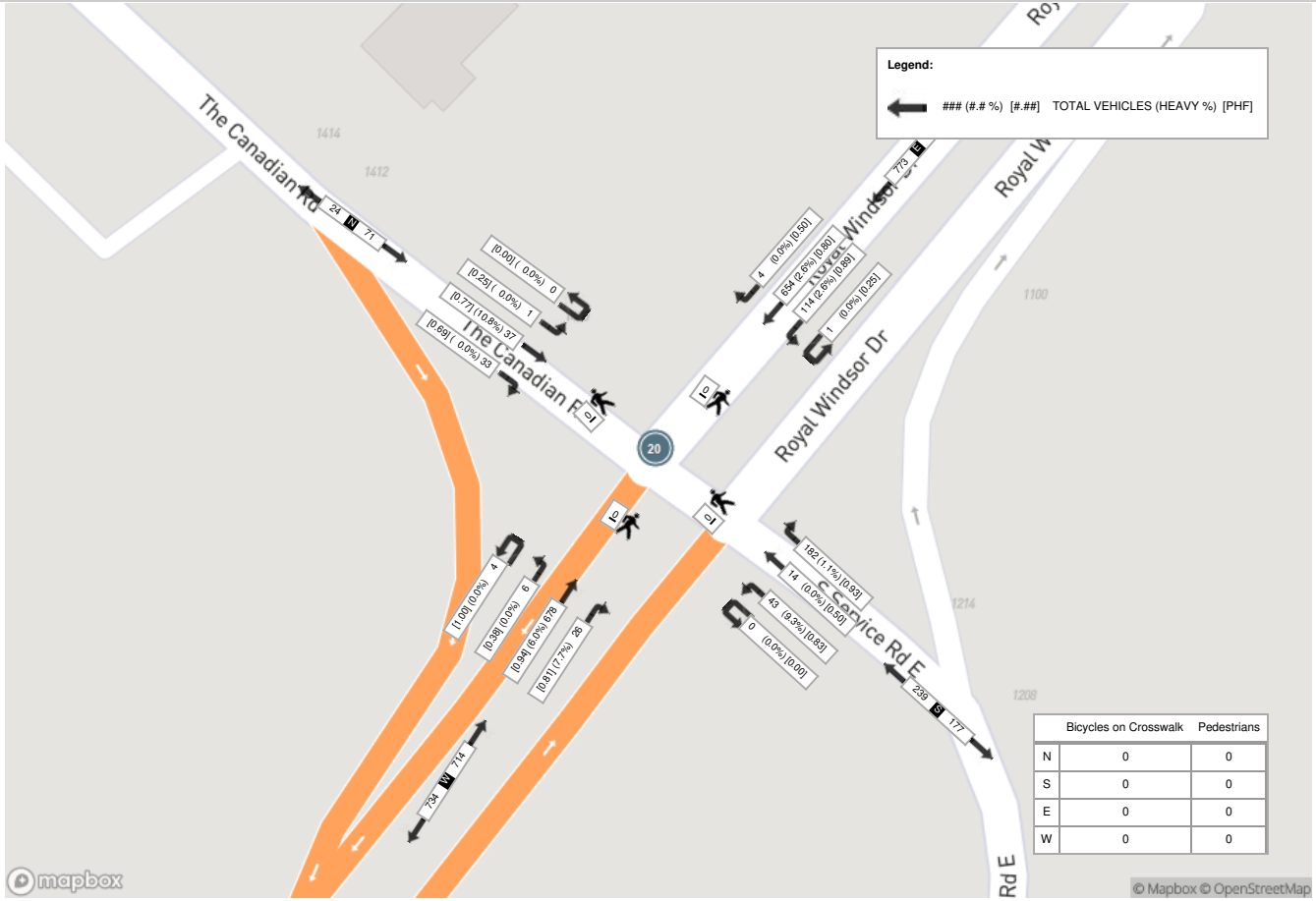
Start Time	N Approach THE CANADIAN RD						E Approach ROYAL WINDSOR DR						S Approach S SERVICE RD						W Approach ROYAL WINDSOR DR						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
17:00:00	8	10	1	0	0	19	1	205	26	0	0	232	48	7	11	0	0	66	6	164	4	1	0	175	492
17:15:00	9	12	0	0	0	21	1	174	28	0	0	203	46	1	10	0	0	57	6	174	1	1	0	182	463
17:30:00	12	8	0	0	0	20	2	159	32	0	0	193	49	2	9	0	0	60	8	180	1	1	0	190	463
17:45:00	4	7	0	0	0	11	0	116	28	1	0	145	39	4	13	0	0	56	6	160	0	1	0	167	379
Grand Total	33	37	1	0	0	71	4	654	114	1	0	773	182	14	43	0	0	239	26	678	6	4	0	714	**1797**
Approach%	46.5%	52.1%	1.4%	0%		-	0.5%	84.6%	14.7%	0.1%		-	76.2%	5.9%	18%	0%		-	3.6%	95%	0.8%	0.6%		-	**-**
Totals %	1.8%	2.1%	0.1%	0%		4%	0.2%	36.4%	6.3%	0.1%		43%	10.1%	0.8%	2.4%	0%		13.3%	1.4%	37.7%	0.3%	0.2%		39.7%	**-**
PHF	0.69	0.77	0.25	0		0.85	0.5	0.8	0.89	0.25		0.83	0.93	0.5	0.83	0		0.91	0.81	0.94	0.38	1		0.94	**-**
Heavy	0	4	0	0		4	0	17	3	0		20	2	0	4	0		6	2	41	0	0		43	**-**
Heavy %	0%	10.8%	0%	0%		5.6%	0%	2.6%	2.6%	0%		2.6%	1.1%	0%	9.3%	0%		2.5%	7.7%	6%	0%	0%		6%	**-**
Lights	33	33	1	0		67	4	637	111	1		753	180	14	39	0		233	24	637	6	4		671	**-**
Lights %	100%	89.2%	100%	0%		94.4%	100%	97.4%	97.4%	100%		97.4%	98.9%	100%	90.7%	0%		97.5%	92.3%	94%	100%	100%		94%	**-**
Single-Unit Trucks	0	2	0	0		2	0	8	2	0		10	1	0	1	0		2	1	14	0	0		15	**-**
Single-Unit Trucks %	0%	5.4%	0%	0%		2.8%	0%	1.2%	1.8%	0%		1.3%	0.5%	0%	2.3%	0%		0.8%	3.8%	2.1%	0%	0%		2.1%	**-**
Buses	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	0	0	0	0		0	**-**
Buses %	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	2	0	0		2	0	8	1	0		9	1	0	3	0		4	1	27	0	0		28	**-**
Articulated Trucks %	0%	5.4%	0%	0%		2.8%	0%	1.2%	0.9%	0%		1.2%	0.5%	0%	7%	0%		1.7%	3.8%	4%	0%	0%		3.9%	**-**
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	4	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 08:00 AM - 09:00 AM **Weather: Overcast Clouds (17.47 °C)**



	Bicycles on Crosswalk	Pedestrians
N	0	0
S	0	0
E	0	0
W	0	0

Peak Hour: 05:00 PM - 06:00 PM **Weather: Overcast Clouds (24.88 °C)**



	Bicycles on Crosswalk	Pedestrians
N	0	0
S	0	0
E	0	0
W	0	0

Spectrum

Turning Movement Count
Location Name: TRAFALGAR RD & ARGUS RD
Date: Tue, Jun 04, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Turning Movement Count (4 . TRAFALGAR RD & ARGUS RD)

Start Time	N Approach TRAFALGAR RD						E Approach QEW ON RAMP			S Approach TRAFALGAR RD						W Approach ARGUS RD						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	105	291	0	0	0	396	0	1	0	80	129	0	0	0	209	2	0	0	0	2	2	607	
07:15:00	135	329	0	0	0	464	0	2	0	81	142	0	0	0	223	2	0	0	0	4	2	689	
07:30:00	145	453	0	0	0	598	0	3	0	93	191	0	0	0	284	3	0	0	0	0	3	885	
07:45:00	152	472	0	0	0	624	0	2	0	105	246	0	0	0	351	8	0	0	0	1	8	983	3164
08:00:00	187	563	0	0	0	750	0	2	0	137	271	0	0	0	408	7	0	0	0	4	7	1165	3722
08:15:00	169	523	0	0	0	692	0	1	0	124	280	0	0	0	404	3	0	0	0	1	3	1099	4132
08:30:00	98	454	0	0	0	552	0	1	0	116	319	0	0	0	435	4	0	0	0	5	4	991	4238
08:45:00	127	555	0	0	0	682	0	1	0	94	274	0	0	0	368	7	0	0	0	0	7	1057	4312
BREAK																							
16:00:00	80	339	0	0	0	419	0	5	0	97	456	0	0	0	553	14	0	0	0	5	14	986	
16:15:00	84	385	0	0	0	469	0	4	0	118	437	0	0	0	555	13	0	0	0	4	13	1037	
16:30:00	83	363	0	0	0	446	0	4	0	90	479	0	0	0	569	7	0	0	0	7	7	1022	
16:45:00	86	383	0	0	0	469	0	2	0	70	414	0	0	0	484	2	0	0	0	2	2	955	4000
17:00:00	74	385	0	0	0	459	0	1	0	79	438	0	0	0	517	17	0	0	0	6	17	993	4007
17:15:00	83	416	0	0	0	499	0	4	0	87	418	0	0	0	505	15	0	0	0	4	15	1019	3989
17:30:00	85	437	0	0	0	522	0	3	0	77	509	0	0	0	586	10	0	0	0	7	10	1118	4085
17:45:00	104	449	0	0	0	553	0	4	0	119	408	0	0	0	527	7	0	0	0	3	7	1087	4217
Grand Total	1797	6797	0	0	0	8594	0	40	0	1567	5411	0	0	0	6978	121	0	0	0	55	121	**15693**	-
Approach%	20.9%	79.1%	0%	0%		-	0%		-	22.5%	77.5%	0%	0%		-	100%	0%	0%	0%		-	**-**	-
Totals %	11.5%	43.3%	0%	0%		54.8%	0%		0%	10%	34.5%	0%	0%		44.5%	0.8%	0%	0%	0%		0.8%	**-**	-
Heavy	64	147	0	0		-	0		-	32	173	0	0		-	9	0	0	0		-	**-**	-
Heavy %	3.6%	2.2%	0%	0%		-	0%		-	2%	3.2%	0%	0%		-	7.4%	0%	0%	0%		-	**-**	-
Bicycles	1	3	0	0		-	0		-	0	1	0	0		-	0	0	0	0		-	**-**	-
Bicycle %	0.1%	0%	0%	0%		-	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	**-**	-

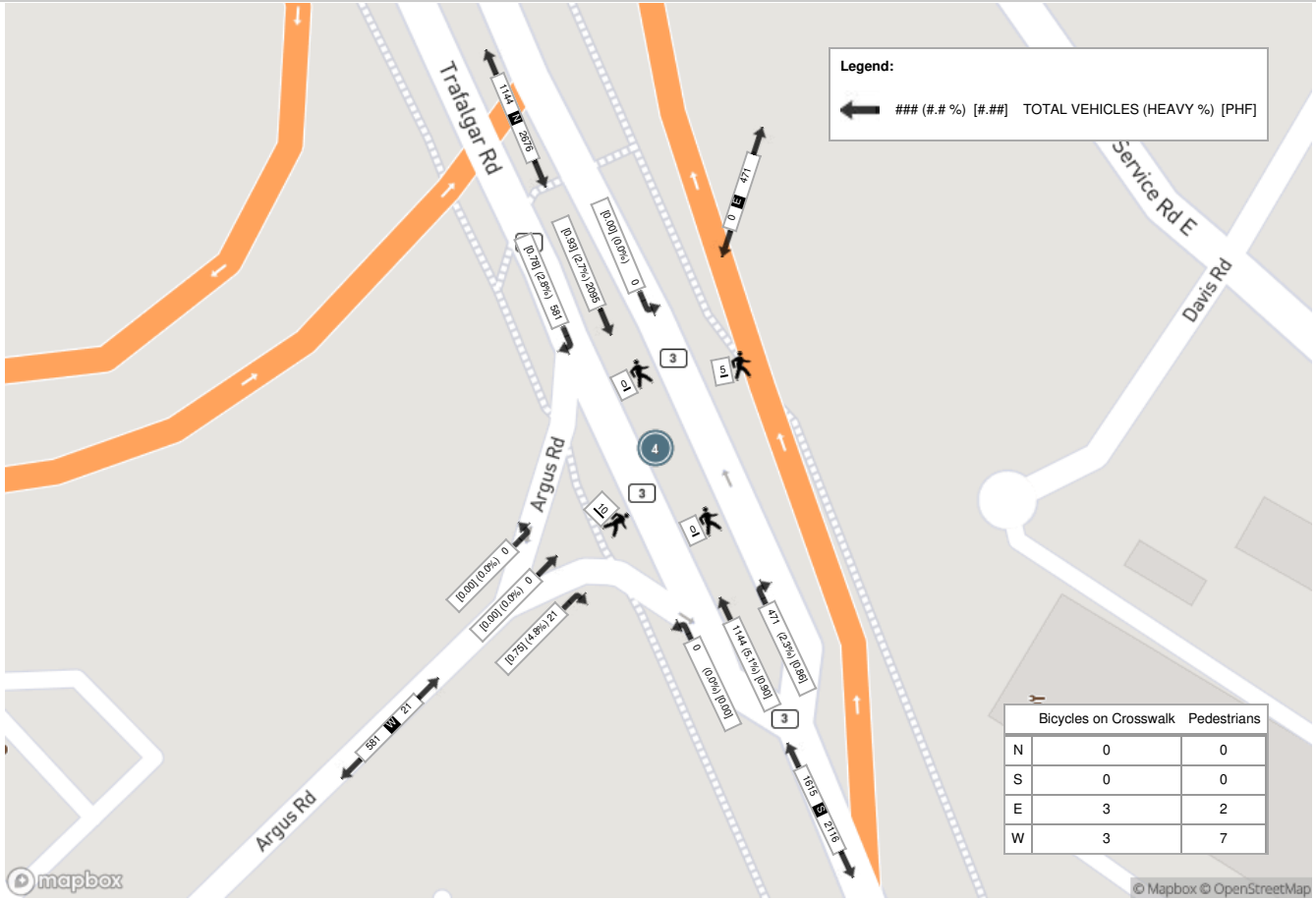
Peak Hour: 08:00 AM - 09:00 AM Weather: Overcast Clouds (17.47 °C)

Start Time	N Approach TRAFALGAR RD						E Approach QEW ON RAMP			S Approach TRAFALGAR RD						W Approach ARGUS RD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
08:00:00	187	563	0	0	0	750	0	2	0	137	271	0	0	0	408	7	0	0	0	4	7	1165
08:15:00	169	523	0	0	0	692	0	1	0	124	280	0	0	0	404	3	0	0	0	1	3	1099
08:30:00	98	454	0	0	0	552	0	1	0	116	319	0	0	0	435	4	0	0	0	5	4	991
08:45:00	127	555	0	0	0	682	0	1	0	94	274	0	0	0	368	7	0	0	0	0	7	1057
Grand Total	581	2095	0	0	0	2676	0	5	0	471	1144	0	0	0	1615	21	0	0	0	10	21	**4312**
Approach%	21.7%	78.3%	0%	0%		-	0%		-	29.2%	70.8%	0%	0%		-	100%	0%	0%	0%		-	**-**
Totals %	13.5%	48.6%	0%	0%		62.1%	0%		0%	10.9%	26.5%	0%	0%		37.5%	0.5%	0%	0%	0%		0.5%	**-**
PHF	0.78	0.93	0	0		0.89	0		0	0.86	0.9	0	0		0.93	0.75	0	0	0		0.75	**-**
Heavy	16	56	0	0		72	0		0	11	58	0	0		69	1	0	0	0		1	**-**
Heavy %	2.8%	2.7%	0%	0%		2.7%	0%		0%	2.3%	5.1%	0%	0%		4.3%	4.8%	0%	0%	0%		4.8%	**-**
Lights	565	2039	0	0		2604	0		0	460	1086	0	0		1546	20	0	0	0		20	**-**
Lights %	97.2%	97.3%	0%	0%		97.3%	0%		0%	97.7%	94.9%	0%	0%		95.7%	95.2%	0%	0%	0%		95.2%	**-**
Single-Unit Trucks	1	28	0	0		29	0		0	9	15	0	0		24	1	0	0	0		1	**-**
Single-Unit Trucks %	0.2%	1.3%	0%	0%		1.1%	0%		0%	1.9%	1.3%	0%	0%		1.5%	4.8%	0%	0%	0%		4.8%	**-**
Buses	15	21	0	0		36	0		0	1	41	0	0		42	0	0	0	0		0	**-**
Buses %	2.6%	1%	0%	0%		1.3%	0%		0%	0.2%	3.6%	0%	0%		2.6%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	7	0	0		7	0		0	1	2	0	0		3	0	0	0	0		0	**-**
Articulated Trucks %	0%	0.3%	0%	0%		0.3%	0%		0%	0.2%	0.2%	0%	0%		0.2%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	0	-	-	2	-	-	-	-	-	0	-	-	-	-	-	7	-	**-**
Pedestrians%	-	-	-	-	0%		-	13.3%		-	-	-	-	0%		-	-	-	-	46.7%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	3	-	-	-	-	-	0	-	-	-	-	-	3	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	20%		-	-	-	-	0%		-	-	-	-	20%		**-**

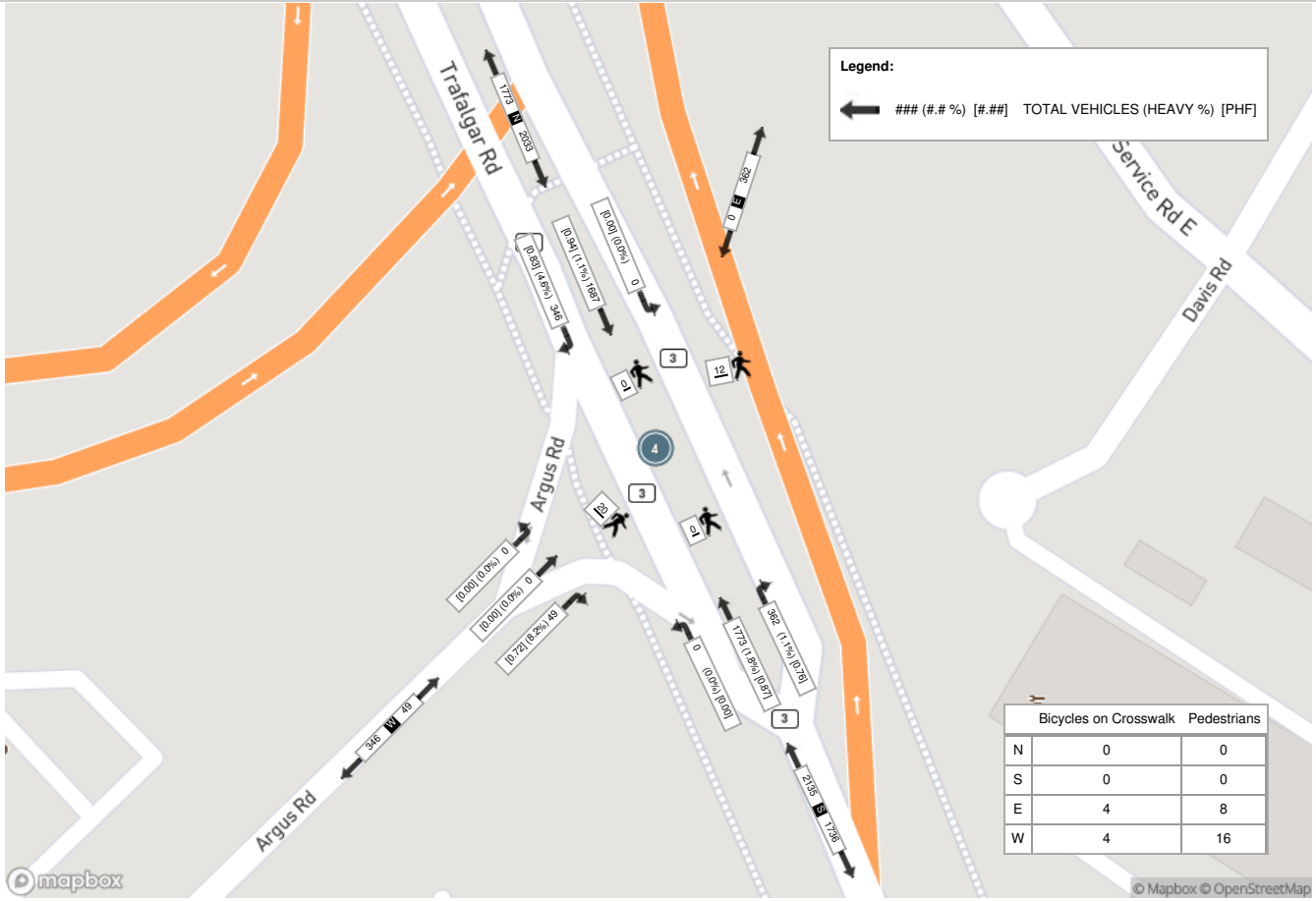
Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (24.88 °C)

Start Time	N Approach TRAFALGAR RD						E Approach QEW ON RAMP			S Approach TRAFALGAR RD						W Approach ARGUS RD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
17:00:00	74	385	0	0	0	459	0	1	0	79	438	0	0	0	517	17	0	0	0	6	17	993
17:15:00	83	416	0	0	0	499	0	4	0	87	418	0	0	0	505	15	0	0	0	4	15	1019
17:30:00	85	437	0	0	0	522	0	3	0	77	509	0	0	0	586	10	0	0	0	7	10	1118
17:45:00	104	449	0	0	0	553	0	4	0	119	408	0	0	0	527	7	0	0	0	3	7	1087
Grand Total	346	1687	0	0	0	2033	0	12	0	362	1773	0	0	0	2135	49	0	0	0	20	49	**4217**
Approach%	17%	83%	0%	0%		-	0%		-	17%	83%	0%	0%		-	100%	0%	0%	0%		-	**-**
Totals %	8.2%	40%	0%	0%		48.2%	0%		0%	8.6%	42%	0%	0%		50.6%	1.2%	0%	0%	0%		1.2%	**-**
PHF	0.83	0.94	0	0		0.92	0		0	0.76	0.87	0	0		0.91	0.72	0	0	0		0.72	**-**
Heavy	16	18	0	0		34	0		0	4	32	0	0		36	4	0	0	0		4	**-**
Heavy %	4.6%	1.1%	0%	0%		1.7%	0%		0%	1.1%	1.8%	0%	0%		1.7%	8.2%	0%	0%	0%		8.2%	**-**
Lights	330	1669	0	0		1999	0		0	358	1741	0	0		2099	45	0	0	0		45	**-**
Lights %	95.4%	98.9%	0%	0%		98.3%	0%		0%	98.9%	98.2%	0%	0%		98.3%	91.8%	0%	0%	0%		91.8%	**-**
Single-Unit Trucks	1	5	0	0		6	0		0	4	4	0	0		8	1	0	0	0		1	**-**
Single-Unit Trucks %	0.3%	0.3%	0%	0%		0.3%	0%		0%	1.1%	0.2%	0%	0%		0.4%	2%	0%	0%	0%		2%	**-**
Buses	15	12	0	0		27	0		0	0	28	0	0		28	3	0	0	0		3	**-**
Buses %	4.3%	0.7%	0%	0%		1.3%	0%		0%	0%	1.6%	0%	0%		1.3%	6.1%	0%	0%	0%		6.1%	**-**
Articulated Trucks	0	1	0	0		1	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Articulated Trucks %	0%	0.1%	0%	0%		0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	0	-	-	8	-	-	-	-	-	0	-	-	-	-	-	16	-	**-**
Pedestrians%	-	-	-	-	0%		-	25%		-	-	-	-	0%		-	-	-	-	50%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	4	-	-	-	-	-	0	-	-	-	-	-	4	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	12.5%		-	-	-	-	0%		-	-	-	-	12.5%		**-**

Peak Hour: 08:00 AM - 09:00 AM **Weather: Overcast Clouds (17.47 °C)**



Peak Hour: 05:00 PM - 06:00 PM **Weather: Overcast Clouds (24.88 °C)**



	Bicycles on Crosswalk	Pedestrians
N	0	0
S	0	0
E	4	8
W	4	16

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Turning Movement Count (18 . S SERVICE RD & CHARTWELL RD)

Start Time	E Approach S SERVICE RD					S Approach CHARTWELL RD					W Approach S SERVICE RD					Int. Total (15 min)	Int. Total (1 hr)
	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	UTurn W:W	Peds W:	Approach Total		
07:00:00	4	6	0	0	10	1	10	0	0	11	6	8	0	0	14	35	
07:15:00	7	5	0	0	12	1	9	0	0	10	6	7	0	0	13	35	
07:30:00	12	8	0	0	20	6	10	0	0	16	11	9	0	0	20	56	
07:45:00	19	23	0	0	42	11	14	0	0	25	14	9	0	0	23	90	216
08:00:00	23	20	0	0	43	9	15	0	0	24	12	7	0	0	19	86	267
08:15:00	27	20	0	0	47	6	18	1	0	25	19	8	0	0	27	99	331
08:30:00	48	30	0	0	78	7	16	0	0	23	18	13	0	0	31	132	407
08:45:00	50	23	0	0	73	0	19	0	0	19	12	14	0	0	26	118	435
BREAK																	
16:00:00	20	30	0	0	50	11	36	0	0	47	17	20	0	0	37	134	
16:15:00	21	16	0	0	37	14	43	0	0	57	18	31	0	0	49	143	
16:30:00	42	16	0	0	58	31	30	0	0	61	18	17	0	0	35	154	
16:45:00	24	16	0	0	40	19	32	0	0	51	21	23	0	0	44	135	566
17:00:00	30	15	0	0	45	30	43	0	0	73	18	36	0	0	54	172	604
17:15:00	18	22	0	0	40	34	36	0	0	70	16	23	0	0	39	149	610
17:30:00	28	21	0	0	49	31	41	0	0	72	14	24	0	0	38	159	615
17:45:00	24	19	0	0	43	27	35	0	0	62	9	18	0	0	27	132	612
Grand Total	397	290	0	0	687	238	407	1	0	646	229	267	0	0	496	**1829**	-
Approach%	57.8%	42.2%	0%		-	36.8%	63%	0.2%		-	46.2%	53.8%	0%		-	**-**	-
Totals %	21.7%	15.9%	0%		37.6%	13%	22.3%	0.1%		35.3%	12.5%	14.6%	0%		27.1%	**-**	-
Heavy	6	7	0		-	3	8	0		-	3	5	0		-	**-**	-
Heavy %	1.5%	2.4%	0%		-	1.3%	2%	0%		-	1.3%	1.9%	0%		-	**-**	-
Bicycles	3	8	0		-	1	0	0		-	2	0	0		-	**-**	-
Bicycle %	0.8%	2.8%	0%		-	0.4%	0%	0%		-	0.9%	0%	0%		-	**-**	-

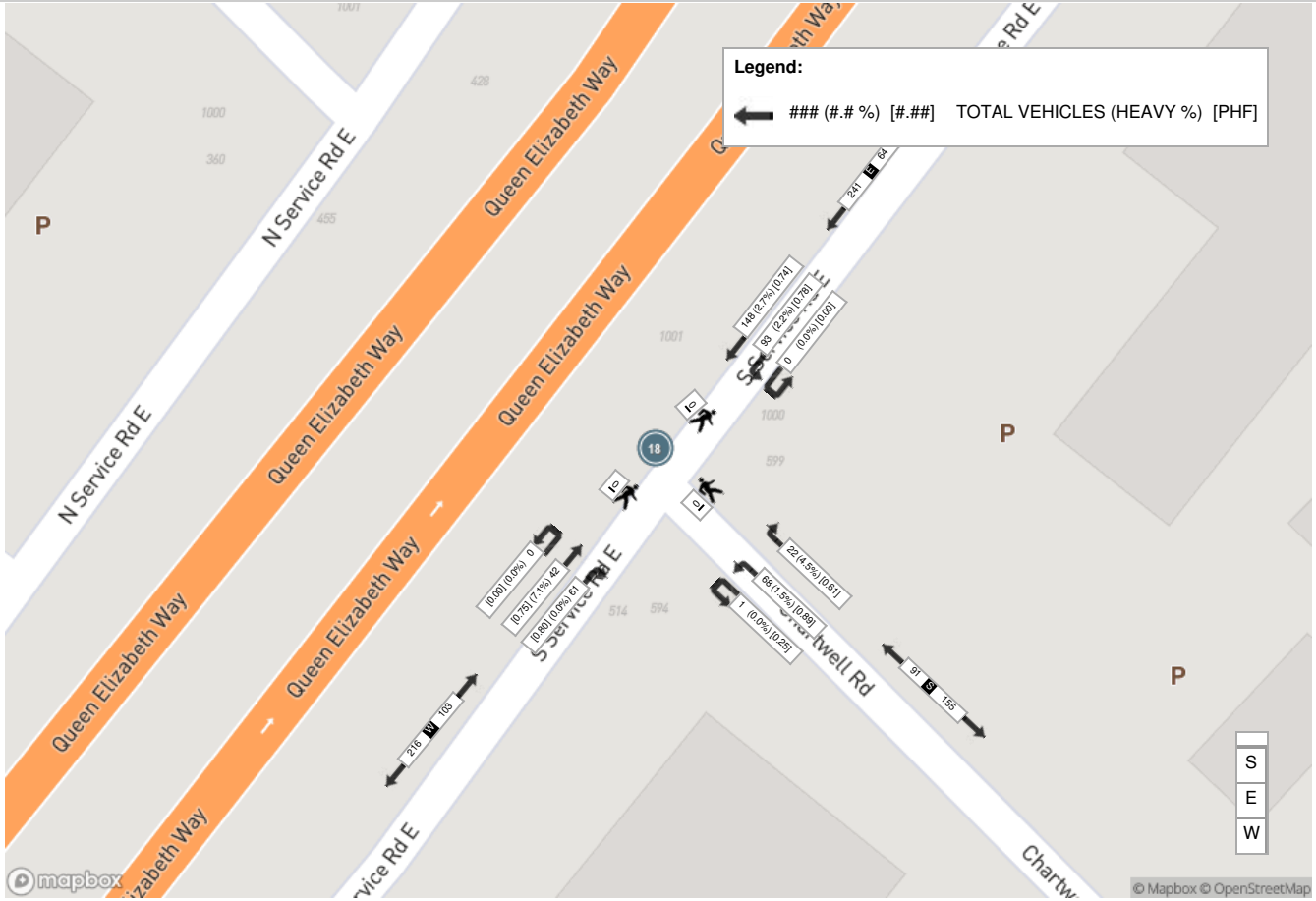
Peak Hour: 08:00 AM - 09:00 AM Weather: Overcast Clouds (17.47 °C)

Start Time	E Approach S SERVICE RD					S Approach CHARTWELL RD					W Approach S SERVICE RD					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
08:00:00	23	20	0	0	43	9	15	0	0	24	12	7	0	0	19	86
08:15:00	27	20	0	0	47	6	18	1	0	25	19	8	0	0	27	99
08:30:00	48	30	0	0	78	7	16	0	0	23	18	13	0	0	31	132
08:45:00	50	23	0	0	73	0	19	0	0	19	12	14	0	0	26	118
Grand Total	148	93	0	0	241	22	68	1	0	91	61	42	0	0	103	**435**
Approach%	61.4%	38.6%	0%		-	24.2%	74.7%	1.1%		-	59.2%	40.8%	0%		-	**-**
Totals %	34%	21.4%	0%		55.4%	5.1%	15.6%	0.2%		20.9%	14%	9.7%	0%		23.7%	**-**
PHF	0.74	0.78	0		0.77	0.61	0.89	0.25		0.91	0.8	0.75	0		0.83	**-**
Heavy	4	2	0		6	1	1	0		2	0	3	0		3	**-**
Heavy %	2.7%	2.2%	0%		2.5%	4.5%	1.5%	0%		2.2%	0%	7.1%	0%		2.9%	**-**
Lights	144	91	0		235	21	67	1		89	61	39	0		100	**-**
Lights %	97.3%	97.8%	0%		97.5%	95.5%	98.5%	100%		97.8%	100%	92.9%	0%		97.1%	**-**
Single-Unit Trucks	3	2	0		5	1	1	0		2	0	2	0		2	**-**
Single-Unit Trucks %	2%	2.2%	0%		2.1%	4.5%	1.5%	0%		2.2%	0%	4.8%	0%		1.9%	**-**
Buses	0	0	0		0	0	0	0		0	0	0	0		0	**-**
Buses %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	**-**
Articulated Trucks	1	0	0		1	0	0	0		0	0	1	0		1	**-**
Articulated Trucks %	0.7%	0%	0%		0.4%	0%	0%	0%		0%	0%	2.4%	0%		1%	**-**
Bicycles on Road	0	0	0	0	-	1	0	0	0	-	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	%		-	-	-	%		-	-	-	%		**-**

Peak Hour: 04:45 PM - 05:45 PM Weather: Overcast Clouds (24.88 °C)

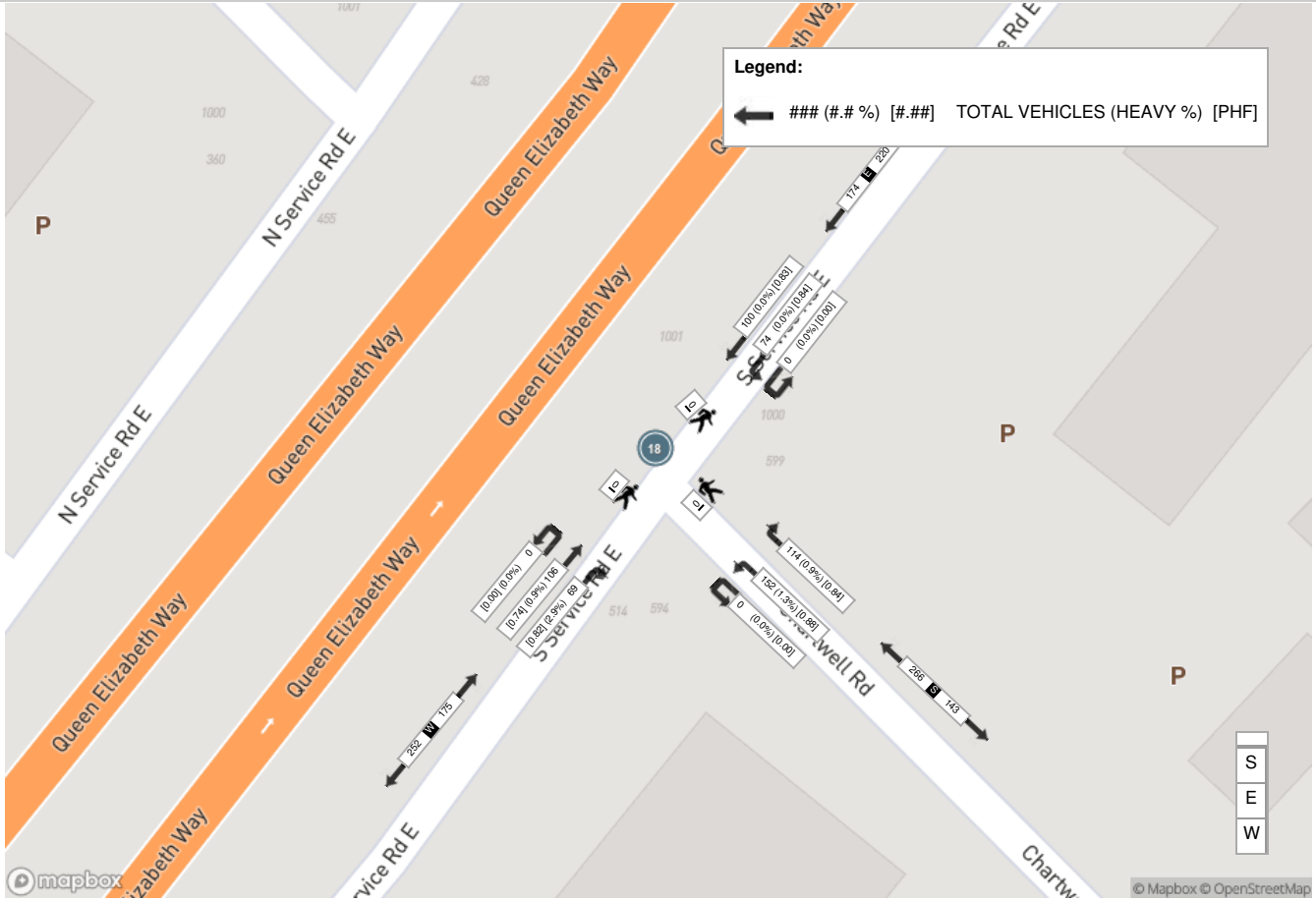
Start Time	E Approach S SERVICE RD					S Approach CHARTWELL RD					W Approach S SERVICE RD					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
16:45:00	24	16	0	0	40	19	32	0	0	51	21	23	0	0	44	135
17:00:00	30	15	0	0	45	30	43	0	0	73	18	36	0	0	54	172
17:15:00	18	22	0	0	40	34	36	0	0	70	16	23	0	0	39	149
17:30:00	28	21	0	0	49	31	41	0	0	72	14	24	0	0	38	159
Grand Total	100	74	0	0	174	114	152	0	0	266	69	106	0	0	175	**615**
Approach%	57.5%	42.5%	0%		-	42.9%	57.1%	0%		-	39.4%	60.6%	0%		-	**-**
Totals %	16.3%	12%	0%		28.3%	18.5%	24.7%	0%		43.3%	11.2%	17.2%	0%		28.5%	**-**
PHF	0.83	0.84	0		0.89	0.84	0.88	0		0.91	0.82	0.74	0		0.81	**-**
Heavy	0	0	0		0	1	2	0		3	2	1	0		3	**-**
Heavy %	0%	0%	0%		0%	0.9%	1.3%	0%		1.1%	2.9%	0.9%	0%		1.7%	**-**
Lights	100	74	0		174	113	150	0		263	67	105	0		172	**-**
Lights %	100%	100%	0%		100%	99.1%	98.7%	0%		98.9%	97.1%	99.1%	0%		98.3%	**-**
Single-Unit Trucks	0	0	0		0	1	1	0		2	1	1	0		2	**-**
Single-Unit Trucks %	0%	0%	0%		0%	0.9%	0.7%	0%		0.8%	1.4%	0.9%	0%		1.1%	**-**
Buses	0	0	0		0	0	1	0		1	1	0	0		1	**-**
Buses %	0%	0%	0%		0%	0%	0.7%	0%		0.4%	1.4%	0%	0%		0.6%	**-**
Articulated Trucks	0	0	0		0	0	0	0		0	0	0	0		0	**-**
Articulated Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	**-**
Bicycles on Road	0	4	0	0	-	0	0	0	0	-	1	0	0	0	-	**-**
Bicycles on Road%	-	-	-	%		-	-	-	%		-	-	-	%		**-**

Peak Hour: 08:00 AM - 09:00 AM Weather: Overcast Clouds (17.47 °C)



BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 04:45 PM - 05:45 PM Weather: Overcast Clouds (24.88 °C)



Spectrum

Turning Movement Count
Location Name: S SERVICE RD & DAVIS RD
Date: Tue, Jun 04, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Turning Movement Count (17 . S SERVICE RD & DAVIS RD)

Start Time	N Approach SOUTH SERVICE RD E						E Approach DAVIS RD						S Approach SOUTH SERVICE RD E						W Approach DAVIS RD						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	0	9	0	0	0	9	0	0	2	0	0	2	2	15	1	0	0	18	0	0	0	0	1	0	29	
07:15:00	0	20	0	0	0	20	0	0	0	0	1	0	2	17	1	0	0	20	0	0	0	0	0	0	40	
07:30:00	0	21	1	0	0	22	1	0	0	0	1	1	3	28	0	0	0	31	1	0	0	0	0	1	55	
07:45:00	0	35	3	0	0	38	1	0	2	0	0	3	7	26	0	0	0	33	0	0	0	0	0	0	74	198
08:00:00	0	38	4	0	0	42	0	0	3	0	0	3	5	31	0	0	0	36	0	0	0	0	0	0	81	250
08:15:00	0	37	1	0	0	38	0	0	0	0	0	0	11	41	0	0	0	52	1	0	0	0	0	1	91	301
08:30:00	0	51	1	0	0	52	0	0	3	0	0	3	11	42	1	0	0	54	0	0	0	0	0	0	109	355
08:45:00	0	60	5	0	0	65	1	0	3	0	0	4	10	33	1	0	0	44	0	0	0	0	0	0	113	394
BREAK																										
16:00:00	0	69	0	0	0	69	2	0	6	0	0	8	6	33	0	0	0	39	0	0	0	0	1	0	116	
16:15:00	0	60	9	0	0	69	2	0	6	0	0	8	8	42	0	0	0	50	0	0	0	0	0	0	127	
16:30:00	0	73	0	0	0	73	3	0	23	0	2	26	14	35	0	0	0	49	0	0	0	0	0	0	148	
16:45:00	0	65	3	0	0	68	6	0	17	0	0	23	18	38	0	0	0	56	0	0	0	0	0	0	147	538
17:00:00	0	93	7	0	0	100	4	0	18	0	0	22	7	46	0	0	0	53	0	0	0	0	0	0	175	597
17:15:00	0	65	0	0	0	65	2	0	3	0	0	5	4	34	0	0	0	38	0	0	0	0	0	0	108	578
17:30:00	0	77	0	0	0	77	2	0	5	0	1	7	8	39	1	0	0	48	1	0	0	0	0	1	133	563
17:45:00	0	55	2	0	0	57	1	0	4	0	0	5	6	27	0	0	0	33	0	0	0	0	0	0	95	511
Grand Total	0	828	36	0	0	864	25	0	95	0	5	120	122	527	5	0	0	654	3	0	0	0	2	3	**1641**	-
Approach%	0%	95.8%	4.2%	0%		-	20.8%	0%	79.2%	0%		-	18.7%	80.6%	0.8%	0%		-	100%	0%	0%	0%		-	**-**	-
Totals %	0%	50.5%	2.2%	0%		52.7%	1.5%	0%	5.8%	0%		7.3%	7.4%	32.1%	0.3%	0%		39.9%	0.2%	0%	0%	0%		0.2%	**-**	-
Heavy	0	15	0	0		-	0	0	2	0		-	3	9	1	0		-	0	0	0	0		-	**-**	-
Heavy %	0%	1.8%	0%	0%		-	0%	0%	2.1%	0%		-	2.5%	1.7%	20%	0%		-	0%	0%	0%	0%		-	**-**	-
Bicycles	0	0	0	0		-	0	0	0	0		-	0	2	0	0		-	0	0	0	0		-	**-**	-
Bicycle %	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0.4%	0%	0%		-	0%	0%	0%	0%		-	**-**	-

Peak Hour: 08:00 AM - 09:00 AM Weather: Overcast Clouds (17.47 °C)

Start Time	N Approach SOUTH SERVICE RD E						E Approach DAVIS RD						S Approach SOUTH SERVICE RD E						W Approach DAVIS RD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
08:00:00	0	38	4	0	0	42	0	0	3	0	0	3	5	31	0	0	0	36	0	0	0	0	0	0	81
08:15:00	0	37	1	0	0	38	0	0	0	0	0	0	11	41	0	0	0	52	1	0	0	0	0	1	91
08:30:00	0	51	1	0	0	52	0	0	3	0	0	3	11	42	1	0	0	54	0	0	0	0	0	0	109
08:45:00	0	60	5	0	0	65	1	0	3	0	0	4	10	33	1	0	0	44	0	0	0	0	0	0	113
Grand Total	0	186	11	0	0	197	1	0	9	0	0	10	37	147	2	0	0	186	1	0	0	0	0	1	**394**
Approach%	0%	94.4%	5.6%	0%		-	10%	0%	90%	0%		-	19.9%	79%	1.1%	0%		-	100%	0%	0%	0%		-	**-**
Totals %	0%	47.2%	2.8%	0%		50%	0.3%	0%	2.3%	0%		2.5%	9.4%	37.3%	0.5%	0%		47.2%	0.3%	0%	0%	0%		0.3%	**-**
PHF	0	0.78	0.55	0		0.76	0.25	0	0.75	0		0.63	0.84	0.88	0.5	0		0.86	0.25	0	0	0		0.25	**-**
Heavy	0	5	0	0		5	0	0	1	0		1	1	4	1	0		6	0	0	0	0		0	**-**
Heavy %	0%	2.7%	0%	0%		2.5%	0%	0%	11.1%	0%		10%	2.7%	2.7%	50%	0%		3.2%	0%	0%	0%	0%		0%	**-**
Lights	0	181	11	0		192	1	0	8	0		9	36	143	1	0		180	1	0	0	0		1	**-**
Lights %	0%	97.3%	100%	0%		97.5%	100%	0%	88.9%	0%		90%	97.3%	97.3%	50%	0%		96.8%	100%	0%	0%	0%		100%	**-**
Single-Unit Trucks	0	4	0	0		4	0	0	1	0		1	1	3	1	0		5	0	0	0	0		0	**-**
Single-Unit Trucks %	0%	2.2%	0%	0%		2%	0%	0%	11.1%	0%		10%	2.7%	2%	50%	0%		2.7%	0%	0%	0%	0%		0%	**-**
Buses	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Buses %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	1	0	0		1	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	**-**
Articulated Trucks %	0%	0.5%	0%	0%		0.5%	0%	0%	0%	0%		0%	0%	0.7%	0%	0%		0.5%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

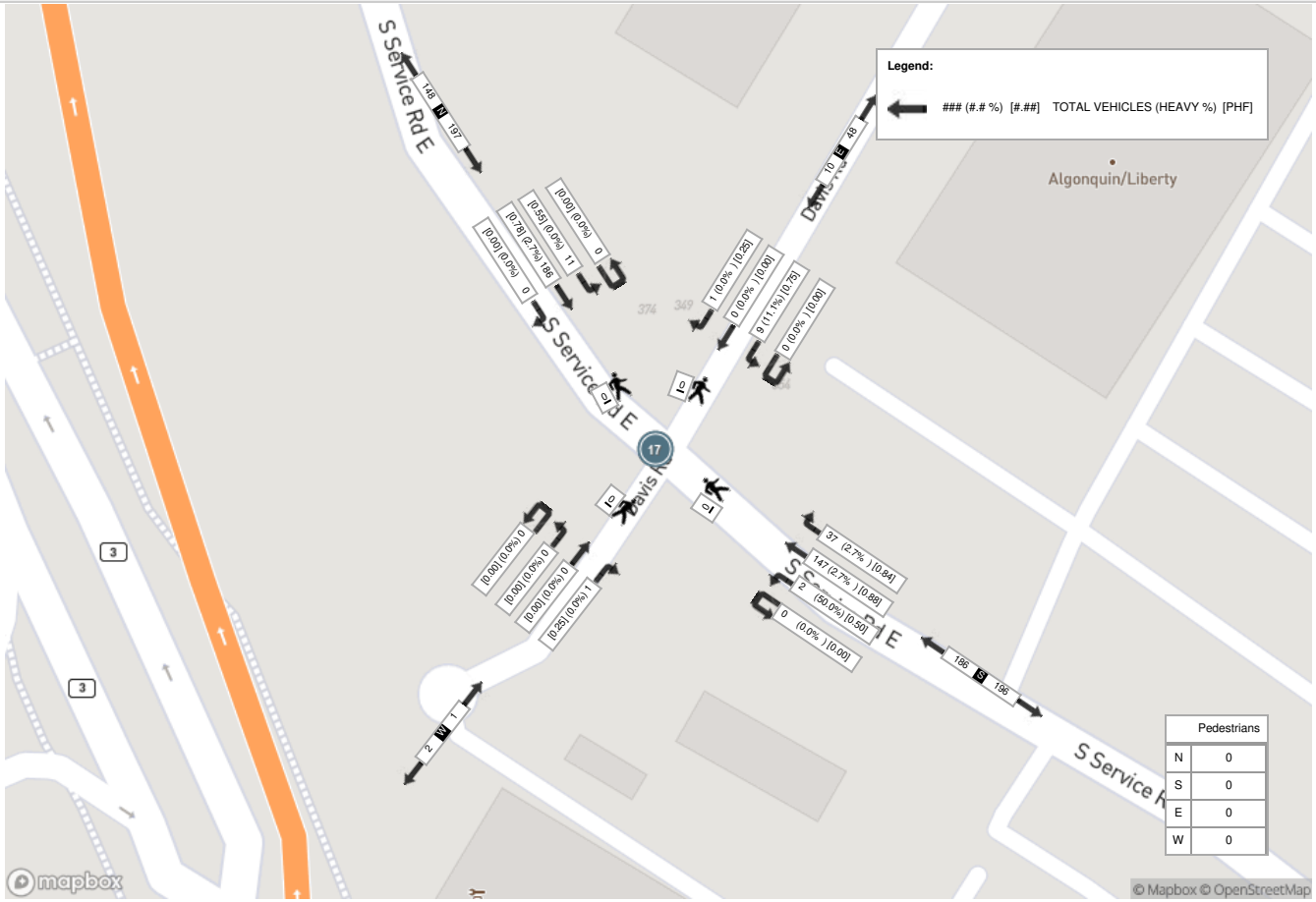
Turning Movement Count
Location Name: S SERVICE RD & DAVIS RD
Date: Tue, Jun 04, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

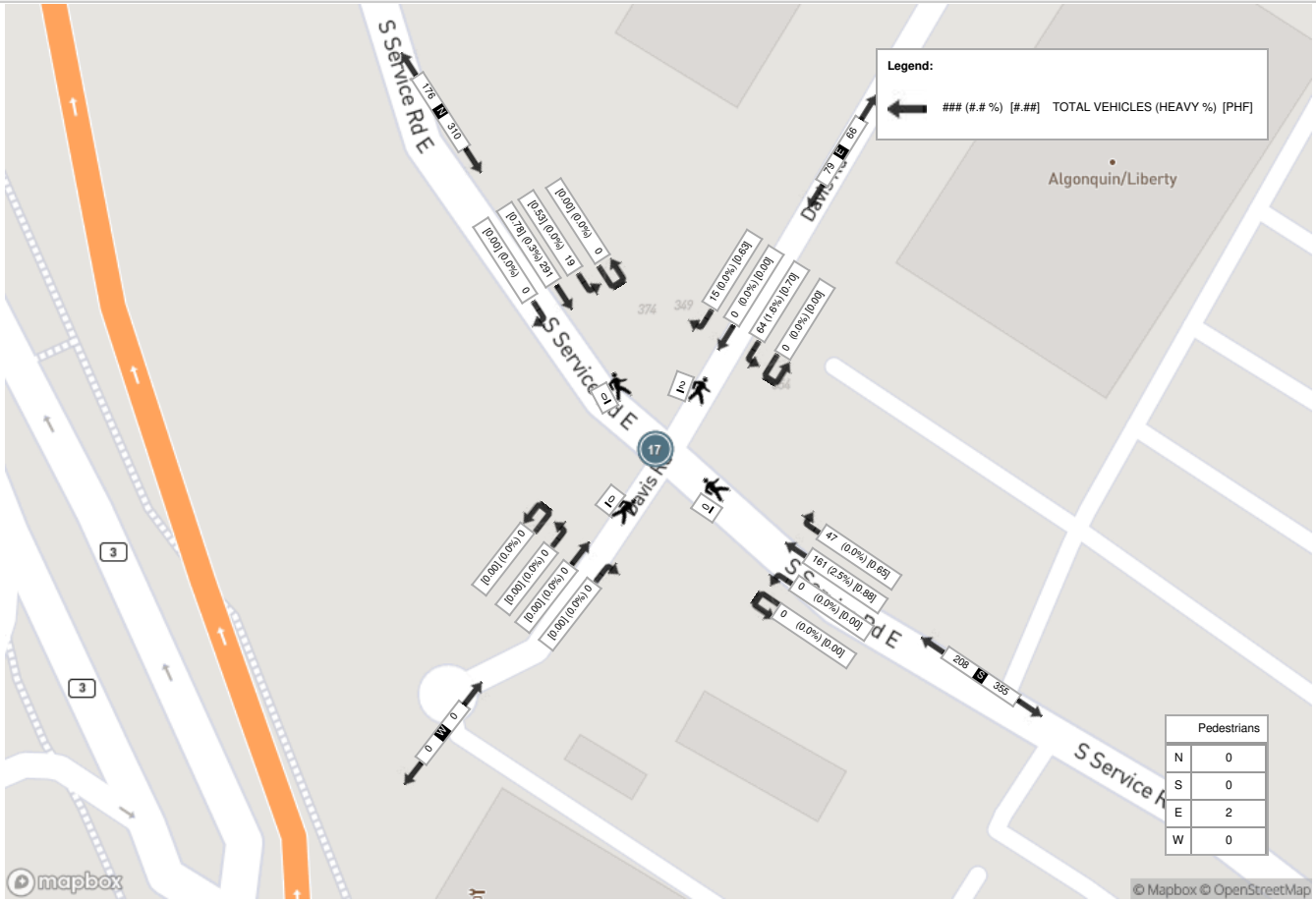
Peak Hour: 04:15 PM - 05:15 PM Weather: Overcast Clouds (24.88 °C)

Start Time	N Approach SOUTH SERVICE RD E						E Approach DAVIS RD						S Approach SOUTH SERVICE RD E						W Approach DAVIS RD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:15:00	0	60	9	0	0	69	2	0	6	0	0	8	8	42	0	0	0	50	0	0	0	0	0	0	127
16:30:00	0	73	0	0	0	73	3	0	23	0	2	26	14	35	0	0	0	49	0	0	0	0	0	0	148
16:45:00	0	65	3	0	0	68	6	0	17	0	0	23	18	38	0	0	0	56	0	0	0	0	0	0	147
17:00:00	0	93	7	0	0	100	4	0	18	0	0	22	7	46	0	0	0	53	0	0	0	0	0	0	175
Grand Total	0	291	19	0	0	310	15	0	64	0	2	79	47	161	0	0	0	208	0	0	0	0	0	0	**597**
Approach%	0%	93.9%	6.1%	0%		-	19%	0%	81%	0%		-	22.6%	77.4%	0%	0%		-	0%	0%	0%	0%		-	**-**
Totals %	0%	48.7%	3.2%	0%		51.9%	2.5%	0%	10.7%	0%		13.2%	7.9%	27%	0%	0%		34.8%	0%	0%	0%	0%		0%	**-**
PHF	0	0.78	0.53	0		0.78	0.63	0	0.7	0		0.76	0.65	0.88	0	0		0.93	0	0	0	0		0	**-**
Heavy	0	1	0	0		1	0	0	1	0		1	0	4	0	0		4	0	0	0	0		0	**-**
Heavy %	0%	0.3%	0%	0%		0.3%	0%	0%	1.6%	0%		1.3%	0%	2.5%	0%	0%		1.9%	0%	0%	0%	0%		0%	**-**
Lights	0	290	19	0		309	15	0	63	0		78	47	157	0	0		204	0	0	0	0		0	**-**
Lights %	0%	99.7%	100%	0%		99.7%	100%	0%	98.4%	0%		98.7%	100%	97.5%	0%	0%		98.1%	0%	0%	0%	0%		0%	**-**
Single-Unit Trucks	0	0	0	0		0	0	0	1	0		1	0	3	0	0		3	0	0	0	0		0	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0%	1.6%	0%		1.3%	0%	1.9%	0%	0%		1.4%	0%	0%	0%	0%		0%	**-**
Buses	0	1	0	0		1	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	**-**
Buses %	0%	0.3%	0%	0%		0.3%	0%	0%	0%	0%		0%	0%	0.6%	0%	0%		0.5%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	100%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 08:00 AM - 09:00 AM **Weather: Overcast Clouds (17.47 °C)**



Peak Hour: 04:15 PM - 05:15 PM **Weather: Overcast Clouds (24.88 °C)**



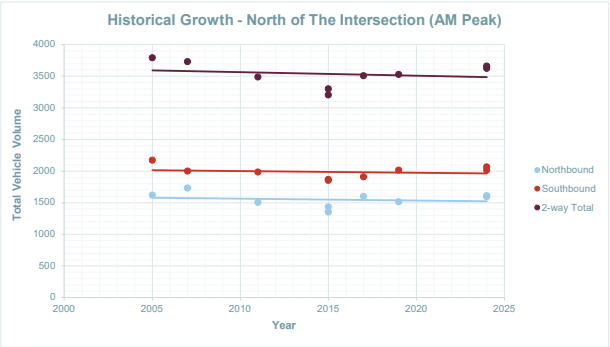
Appendix M:
Background Development Information

Address	Background Development Info			Trip Generation						
				AM Peak Hour			PM Peak Hour			
	Residential Units	Non-Residential GFA (m2)	Trip Source	In	Out	2-Way	In	Out	2-Way	
271 Cornwall Road	317	960	August 2020 TIS	40	60	100	72	39	111	*page 3 of report
627 Lyons Lane	281	0	Paradigm, May 2022 TIS	20	70	90	55	34	89	*page 18 of report
349 Davis Road	388	2152	Crozier, May 2023 TIS	27	75	102	58	37	95	*page 24 of report
599 Lyons Lane	480	0	Generated	10	95	105	65	30	95	*generated
177 Cross Avenue	552	3045	Generated	45	130	175	145	115	260	*generated, stats adopted for analysis purposes are estimates and subject to change
590 Argus Road	1669	1956	Generated	60	330	390	235	120	355	*generated, stats adopted for analysis purposes are estimates and subject to change
157 & 167 Cross Avenue	1099	3788	Generated	55	230	285	170	100	270	*generated, stats adopted for analysis purposes are estimates and subject to change
217 Cross Avenue & 571 Argus Road	1762	3168	Generated	70	350	420	250	145	395	*generated, stats adopted for analysis purposes are estimates and subject to change
166 South Service Road	1663	4018	Generated	70	340	410	250	130	380	*generated, stats adopted for analysis purposes are estimates and subject to change

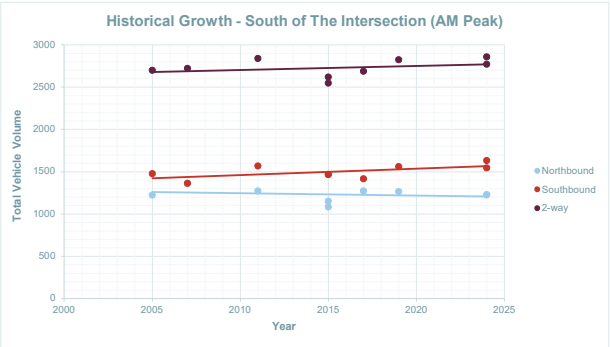
Appendix N:
Detailed Corridor Growth Study

Project: 420-468 South Service Road East
Project ID: 6931-03
Intersection: Trafalgar Rd & Cross Ave / South Service Rd
Peak Hour: AM Peak Hour

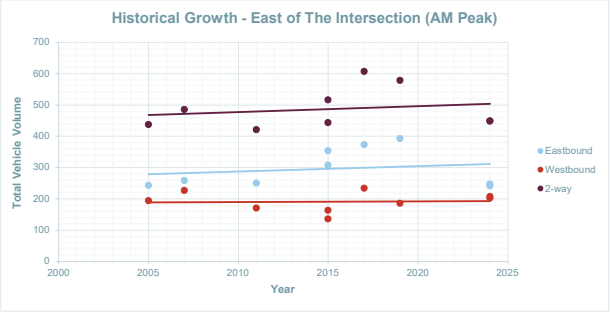
Count Information	Year	North of Trafalgar Rd & Cross Ave / South Service Rd		
Date		Northbound	Southbound	2-way
2005-05-24	2005	1618	2168	3786
2007-06-13	2007	1729	1997	3726
2011-06-13	2011	1502	1980	3482
2015-05-10	2015	1430	1866	3296
2015-05-11	2015	1348	1852	3200
2017-06-01	2017	1595	1907	3502
2019-11-06	2019	1513	2011	3524
2024-06-04	2024	1609	2012	3621
2024-06-05	2024	1592	2065	3657
				0
				0
Trend Point at start	2005	1579	2012	3591
Trend Point at end	2024	1523	1960	3483
Slope		-2.95	-2.75	-5.70
Growth		**-0.19%**	**-0.14%**	**-0.16%**



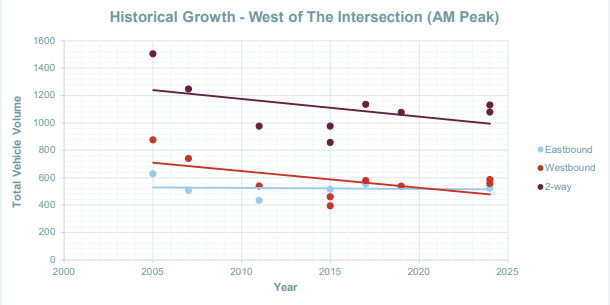
Count Information	Year	South of Trafalgar Rd & Cross Ave / South Service Rd		
Date		Northbound	Southbound	2-way
2005-05-24	2005	1222	1476	2698
2007-06-13	2007	1359	1362	2721
2011-06-13	2011	1272	1566	2838
2015-05-10	2015	1149	1469	2618
2015-05-11	2015	1083	1463	2546
2017-06-01	2017	1269	1416	2685
2019-11-06	2019	1264	1559	2823
2024-06-04	2024	1227	1543	2770
2024-06-05	2024	1226	1630	2856
				0
				0
Trend Point at start	2005	1258	1422	2679
Trend Point at end	2024	1207	1564	2771
Slope		-2.68	7.49	4.81
Growth		**-0.22%**	**0.50%**	**0.18%**



Count Information	Year	East of Trafalgar Rd & Cross Ave / South Service Rd		
Date		Eastbound	Westbound	2-way
2005-05-24	2005	243	194	437
2007-06-13	2007	258	227	485
2011-06-13	2011	250	171	421
2015-05-10	2015	307	136	443
2015-05-11	2015	353	163	516
2017-06-01	2017	373	234	607
2019-11-06	2019	392	186	578
2024-06-04	2024	247	202	449
2024-06-05	2024	**241**	**207**	**448**
Trend Point at start	2005	278	189	468
Trend Point at end	2024	311	193	504
Slope		1.71	0.20	1.91
Growth		**0.58%**	**0.10%**	**0.39%**

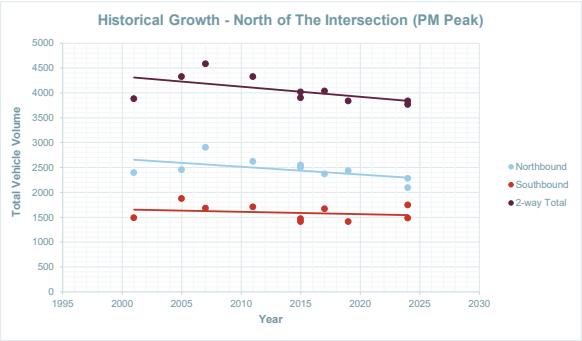


Count Information	Year	West of Trafalgar Rd & Cross Ave / South Service Rd		
Date		Eastbound	Westbound	2-way
2005-05-24	2005	629	876	1505
2007-06-13	2007	506	740	1246
2011-06-13	2011	435	540	975
2015-05-10	2015	515	460	975
2015-05-11	2015	461	395	856
2017-06-01	2017	554	580	1134
2019-11-06	2019	540	537	1077
2024-06-04	2024	544	586	1130
2024-06-05	2024	**522**	**557**	**1079**
Trend Point at start	2005	530	711	1241
Trend Point at end	2024	517	478	995
Slope		-0.72	-12.21	-12.94
Growth		**-0.14%**	**-2.06%**	**-1.16%**

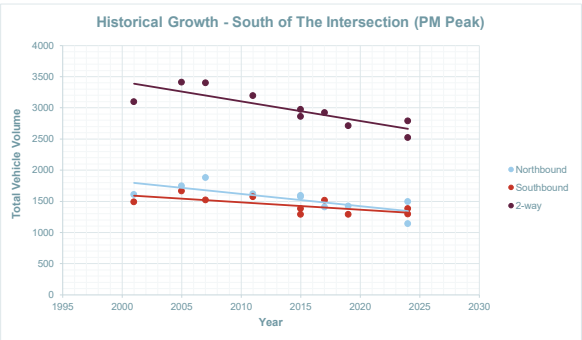


Project: 420-468 South Service Road East
Project ID: 6931-03
Intersection: Trafalgar Rd & Cross Ave / South Service Rd
Peak Hour: PM Peak Hour

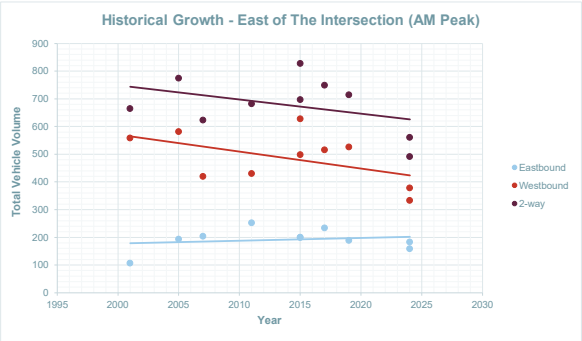
Count Information	Year	North of Trafalgar Rd & Cross Ave / South Service Rd		
Date		Northbound	Southbound	2-way
2001-01-11	2001	2394	1487	3881
2005-05-24	2005	2452	1874	4326
2007-06-13	2007	2901	1679	4580
2011-06-13	2011	2617	1707	4324
2015-05-10	2015	2495	1407	3902
2015-05-11	2015	2551	1465	4016
2017-06-01	2017	2366	1668	4034
2019-11-06	2019	2430	1409	3839
2024-06-04	2024	2092	1745	3837
2024-06-05	2024	2280	1483	3763
				0
Trend Point at start	2001	2656	1656	4312
Trend Point at end	2024	2300	1542	3842
Slope		-15.49	-4.94	-20.43
Growth		**-0.62%**	**-0.31%**	**-0.50%**



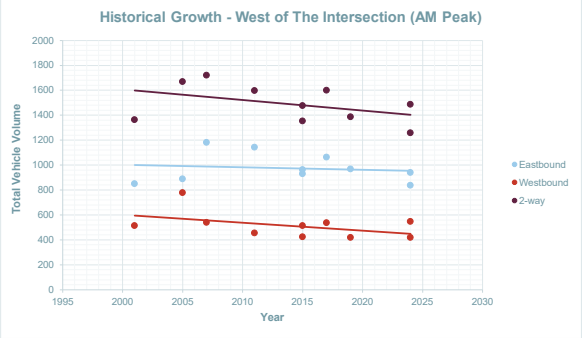
Count Information	Year	South of Trafalgar Rd & Cross Ave / South Service Rd		
Date		Northbound	Southbound	2-way
2001-01-11	2001	1608	1491	3099
2005-05-24	2005	1744	1664	3408
2007-06-13	2007	1882	1519	3401
2011-06-13	2011	1618	1574	3192
2015-05-10	2015	1572	1290	2862
2015-05-11	2015	1593	1382	2975
2017-06-01	2017	1405	1516	2921
2019-11-06	2019	1423	1287	2710
2024-06-04	2024	1139	1381	2520
2024-06-05	2024	1497	1293	2790
				0
Trend Point at start	2001	1800	1591	3391
Trend Point at end	2024	1348	1319	2667
Slope		-19.64	-11.85	-31.49
Growth		**-1.25%**	**-0.81%**	**-1.04%**



Count Information	Year	East of Trafalgar Rd & Cross Ave / South Service Rd		
Date		Eastbound	Westbound	2-way
2001-01-11	2001	106	558	664
2005-05-24	2005	193	581	774
2007-06-13	2007	203	420	623
2011-06-13	2011	252	430	682
2015-05-10	2015	199	498	697
2015-05-11	2015	200	627	827
2017-06-01	2017	234	515	749
2019-11-06	2019	188	526	714
2024-06-04	2024	183	378	561
2024-06-05	2024	158	333	491
Trend Point at start	2001	179	565	744
Trend Point at end	2024	202	424	626
Slope		1.00	-6.13	-5.13
Growth		**0.53%**	**-1.24%**	**-0.75%**

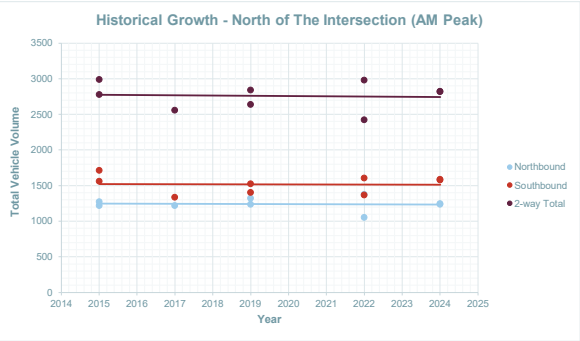


Count Information	Year	West of Trafalgar Rd & Cross Ave / South Service Rd		
Date		Eastbound	Westbound	2-way
2001-01-11	2001	851	513	1364
2005-05-24	2005	889	779	1668
2007-06-13	2007	1181	539	1720
2011-06-13	2011	1142	454	1596
2015-05-10	2015	930	423	1353
2015-05-11	2015	962	514	1476
2017-06-01	2017	1064	536	1600
2019-11-06	2019	967	420	1387
2024-06-04	2024	940	546	1486
2024-06-05	2024	838	420	1258
Trend Point at start	2001	1002	596	1599
Trend Point at end	2024	956	449	1405
Slope		-2.03	-6.40	-8.44
Growth		**-0.21%**	**-1.23%**	**-0.56%**

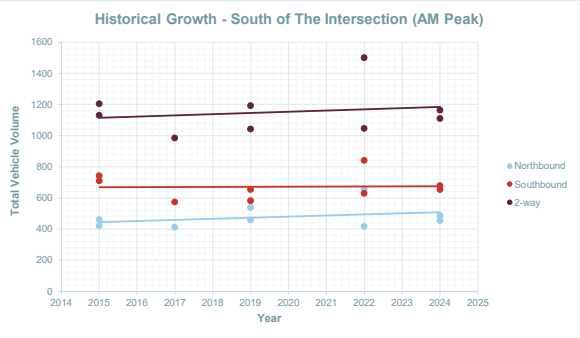


Project: 420-468 South Service Road East
Project ID: 6931-03
Intersection: Trafalgar Road & Cornwall Road
Peak Hour: AM Peak Hour

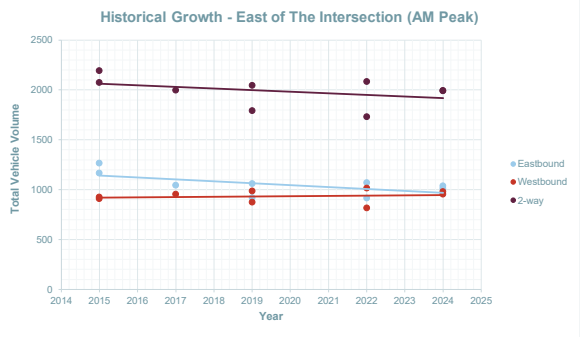
Count Information Date	Year	North of Trafalgar Road & Cornwall Road		
		Northbound	Southbound	2-way
2015-02-25	2015	1217	1559	2776
2015-02-26	2015	1273	1714	2987
2017-06-01	2017	1220	1337	2557
2019-03-07	2019	1238	1401	2639
2019-11-06	2019	1320	1522	2842
2022-04-13	2022	1053	1367	2420
2022-10-05	2022	1377	1604	2981
2024-06-04	2024	1243	1576	2819
2024-06-05	2024	1236	1588	2824
Trend Point at start	2015	1250	1525	2775
Trend Point at end	2024	1235	1512	2747
Slope		-1.66	-1.45	-3.11
Growth		**-0.13%**	**-0.10%**	**-0.11%**



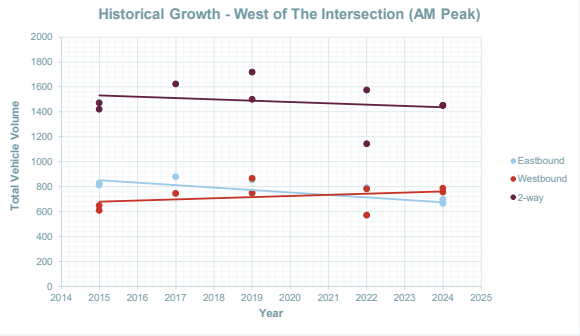
Count Information Date	Year	South of Trafalgar Road & Cornwall Road		
		Northbound	Southbound	2-way
2015-02-25	2015	421	709	1130
2015-02-26	2015	461	742	1203
2017-06-01	2017	411	573	984
2019-03-07	2019	459	582	1041
2019-11-06	2019	539	653	1192
2022-04-13	2022	417	629	1046
2022-10-05	2022	658	841	1499
2024-06-04	2024	485	677	1162
2024-06-05	2024	455	654	1109
Trend Point at start	2015	446	670	1115
Trend Point at end	2024	509	677	1186
Slope		7.04	0.75	7.79
Growth		**1.49%**	**0.11%**	**0.68%**



Count Information Date	Year	East of Trafalgar Road & Cornwall Road		
		Eastbound	Westbound	2-way
2015-02-25	2015	1165	909	2074
2015-02-26	2015	1266	926	2192
2017-06-01	2017	1042	953	1995
2019-03-07	2019	917	873	1790
2019-11-06	2019	1059	985	2044
2022-04-13	2022	916	814	1730
2022-10-05	2022	1069	1015	2084
2024-06-04	2024	1038	955	1993
2024-06-05	2024	1011	980	1991
Trend Point at start	2015	1144	920	2064
Trend Point at end	2024	970	948	1918
Slope		-19.30	3.09	-16.21
Growth		**-1.81%**	**0.33%**	**-0.81%**

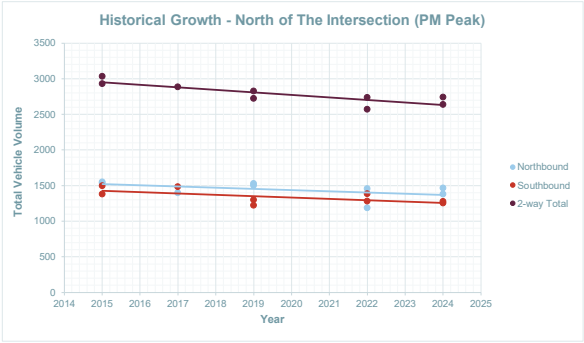


Count Information Date	Year	West of Trafalgar Road & Cornwall Road		
		Eastbound	Westbound	2-way
2015-02-25	2015	811	609	1420
2015-02-26	2015	826	646	1472
2017-06-01	2017	879	745	1624
2019-03-07	2019	752	748	1500
2019-11-06	2019	852	866	1718
2022-04-13	2022	571	571	1142
2022-10-05	2022	792	782	1574
2024-06-04	2024	697	755	1452
2024-06-05	2024	664	786	1450
Trend Point at start	2015	853	680	1533
Trend Point at end	2024	675	763	1438
Slope		-19.75	9.15	-10.59
Growth		**-2.56%**	**1.28%**	**-0.71%**

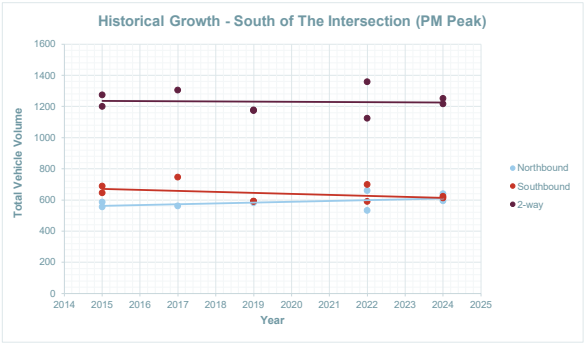


Project: 420-468 South Service Road East
Project ID: 6931-03
Intersection: Trafalgar Road & Cornwall Road
Peak Hour: PM Peak Hour

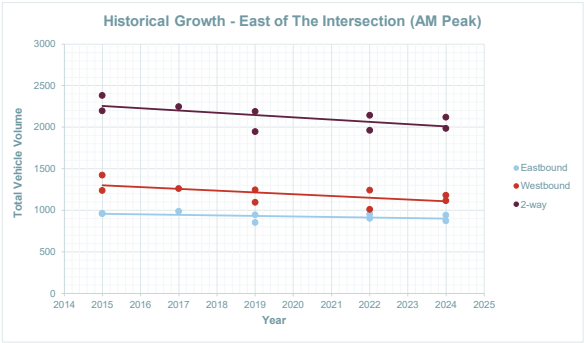
Count Information Date	Year	North of Trafalgar Road & Cornwall Road		
		Northbound	Southbound	2-way
2015-02-25	2015	1535	1497	3032
2015-02-26	2015	1550	1380	2930
2017-06-01	2017	1400	1483	2883
2019-03-07	2019	1500	1223	2723
2019-11-06	2019	1528	1297	2825
2022-04-13	2022	1455	1281	2736
2022-10-05	2022	1185	1385	2570
2024-06-04	2024	1382	1255	2637
2024-06-05	2024	1464	1275	2739
Trend Point at start	2015	1522	1429	2951
Trend Point at end	2024	1373	1260	2633
Slope		-16.56	-18.77	-35.33
Growth		**-1.14%**	**-1.39%**	**-1.26%**



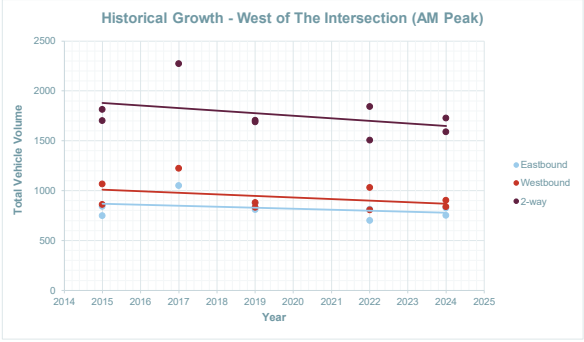
Count Information Date	Year	South of Trafalgar Road & Cornwall Road		
		Northbound	Southbound	2-way
2015-02-25	2015	585	689	1274
2015-02-26	2015	554	646	1200
2017-06-01	2017	560	745	1305
2019-03-07	2019	582	591	1173
2019-11-06	2019	589	589	1178
2022-04-13	2022	533	590	1123
2022-10-05	2022	660	698	1358
2024-06-04	2024	593	623	1216
2024-06-05	2024	638	613	1251
Trend Point at start	2015	564	673	1236
Trend Point at end	2024	611	615	1226
Slope		5.29	-6.42	-1.13
Growth		**0.90%**	**-0.99%**	**-0.09%**



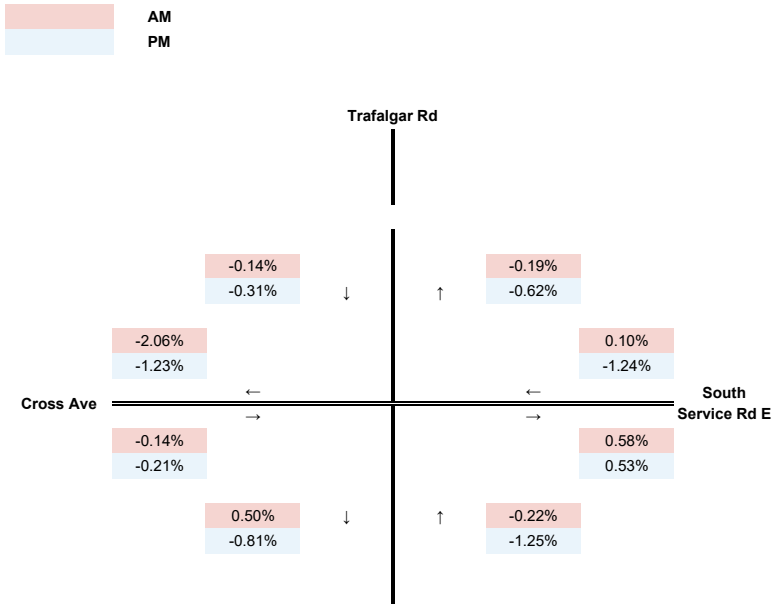
Count Information Date	Year	East of Trafalgar Road & Cornwall Road		
		Eastbound	Westbound	2-way
2015-02-25	2015	961	1421	2382
2015-02-26	2015	958	1238	2196
2017-06-01	2017	985	1261	2246
2019-03-07	2019	851	1095	1946
2019-11-06	2019	944	1244	2188
2022-04-13	2022	902	1241	2143
2022-10-05	2022	953	1009	1962
2024-06-04	2024	869	1114	1983
2024-06-05	2024	939	1180	2119
Trend Point at start	2015	958	1300	2258
Trend Point at end	2024	902	1108	2010
Slope		-6.16	-21.40	-27.56
Growth		**-0.66%**	**-1.77%**	**-1.28%**



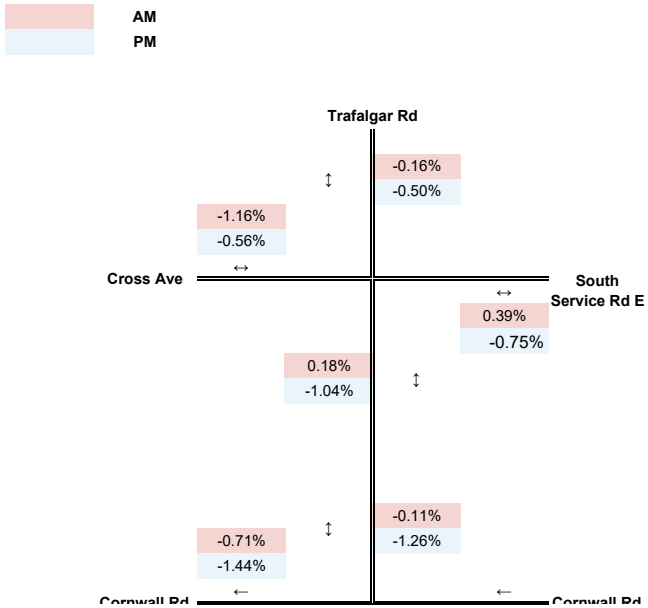
Count Information Date	Year	West of Trafalgar Road & Cornwall Road		
		Eastbound	Westbound	2-way
2015-02-25	2015	748	1066	1814
2015-02-26	2015	842	860	1702
2017-06-01	2017	1050	1224	2274
2019-03-07	2019	874	832	1706
2019-11-06	2019	810	879	1689
2022-04-13	2022	699	807	1506
2022-10-05	2022	812	1030	1842
2024-06-04	2024	750	838	1588
2024-06-05	2024	825	902	1727
Trend Point at start	2015	870	1011	1880
Trend Point at end	2024	780	870	1650
Slope		-9.92	-15.66	-25.58
Growth		**-1.20%**	**-1.66%**	**-1.44%**



Background Traffic Growth Rates



Background Traffic Growth Rates (2-way Total)



Appendix O:
ITE Internal Trip Capture Excerpts and Forecasts

6 Trip Generation for Mixed-Use Development

6.1 Background

Most data presented in *Trip Generation Manual* were collected at single-use, free-standing sites. However, development sites with two or more complementary land uses are now much more common and a method to accurately estimate the external trip generation effects of these types of developments is needed. At a development site consisting of two or more land uses, there is potential for interaction among those uses (referred to as "internal capture trips"), particularly where the trip can be made by walking. As a result, the total generation of external trips (that is, those entering and exiting the overall site) may be less than the simple sum of the trips generated by each discrete land use.

The recommended methodology is the same recommended procedure presented in NCHRP Report 684*: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments.*[7] The NCHRP report provides details on the development of the recommended estimation procedure, its underlying data, and validation of the estimation procedure. The report includes a summary of past research on trip generation and internal trip capture at mixed-use developments, as well as a discussion of other estimation methods that may be appropriate for the analyst to consider.

The recommended approach conforms to the Chapter 3 flow chart for estimation of site trip generation (see Figure 3.1):

- The baseline vehicle trip generation estimates are produced using the procedures presented in Chapters 4 and 9, as appropriate;
- Vehicle trip estimates are converted to person trips using methods presented in Chapter 5;
- The product of the process recommended in this chapter is an estimate of the total person trips entering or exiting the study site, after trips internal to the site (by walking, bicycle, transit, or personal passenger vehicle) are subtracted from total person trips generated by the study site;
- If the mixed-use site is located in an urban infill setting or near a rail transit station or a multi-route bus transit center with high-frequency service, the procedures presented in Chapters 7 and 8 should be applied to the product of the person trip estimates produced in this chapter; and
- Mixed-use development can attract vehicle traffic that is currently on adjacent or nearby streets. Refer to Chapter 10 for guidance on estimating pass-by and diverted trips.

6.2 Definition of Mixed-Use Development

For the purpose of this *Handbook*, a mixed-use development is typically a single real-estate development that consists of land uses corresponding to two or more ITE land use types between which trips can be made without using the off-site road system. A mixed-use development may also be referred to as a multi-use development.

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[7] Bochner, B., K. Hooper, B. Sperry, and R. Dunphy. NCHRP Report 684: *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments.* Washington, DC: Transportation Research Board, 2011.

Because of the complementary nature of these land uses, some trips are made among the on-site uses. This capture of trips internal to the site has the net effect of reducing vehicle trip generation between the overall development site and the external street system (compared to the total number of trips generated by comparable land uses developed individually on stand-alone sites).

Mixed-use developments are commonly found ***ranging in size between 100,000 and 2 million sq. ft. of gross floor area within an overall area of up to roughly 300 acres***. The data presented in this chapter correspond to mixed-use developments in this size range. The recommended procedures for estimating trip generation at mixed-use developments are likely applicable at even larger sites, but the analyst is encouraged to collect and consider additional data.

A key characteristic of a mixed-use development is that trips between the various land uses can be made on site and these ***internal trips do not utilize the major street system***. In some mixed-use developments, these internal trips can be made either by walking or by vehicles using internal roadways without using external streets.

An ***internal capture rate*** can generally be defined as the percentage of total person trips generated by a site that are made entirely within the site. The trip origin, destination, and travel path are all within the site.

The trip reduction for internally captured trips is separate from the reduction for *pass-by trips*. These are two distinct components of trip-making behavior and both could be applicable for a proposed development. The internal trips, if present, should be subtracted *before* pass-by trip reductions are applied (refer to Chapter 10 for a complete discussion of pass-by trip estimation).

6.3 Mixed-Use Development Classified as a Single Land Use

A mixed-use development could consist of any combination of different land use types within a defined, congruous area. But that definition would encompass a wide range of potential applications, many of which are not intended to be the focus of this chapter.

A traditional **downtown or central business district** is ***not*** considered a mixed-use development for the purposes of this *Handbook*. Downtown areas typically have a mixture of diverse employment, retail, residential, commercial, recreation, and hotel uses. Extensive pedestrian interaction occurs because of the scale of the downtown area, ease of access, and proximity of the various uses. Automobile occupancy, particularly during peak commuting hours, is usually higher in the CBD than in outlying areas. Some downtowns have excellent transit service. For these reasons, trip generation characteristics in a downtown environment are different from those found in general urban or suburban areas. Most data presented throughout *Trip Generation Manual* from sites in suburban or outlying business district settings with limited or no transit service and free or inexpensive parking. **Accordingly, trip generation characteristics in this chapter, and specifically in the case of capture rates at mixed-use developments, are directly *applicable only to sites outside the traditional downtown***. Chapter 7 presents a recommended approach for estimating person trips generated in any urban setting including a downtown.

A **shopping center** could also be considered a mixed-use development because it typically includes uses other than general retail such as restaurants, banks, and office. However, because data have

been collected directly for them as a-stand-alone developments, shopping centers are considered in *Trip Generation Manual* as a single land use. The associated trip generation data presented in the *Manual* already reflect the effects of internal capture and the mixed-use nature of the center. ***Accordingly, internal capture rates are not applicable and should not be used to estimate trips for shopping centers if using statistics and data for Land Use Code 820***. However, if the shopping center is part of a larger mixed-use development or if it is planned to have out-parcel development of a significantly different land use type, such as residential, the site could be considered a mixed-use development for the purpose of estimating site trip generation.

A subdivision or planned unit development containing general office buildings and support services such as banks, restaurants, and gasoline service stations arranged in a park- or campus-like atmosphere should be considered an **office park** (Land Use Code 750), not a mixed-use development. An office building with support retail or restaurant facilities contained inside the building should be treated as a **general office building** (Land Use Code 710) because the *Manual* data already reflect such support uses. A **hotel with an on-site restaurant and small retail** falls within Land Use Code 310 and should not be treated as mixed-use development.

6.4 Underlying Assumptions about Internal Capture at a Mixed-Use Site

The internal trip-making characteristics of a mixed-use development site are directly related to its mix of on-site land uses (which are typically a combination of office, retail, restaurant, cinema/entertainment, residential, or hotel). When combined within a single mixed-use development, these land uses tend to interact and thus attract a portion of each other's trip generation. As should be expected, the observed internal capture rates for mixed-use developments vary by time of day, mix of on-site land uses, and size of the development.

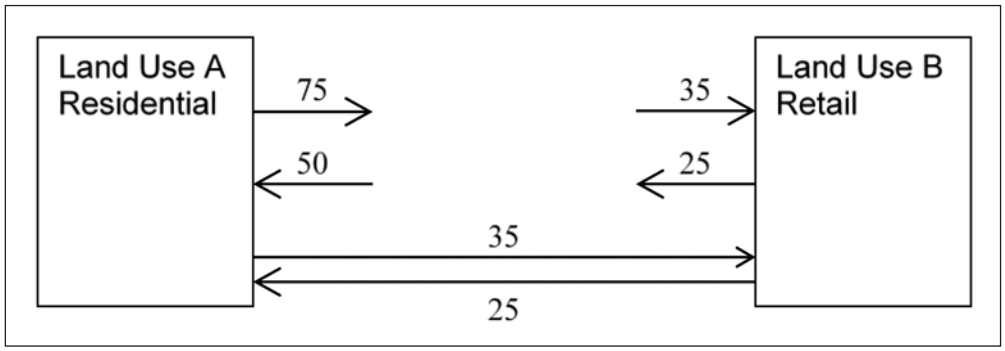
Four premises form the basis for the recommended methodology:

- **Premise 1:** The distribution of trip purposes among persons entering or exiting a development site is relatively stable. In other words, the ratios of commute trips, work trips, and visitor trips to or from an office building is roughly the same whether the building is stand-alone or within a mixed-use development.
- **Premise 2:** The distribution of destination land uses (that is, at the other end of a trip from the development site) is likewise assumed to be relatively stable. For example, the destinations of trips from an office building are distributed among the many potential destinations (such as retail or residential) in roughly the same pattern whether the office is a stand-alone site or in a mixed-use development.
- **Premise 3:** The converse of Premise 2 is also true, that the distribution of origins for trips to a particular land use is assumed to be relatively stable.
- **Premise 4:** The number of trips from a land use within a mixed-use development to another land use within the same mixed-use development (that is, an internal trip) is a function of the size of the "receiving" land use and the number of trips it attracts, as well as the size of the "originating" land use and the number of trips it sends. ***The number of trips between a particular pair of internal land uses is limited to the smaller of these two values.***

Key to the success of this methodology in replicating internal capture patterns at mixed-use sites is its balancing step that constrains internal trip-making to realistic levels given the mix of land uses. Figure

6.1 shows an example of this balancing. Assume Land Use A is a large residential development and Land Use B is a smaller retail component of a mixed-use development. The residential development is large enough to generate 75 peak hour outbound trips that could go to an on-site retail destination, and could attract 50 inbound trips from an on-site retail origin. However, in this particular mixed-use development, the retail portion of the development is only large enough to generate 25 peak hour outbound trips to an on-site residential destination and 35 peak hour inbound trips from an on-site residential origin. Therefore with this particular combination of size and type of land uses, the mixed-use development internally captures a maximum of 35 trips from Land Use A to Land Use B and 25 trips from B to A. The remainder of the potential residential-to-retail on-site trips become external trips.

Figure 6.1 Balanced Internal Trips in Mixed-Use Development Example



Source: Bochner, B., K. Hooper, B. Sperry, and R. Dunphy. NCHRP Report 684: *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments*. Washington, DC: Transportation Research Board, Figure 19, 2011.

6.5 Process for Estimating Mixed-Use Trip Generation

The recommended procedure for estimating internal trip capture and trip generation for a mixed-use development is a series of nine steps:

- Step 1: Determine whether methodology is appropriate for study site.
- Step 2: Estimate person trip generation for individual on-site land uses.
- Step 3: Estimate proximity between on-site land use pairs.
- Step 4: Estimate unconstrained internal person trip capture rates with proximity adjustment.
- Step 5: Estimate unconstrained demand between on-site land use pairs.
- Step 6: Estimate balanced demand between on-site land use pairs.
- Step 7: Estimate total internal person trips between on-site land use pairs.
- Step 8: Estimate total external person trips for each land use.
- Step 9: Calculate overall internal capture and total external vehicle trip generation.

A ***spreadsheet tool*** is available which automatically performs many of the required calculations based on input data. The spreadsheet tool can be downloaded from within the Other Resources link in the Trip and Parking Generation section of the ITE website (www.ite.org/tripgeneration/index.asp).

If using the spreadsheet tool, the analyst needs to complete Steps 1 through 3. The estimation tool automatically calculates overall internal capture and total external vehicle trips in Steps 4 through 8 and summarizes the results. The complete step-by-step procedure is provided here

if the analyst chooses to do the calculations manually (if the analyst, for example, is using local data to supplement the national database). Appendix F contains an example application of the recommended process.

The step-by-step procedure and spreadsheet contain data that enable the analyst to evaluate internal capture at a mixed-use site with any combination of office, retail, restaurant, cinema/ entertainment, residential, and hotel land uses. Because data are not currently available for other land use categories, internal capture to and from those uses is assumed to be zero in the spreadsheet tool.

The analyst is cautioned that each mixed-use development has unique characteristics that influence the extent of internal trip capture. Such characteristics include, but are not limited to, the following:

- The number and magnitudes of complementary land uses;
- The layout of the land uses relative to each other;
- Specific businesses, residence types, and other component characteristics within each land use category;
- Proximity and connectivity between each pair of land uses;
- Design characteristics of the development and its internal transportation system;
- Specific characteristics of the development's access and parking; and
- Competing opportunities outside the development.

6.5.1 Step 1: Determine Whether Methodology Is Appropriate for Study Site

The procedure should be used for estimating internal capture only at a mixed-use development that has characteristics resembling the sites from which the internal capture rates have been derived. In determining if the recommended procedure is appropriate for a particular mixed-use development, the analyst should consider at least the following factors:

- **Development Type:** The mixed-use development should be a single, physically and functionally integrated development on a single development block or a group of contiguous blocks with two or more uses, with internal pedestrian and vehicular connectivity, and with shared parking among some or all uses. The site should have sufficient parking supply to meet demand although the most convenient parking may sometimes fill during peak demand periods.
- **Development Location:** The mixed-use development should be downtown fringe, general urban, or suburban. It should not be located either within or adjacent to a central business district. Trip generation for a study site in a CBD setting is addressed in Chapter 7.
- **Development Size:** The data that form the bases for the internal capture methodology are from mixed-use development sites that have between 100,000 and 2 million sq. ft. of building space and an overall acreage of up to roughly 300 acres. The mixed-use development should fall within those ranges. It can be a single site, a block, or a district or neighborhood (with multiple interconnected or interactive blocks within a defined boundary); however, this procedure should not be used for a development composed of different adjacent, but not directly connected, land uses. Adjacent blocks can be considered to be directly connected if there is an internal street, driveway, alley system, or pedestrianway by which person trips can be made to travel from one block to another. If the development site has multiple land uses and the blocks are configured in such a way that internal trips must exit the site and use an external street system, then the site is not a mixed-use development.

- **Land Use Mix:** The mixed-use development should consist of a combination of at least two of the following uses: retail, restaurant, office, residential, hotel, and cinema/entertainment. Internal capture for land uses beyond these six should be considered to be zero (unless comparable survey data for other land uses are provided) because there are no supporting data from which to derive an appropriate percentage. In addition, if a substantial portion of the land use at a mixed-use site is outside these six land uses, the *Handbook* internal capture rates might not be appropriate. Alternatively, the analyst can collect internal capture data at proxy sites with similar land use and setting characteristics.
- **ITE *Trip Generation Manual* Database:** The mixed-use development should not already be covered in the ITE trip generation database as reported in the latest edition of *Trip Generation Manual*. Current ITE Land Use types that already account for internal trip-making include shopping center, office park with retail, office building with ground floor retail or on-site cafeteria, and hotel with limited retail and restaurant space.
- **Time Period for Analysis:** The internal capture rates contained in this *Handbook* cover the weekday AM and PM peak periods for adjacent street traffic. Internal capture rates for weekend peak periods, for weekday midday peak periods, or for a daily period should not be assumed to be the same as or even a simple, direct function of the weekday AM and PM peak period rates. The analyst should collect additional data. Refer to section 6.7 of this chapter for guidance.

If the mixed-use development type, location, or size is not compatible with the sites in the internal capture database or if an estimate of internal capture during the midday or on a weekend is desired.

6.5.2 Step 2: Estimate Person Trip Generation for Individual On-Site Land Uses

The purpose of the second step is to estimate the **person** trips generated for each on-site land use. Person trips can be estimated from

- Directional (in, out) vehicle trip generation estimates for each land use;
- Mode share (percent of external person trips in personal passenger vehicle, truck, transit, and non-motorized) for each land use; and
- Vehicle occupancy for each land use.

These are **baseline** assumptions. They are used to factor baseline vehicle trip estimates to baseline person trip estimates which are assumed to be the same as study site person trip estimates. These should not reflect anticipated or potential changes in study site external mode shares (for example, walk trips to/from a mixed-use development in an infill setting or transit trips to/from a mixed-use development near a transit station). Those **external** mode share calculations are addressed in Chapters 7 and 8.

The following paragraphs describe the data requirements for each set of inputs, including references to the appropriate location on the spreadsheet tool where each data item should be entered. Figure 6.2 presents the PM peak hour input and output pages in the spreadsheet model. The spreadsheet also includes AM peak hour input and output pages and internal capture rate look-up tables for both AM and PM.

Vehicle Trip Generation by Land Use. The analyst should estimate vehicle trip generation for each component land use using the procedures presented in Chapters 3 and 4 of this *Handbook*.

The recommended procedure can estimate internal trip capture for the following generic land use categories: office, retail, restaurant, residential, hotel, and cinema/entertainment.

Therefore, for the purpose of estimating internal capture, the analyst must consolidate individual appropriate land uses into the above land use categories. As an example, for a mixed-use development containing apartments and townhouses, compute vehicle trips generated for each and total them to estimate the total residential vehicle trips. The vehicle trip generation estimates should be entered in Table 1 of the spreadsheet tool shown in Figure 6.2 as entering or exiting vehicle trips.

The recommended procedure estimates internal capture only for trips to/from land uses that fall into one of the above six categories. Also included in Table 1 of the estimator spreadsheet is a row for the analyst to input the inbound and outbound vehicle trip generation data for all other land uses that are not subject to internal trip capture computations. If there are multiple on-site land uses that are not subject to internal trip capture, the individual land use estimates should be combined before entering into the “All Other Land Uses” row. These trips are automatically assumed to be external trips (that is, with no internal capture) in subsequent computations.

The spreadsheet calculates the total of the entering and exiting vehicle trips for the individual land uses.

Figure 6.2 Spreadsheet Tool for Estimation of Trip Generation and Internal Trip Capture at a Mixed-Use Development (PM Peak)

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:		**Organization:**	
Project Location:		**Performed By:**	
Scenario Description:		**Date:**	
Analysis Year:		**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-PM: Base Vehicle Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (*For Information Only*)			Estimated Vehicle Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				0		
Restaurant				0		
Cinema/Entertainment				0		
Residential				0		
Hotel				0		
All Other Land Uses[2]				0		
Total				0	0	0

Table 2-PM: Baseline Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Person Trips			Exiting Person Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-PM: Average Land Use Interchange Distances (Walking Distance in Feet)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-PM: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	0	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-PM: Computations Summary			
	Total	Entering	Exiting
All Person Trips	0	0	0
Internal Capture Percentage	0%	0%	0%
External Vehicle Trips[3]	0	0	0
External Transit Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-PM: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	N/A	N/A
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	N/A	N/A
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Vehicle trips computed using the mode split and vehicle occupancy values provided in Table 2-PM.

[4]Person trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by Texas A&M Transportation Institute

Figure 6.2 (Continued) Spreadsheet Tool for Estimation of Trip Generation and Internal Trip Capture at a Mixed-Use Development (PM Peak)

Project Name:	0
Analysis Period:	**PM Street Peak Hour**

Table 7-PM: Conversion of Vehicle Trip Ends to Person Trip Ends

Land Use	Table 7-PM (D): Entering Trips			Table 7-PM (O): Exiting Trips		
	Veh. Occ.	Vehicle Trips	Person Trips*	Veh. Occ.	Vehicle Trips	Person Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.00	0	0	1.00	0	0
Restaurant	1.00	0	0	1.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	0	0	1.00	0	0
Hotel	1.00	0	0	1.00	0	0

Table 8-PM (O): Internal Person Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	0	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 8-PM (D): Internal Person Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	0	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 9-PM (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	0	0	0	0	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	0	0	0	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-PM (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	0	0	0	0	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	0	0	0	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle trips computed using the mode split and vehicle occupancy values provided in Table 2-PM.
[2]Person trips.
[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.
*Indicates computation that has been rounded to the nearest whole number.

Source: An adaptation of a figure in NCHRP 684 (called Tables 103 and 104). Bochner, B., K. Hooper, B. Sperry, and R. Dunphy. NCHRP Report 684: *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments.* Washington, DC: Transportation Research Board, 2011.

Vehicle Occupancy. The procedure requires vehicle occupancy rates in order to convert baseline trip generation estimates from vehicle trips to person trips. The analyst should use the common values reported in Chapter 5 (and Appendix B) if that set of data is sufficient for the study site analysis. The baseline vehicle occupancy data should be for the same land use type, represent the same general setting, and be composed of at least three data points in order to be considered sufficient. If not, the analyst should collect vehicle occupancy data at a sufficient number of nearby proxy sites.

Enter the vehicle occupancy for each land use category in Table 2 of the spreadsheet. Note that the analyst may enter separate expected vehicle occupancy levels for each land use by direction. If no vehicle occupancy data are entered, a vehicle occupancy of 1.0 persons per vehicle is assumed in the spreadsheet.

Mode Share. The procedure requires the analyst to determine the baseline mode shares for external person trips generated by individual land uses within the mixed-use development. Mode shares should be divided into at least total vehicles (personal passenger vehicles plus trucks), transit, and non-motorized modes such as bicycle or walking. The analyst should use the common mode share values reported in Chapter 5 (and Appendix B) if that set of data is sufficient for the study site analysis. The baseline mode share data should be for the same land use type, represent the same general setting, and be composed of at least three data points in order to be considered sufficient. If not, the analyst should collect mode share data at a sufficient number of nearby proxy sites.

Enter the mode shares associated with each land use category in spreadsheet Table 2. Note that the vehicle occupancy and mode share data are also entered for land uses not subject to internal trip capture computations for the purposes of mode assignment for these trips (all external trips) and is provided solely for convenience. If no mode share values are entered by the analyst, 100 percent of the person trips generated by a land use within the mixed-use development are assumed to be in vehicles.

It is preferable for the analyst to use a reasonable estimate for the baseline mode shares and vehicle occupancy. However, if the analyst is only going to calculate and use vehicle trips (and not person trips or trips by travel mode) AND if the mixed-use development is in a suburban setting with an expectation for very few external walk, bike, or transit trips, it is acceptable to assume[8] that

- 100 percent of person trips are in vehicles; and
- Vehicle occupancy is 1.0 person per vehicle.

If the mixed-use development is located in an infill setting or close to significant transit service, the calculation of external mode shares and vehicle occupancy for the **study site** requires the use of a reasonable estimate for **baseline** mode shares and vehicle occupancy. As stated later in the Urban Infill chapter (in section 7.4.1), for such a development, it is incorrect to simply assume baseline values of 100 percent person trips by vehicle and a 1.00 vehicle occupancy.[9]

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[8] Because the baseline and study site mode shares and vehicle occupancy are not expected to be different for a suburban, stand-alone mixed-use development.

[9] Because it will result in an **over**-estimate of vehicle trip reductions that result from the infill setting or proximity to significant transit.

6.5.3 Step 3: Estimate Proximity between On-Site Land Use Pairs

Unconstrained internal trip capture rates between certain land use pairs can vary as a function of distance between the uses. In order to account for that distance, the recommended procedure uses the average distance between pairs of interacting land uses within the mixed-use development. Determine the average distances between individual on-site land use pairs that are present in the study site development.

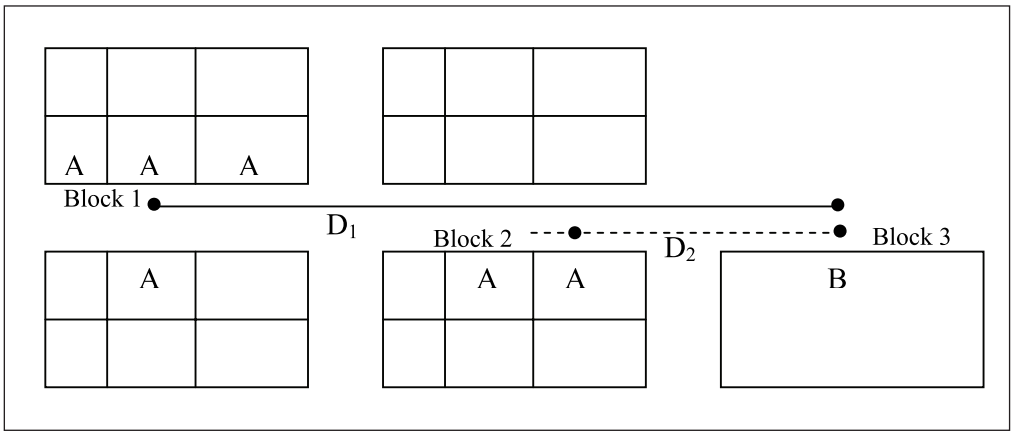
The **only land use pairs** for which proximity adjustment factors are available (and therefore are the only land use pairs for which distances are used in the analysis) are the following:

- Office-to-retail;
- Office-to-restaurant;
- Office-to-residential;
- Retail-to-residential;
- Restaurant-to-residential;
- Cinema/entertainment-to-residential;
- Residential-to-retail;
- Residential-to-restaurant; and
- Hotel-to-residential.

The **only time period** for which sufficient data are available to derive a reliable proximity relationship is the weekday PM peak period. In this procedure, AM peak period internal capture rates are **not** adjusted to reflect distance between land uses.

The recommended procedure for measuring the distance between two on-site land uses is as follows. If there is only one building of each land use category (for example, one apartment building and one office building), enter the walking distance between the entrances to each building. If there is a group of buildings or businesses of one land use category in an area, separate that land use into blocks, with a block being the building faces along both sides of a street (see Figure 6.3 for an example). Locate the centroid of the entrances of each specific land use for each block. Measure the distance between each block centroid of that land use and the other, interacting land use. If there are multiple blocks, the analyst should measure between all pairs of blocks and use the weighted average distance, using square feet of land use involved in each exchange as the weighting factor.

Figure 6.3 Sample Measurement of Proximity for Land Uses in Multiple Blocks



Source: Bochner, B., K. Hooper, B. Sperry, and R. Dunphy. NCHRP Report 684: E*nhancing Internal Trip Capture Estimation for Mixed-Use Developments.* Washington, DC: Transportation Research Board, adapted from Figure 24, 2011.

In the Figure 6.3 example, the dots represent the centroids of the entrances for Land Use A in blocks 1 and 2 and for Land Use B in block 3. The distances D_1 and D_2 are the respective distances from Land Use A in blocks 1 and 2 to Land Use B in block 3. The weighted average distance between Land Use A and Land Use B is

$$\textit{weighted distance} = \frac{(D1 * \textit{land use A sq. ft. in block } 1) + (D2 * \textit{land use A sq. ft. in block } 2)}{\textit{land use A sq. ft. in blocks } 1 \textit{ and } 2}$$

$$D_{WTD} = ((D_1 * A_{LU\text{-}1}) + (D_2 * A_{LU\text{-}2})) / (A_{LU\text{-}1} + A_{LU\text{-}2})$$

where

D_{WTD} = weighted average distance between Land Uses A and B

D_1 = distance between block 1 and block 3

D_2 = distance between block 2 and block 3

$A_{LU\text{-}1}$ = Land Use A square feet in block 1

$A_{LU\text{-}2}$ = Land Use A square feet in block 2

For each pair of interacting land uses, enter a distance (in feet) by the prevailing travel mode into Table 3 in the estimator spreadsheet tool.

6.5.4 Step 4: Estimate Unconstrained Internal Person Trip Capture Rates with Proximity Adjustment

In this step, unconstrained internal trip capture rates that are appropriate for the subject mixed-use development site are determined. The spreadsheet tool automatically determines the rates. The following description is provided to enable the analyst to understand the derivation of the data.

Base internal trip capture rates are identified in Step 4A. These initial rates are modified to account for specific proximity characteristics of the study site mixed-use development in Step 4B. The final proximity-adjusted internal trip capture rates are calculated using simple multiplication as described in Step 4C.

Step 4A: Estimate Base Unconstrained Internal Trip Capture Rates

Internal trip capture rates have been developed for land use pairs with the following generic land use categories: office, retail, restaurant, residential, hotel, and cinema/entertainment.

Table 6.1 presents estimated unconstrained internal trip capture rates for **trip origins** within a mixed-use development. For example, during the weekday AM peak hour, of all the person trips exiting an on-site retail land use, as many as 29 percent of the trips could be destined for an on-site office and as many as 14 percent could be destined to an on-site residential use.

Table 6.2 presents estimated unconstrained internal trip capture rates for **trip destinations** within a mixed-use development. For example, during the AM peak hour, of all the person trips entering an on-site retail land use, as many as 32 percent of the trips could originate at an on-site office and as many as 17 percent could originate at an on-site residential use.

It should be noted that no internal trip capture rates are provided between a land use and itself. This is because an internal trip between two components of similar land use type is implicitly accounted for when estimating trip generation for that particular land use.

The internal trip capture rates presented in Tables 6.1 and 6.2 are considered “unconstrained” because they represent the maximum potential trip interaction between two land uses, by direction. Subsequent steps of the recommended estimation procedure adjust the unconstrained person trips to account for site-specific constraints that limit the internal trip capture achieved for a given land use pair.

Tables 6.1 and 6.2 report unconstrained internal trip capture rates for an AM street peak hour (typically between 7:00 and 9:00 a.m.) and a PM street peak hour (typically between 4:00 and 6:00 p.m.). The internal trip capture rates presented are only valid for trip generation studies during those time periods. Data for other periods, such as weekday daily, weekday mid-day, or weekends are not available.

If the analyst finds a table value of zero for a particular land use pair (or a value well below a logical value), the analyst has the option to collect internal capture information at a proxy mixed-use development site with the same pair of land uses. Section 6.7 of this chapter provides guidance on how to collect appropriate internal capture data. In this circumstance, the analyst does not need to survey an entire mixed-use development, just the two land uses that are the target pair.

If the mixed-use development study site contains a land use for which unconstrained internal capture rates are not provided in Tables 6.1 and 6.2, the analyst should either (1) assume no internal capture for trips to and from that land use or (2) establish an internal capture rate through the conduct of

intercept surveys at a proxy mixed-use development site with the same land use Codes. Section 6.7 of this chapter provides specific guidance on the types of information to gather in the data collection process. Although an assumption of no internal trip capture may be unrealistic, the recommended procedures do not account for land uses not listed in the table. In the absence of any supporting data, it would, of course, be more conservative to potentially over-estimate external trip generation. If the land use is truly unique and one for which no proxy sites exist, a reasonable assumption supported by documentation should be appropriate.

Table 6.1 Unconstrained Internal Person Trip Capture Rates for Trip Origins within a Mixed-Use Development

		WEEKDAY	
		AM Peak Hour	PM Peak Hour
From OFFICE	To Retail	28%	20%
	To Restaurant	63%	4%
	To Cinema/Entertainment	0%	0%
	To Residential	1%	2%
	To Hotel	0%	0%
From RETAIL	To Office	29%	2%
	To Restaurant	13%	29%
	To Cinema/Entertainment	0%	4%
	To Residential	14%	26%
	To Hotel	0%	5%
From RESTAURANT	To Office	31%	3%
	To Retail	14%	41%
	To Cinema/Entertainment	0%	8%
	To Residential	4%	18%
	To Hotel	3%	7%
From CINEMA/ENTERTAINMENT	To Office	0%	2%
	To Retail	0%	21%
	To Restaurant	0%	31%
	To Residential	0%	8%
	To Hotel	0%	2%
From RESIDENTIAL	To Office	2%	4%
	To Retail	1%	42%
	To Restaurant	20%	21%
	To Cinema/Entertainment	0%	0%
	To Hotel	0%	3%
From HOTEL	To Office	75%	0%
	To Retail	14%	16%
	To Restaurant	9%	68%
	To Cinema/Entertainment	0%	0%
	To Residential	0%	2%

Source: Bochner, B., K. Hooper, B. Sperry, and R. Dunphy. NCHRP Report 684: *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments.* Washington, DC: Transportation Research Board, Tables 99 and 100, 2011.

Table 6.2 Unconstrained Internal Person Trip Capture Rates for Trip Destinations within a Mixed-Use Development

		Weekday	
		AM Peak Hour	PM Peak Hour
To OFFICE	From Retail	4%	31%
	From Restaurant	14%	30%
	From Cinema/Entertainment	0%	6%
	From Residential	3%	57%
	From Hotel	3%	0%
To RETAIL	From Office	32%	8%
	From Restaurant	8%	50%
	From Cinema/Entertainment	0%	4%
	From Residential	17%	10%
	From Hotel	4%	2%
To RESTAURANT	From Office	23%	2%
	From Retail	50%	29%
	From Cinema/Entertainment	0%	3%
	From Residential	20%	14%
	From Hotel	6%	5%
To CINEMA/ENTERTAINMENT	From Office	0%	1%
	From Retail	0%	26%
	From Restaurant	0%	32%
	From Residential	0%	0%
	From Hotel	0%	0%
To RESIDENTIAL	From Office	0%	4%
	From Retail	2%	46%
	From Restaurant	5%	16%
	From Cinema/Entertainment	0%	4%
	From Hotel	0%	0%
To HOTEL	From Office	0%	0%
	From Retail	0%	17%
	From Restaurant	4%	71%
	From Cinema/Entertainment	0%	1%
	From Residential	0%	12%

Source: Bochner, B., K. Hooper, B. Sperry, and R. Dunphy. NCHRP Report 684: *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments.* Washington, DC: Transportation Research Board, Tables 101 and 102, 2011.

Step 4B: Apply Proximity Adjustment Factors (PM Peak Hour Only)

The unconstrained internal capture values presented in Tables 6.1 and 6.2 represent rates to be expected between land use pairs that are not affected by proximity. As some land use pairs are located farther apart, the unconstrained internal capture rates may decline. Step 4B of the estimation procedure accounts for the specific proximity characteristics of the mixed-use development. Proximity adjustment factors are included for only the land use pairs for which the available data clearly demonstrates a direct relationship between proximity and internal capture rate. These are composed of only PM peak period trips from

- All land uses to residential and applicable only to the trip origin end;
- Office to retail or restaurant, applicable at both the origin and destination ends of a trip; and
- Residential to retail or restaurant, applicable at both origin and destination ends of a trip.

No proximity adjustments are available for the AM peak period.

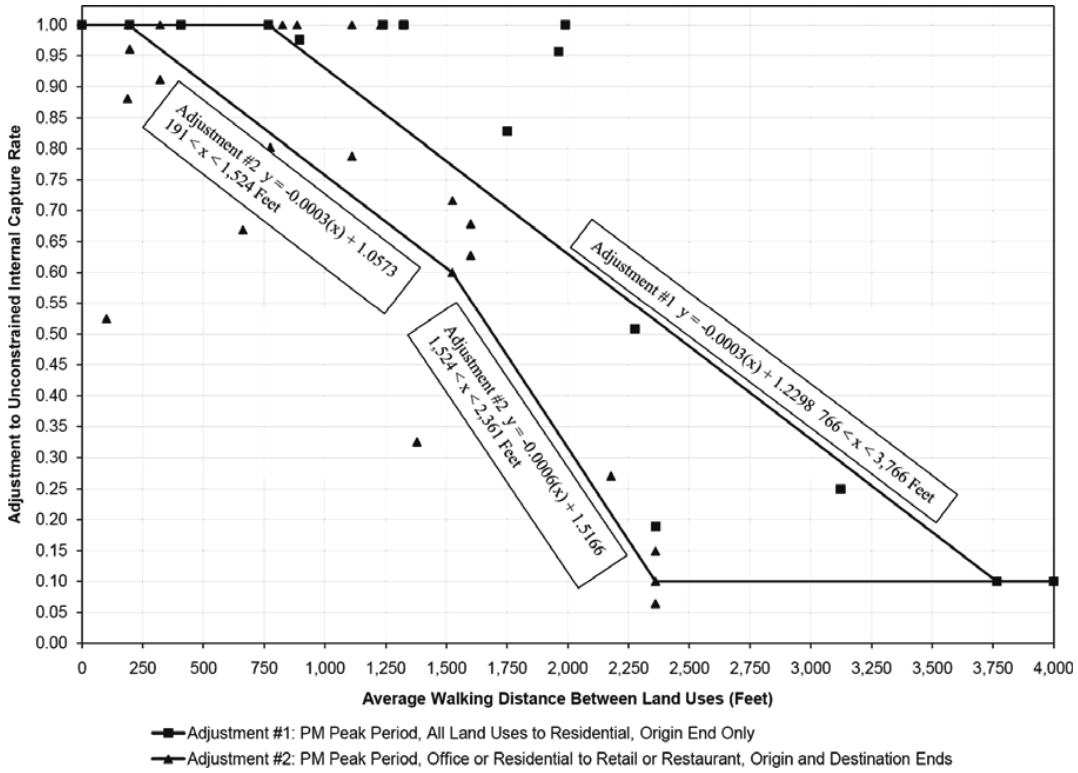
If a land use pair is not included in the above list, the Table 6.1 and Table 6.2 unconstrained internal capture values are used without adjustment. Figure 6.4 shows the two curves that establish the relationship between proximity and internal trip capture rate. The proximity adjustment is equal to 1.0 for land uses in close proximity, and declines as distances between land uses increases. The lowest possible value for the proximity adjustment factor is 0.10, thereby allowing for a minimal amount of internal trips between two on-site land uses at a mixed-use development regardless of the distance between the two uses.

The estimation tool calculates the proximity adjustment factor automatically based on the land use proximity measurements calculated in Step 3 and entered by the analyst in Table 3.

Step 4C: Calculate Proximity-Adjusted Internal Trip Capture Rates

For each applicable land use pair and direction, the appropriate unconstrained internal trip capture rate from Table 6.1 or 6.2 (Step 4A) is multiplied by the proximity adjustment factor calculated in Step 4B to obtain the proximity-adjusted internal trip capture rates to be utilized in subsequent steps of the estimation procedure. The results appear in Table 7 of the spreadsheet.

Figure 6.4 Proximity Adjustment Factors for Unconstrained Internal Trip Capture Rates within a Mixed-Use Development



Source: Bochner, B., K. Hooper, B. Sperry, and R. Dunphy. NCHRP Report 684: *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments*. Washington, DC: Transportation Research Board, Figure 22, 2011.

6.5.5 Step 5: Estimate Unconstrained Demand between On-Site Land Use Pairs

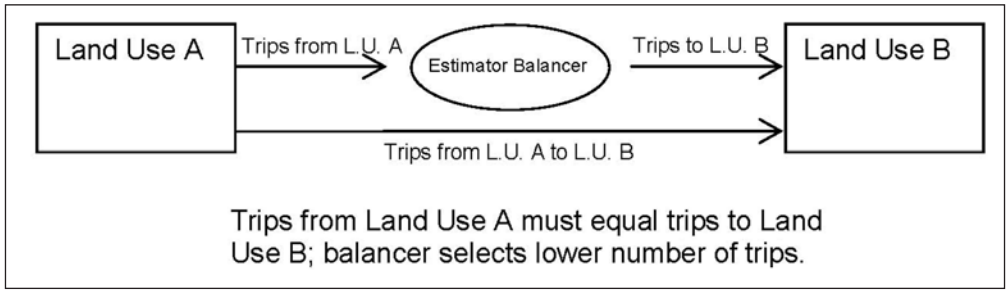
In this step, unconstrained demand between on-site land use pairs is estimated. The proximity-adjusted internal trip capture rates (from Step 4) are multiplied by the appropriate directional person trip generation value in the estimation spreadsheet tool (calculated earlier in Step 2). For each pair of land uses, four values for unconstrained demand will be estimated, two for each direction of travel (as demonstrated earlier in Figure 6.1). The origin-destination matrix for unconstrained internal trips between on-site land uses computed at the origin is reported in Table 8(O) in the computational details worksheet of the spreadsheet estimator tool. The origin-destination matrix for unconstrained internal trips between on-site land uses computed at the destination is reported in Table 8(D).

6.5.6 Step 6: Estimate Balanced Demand between On-Site Land Use Pairs

In this step, internal demand volume is balanced by direction by comparing the values in the corresponding cells of Table 8(O) and Table 8(D) for each land use pair and selecting the lower value. The purpose of this step is to balance the estimates of directionally internally captured trips

between land uses. Figure 6.5 illustrates the concept on internal trip balancing between land uses within a mixed-use development.

Figure 6.5 Estimator Balancing Concept



This step is performed for two reasons:

1. Estimates for each individual land use are based on the quantity of that land use and its capacity to send or receive internal trips. Without balancing, there is no assurance there is enough capacity on the receiving end to accept as many trips as are being sent.
2. The total trips sent internally (that is, internally captured trips) from one use to another must equal the number received at the other end of the trip. Both numbers must be the same.

The balanced demand for each land use pair is calculated by the spreadsheet tool with the results posted in Table 4 on the main estimator tool worksheet.

6.5.7 Step 7: Estimate Total Internal Person Trips between On-Site Land Use Pairs

In this step, total internal person trips are estimated by adding the internal trips *to* each other land use, then totaling the internal trips *from* each other land use. These totals are calculated and posted in the computational details worksheet in the “Internal” column of Table 9(D) for entering trips and Table 9(O) for exiting trips.

The analyst should review these values and verify that they appear reasonable.

6.5.8 Step 8: Estimate Total External Person Trips for Each Land Use

In this step, total external person trips are estimated by subtracting the estimated internal trips from the total trips for each individual land use. For entering trips, the spreadsheet tool subtracts the total internal trips for each land use as calculated in Step 7 from the total person trips from Table 7(D). The total external trips by land use are produced by the worksheet in the “External” column of Table 9(D) for entering trips and Table 9(O) for exiting trips.

6.5.9 Step 9: Calculate Overall Internal Capture and Total External Vehicle Trip Generation

The final step is calculation of the *total net external vehicle trip generation* for the mixed-use development site. The total external trips by land use reported in the "External" column of Table 9(D) for entering trips and Table 9(O) for exiting trips represent the total external person trips expected at the mixed-use development site. The total external person trips generated is multiplied (within the spreadsheet tool) by the expected mode shares of external person trips by land use (Table 2) to compute the total external person trips by mode for each land use. The total external person trips by transit and non-motorized modes are reported in the two far right columns of Table 9(D) for entering trips and Table 9(O) for exiting trips. The balance of person trips for each land use and direction are assumed to be vehicle trips. The estimated external person trips by vehicle are divided by the expected vehicle occupancy for each land use and direction (Table 2) to obtain the total external vehicle trip generation expected at the site.

Appendix G contains an example application of the recommended process.

The total person trips, external vehicle trips, external person trips by transit, and external person trips by non-motorized modes by direction are reported in Table 5 of the spreadsheet. The site *internal trip capture rate* is estimated by taking the sum of the all values in the internal person trip origin-destination matrix (Table 4) and dividing this value by the total person trips by direction (Table 7). The internal trip capture rate for each individual land use and direction of travel is calculated in a similar manner, and the results are reported in Table 6.

All of the data and calculations used in the spreadsheet tool should represent **baseline** conditions. The calculations do not reflect anticipated or potential changes in study site external mode shares (for example, walk trips to/from a mixed-use development in an infill setting or transit trips to/from a mixed-use development near a transit station). Those **external** mode share calculations are addressed in Chapters 7 and 8.

6.6 Cautionary Notes

The internal trip capture data and estimation procedure presented in Section 6.5 quantifies the influence of several key factors on internal trip capture rates. Numerous other factors have a direct influence on travel at a mixed-use development, factors for which the current data and estimation procedure do not account. Additional data and analysis are desirable to better quantify the relationships between these factors and mixed-use development trip generation and internal trip capture rates. A summary of the pertinent information contained in several existing documents is included in NCHRP Report 684.

Limited Sample Size—The estimated typical internal trip capture rates presented in Section 6.5 in Tables 6.1 and 6.2 rely directly on data collected at a limited number of mixed-use developments in Florida, Georgia, and Texas. While this *Handbook* recognizes the limitations of these data, they represent the only known credible site-level data on mixed-use internal trip capture rates and are provided as illustrative of typical rates. ***If local data on internal trip capture rates by land use pair can be obtained, the local data should be used and the data submitted to ITE for possible inclusion in future publications*** (refer to section 6.7 of this chapter for guidance).

Pass-By Trips—The application of pass-by trip reductions presented in Chapter 10 should likewise be applicable to mixed-use sites. However, none of the internal trips can be of a pass-by nature because they do not travel on the adjacent (external) street system. ***Pass-by trip percentages are applicable only to trips that enter or exit the adjacent street system***. Apply the pass-by trip estimation procedure in Chapter 10 of this *Handbook* only to the mixed-use development external vehicle trips.

Atypical Tenant Mix—The specific tenants at the mixed-use development sites from which the internal capture relationships in the recommended procedure are derived are relatively complementary. For example, the restaurants located near or adjacent to office buildings are often coffee shops or are geared to serve a lunchtime clientele and an after-work crowd. A family sit-down restaurant would likely generate a different level of internal capture with the on-site office. The analyst is cautioned to review the particular characteristics of the mixed-use development study site and its tenants before using the internal trip capture rates presented in Tables 6.1 and 6.2. The analyst should assess whether each set of internal trip capture rates makes sense considering the particular individual land uses within the specific, mixed-use development site.

Competing Markets—Proximity to competing markets is expected to influence internal trip capture rates. The greater the distance to external competing uses, the greater the likelihood of capturing trips internally within a mixed-use development site. However, at this time, there is no trip generation data available on which to base adjustment factors of this type. It is important to note that the modes of external trip-making to and from competing markets are addressed in Chapter 7, Trip Generation for Urban Infill/Redevelopment.

Other Site-Specific Issues—Many other issues potentially affect trip-making at mixed-use sites. For examples, can those who work on-site afford to live on-site? How long will it take for the office uses to attract work trips from on-site residences? Is there an internal pedestrian, bicycle, or transit circulation system or roadway network that enhances or discourages internal trips?

Shared Parking—Shared parking and mixed-use trip generation estimation methodologies, though similar, are not interchangeable. Shared parking factors cannot be applied directly to estimate trip generation at a mixed-use development.

6.7 Data Collection at a Mixed-Use Development

Chapter 12 provides guidance on a proper approach for collecting appropriate person and vehicle trip information at a mixed-use development. The procedures in the chapter focus on the conduct of a comprehensive data collection program to cover an entire mixed-use development.

If the analyst desires to focus on trip interactions between individual land use pairs at an existing mixed-use development, the procedures can be adapted. The data collection program will likely require intercept surveys similar to Chapter 12 survey instruments.

The modified data collection program must include

- Measurement of total person trips (directionally) between the specified land uses, and
- The proportions of all trips to/from the individual land uses that these trips between the specified land uses comprise.

If, for example, the analyst wants to determine internal capture between two land uses (A and B), the product of the data collection effort must produce at a minimum:

- There are an estimated X person trips from Land Use A to Land Use B during the time period;
- There are an estimated Y person trips from Land Use B to Land Use A during the time period;
- Of all person trips from Land Use A during the time period (both internal and external to the mixed-use development site), P percent go to Land Use B;
- Of all person trips to Land Use B during the time period (both internal and external to the mixed-use development site), Q percent come from Land Use A;
- Of all person trips from Land Use B during the time period (both internal and external to the mixed-use development site), R percent go to Land Use A; and
- Of all person trips to Land Use A during the time period (both internal and external to the mixed-use development site), S percent come from Land Use B.

Suggested procedures, survey instruments, sample sizes, and other pertinent information are presented in Chapter 12.

Appendix P:
Detailed Summary of Site Trip Generation

ROSE TRIP GENERATION SUMMARY

Residential Trip Rates

Vehicle Trips - No Interactions

GROSS TRIPS		AM Peak			PM Peak		
Vehicle Trips	Units	In	Out	2-way	In	Out	2-way
Rate		0.02	0.20	0.22	0.13	0.06	0.19
Block 1	1850	45	360	405	245	110	355
Block 2	1800	45	350	395	235	105	340
Block 3	1100	25	215	240	145	65	210
Block 4	1050	25	205	230	140	60	200
Total	5800	140	1130	1270	765	340	1105

Vehicle Trips - With Interactions

EXTERNAL TRIPS		AM Peak			PM Peak		
Vehicle Trips	Units	In	Out	2-way	In	Out	2-way
Rate		0.02	0.20	0.22	0.13	0.06	0.19
Block 1	1850	45	355	400	220	100	320
Block 2	1800	40	350	390	220	100	320
Block 3	1100	25	210	235	135	60	195
Block 4	1050	25	205	230	130	55	185
Total	5800	135	1120	1255	705	315	1020

Interaction Trips

Residential Reduction		5	10	15	60	25	85

By Site		AM Peak			Pm Peak		
Block 1 - With Interactions		In	Out	2-way	In	Out	2-way
Res	External	45	355	400	220	100	320
Retail	External	15	10	25	35	30	65
Total	External	**60**	**365**	**425**	**255**	**130**	**385**

By Site		AM Peak			Pm Peak		
Block 2 - With Interactions		In	Out	2-way	In	Out	2-way
Res	External	40	350	390	220	100	320
Retail	External	15	10	25	35	30	65
Total	External	**55**	**360**	**415**	**255**	**130**	**385**

By Site		AM Peak			Pm Peak		
Block 3 - With Interactions		In	Out	2-way	In	Out	2-way
Res	External	25	210	235	135	60	195
Retail	External	30	20	50	70	65	135
Total	External	**55**	**230**	**285**	**205**	**125**	**330**

By Site		AM Peak			Pm Peak		
Block 4 - With Interactions		In	Out	2-way	In	Out	2-way
Res	External	25	205	230	130	55	185
Retail	External	25	15	40	65	55	120
Total	External	**50**	**220**	**270**	**195**	**110**	**305**

Retail Trip Rates

Vehicle Trip Rates - No Interactions

GROSS TRIPS		AM Peak			PM Peak		
Vehicle Trips	ft2 GFA	In	Out	2-way	In	Out	2-way
Rate		0.99	0.60	1.59	2.33	2.43	4.76
Block 1	16684.06	15	10	25	40	40	80
Block 2	16684.06	15	10	25	40	40	80
Block 3	35520.9	35	20	55	80	85	165
Block 4	30677.14	30	20	50	70	75	145
Total	99566.17	95	60	155	230	240	470

Vehicle Trips - With Interactions

EXTERNAL TRIPS		AM Peak			PM Peak		
Vehicle Trips	ft2 GFA	In	Out	2-way	In	Out	2-way
Rate		0.99	0.60	1.59	2.33	2.43	4.76
Block 1	16684.06	15	10	25	35	30	65
Block 2	16684.06	15	10	25	35	30	65
Block 3	35520.9	30	20	50	70	65	135
Block 4	30677.14	25	15	40	65	55	120
Total	99566.17	85	55	140	205	180	385

Interaction Trips

Retail Reduction	10	5	15	25	60	85

GROSS	235	1190	1425	995	580	1575
EXTERNAL	220	1175	1395	910	495	1405
INTERNAL (Check p.1)	15	15	30	85	85	170
INTERNAL (Check p.2)	15	15	30	85	85	170
Diff	***0***	***0***	***0***	***0***	***0***	***0***

Appendix Q:
Synchro Output Sheet

Appendix Q
Analysis Scenario Table of Contents:

1) Existing Traffic Conditions
2) 2031 Future Background Traffic Conditions (**Without** Corridor Growth)
3) 2031 Future Background Traffic Conditions (**With** Corridor Growth)
4) 2031 Future Total Traffic Conditions (**Without** Corridor Growth)
5) 2031 Future Total Traffic Conditions (**With** Corridor Growth)
6) 2036 Future Background Traffic Conditions (**Without** Corridor Growth)
7) 2036 Future Background Traffic Conditions (**With** Corridor Growth)
8) 2036 Future Total Traffic Conditions (**Without** Corridor Growth)
9) 2036 Future Total Traffic Conditions (**With** Corridor Growth)
10) 2046 Future Background Traffic Conditions (**Without** Corridor Growth)
11) 2046 Future Background Traffic Conditions (**With** Corridor Growth)
12) 2046 Future Total Traffic Conditions (**Without** Corridor Growth)
13) 2046 Future Total Traffic Conditions (**With** Corridor Growth)

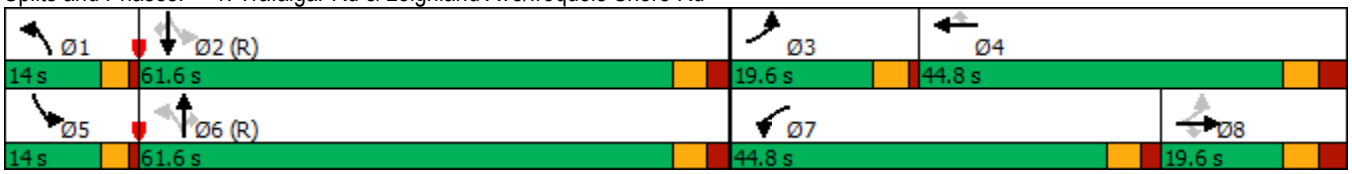
1) Existing Traffic Conditions

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	100	335	685	55	120	145	945	775	195	1995	50
Future Volume (vph)	35	100	335	685	55	120	145	945	775	195	1995	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.96					0.95			0.97	1.00		0.93
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1863	1568	3367	1827	1553	1719	4988	1568	1787	5085	1524
Flt Permitted	0.720			0.950			0.072			0.208		
Satd. Flow (perm)	1277	1863	1568	3367	1827	1470	130	4988	1525	390	5085	1424
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136			121			762			142
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			521.8			275.4			339.2	
Travel Time (s)		27.7			37.6			19.8			24.4	
Confl. Peds. (#/hr)	35					35	35		10	10		35
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Adj. Flow (vph)	35	101	338	692	56	121	146	955	783	197	2015	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	101	338	692	56	121	146	955	783	197	2015	51
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

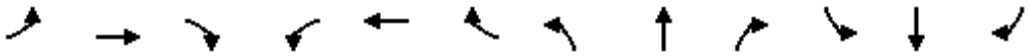
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	8	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	16.8	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	19.6	19.6	19.6	44.8	44.8	44.8	14.0	61.6	61.6	14.0	61.6	61.6
Total Split (%)	14.0%	14.0%	14.0%	32.0%	32.0%	32.0%	10.0%	44.0%	44.0%	10.0%	44.0%	44.0%
Maximum Green (s)	14.9	12.8	12.8	39.1	38.0	38.0	10.0	55.5	55.5	10.0	55.5	55.5
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	3.1	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	5.8	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					20	20		25	25		25	25
Act Effct Green (s)	29.9	19.3	19.3	34.6	48.7	48.7	69.5	56.6	56.6	69.7	56.7	56.7
Actuated g/C Ratio	0.21	0.14	0.14	0.25	0.35	0.35	0.50	0.40	0.40	0.50	0.40	0.40
v/c Ratio	0.12	0.39	1.02	0.83	0.09	0.21	0.78	0.47	0.73	0.65	0.98	0.08
Control Delay	28.1	62.0	88.4	59.1	33.0	6.4	53.3	28.2	16.8	29.5	56.4	0.2
Queue Delay	0.0	0.0	32.9	52.5	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
Total Delay	28.1	62.0	121.4	111.6	33.0	6.4	53.3	28.2	17.2	29.5	56.4	0.2
LOS	C	E	F	F	C	A	D	C	B	C	E	A
Approach Delay		101.8			91.9			25.6			52.8	
Approach LOS		F			F			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 53.9		Intersection LOS: D	
Intersection Capacity Utilization 91.8%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd

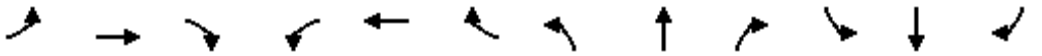


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	35	101	338	692	56	121	146	955	783	197	2015	51
v/c Ratio	0.12	0.39	1.02	0.83	0.09	0.21	0.78	0.47	0.73	0.65	0.98	0.08
Control Delay	28.1	62.0	88.4	59.1	33.0	6.4	53.3	28.2	16.8	29.5	56.4	0.2
Queue Delay	0.0	0.0	32.9	52.5	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
Total Delay	28.1	62.0	121.4	111.6	33.0	6.4	53.3	28.2	17.2	29.5	56.4	0.2
Queue Length 50th (m)	5.8	27.3	~68.3	98.8	11.2	0.0	27.5	82.0	57.9	30.2	210.6	0.0
Queue Length 95th (m)	12.9	49.0	#146.8	116.5	22.3	14.8	#61.7	94.5	206.5	45.9	#248.9	0.0
Internal Link Dist (m)		361.1			497.8			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	394	256	333	964	635	589	189	2015	1069	304	2059	661
Starvation Cap Reductn	0	0	0	0	0	0	0	0	46	0	0	0
Spillback Cap Reductn	0	0	109	408	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.39	1.51	1.24	0.09	0.21	0.77	0.47	0.77	0.65	0.98	0.08

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

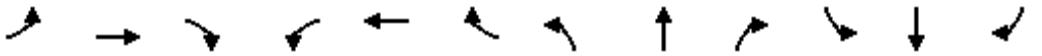
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	100	335	685	55	120	145	945	775	195	1995	50
Future Volume (vph)	35	100	335	685	55	120	145	945	775	195	1995	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	5.8	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.97	1.00	1.00	0.93
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1704	1863	1568	3367	1827	1470	1719	4988	1525	1786	5085	1424
Flt Permitted	0.72	1.00	1.00	0.95	1.00	1.00	0.07	1.00	1.00	0.21	1.00	1.00
Satd. Flow (perm)	1293	1863	1568	3367	1827	1470	130	4988	1525	391	5085	1424
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	35	101	338	692	56	121	146	955	783	197	2015	51
RTOR Reduction (vph)	0	0	116	0	0	79	0	0	459	0	0	31
Lane Group Flow (vph)	35	101	222	692	56	42	146	955	324	197	2015	20
Confl. Peds. (#/hr)	35					35	35		10	10		35
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	25.5	19.3	19.3	33.6	47.7	47.7	64.4	54.6	54.6	64.6	54.7	54.7
Effective Green, g (s)	27.5	20.3	20.3	34.6	48.7	48.7	66.4	55.6	55.6	66.6	55.7	55.7
Actuated g/C Ratio	0.20	0.15	0.15	0.25	0.35	0.35	0.47	0.40	0.40	0.48	0.40	0.40
Clearance Time (s)	4.7	6.8	6.8	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	275	270	227	832	635	511	184	1980	605	294	2023	566
v/s Ratio Prot	0.01	0.05		c0.21	0.03		c0.06	0.19		0.05	c0.40	
v/s Ratio Perm	0.02		c0.14			0.03	0.31		0.21	0.27		0.01
v/c Ratio	0.13	0.37	0.98	0.83	0.09	0.08	0.79	0.48	0.53	0.67	1.00	0.04
Uniform Delay, d1	46.1	54.1	59.6	49.9	30.7	30.6	34.9	31.5	32.3	23.0	42.0	25.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.89	4.97	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.9	52.6	7.1	0.1	0.1	18.8	0.8	3.0	5.9	19.1	0.1
Delay (s)	46.4	55.0	112.2	57.1	30.8	30.7	52.3	28.7	163.4	28.8	61.1	25.9
Level of Service	D	D	F	E	C	C	D	C	F	C	E	C
Approach Delay (s)		95.2			51.7			86.5			57.5	
Approach LOS		F			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	69.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	91.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

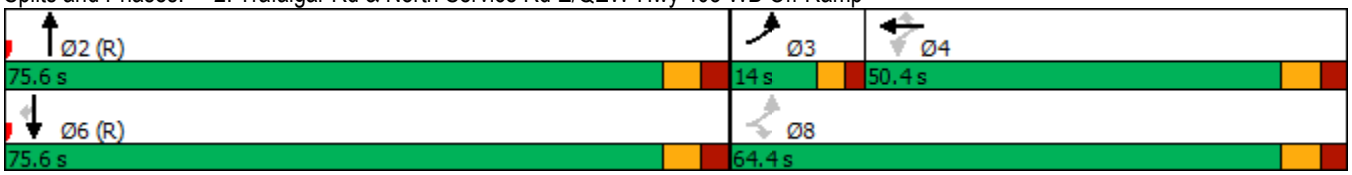


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	345	0	200	0	1675	0	0	3055	5
Future Volume (vph)	5	0	225	345	0	200	0	1675	0	0	3055	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.96
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.950							
Satd. Flow (prot)	1805	0	1599	1649	1649	1568	0	4988	0	0	5036	1615
Flt Permitted	0.381			0.950	0.950							
Satd. Flow (perm)	724	0	1599	1649	1649	1568	0	4988	0	0	5036	1543
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			131						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							10		5	5		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Adj. Flow (vph)	5	0	232	356	0	206	0	1727	0	0	3149	5
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	5	0	232	178	178	206	0	1727	0	0	3149	5
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

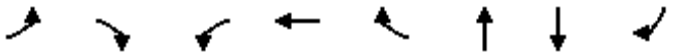
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	14.0		64.4	50.4	50.4	50.4		75.6			75.6	75.6
Total Split (%)	10.0%		46.0%	36.0%	36.0%	36.0%		54.0%			54.0%	54.0%
Maximum Green (s)	9.0		57.4	43.4	43.4	43.4		68.6			68.6	68.6
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		10			10	10
Act Effct Green (s)	28.9		26.9	24.3	24.3	24.3		101.1			101.1	101.1
Actuated g/C Ratio	0.21		0.19	0.17	0.17	0.17		0.72			0.72	0.72
v/c Ratio	0.02		0.70	0.62	0.62	0.54		0.48			0.87	0.00
Control Delay	37.6		55.4	62.6	62.6	24.2		4.9			34.8	0.0
Queue Delay	0.0		0.0	0.0	0.0	0.0		0.0			40.7	0.0
Total Delay	37.6		55.4	62.6	62.6	24.2		4.9			75.5	0.0
LOS	D		E	E	E	C		A			E	A
Approach Delay		55.0			48.5			4.9			75.4	
Approach LOS		E			D			A			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 50.5		Intersection LOS: D	
Intersection Capacity Utilization 97.5%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp



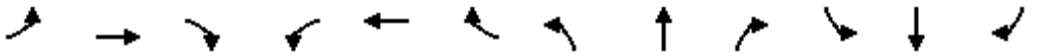
2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp



Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	5	232	178	178	206	1727	3149	5
v/c Ratio	0.02	0.70	0.62	0.62	0.54	0.48	0.87	0.00
Control Delay	37.6	55.4	62.6	62.6	24.2	4.9	34.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	40.7	0.0
Total Delay	37.6	55.4	62.6	62.6	24.2	4.9	75.5	0.0
Queue Length 50th (m)	1.2	56.4	50.7	50.7	19.1	21.4	322.3	0.0
Queue Length 95th (m)	4.4	73.5	75.1	75.1	43.9	95.5	m#367.3	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	226	685	522	522	586	3601	3635	1133
Starvation Cap Reductn	0	0	0	0	0	0	740	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.34	0.34	0.34	0.35	0.48	1.09	0.00

Intersection Summary

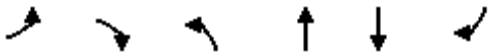
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



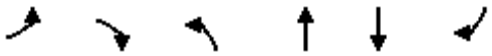
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	345	0	200	0	1675	0	0	3055	5
Future Volume (vph)	5	0	225	345	0	200	0	1675	0	0	3055	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.96
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1649	1649	1568		4988			5036	1543
Flt Permitted	0.38		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	724		1599	1649	1649	1568		4988			5036	1543
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	5	0	232	356	0	206	0	1727	0	0	3149	5
RTOR Reduction (vph)	0	0	24	0	0	108	0	0	0	0	0	2
Lane Group Flow (vph)	5	0	208	178	178	98	0	1727	0	0	3149	3
Confl. Peds. (#/hr)							10		5	5		10
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	29.9		29.9	23.3	23.3	23.3		96.1			96.1	96.1
Effective Green, g (s)	30.9		30.9	24.3	24.3	24.3		97.1			97.1	97.1
Actuated g/C Ratio	0.22		0.22	0.17	0.17	0.17		0.69			0.69	0.69
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	179		352	286	286	272		3459			3492	1070
v/s Ratio Prot	0.00							0.35			c0.63	
v/s Ratio Perm	0.01		c0.13	0.11	0.11	0.06						0.00
v/c Ratio	0.03		0.59	0.62	0.62	0.36		0.50			0.90	0.00
Uniform Delay, d1	43.1		48.9	53.6	53.6	51.0		10.1			17.5	6.6
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.48			2.17	1.00
Incremental Delay, d2	0.1		2.8	4.2	4.2	0.8		0.4			1.9	0.0
Delay (s)	43.2		51.7	57.8	57.8	51.8		5.2			40.1	6.6
Level of Service	D		D	E	E	D		A			D	A
Approach Delay (s)		51.5			55.6			5.2			40.0	
Approach LOS		D			E			A			D	

Intersection Summary			
HCM 2000 Control Delay	31.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	97.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



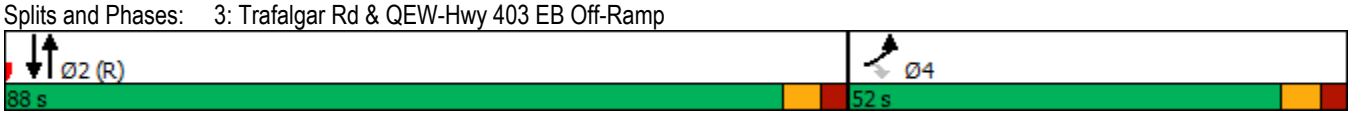
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	885	580	0	1150	2090	0
Future Volume (vph)	885	580	0	1150	2090	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3433	1583	0	4940	5036	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	*1800	0	4940	5036	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		7				
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			45.3	331.3	
Travel Time (s)	15.4			3.3	23.9	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Adj. Flow (vph)	903	592	0	1173	2133	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	903	592	0	1173	2133	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	52.0	52.0		88.0	88.0	
Total Split (%)	37.1%	37.1%		62.9%	62.9%	
Maximum Green (s)	45.0	45.0		81.0	81.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		10	10	
Act Effct Green (s)	46.0	46.0		82.0	82.0	
Actuated g/C Ratio	0.33	0.33		0.59	0.59	
v/c Ratio	0.80	0.99		0.41	0.72	
Control Delay	49.3	81.3		14.7	17.0	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	49.3	81.3		14.7	17.0	
LOS	D	F		B	B	
Approach Delay	62.0			14.7	17.0	
Approach LOS	E			B	B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 30.5		Intersection LOS: C	
Intersection Capacity Utilization 86.3%		ICU Level of Service E	
Analysis Period (min) 15			
* User Entered Value			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



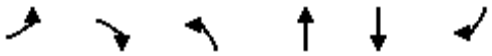
3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	903	592	1173	2133
v/c Ratio	0.80	0.99	0.41	0.72
Control Delay	49.3	81.3	14.7	17.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	49.3	81.3	14.7	17.0
Queue Length 50th (m)	123.5	170.4	37.2	143.9
Queue Length 95th (m)	150.1	#252.3	41.7	86.4
Internal Link Dist (m)	190.2		21.3	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1127	596	2893	2949
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.80	0.99	0.41	0.72

Intersection Summary

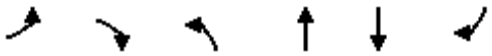
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	885	580	0	1150	2090	0
Future Volume (vph)	885	580	0	1150	2090	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	1583		4940	5036	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	1800		4940	5036	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	903	592	0	1173	2133	0
RTOR Reduction (vph)	0	5	0	0	0	0
Lane Group Flow (vph)	903	587	0	1173	2133	0
Confl. Peds. (#/hr)			10			10
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	45.0	45.0		81.0	81.0	
Effective Green, g (s)	46.0	46.0		82.0	82.0	
Actuated g/C Ratio	0.33	0.33		0.59	0.59	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1127	591		2893	2949	
v/s Ratio Prot	0.26			0.24	c0.42	
v/s Ratio Perm		c0.33				
v/c Ratio	0.80	0.99		0.41	0.72	
Uniform Delay, d1	42.8	46.9		15.8	20.8	
Progression Factor	1.00	1.00		0.90	0.76	
Incremental Delay, d2	4.2	35.2		0.4	0.9	
Delay (s)	47.0	82.1		14.6	16.9	
Level of Service	D	F		B	B	
Approach Delay (s)	60.9			14.6	16.9	
Approach LOS	E			B	B	

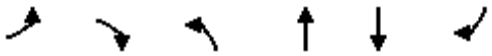
Intersection Summary			
HCM 2000 Control Delay	30.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	20	0	1145	2095	580
Future Volume (vph)	0	20	0	1145	2095	580
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.967	
Flt Protected						
Satd. Flow (prot)	0	1565	0	4940	4870	0
Flt Permitted						
Satd. Flow (perm)	0	1565	0	4940	4870	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	144.9			271.4	45.3	
Travel Time (s)	10.4			19.5	3.3	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	5%	0%	5%	3%	3%
Adj. Flow (vph)	0	22	0	1231	2253	624
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	22	0	1231	2877	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.6%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	20	0	1145	2095	580
Future Volume (Veh/h)	0	20	0	1145	2095	580
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	22	0	1231	2253	624
Pedestrians	10					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				271	45	
pX, platoon unblocked	0.74	0.69	0.69			
vC, conflicting volume	2985	1073	2887			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1584	0	2172			
tC, single (s)	6.8	7.0	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	100			
cM capacity (veh/h)	74	738	171			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	22	410	410	410	901	901	1075
Volume Left	0	0	0	0	0	0	0
Volume Right	22	0	0	0	0	0	624
cSH	738	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.03	0.24	0.24	0.24	0.53	0.53	0.63
Queue Length 95th (m)	0.7	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	10.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.0	0.0			0.0		
Approach LOS	B						

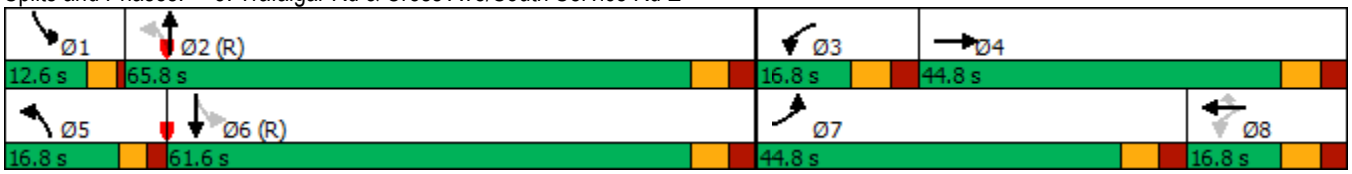
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	405	45	95	55	55	90	90	1105	30	170	1390	440
Future Volume (vph)	405	45	95	55	55	90	90	1105	30	170	1390	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		0.0	50.0		0.0	120.0		0.0	55.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.99		1.00				1.00		1.00	0.99	
Frt		0.898				0.850		0.996			0.964	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3273	1588	0	1736	1810	1553	1671	5013	0	1736	4838	0
Flt Permitted	0.950			0.665			0.058			0.174		
Satd. Flow (perm)	3273	1588	0	1209	1810	1553	102	5013	0	318	4838	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		76				171		3			68	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		217.0			420.1			277.9			271.4	
Travel Time (s)		15.6			30.2			20.0			19.5	
Confl. Peds. (#/hr)			5	5			15		5	5		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Adj. Flow (vph)	418	46	98	57	57	93	93	1139	31	175	1433	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	418	144	0	57	57	93	93	1170	0	175	1887	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases				8		8	2			6		
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		12.0	10.0	10.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0		19.0	17.0	17.0	12.0	34.0		11.0	34.0	
Total Split (s)	44.8	44.8		16.8	16.8	16.8	16.8	65.8		12.6	61.6	
Total Split (%)	32.0%	32.0%		12.0%	12.0%	12.0%	12.0%	47.0%		9.0%	44.0%	
Maximum Green (s)	37.8	37.8		9.8	9.8	9.8	11.8	58.8		8.6	54.6	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	3.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	4.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0						7.0			7.0	
Flash Dont Walk (s)		28.0						20.0			20.0	
Pedestrian Calls (#/hr)		5						10			10	
Act Effct Green (s)	24.3	29.6		23.6	12.8	12.8	82.6	70.1		85.4	70.5	
Actuated g/C Ratio	0.17	0.21		0.17	0.09	0.09	0.59	0.50		0.61	0.50	
v/c Ratio	0.74	0.36		0.23	0.35	0.31	0.53	0.47		0.56	0.76	
Control Delay	62.7	25.0		36.8	64.9	2.8	40.4	22.3		21.1	27.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	62.7	25.0		36.8	64.9	2.8	40.4	22.3		21.1	27.6	
LOS	E	C		D	E	A	D	C		C	C	
Approach Delay		53.0			29.3			23.6			27.0	
Approach LOS		D			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 29.7		Intersection LOS: C	
Intersection Capacity Utilization 82.9%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 5: Trafalgar Rd & Cross Ave/South Service Rd E



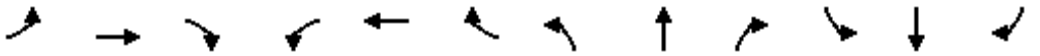
5: Trafalgar Rd & Cross Ave/South Service Rd E



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	418	144	57	57	93	93	1170	175	1887
v/c Ratio	0.74	0.36	0.23	0.35	0.31	0.53	0.47	0.56	0.76
Control Delay	62.7	25.0	36.8	64.9	2.8	40.4	22.3	21.1	27.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	25.0	36.8	64.9	2.8	40.4	22.3	21.1	27.6
Queue Length 50th (m)	60.2	17.2	12.1	16.0	0.0	14.2	52.8	17.1	107.6
Queue Length 95th (m)	75.4	35.3	20.8	29.9	0.0	m29.2	83.5	m34.5	m#185.4
Internal Link Dist (m)		193.0		396.1			253.9		247.4
Turn Bay Length (m)	130.0		50.0			120.0		55.0	
Base Capacity (vph)	907	495	243	165	296	210	2510	315	2469
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.29	0.23	0.35	0.31	0.44	0.47	0.56	0.76

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	405	45	95	55	55	90	90	1105	30	170	1390	440
Future Volume (vph)	405	45	95	55	55	90	90	1105	30	170	1390	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	6.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.90		1.00	1.00	0.85	1.00	1.00		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3273	1588		1730	1810	1553	1671	5013		1735	4838	
Flt Permitted	0.95	1.00		0.67	1.00	1.00	0.06	1.00		0.17	1.00	
Satd. Flow (perm)	3273	1588		1211	1810	1553	102	5013		318	4838	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	418	46	98	57	57	93	93	1139	31	175	1433	454
RTOR Reduction (vph)	0	60	0	0	0	84	0	2	0	0	34	0
Lane Group Flow (vph)	418	84	0	57	57	9	93	1168	0	175	1853	0
Confl. Peds. (#/hr)			5	5			15		5	5		15
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases				8		8	2			6		
Actuated Green, G (s)	23.3	28.6		20.9	13.1	13.1	77.2	67.7		79.0	68.1	
Effective Green, g (s)	24.3	29.6		22.9	14.1	14.1	79.2	68.7		81.0	69.1	
Actuated g/C Ratio	0.17	0.21		0.16	0.10	0.10	0.57	0.49		0.58	0.49	
Clearance Time (s)	7.0	7.0		7.0	7.0	7.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	4.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	568	335		230	182	156	175	2459		304	2387	
v/s Ratio Prot	c0.13	0.05		0.02	c0.03		0.04	0.23		c0.05	c0.38	
v/s Ratio Perm				0.02		0.01	0.26			0.28		
v/c Ratio	0.74	0.25		0.25	0.31	0.06	0.53	0.48		0.58	0.78	
Uniform Delay, d1	54.8	46.0		50.6	58.5	57.0	22.6	23.7		15.5	29.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.55	0.91		1.34	0.91	
Incremental Delay, d2	4.9	0.5		0.7	1.3	0.2	2.3	0.5		1.7	1.7	
Delay (s)	59.7	46.5		51.3	59.8	57.2	37.4	22.1		22.6	28.2	
Level of Service	E	D		D	E	E	D	C		C	C	
Approach Delay (s)		56.4			56.3			23.2			27.8	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	82.9%	ICU Level of Service	E
Analysis Period (min)	15		

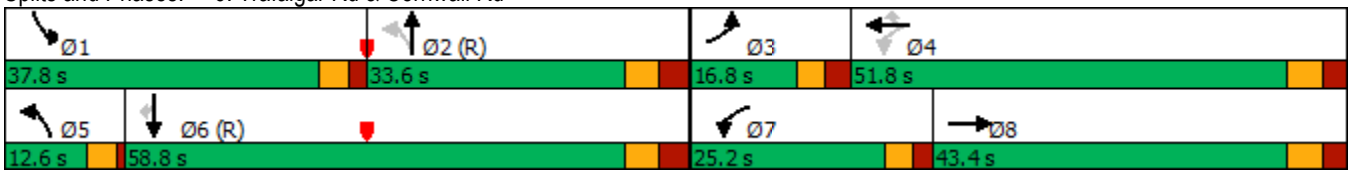
c Critical Lane Group

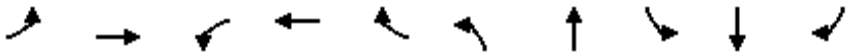
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	260	370	65	25	330	600	50	385	50	615	585	375
Future Volume (vph)	260	370	65	25	330	600	50	385	50	615	585	375
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.98	0.99		0.99		0.95	0.99	1.00		0.99		0.96
Frt		0.977				0.850		0.983				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3367	3315	0	1736	3438	1553	1770	3454	0	3400	1881	1553
Flt Permitted	0.950			0.485			0.378			0.950		
Satd. Flow (perm)	3296	3315	0	874	3438	1483	698	3454	0	3363	1881	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14				500		9				292
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			277.9	
Travel Time (s)		41.4			45.2			10.0			20.0	
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Adj. Flow (vph)	271	385	68	26	344	625	52	401	52	641	609	391
Shared Lane Traffic (%)												
Lane Group Flow (vph)	271	453	0	26	344	625	52	453	0	641	609	391
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	16.8	43.4		25.2	51.8	51.8	12.6	33.6		37.8	58.8	58.8
Total Split (%)	12.0%	31.0%		18.0%	37.0%	37.0%	9.0%	24.0%		27.0%	42.0%	42.0%
Maximum Green (s)	11.1	37.0		20.2	45.4	45.4	8.6	26.7		32.8	51.9	51.9
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		20			20	20		15			15	15
Act Effct Green (s)	14.7	41.3		40.2	29.9	29.9	54.5	43.0		32.3	69.9	69.9
Actuated g/C Ratio	0.10	0.30		0.29	0.21	0.21	0.39	0.31		0.23	0.50	0.50
v/c Ratio	0.77	0.46		0.09	0.47	0.88	0.15	0.42		0.82	0.65	0.44
Control Delay	73.2	42.4		25.8	48.5	24.7	19.6	42.1		64.4	42.5	20.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	73.2	42.4		25.8	48.5	24.7	19.6	42.1		64.4	42.5	20.6
LOS	E	D		C	D	C	B	D		E	D	C
Approach Delay		53.9			32.9			39.8			45.8	
Approach LOS		D			C			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 43.2		Intersection LOS: D	
Intersection Capacity Utilization 89.4%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd





Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	271	453	26	344	625	52	453	641	609	391
v/c Ratio	0.77	0.46	0.09	0.47	0.88	0.15	0.42	0.82	0.65	0.44
Control Delay	73.2	42.4	25.8	48.5	24.7	19.6	42.1	64.4	42.5	20.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.2	42.4	25.8	48.5	24.7	19.6	42.1	64.4	42.5	20.6
Queue Length 50th (m)	39.6	56.9	4.7	45.6	37.6	6.7	57.6	100.8	124.6	34.7
Queue Length 95th (m)	#69.2	77.2	9.9	52.8	85.5	15.6	83.1	122.1	#221.8	90.6
Internal Link Dist (m)		551.4		604.3			115.4		253.9	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	354	996	445	1139	825	350	1068	833	939	894
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.45	0.06	0.30	0.76	0.15	0.42	0.77	0.65	0.44

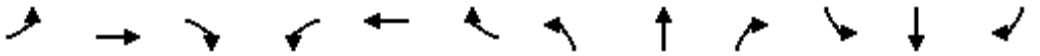
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	260	370	65	25	330	600	50	385	50	615	585	375
Future Volume (vph)	260	370	65	25	330	600	50	385	50	615	585	375
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.95	1.00	1.00		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3367	3316		1721	3438	1483	1764	3453		3400	1881	1498
Flt Permitted	0.95	1.00		0.48	1.00	1.00	0.38	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3367	3316		879	3438	1483	702	3453		3400	1881	1498
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	271	385	68	26	344	625	52	401	52	641	609	391
RTOR Reduction (vph)	0	10	0	0	0	386	0	6	0	0	0	152
Lane Group Flow (vph)	271	443	0	26	344	239	52	447	0	641	609	239
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	13.7	40.3		36.1	31.0	31.0	46.2	40.0		31.3	66.1	66.1
Effective Green, g (s)	14.7	41.3		38.1	32.0	32.0	48.2	41.0		32.3	67.1	67.1
Actuated g/C Ratio	0.10	0.29		0.27	0.23	0.23	0.34	0.29		0.23	0.48	0.48
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Lane Grp Cap (vph)	353	978		275	785	338	296	1011		784	901	717
v/s Ratio Prot	c0.08	0.13		0.00	0.10		0.01	0.13		c0.19	c0.32	
v/s Ratio Perm				0.02		c0.16	0.05					0.16
v/c Ratio	0.77	0.45		0.09	0.44	0.71	0.18	0.44		0.82	0.68	0.33
Uniform Delay, d1	61.0	40.2		37.7	46.3	49.7	31.1	40.2		51.1	28.1	22.6
Progression Factor	0.97	1.06		1.00	1.00	1.00	1.00	1.00		1.13	1.36	2.70
Incremental Delay, d2	9.4	0.3		0.2	0.4	6.6	0.3	1.4		5.0	2.9	0.9
Delay (s)	68.4	42.9		37.9	46.7	56.3	31.4	41.6		62.8	41.2	61.9
Level of Service	E	D		D	D	E	C	D		E	D	E
Approach Delay (s)		52.4			52.5			40.6			54.5	
Approach LOS		D			D			D			D	

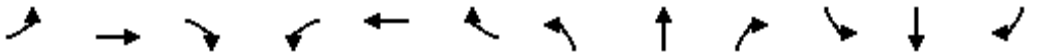
Intersection Summary			
HCM 2000 Control Delay	51.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	89.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	10	0	0	0	145	35	10	185	0
Future Volume (vph)	0	0	0	10	0	0	0	145	35	10	185	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt								0.971				
Flt Protected					0.950						0.998	
Satd. Flow (prot)	0	1900	0	0	1626	0	0	3403	0	0	3503	0
Flt Permitted					0.950						0.998	
Satd. Flow (perm)	0	1900	0	0	1626	0	0	3403	0	0	3503	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		33.6			129.3			420.1			134.0	
Travel Time (s)		2.4			9.3			30.2			9.6	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	11%	0%	0%	50%	3%	3%	0%	3%	0%
Adj. Flow (vph)	0	0	0	11	0	0	0	167	40	11	213	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	11	0	0	207	0	0	224	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	10	0	0	0	145	35	10	185	0
Future Volume (Veh/h)	0	0	0	10	0	0	0	145	35	10	185	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	0	0	11	0	0	0	167	40	11	213	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	318	442	106	316	422	104	213			207		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	318	442	106	316	422	104	213			207		
tC, single (s)	7.5	6.5	6.9	7.7	6.5	6.9	5.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.7			2.2		
p0 queue free %	100	100	100	98	100	100	100			99		
cM capacity (veh/h)	612	509	934	588	522	938	1067			1376		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	11	84	124	118	106
Volume Left	0	11	0	0	11	0
Volume Right	0	0	0	40	0	0
cSH	1700	588	1067	1700	1376	1700
Volume to Capacity	0.00	0.02	0.00	0.07	0.01	0.06
Queue Length 95th (m)	0.0	0.5	0.0	0.0	0.2	0.0
Control Delay (s)	0.0	11.2	0.0	0.0	0.8	0.0
Lane LOS	A	B			A	
Approach Delay (s)	0.0	11.2	0.0		0.4	
Approach LOS	A	B				

Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	22.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	40	60	95	150	70	20
Future Volume (vph)	40	60	95	150	70	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.919				0.970	
Flt Protected				0.981	0.962	
Satd. Flow (prot)	1698	0	0	1816	1740	0
Flt Permitted				0.981	0.962	
Satd. Flow (perm)	1698	0	0	1816	1740	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	850.9			1164.2	455.7	
Travel Time (s)	61.3			83.8	32.8	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	7%	0%	2%	3%	1%	5%
Adj. Flow (vph)	49	73	116	183	85	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	122	0	0	299	109	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	40	60	95	150	70	20
Future Volume (Veh/h)	40	60	95	150	70	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	49	73	116	183	85	24
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			122		500	86
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			122		500	86
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		83	98
cM capacity (veh/h)			1465		490	965

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	122	299	109
Volume Left	0	116	85
Volume Right	73	0	24
cSH	1700	1465	549
Volume to Capacity	0.07	0.08	0.20
Queue Length 95th (m)	0.0	2.1	5.9
Control Delay (s)	0.0	3.4	13.2
Lane LOS		A	B
Approach Delay (s)	0.0	3.4	13.2
Approach LOS			B

Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	31.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	595	180	40	525	35	230	65	60	35	75	25
Future Volume (vph)	25	595	180	40	525	35	230	65	60	35	75	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00		1.00	0.99		1.00		0.98
Frt		0.965			0.991			0.928				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	3342	0	1752	3436	0	1736	1732	0	1703	1881	1553
Flt Permitted	0.406			0.287			0.704			0.670		
Satd. Flow (perm)	705	3342	0	529	3436	0	1280	1732	0	1196	1881	1526
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		70			12			48				32
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			455.7	
Travel Time (s)		43.9			11.1			15.4			32.8	
Confl. Peds. (#/hr)	5					5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Adj. Flow (vph)	27	647	196	43	571	38	250	71	65	38	82	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	843	0	43	609	0	250	136	0	38	82	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	28.7	28.7		28.7	28.7		18.3	18.3		18.3	18.3	18.3
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.32	0.32		0.32	0.32	0.32
v/c Ratio	0.08	0.49		0.16	0.35		0.61	0.23		0.10	0.14	0.05
Control Delay	9.6	10.2		11.1	9.6		23.6	11.0		14.7	14.6	5.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	9.6	10.2		11.1	9.6		23.6	11.0		14.7	14.6	5.6
LOS	A	B		B	A		C	B		B	B	A
Approach Delay		10.2			9.7			19.2			13.0	
Approach LOS		B			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 56.7			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 11.9		Intersection LOS: B	
Intersection Capacity Utilization 68.1%		ICU Level of Service C	
Analysis Period (min) 15			

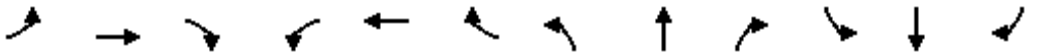
Splits and Phases: 16: Chartwell Rd & Cornwall Rd





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	27	843	43	609	250	136	38	82	27
v/c Ratio	0.08	0.49	0.16	0.35	0.61	0.23	0.10	0.14	0.05
Control Delay	9.6	10.2	11.1	9.6	23.6	11.0	14.7	14.6	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.6	10.2	11.1	9.6	23.6	11.0	14.7	14.6	5.6
Queue Length 50th (m)	1.3	24.3	2.2	17.4	20.0	6.0	2.5	5.5	0.0
Queue Length 95th (m)	6.3	54.0	9.5	39.0	50.1	19.7	9.6	16.6	4.2
Internal Link Dist (m)		585.1		130.4		189.6		431.7	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	670	3182	503	3268	733	1012	685	1077	888
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.26	0.09	0.19	0.34	0.13	0.06	0.08	0.03

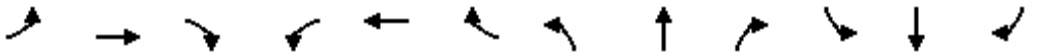
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	595	180	40	525	35	230	65	60	35	75	25
Future Volume (vph)	25	595	180	40	525	35	230	65	60	35	75	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.99		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1652	3343		1752	3435		1731	1735		1698	1881	1529
Flt Permitted	0.41	1.00		0.29	1.00		0.70	1.00		0.67	1.00	1.00
Satd. Flow (perm)	705	3343		529	3435		1282	1735		1198	1881	1529
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	647	196	43	571	38	250	71	65	38	82	27
RTOR Reduction (vph)	0	34	0	0	6	0	0	32	0	0	0	18
Lane Group Flow (vph)	27	809	0	43	603	0	250	104	0	38	82	9
Confl. Peds. (#/hr)	5					5	5		5	5		5
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	27.7	27.7		27.7	27.7		17.2	17.2		17.2	17.2	17.2
Effective Green, g (s)	28.7	28.7		28.7	28.7		18.2	18.2		18.2	18.2	18.2
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.32	0.32		0.32	0.32	0.32
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	359	1704		269	1751		414	560		387	608	494
v/s Ratio Prot		c0.24			0.18			0.06			0.04	
v/s Ratio Perm	0.04			0.08			c0.19			0.03		0.01
v/c Ratio	0.08	0.47		0.16	0.34		0.60	0.18		0.10	0.13	0.02
Uniform Delay, d1	7.0	8.9		7.4	8.2		16.0	13.7		13.3	13.5	13.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.5		0.7	0.3		2.9	0.2		0.2	0.1	0.0
Delay (s)	7.3	9.4		8.1	8.5		18.9	13.9		13.5	13.6	13.0
Level of Service	A	A		A	A		B	B		B	B	B
Approach Delay (s)		9.4			8.5			17.1			13.5	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	56.3	Sum of lost time (s)	9.4
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

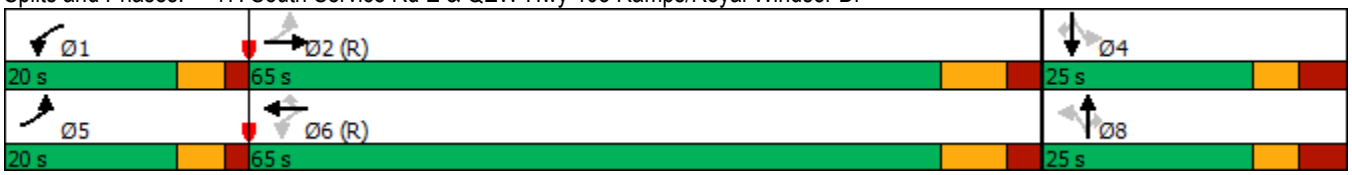


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	630	70	145	560	0	5	10	55	0	50	15
Future Volume (vph)	55	630	70	145	560	0	5	10	55	0	50	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	125.0		0.0	145.0		55.0	15.0		40.0	35.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985							0.850			0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3213	3364	0	1787	3312	1900	1805	1900	1455	1900	1863	1122
Flt Permitted	0.427			0.337			0.722					
Satd. Flow (perm)	1444	3364	0	634	3312	1900	1372	1900	1455	1900	1863	1122
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16							113			113
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		232.7			227.3			1164.2			153.5	
Travel Time (s)		16.8			16.4			83.8			11.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	9%	6%	3%	1%	9%	0%	0%	0%	11%	0%	2%	44%
Adj. Flow (vph)	59	670	74	154	596	0	5	11	59	0	53	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	744	0	154	596	0	5	11	59	0	53	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	8.0	20.0		8.0	20.0	20.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	14.0	28.4		14.0	28.4	28.4	17.8	17.8	17.8	17.8	17.8	17.8
Total Split (s)	20.0	65.0		20.0	65.0	65.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	18.2%	59.1%		18.2%	59.1%	59.1%	22.7%	22.7%	22.7%	22.7%	22.7%	22.7%
Maximum Green (s)	14.0	56.6		14.0	56.6	56.6	17.2	17.2	17.2	17.2	17.2	17.2
Yellow Time (s)	4.0	5.4		4.0	5.4	5.4	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.0	3.0		2.0	3.0	3.0	4.1	4.1	4.1	4.1	4.1	4.1
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	81.1	69.7		83.7	73.3		11.3	11.3	11.3		11.3	11.3
Actuated g/C Ratio	0.74	0.63		0.76	0.67		0.10	0.10	0.10		0.10	0.10
v/c Ratio	0.05	0.35		0.26	0.27		0.04	0.06	0.24		0.28	0.07
Control Delay	2.9	10.0		3.9	8.4		44.8	45.0	2.5		49.4	0.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	2.9	10.0		3.9	8.4		44.8	45.0	2.5		49.4	0.7
LOS	A	A		A	A		D	D	A		D	A
Approach Delay		9.5			7.5			11.5			38.1	
Approach LOS		A			A			B			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.35			
Intersection Signal Delay: 9.9		Intersection LOS: A	
Intersection Capacity Utilization 52.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr

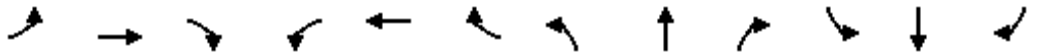


17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr



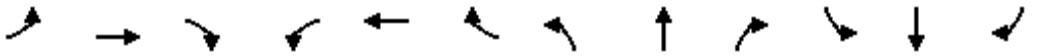
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	59	744	154	596	5	11	59	53	16
v/c Ratio	0.05	0.35	0.26	0.27	0.04	0.06	0.24	0.28	0.07
Control Delay	2.9	10.0	3.9	8.4	44.8	45.0	2.5	49.4	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.9	10.0	3.9	8.4	44.8	45.0	2.5	49.4	0.7
Queue Length 50th (m)	1.1	36.1	6.3	28.2	1.1	2.3	0.0	11.3	0.0
Queue Length 95th (m)	2.5	53.4	11.6	39.0	4.8	7.9	1.0	23.8	0.0
Internal Link Dist (m)		208.7		203.3		1140.2		129.5	
Turn Bay Length (m)	125.0		145.0		15.0		40.0		
Base Capacity (vph)	1375	2135	657	2206	227	314	335	308	279
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.35	0.23	0.27	0.02	0.04	0.18	0.17	0.06

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	630	70	145	560	0	5	10	55	0	50	15
Future Volume (vph)	55	630	70	145	560	0	5	10	55	0	50	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.4		5.0	7.4		6.8	6.8	6.8		6.8	6.8
Lane Util. Factor	0.97	0.95		1.00	0.95		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	3213	3364		1787	3312		1805	1900	1455		1863	1122
Flt Permitted	0.43	1.00		0.34	1.00		0.72	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1443	3364		635	3312		1373	1900	1455		1863	1122
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	59	670	74	154	596	0	5	11	59	0	53	16
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	53	0	0	14
Lane Group Flow (vph)	59	738	0	154	596	0	5	11	6	0	53	2
Heavy Vehicles (%)	9%	6%	3%	1%	9%	0%	0%	0%	11%	0%	2%	44%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	75.1	68.7		79.9	71.1		10.3	10.3	10.3		10.3	10.3
Effective Green, g (s)	77.1	69.7		81.9	72.1		11.3	11.3	11.3		11.3	11.3
Actuated g/C Ratio	0.70	0.63		0.74	0.66		0.10	0.10	0.10		0.10	0.10
Clearance Time (s)	6.0	8.4		6.0	8.4		7.8	7.8	7.8		7.8	7.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	1130	2131		575	2170		141	195	149		191	115
v/s Ratio Prot	0.00	c0.22		c0.02	0.18			0.01			c0.03	
v/s Ratio Perm	0.03			0.18			0.00		0.00			0.00
v/c Ratio	0.05	0.35		0.27	0.27		0.04	0.06	0.04		0.28	0.01
Uniform Delay, d1	5.0	9.5		4.2	8.0		44.4	44.5	44.5		45.6	44.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.4		0.3	0.3		0.1	0.1	0.1		0.8	0.0
Delay (s)	5.0	9.9		4.4	8.3		44.5	44.7	44.6		46.4	44.4
Level of Service	A	A		A	A		D	D	D		D	D
Approach Delay (s)		9.5			7.5			44.6			45.9	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

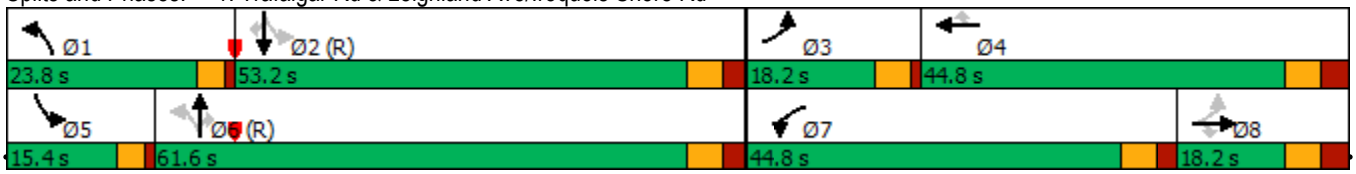


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	115	280	765	150	285	295	1735	875	130	1140	115
Future Volume (vph)	100	115	280	765	150	285	295	1735	875	130	1140	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.95					0.92	0.99		0.97			0.87
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1881	1599	3467	1881	1615	1787	5136	1599	1805	5085	1615
Flt Permitted	0.659			0.950			0.119			0.078		
Satd. Flow (perm)	1185	1881	1599	3467	1881	1485	221	5136	1543	148	5085	1399
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			189			194			653			173
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			521.8			275.4			339.2	
Travel Time (s)		27.7			37.6			19.8			24.4	
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Adj. Flow (vph)	103	119	289	789	155	294	304	1789	902	134	1175	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	119	289	789	155	294	304	1789	902	134	1175	119
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

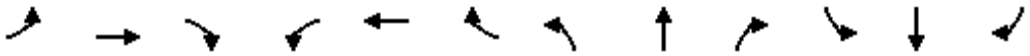
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	8	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	16.8	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	18.2	18.2	18.2	44.8	44.8	44.8	23.8	61.6	61.6	15.4	53.2	53.2
Total Split (%)	13.0%	13.0%	13.0%	32.0%	32.0%	32.0%	17.0%	44.0%	44.0%	11.0%	38.0%	38.0%
Maximum Green (s)	13.5	11.4	11.4	39.1	38.0	38.0	19.8	55.5	55.5	11.4	47.1	47.1
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	3.1	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	5.8	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					30	30		50	50		50	50
Act Effct Green (s)	26.8	13.3	13.3	36.8	39.7	39.7	76.4	60.2	60.2	64.4	51.1	51.1
Actuated g/C Ratio	0.19	0.10	0.10	0.26	0.28	0.28	0.55	0.43	0.43	0.46	0.36	0.36
v/c Ratio	0.37	0.67	0.90	0.87	0.29	0.53	0.88	0.81	0.87	0.67	0.63	0.19
Control Delay	33.1	79.8	51.4	60.0	40.7	17.5	53.2	20.4	17.9	45.2	39.3	1.6
Queue Delay	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	4.7	0.0	0.0	0.0
Total Delay	33.1	79.8	52.0	60.0	40.7	17.5	53.2	20.4	22.6	45.2	39.3	1.6
LOS	C	E	D	E	D	B	D	C	C	D	D	A
Approach Delay		54.6			47.5			24.4			36.7	
Approach LOS		D			D			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 34.4		Intersection LOS: C	
Intersection Capacity Utilization 88.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd

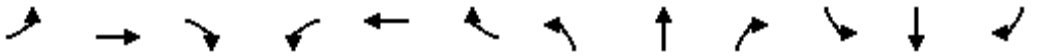


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	103	119	289	789	155	294	304	1789	902	134	1175	119
v/c Ratio	0.37	0.67	0.90	0.87	0.29	0.53	0.88	0.81	0.87	0.67	0.63	0.19
Control Delay	33.1	79.8	51.4	60.0	40.7	17.5	53.2	20.4	17.9	45.2	39.3	1.6
Queue Delay	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	4.7	0.0	0.0	0.0
Total Delay	33.1	79.8	52.0	60.0	40.7	17.5	53.2	20.4	22.6	45.2	39.3	1.6
Queue Length 50th (m)	18.1	33.7	29.3	112.4	34.5	22.2	58.8	143.2	211.6	21.2	106.8	0.0
Queue Length 95th (m)	31.0	#63.9	#86.8	135.0	56.2	53.6	m#89.3	153.0	#274.5	44.9	124.0	3.1
Internal Link Dist (m)		361.1			497.8			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	317	182	325	993	544	568	355	2208	1035	215	1857	620
Starvation Cap Reductn	0	0	0	0	0	0	0	0	86	0	0	0
Spillback Cap Reductn	0	0	2	0	0	0	0	0	0	0	20	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.65	0.89	0.79	0.28	0.52	0.86	0.81	0.95	0.62	0.64	0.19

Intersection Summary

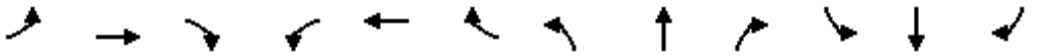
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	115	280	765	150	285	295	1735	875	130	1140	115
Future Volume (vph)	100	115	280	765	150	285	295	1735	875	130	1140	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	5.8	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.92	1.00	1.00	0.97	1.00	1.00	0.87
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1743	1881	1599	3467	1881	1486	1785	5136	1543	1805	5085	1399
Flt Permitted	0.66	1.00	1.00	0.95	1.00	1.00	0.12	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	1209	1881	1599	3467	1881	1486	224	5136	1543	149	5085	1399
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	103	119	289	789	155	294	304	1789	902	134	1175	119
RTOR Reduction (vph)	0	0	171	0	0	139	0	0	372	0	0	76
Lane Group Flow (vph)	103	119	118	789	155	155	304	1789	530	134	1175	43
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	22.7	12.3	12.3	35.8	38.7	38.7	73.3	59.2	59.2	60.2	50.1	50.1
Effective Green, g (s)	24.7	13.3	13.3	36.8	39.7	39.7	74.3	60.2	60.2	62.2	51.1	51.1
Actuated g/C Ratio	0.18	0.10	0.10	0.26	0.28	0.28	0.53	0.43	0.43	0.44	0.37	0.37
Clearance Time (s)	4.7	6.8	6.8	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	256	178	151	911	533	421	344	2208	663	197	1856	510
v/s Ratio Prot	0.03	0.06		c0.23	0.08		c0.13	0.35		0.05	0.23	
v/s Ratio Perm	0.04		c0.07			0.10	c0.34		0.34	0.25		0.03
v/c Ratio	0.40	0.67	0.78	0.87	0.29	0.37	0.88	0.81	0.80	0.68	0.63	0.09
Uniform Delay, d1	50.5	61.2	61.9	49.2	39.2	40.1	33.2	34.9	34.6	28.8	36.7	29.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.25	0.51	1.14	1.00	1.00	1.00
Incremental Delay, d2	1.0	9.1	22.6	8.7	0.3	0.5	14.3	1.9	5.7	9.3	1.7	0.3
Delay (s)	51.5	70.4	84.5	57.9	39.5	40.7	55.6	19.8	45.4	38.0	38.4	29.5
Level of Service	D	E	F	E	D	D	E	B	D	D	D	C
Approach Delay (s)		74.6			51.5			31.1			37.6	
Approach LOS		E			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	40.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	88.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

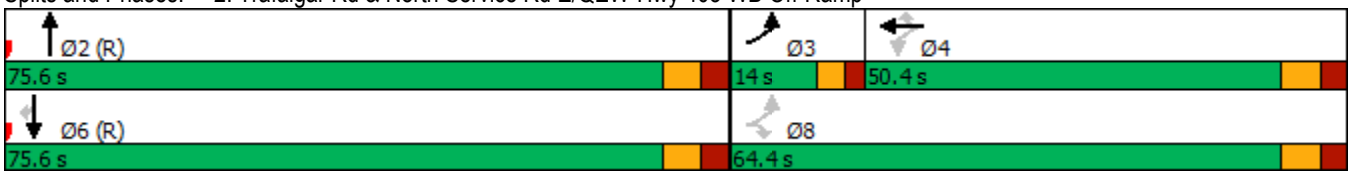


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	265	400	5	340	0	2555	0	0	2195	15
Future Volume (vph)	25	0	265	400	5	340	0	2555	0	0	2195	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.94
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.953							
Satd. Flow (prot)	1805	0	1599	1681	1687	1583	0	5136	0	0	5036	1524
Flt Permitted	0.379			0.950	0.953							
Satd. Flow (perm)	720	0	1599	1681	1687	1583	0	5136	0	0	5036	1437
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			108						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							15		10	10		15
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Adj. Flow (vph)	27	0	282	426	5	362	0	2718	0	0	2335	16
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	27	0	282	217	214	362	0	2718	0	0	2335	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

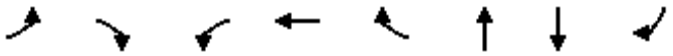
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	14.0		64.4	50.4	50.4	50.4		75.6			75.6	75.6
Total Split (%)	10.0%		46.0%	36.0%	36.0%	36.0%		54.0%			54.0%	54.0%
Maximum Green (s)	9.0		57.4	43.4	43.4	43.4		68.6			68.6	68.6
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		15			15	15
Act Effct Green (s)	41.4		39.4	31.1	31.1	31.1		88.6			88.6	88.6
Actuated g/C Ratio	0.30		0.28	0.22	0.22	0.22		0.63			0.63	0.63
v/c Ratio	0.10		0.60	0.58	0.57	0.83		0.84			0.73	0.02
Control Delay	29.4		41.6	53.6	53.2	51.7		13.9			34.4	0.5
Queue Delay	0.0		0.0	0.0	0.0	0.0		0.0			0.2	0.0
Total Delay	29.4		41.6	53.6	53.2	51.7		13.9			34.6	0.5
LOS	C		D	D	D	D		B			C	A
Approach Delay		40.5			52.6			13.9			34.4	
Approach LOS		D			D			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 28.0		Intersection LOS: C	
Intersection Capacity Utilization 87.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp



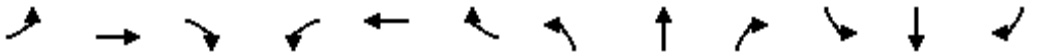
2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp



Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	27	282	217	214	362	2718	2335	16
v/c Ratio	0.10	0.60	0.58	0.57	0.83	0.84	0.73	0.02
Control Delay	29.4	41.6	53.6	53.2	51.7	13.9	34.4	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay	29.4	41.6	53.6	53.2	51.7	13.9	34.6	0.5
Queue Length 50th (m)	5.3	60.0	59.8	58.9	73.4	128.9	232.2	0.0
Queue Length 95th (m)	10.9	77.9	79.6	78.3	101.7	#336.4	252.7	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	290	685	533	535	575	3251	3187	935
Starvation Cap Reductn	0	0	0	0	0	0	228	0
Spillback Cap Reductn	0	0	0	0	1	18	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.41	0.41	0.40	0.63	0.84	0.79	0.02

Intersection Summary

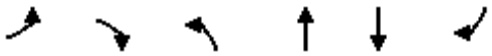
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	265	400	5	340	0	2555	0	0	2195	15
Future Volume (vph)	25	0	265	400	5	340	0	2555	0	0	2195	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.94
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1681	1688	1583		5136			5036	1437
Flt Permitted	0.38		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	720		1599	1681	1688	1583		5136			5036	1437
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	27	0	282	426	5	362	0	2718	0	0	2335	16
RTOR Reduction (vph)	0	0	22	0	0	84	0	0	0	0	0	6
Lane Group Flow (vph)	27	0	260	217	214	278	0	2718	0	0	2335	10
Confl. Peds. (#/hr)							15		10	10		15
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	40.4		40.4	30.1	30.1	30.1		85.6			85.6	85.6
Effective Green, g (s)	41.4		41.4	31.1	31.1	31.1		86.6			86.6	86.6
Actuated g/C Ratio	0.30		0.30	0.22	0.22	0.22		0.62			0.62	0.62
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	261		472	373	374	351		3176			3115	888
v/s Ratio Prot	0.00							c0.53			0.46	
v/s Ratio Perm	0.03		c0.16	0.13	0.13	c0.18						0.01
v/c Ratio	0.10		0.55	0.58	0.57	0.79		0.86			0.75	0.01
Uniform Delay, d1	35.9		41.5	48.6	48.5	51.4		21.6			19.0	10.3
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.47			1.62	1.00
Incremental Delay, d2	0.3		1.5	2.3	2.1	11.6		2.2			1.2	0.0
Delay (s)	36.2		43.0	50.9	50.6	63.0		12.5			32.0	10.3
Level of Service	D		D	D	D	E		B			C	B
Approach Delay (s)		42.4			56.4			12.5			31.9	
Approach LOS		D			E			B			C	

Intersection Summary			
HCM 2000 Control Delay	27.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	87.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

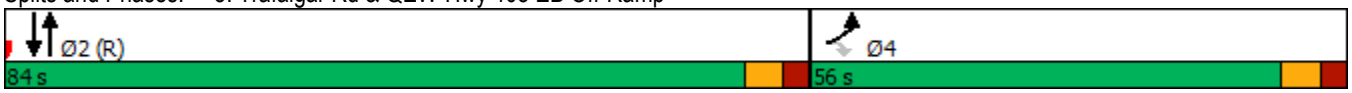


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1005	360	0	1780	1640	0
Future Volume (vph)	1005	360	0	1780	1640	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3467	1583	0	5085	5085	0
Flt Permitted	0.950					
Satd. Flow (perm)	3467	1583	0	5085	5085	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		14				
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			45.3	331.3	
Travel Time (s)	15.4			3.3	23.9	
Confl. Peds. (#/hr)			25			25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Adj. Flow (vph)	1058	379	0	1874	1726	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1058	379	0	1874	1726	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	56.0	56.0		84.0	84.0	
Total Split (%)	40.0%	40.0%		60.0%	60.0%	
Maximum Green (s)	49.0	49.0		77.0	77.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		15	15	
Act Effct Green (s)	47.8	47.8		80.2	80.2	
Actuated g/C Ratio	0.34	0.34		0.57	0.57	
v/c Ratio	0.89	0.69		0.64	0.59	
Control Delay	54.2	45.3		24.7	17.2	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	54.2	45.3		24.7	17.2	
LOS	D	D		C	B	
Approach Delay	51.8			24.7	17.2	
Approach LOS	D			C	B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 29.9		Intersection LOS: C	
Intersection Capacity Utilization 73.1%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp

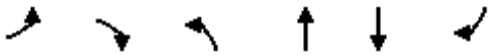


3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	1058	379	1874	1726
v/c Ratio	0.89	0.69	0.64	0.59
Control Delay	54.2	45.3	24.7	17.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	54.2	45.3	24.7	17.2
Queue Length 50th (m)	146.5	89.3	100.5	61.8
Queue Length 95th (m)	175.7	127.2	116.6	83.6
Internal Link Dist (m)	190.2		21.3	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1238	574	2913	2913
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.85	0.66	0.64	0.59

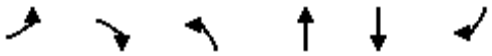
Intersection Summary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1005	360	0	1780	1640	0
Future Volume (vph)	1005	360	0	1780	1640	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3467	1583		5085	5085	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3467	1583		5085	5085	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1058	379	0	1874	1726	0
RTOR Reduction (vph)	0	9	0	0	0	0
Lane Group Flow (vph)	1058	370	0	1874	1726	0
Confl. Peds. (#/hr)			25			25
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	46.8	46.8		79.2	79.2	
Effective Green, g (s)	47.8	47.8		80.2	80.2	
Actuated g/C Ratio	0.34	0.34		0.57	0.57	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1183	540		2912	2912	
v/s Ratio Prot	c0.31			c0.37	0.34	
v/s Ratio Perm		0.23				
v/c Ratio	0.89	0.68		0.64	0.59	
Uniform Delay, d1	43.7	39.6		20.2	19.3	
Progression Factor	1.00	1.00		1.15	0.83	
Incremental Delay, d2	8.9	3.6		0.8	0.7	
Delay (s)	52.6	43.2		24.1	16.8	
Level of Service	D	D		C	B	
Approach Delay (s)	50.2			24.1	16.8	
Approach LOS	D			C	B	

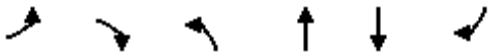
Intersection Summary			
HCM 2000 Control Delay	29.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	50	0	1775	1685	345
Future Volume (vph)	0	50	0	1775	1685	345
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.975	
Flt Protected						
Satd. Flow (prot)	0	1522	0	5085	4974	0
Flt Permitted						
Satd. Flow (perm)	0	1522	0	5085	4974	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	144.9			271.4	45.3	
Travel Time (s)	10.4			19.5	3.3	
Confl. Peds. (#/hr)			20			20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	8%	0%	2%	1%	5%
Adj. Flow (vph)	0	53	0	1888	1793	367
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	53	0	1888	2160	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 50.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	50	0	1775	1685	345
Future Volume (Veh/h)	0	50	0	1775	1685	345
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	53	0	1888	1793	367
Pedestrians	20					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	2					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				271	45	
pX, platoon unblocked	0.85	0.78	0.78			
vC, conflicting volume	2626	801	2180			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1216	0	1525			
tC, single (s)	6.8	7.1	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	100	94	100			
cM capacity (veh/h)	147	817	340			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	53	629	629	629	717	717	726
Volume Left	0	0	0	0	0	0	0
Volume Right	53	0	0	0	0	0	367
cSH	817	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.06	0.37	0.37	0.37	0.42	0.42	0.43
Queue Length 95th (m)	1.7	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	9.7	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A						
Approach Delay (s)	9.7	0.0			0.0		
Approach LOS	A						

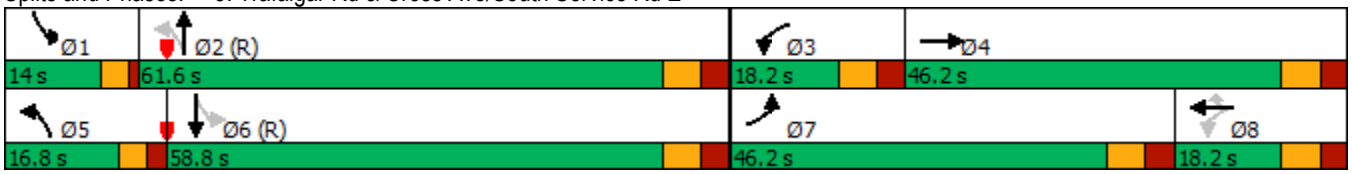
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	55	90	60	70	245	85	1030	25	105	1230	390
Future Volume (vph)	800	55	90	60	70	245	85	1030	25	105	1230	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		0.0	50.0		0.0	120.0		0.0	55.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.98		0.98				1.00		1.00	0.99	
Frt		0.907				0.850		0.996			0.964	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	1625	0	1805	1900	1599	1719	5112	0	1752	4911	0
Flt Permitted	0.950			0.662			0.070			0.177		
Satd. Flow (perm)	3400	1625	0	1233	1900	1599	127	5112	0	325	4911	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		59				171		3			66	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		217.0			420.1			277.9			271.4	
Travel Time (s)		15.6			30.2			20.0			19.5	
Confl. Peds. (#/hr)			20	20			15		15	15		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Adj. Flow (vph)	825	57	93	62	72	253	88	1062	26	108	1268	402
Shared Lane Traffic (%)												
Lane Group Flow (vph)	825	150	0	62	72	253	88	1088	0	108	1670	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases				8		8	2			6		
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		12.0	10.0	10.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0		19.0	17.0	17.0	12.0	34.0		11.0	34.0	
Total Split (s)	46.2	46.2		18.2	18.2	18.2	16.8	61.6		14.0	58.8	
Total Split (%)	33.0%	33.0%		13.0%	13.0%	13.0%	12.0%	44.0%		10.0%	42.0%	
Maximum Green (s)	39.2	39.2		11.2	11.2	11.2	11.8	54.6		10.0	51.8	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	3.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	4.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0						7.0			7.0	
Flash Dont Walk (s)		28.0						20.0			20.0	
Pedestrian Calls (#/hr)		10						15			15	
Act Effct Green (s)	38.2	41.8		24.5	12.2	12.2	70.8	58.6		70.5	57.4	
Actuated g/C Ratio	0.27	0.30		0.18	0.09	0.09	0.51	0.42		0.50	0.41	
v/c Ratio	0.89	0.29		0.23	0.44	0.86	0.49	0.51		0.41	0.81	
Control Delay	61.4	24.8		31.5	69.4	47.5	40.5	34.7		21.2	31.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	61.4	24.8		31.5	69.4	47.5	40.5	34.7		21.2	31.9	
LOS	E	C		C	E	D	D	C		C	C	
Approach Delay		55.8			49.0			35.1			31.2	
Approach LOS		E			D			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 39.4		Intersection LOS: D	
Intersection Capacity Utilization 88.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 5: Trafalgar Rd & Cross Ave/South Service Rd E



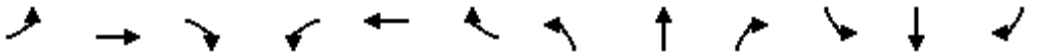
5: Trafalgar Rd & Cross Ave/South Service Rd E



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	825	150	62	72	253	88	1088	108	1670
v/c Ratio	0.89	0.29	0.23	0.44	0.86	0.49	0.51	0.41	0.81
Control Delay	61.4	24.8	31.5	69.4	47.5	40.5	34.7	21.2	31.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.4	24.8	31.5	69.4	47.5	40.5	34.7	21.2	31.9
Queue Length 50th (m)	117.0	20.1	10.8	20.3	23.7	13.0	96.6	14.2	101.5
Queue Length 95th (m)	143.5	39.8	20.6	37.5	#72.4	m26.2	82.0	m25.6	145.5
Internal Link Dist (m)		193.0		396.1			253.9		247.4
Turn Bay Length (m)	130.0		50.0			120.0		55.0	
Base Capacity (vph)	976	530	266	168	297	211	2140	278	2053
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.28	0.23	0.43	0.85	0.42	0.51	0.39	0.81

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	55	90	60	70	245	85	1030	25	105	1230	390
Future Volume (vph)	800	55	90	60	70	245	85	1030	25	105	1230	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	6.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.98		1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	1.00	0.85	1.00	1.00		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3400	1625		1782	1900	1599	1719	5114		1752	4910	
Flt Permitted	0.95	1.00		0.66	1.00	1.00	0.07	1.00		0.18	1.00	
Satd. Flow (perm)	3400	1625		1241	1900	1599	127	5114		326	4910	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	825	57	93	62	72	253	88	1062	26	108	1268	402
RTOR Reduction (vph)	0	41	0	0	0	154	0	2	0	0	40	0
Lane Group Flow (vph)	825	109	0	62	72	99	88	1086	0	108	1630	0
Confl. Peds. (#/hr)			20	20			15		15	15		15
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases				8		8	2			6		
Actuated Green, G (s)	37.2	40.8		21.6	12.6	12.6	65.3	56.1		64.1	55.0	
Effective Green, g (s)	38.2	41.8		23.6	13.6	13.6	67.3	57.1		66.1	56.0	
Actuated g/C Ratio	0.27	0.30		0.17	0.10	0.10	0.48	0.41		0.47	0.40	
Clearance Time (s)	7.0	7.0		7.0	7.0	7.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	4.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	927	485		247	184	155	177	2085		256	1964	
v/s Ratio Prot	c0.24	0.07		0.02	0.04		c0.04	0.21		0.03	c0.33	
v/s Ratio Perm				0.02		c0.06	0.20			0.17		
v/c Ratio	0.89	0.22		0.25	0.39	0.64	0.50	0.52		0.42	0.83	
Uniform Delay, d1	48.9	36.9		50.1	59.3	60.8	26.7	31.2		22.1	37.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.68	1.11		1.01	0.80	
Incremental Delay, d2	10.5	0.3		0.6	1.9	9.3	1.6	0.7		0.9	3.5	
Delay (s)	59.4	37.2		50.8	61.2	70.1	46.5	35.3		23.3	33.7	
Level of Service	E	D		D	E	E	D	D		C	C	
Approach Delay (s)		56.0			65.3			36.1			33.1	
Approach LOS		E			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	42.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	88.2%	ICU Level of Service	E
Analysis Period (min)	15		

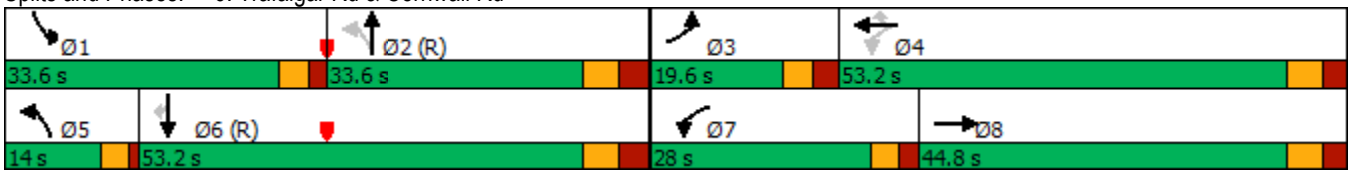
c Critical Lane Group

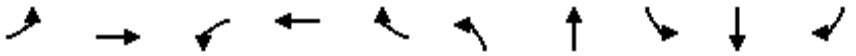
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	320	380	45	50	480	585	60	475	55	430	530	295
Future Volume (vph)	320	380	45	50	480	585	60	475	55	430	530	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.97	1.00		0.99		0.93	1.00	1.00		0.98		0.98
Frt		0.984				0.850		0.984				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	3474	0	1805	3539	1583	1770	3539	0	3433	1881	1553
Flt Permitted	0.950			0.493			0.356			0.950		
Satd. Flow (perm)	3361	3474	0	928	3539	1470	660	3539	0	3369	1881	1516
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9				427		8				238
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			277.9	
Travel Time (s)		41.4			45.2			10.0			20.0	
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Adj. Flow (vph)	330	392	46	52	495	603	62	490	57	443	546	304
Shared Lane Traffic (%)												
Lane Group Flow (vph)	330	438	0	52	495	603	62	547	0	443	546	304
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	19.6	44.8		28.0	53.2	53.2	14.0	33.6		33.6	53.2	53.2
Total Split (%)	14.0%	32.0%		20.0%	38.0%	38.0%	10.0%	24.0%		24.0%	38.0%	38.0%
Maximum Green (s)	13.9	38.4		23.0	46.8	46.8	10.0	26.7		28.6	46.3	46.3
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		30			30	30		15			15	15
Act Effct Green (s)	16.2	43.6		45.4	34.1	34.1	56.8	44.8		24.9	63.8	63.8
Actuated g/C Ratio	0.12	0.31		0.32	0.24	0.24	0.41	0.32		0.18	0.46	0.46
v/c Ratio	0.82	0.40		0.14	0.57	0.89	0.18	0.48		0.73	0.64	0.37
Control Delay	77.3	42.9		24.0	48.1	29.3	20.8	42.3		61.6	56.7	29.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	77.3	42.9		24.0	48.1	29.3	20.8	42.3		61.6	56.7	29.1
LOS	E	D		C	D	C	C	D		E	E	C
Approach Delay		57.7			37.1			40.1			51.9	
Approach LOS		E			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 46.7		Intersection LOS: D	
Intersection Capacity Utilization 91.5%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd

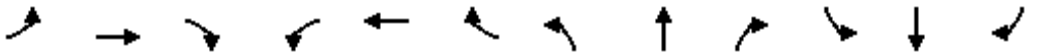




Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	330	438	52	495	603	62	547	443	546	304
v/c Ratio	0.82	0.40	0.14	0.57	0.89	0.18	0.48	0.73	0.64	0.37
Control Delay	77.3	42.9	24.0	48.1	29.3	20.8	42.3	61.6	56.7	29.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.3	42.9	24.0	48.1	29.3	20.8	42.3	61.6	56.7	29.1
Queue Length 50th (m)	49.6	57.4	9.4	67.6	57.2	8.1	66.0	70.4	137.8	43.5
Queue Length 95th (m)	#78.0	68.7	15.5	74.8	102.6	19.1	101.1	m85.3	#204.0	m67.9
Internal Link Dist (m)		551.4		604.3			115.4		253.9	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	400	1103	524	1208	783	363	1137	725	856	820
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.40	0.10	0.41	0.77	0.17	0.48	0.61	0.64	0.37

Intersection Summary

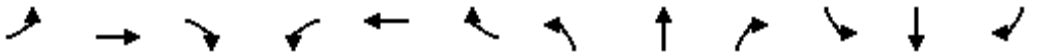
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	320	380	45	50	480	585	60	475	55	430	530	295
Future Volume (vph)	320	380	45	50	480	585	60	475	55	430	530	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.93	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3467	3475		1795	3539	1470	1767	3540		3433	1881	1516
Flt Permitted	0.95	1.00		0.49	1.00	1.00	0.36	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3467	3475		931	3539	1470	662	3540		3433	1881	1516
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	330	392	46	52	495	603	62	490	57	443	546	304
RTOR Reduction (vph)	0	6	0	0	0	320	0	6	0	0	0	133
Lane Group Flow (vph)	330	432	0	52	495	283	62	541	0	443	546	171
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	15.2	42.6		41.7	34.2	34.2	49.4	42.7		23.9	60.9	60.9
Effective Green, g (s)	16.2	43.6		43.7	35.2	35.2	51.4	43.7		24.9	61.9	61.9
Actuated g/C Ratio	0.12	0.31		0.31	0.25	0.25	0.37	0.31		0.18	0.44	0.44
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Lane Grp Cap (vph)	401	1082		343	889	369	303	1104		610	831	670
v/s Ratio Prot	c0.10	0.12		0.01	0.14		0.01	0.15		c0.13	c0.29	
v/s Ratio Perm				0.04		c0.19	0.06					0.11
v/c Ratio	0.82	0.40		0.15	0.56	0.77	0.20	0.49		0.73	0.66	0.26
Uniform Delay, d1	60.5	37.9		34.1	45.6	48.6	29.4	39.1		54.3	30.7	24.6
Progression Factor	1.00	1.14		1.00	1.00	1.00	1.00	1.00		1.05	1.67	3.73
Incremental Delay, d2	12.6	0.2		0.3	0.8	9.3	0.3	1.6		3.0	2.6	0.6
Delay (s)	72.8	43.4		34.4	46.4	57.9	29.8	40.7		60.2	53.8	92.3
Level of Service	E	D		C	D	E	C	D		E	D	F
Approach Delay (s)		56.1			51.9			39.6			65.0	
Approach LOS		E			D			D			E	

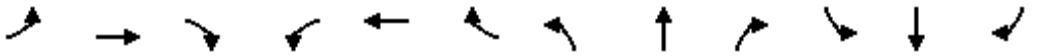
Intersection Summary			
HCM 2000 Control Delay	55.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	91.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	25	0	0	270	85	0	0	0	20	5	25
Future Volume (vph)	10	25	0	0	270	85	0	0	0	20	5	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.968						0.932	
Flt Protected		0.986									0.980	
Satd. Flow (prot)	0	1822	0	0	1746	0	0	1900	0	0	1735	0
Flt Permitted		0.986									0.980	
Satd. Flow (perm)	0	1822	0	0	1746	0	0	1900	0	0	1735	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		175.8			144.9			44.8			109.8	
Travel Time (s)		12.7			10.4			3.2			7.9	
Confl. Peds. (#/hr)			10	10					10	10		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	4%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	11	27	0	0	290	91	0	0	0	22	5	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	0	0	381	0	0	0	0	0	54	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

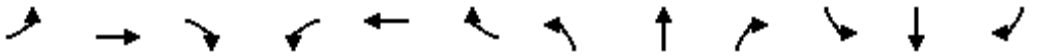
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	25	0	0	270	85	0	0	0	20	5	25
Future Volume (Veh/h)	10	25	0	0	270	85	0	0	0	20	5	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	11	27	0	0	290	91	0	0	0	22	5	27
Pedestrians					10			10				
Lane Width (m)					3.6			3.6				
Walking Speed (m/s)					1.2			1.2				
Percent Blockage					1			1				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		355										
pX, platoon unblocked												
vC, conflicting volume	381			37			424	440	47	394	394	336
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	381			37			424	440	47	394	394	336
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	96	99	96
cM capacity (veh/h)	1189			1573			508	505	1011	557	536	711

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	38	381	0	54
Volume Left	11	0	0	22
Volume Right	0	91	0	27
cSH	1189	1573	1700	622
Volume to Capacity	0.01	0.00	0.02	0.09
Queue Length 95th (m)	0.2	0.0	0.0	2.3
Control Delay (s)	2.4	0.0	0.0	11.3
Lane LOS	A		A	B
Approach Delay (s)	2.4	0.0	0.0	11.3
Approach LOS			A	B

Intersection Summary				
Average Delay	1.5			
Intersection Capacity Utilization	32.2%	ICU Level of Service	A	
Analysis Period (min)	15			

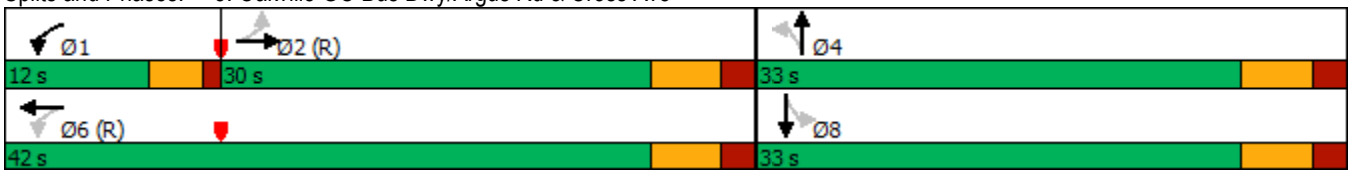


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	685	15	15	470	30	15	0	30	150	15	205
Future Volume (vph)	25	685	15	15	470	30	15	0	30	150	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	30.0			15.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		1.00	1.00			0.95		0.96	0.95	
Frt		0.997			0.991			0.910			0.860	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1805	3522	0	902	3535	0	0	839	0	1787	1457	0
Flt Permitted	0.452			0.299				0.870		0.726		
Satd. Flow (perm)	849	3522	0	283	3535	0	0	734	0	1309	1457	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			12			102			220	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		136.6			217.0			71.0			179.3	
Travel Time (s)		9.8			15.6			5.1			12.9	
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Adj. Flow (vph)	27	737	16	16	505	32	16	0	32	161	16	220
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	753	0	16	537	0	0	48	0	161	236	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

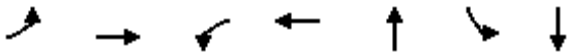
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		1	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	22.0	22.0		8.0	22.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	29.0	29.0		12.0	29.0		29.0	29.0		29.0	29.0	
Total Split (s)	30.0	30.0		12.0	42.0		33.0	33.0		33.0	33.0	
Total Split (%)	40.0%	40.0%		16.0%	56.0%		44.0%	44.0%		44.0%	44.0%	
Maximum Green (s)	24.0	24.0		8.0	36.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		3.0	5.0			5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	5.0	5.0		2.5	5.0		4.0	4.0		4.0	4.0	
Recall Mode	C-Min	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	16.0	16.0			16.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	15	15			15		45	45		45	45	
Act Effct Green (s)	43.2	43.2		47.6	45.6			19.4		19.4	19.4	
Actuated g/C Ratio	0.58	0.58		0.63	0.61			0.26		0.26	0.26	
v/c Ratio	0.06	0.37		0.06	0.25			0.18		0.48	0.44	
Control Delay	11.6	11.2		7.6	7.9			2.0		27.1	6.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	11.6	11.2		7.6	7.9			2.0		27.1	6.5	
LOS	B	B		A	A			A		C	A	
Approach Delay		11.2			7.9			2.0			14.8	
Approach LOS		B			A			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.48			
Intersection Signal Delay: 10.7		Intersection LOS: B	
Intersection Capacity Utilization 48.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: Oakville GO Bus Dwy/Argus Rd & Cross Ave

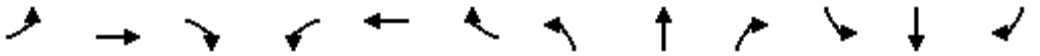


8: Oakville GO Bus Dwy/Argus Rd & Cross Ave



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	27	753	16	537	48	161	236
v/c Ratio	0.06	0.37	0.06	0.25	0.18	0.48	0.44
Control Delay	11.6	11.2	7.6	7.9	2.0	27.1	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.6	11.2	7.6	7.9	2.0	27.1	6.5
Queue Length 50th (m)	1.7	31.2	1.0	20.1	0.0	18.4	1.6
Queue Length 95th (m)	7.5	61.4	3.5	29.1	1.2	34.8	16.7
Internal Link Dist (m)		112.6		193.0	47.0		155.3
Turn Bay Length (m)	20.0		20.0			15.0	
Base Capacity (vph)	489	2031	254	2155	337	488	681
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.37	0.06	0.25	0.14	0.33	0.35

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	685	15	15	470	30	15	0	30	150	15	205
Future Volume (vph)	25	685	15	15	470	30	15	0	30	150	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.0	5.0			5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.96		1.00	0.95	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			0.99		0.96	1.00	
Frt	1.00	1.00		1.00	0.99			0.91		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1784	3521		901	3535			830		1714	1457	
Flt Permitted	0.45	1.00		0.30	1.00			0.87		0.73	1.00	
Satd. Flow (perm)	849	3521		284	3535			735		1309	1457	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	27	737	16	16	505	32	16	0	32	161	16	220
RTOR Reduction (vph)	0	1	0	0	5	0	0	36	0	0	163	0
Lane Group Flow (vph)	27	752	0	16	532	0	0	12	0	161	73	0
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	39.0	39.0		44.6	44.6			18.4		18.4	18.4	
Effective Green, g (s)	40.0	40.0		45.6	45.6			19.4		19.4	19.4	
Actuated g/C Ratio	0.53	0.53		0.61	0.61			0.26		0.26	0.26	
Clearance Time (s)	6.0	6.0		4.0	6.0			6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		2.5	5.0			4.0		4.0	4.0	
Lane Grp Cap (vph)	452	1877		194	2149			190		338	376	
v/s Ratio Prot		c0.21		0.00	c0.15						0.05	
v/s Ratio Perm	0.03			0.05				0.02		c0.12		
v/c Ratio	0.06	0.40		0.08	0.25			0.07		0.48	0.19	
Uniform Delay, d1	8.4	10.4		6.3	6.8			21.0		23.5	21.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.6		0.1	0.3			0.2		1.4	0.3	
Delay (s)	8.7	11.0		6.4	7.1			21.2		24.9	22.0	
Level of Service	A	B		A	A			C		C	C	
Approach Delay (s)		10.9			7.0			21.2			23.2	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		

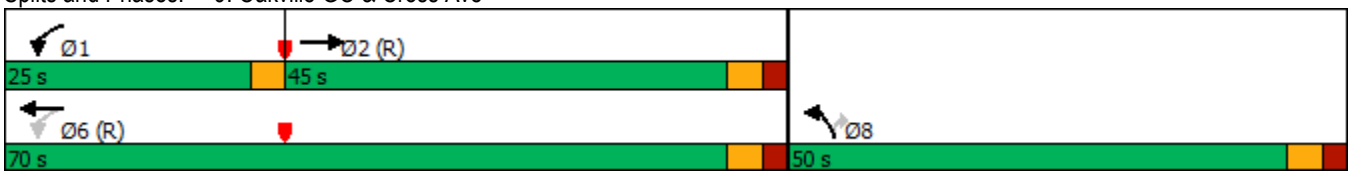
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	405	80	360	325	130	310
Future Volume (vph)	405	80	360	325	130	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor	0.99			0.99	0.98	0.97
Frt	0.975					0.850
Flt Protected				0.974	0.950	
Satd. Flow (prot)	3380	0	0	3435	1805	1615
Flt Permitted				0.602	0.950	
Satd. Flow (perm)	3380	0	0	2112	1775	1570
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	21					337
Link Speed (k/h)	50			50	50	
Link Distance (m)	110.3			136.6	83.5	
Travel Time (s)	7.9			9.8	6.0	
Confl. Peds. (#/hr)		10	10		10	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	0%	0%	5%	0%	0%
Adj. Flow (vph)	440	87	391	353	141	337
Shared Lane Traffic (%)						
Lane Group Flow (vph)	527	0	0	744	141	337
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (m)	10.0		2.0	10.0	2.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	0.6		2.0	0.6	2.0	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)	9.4			9.4		
Detector 2 Size(m)	0.6			0.6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases			6			8

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	8	8
Switch Phase						
Minimum Initial (s)	35.0		8.0	35.0	10.0	10.0
Minimum Split (s)	40.6		11.0	40.6	27.6	27.6
Total Split (s)	45.0		25.0	70.0	50.0	50.0
Total Split (%)	37.5%		20.8%	58.3%	41.7%	41.7%
Maximum Green (s)	39.4		22.0	64.4	44.4	44.4
Yellow Time (s)	3.3		3.0	3.3	3.3	3.3
All-Red Time (s)	2.3		0.0	2.3	2.3	2.3
Lost Time Adjust (s)	-1.0			-1.0	-1.0	-1.0
Total Lost Time (s)	4.6			4.6	4.6	4.6
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	5.0		2.5	5.0	3.5	3.5
Recall Mode	C-Min		None	C-Min	None	None
Walk Time (s)	7.0			7.0	7.0	7.0
Flash Dont Walk (s)	15.0			15.0	15.0	15.0
Pedestrian Calls (#/hr)	20			20	10	10
Act Effct Green (s)	94.2			94.2	16.6	16.6
Actuated g/C Ratio	0.78			0.78	0.14	0.14
v/c Ratio	0.20			0.45	0.57	0.66
Control Delay	3.7			5.8	56.5	11.5
Queue Delay	0.0			0.5	0.0	0.0
Total Delay	3.7			6.3	56.5	11.5
LOS	A			A	E	B
Approach Delay	3.7			6.3	24.8	
Approach LOS	A			A	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 10.5		Intersection LOS: B	
Intersection Capacity Utilization 81.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 9: Oakville GO & Cross Ave





Lane Group	EBT	WBT	NBL	NBR
Lane Group Flow (vph)	527	744	141	337
v/c Ratio	0.20	0.45	0.57	0.66
Control Delay	3.7	5.8	56.5	11.5
Queue Delay	0.0	0.5	0.0	0.0
Total Delay	3.7	6.3	56.5	11.5
Queue Length 50th (m)	13.5	26.2	33.2	0.0
Queue Length 95th (m)	24.2	47.2	51.5	26.4
Internal Link Dist (m)	86.3	112.6	59.5	
Turn Bay Length (m)				
Base Capacity (vph)	2658	1658	682	803
Starvation Cap Reductn	0	486	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.20	0.63	0.21	0.42

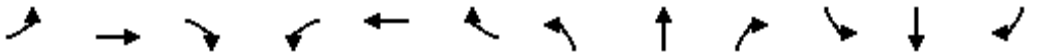
Intersection Summary



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	405	80	360	325	130	310
Future Volume (vph)	405	80	360	325	130	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6			4.6	4.6	4.6
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	0.99			1.00	1.00	0.97
Flpb, ped/bikes	1.00			0.99	1.00	1.00
Frt	0.98			1.00	1.00	0.85
Flt Protected	1.00			0.97	0.95	1.00
Satd. Flow (prot)	3381			3412	1805	1570
Flt Permitted	1.00			0.60	0.95	1.00
Satd. Flow (perm)	3381			2109	1805	1570
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	440	87	391	353	141	337
RTOR Reduction (vph)	5	0	0	0	0	290
Lane Group Flow (vph)	522	0	0	744	141	47
Confl. Peds. (#/hr)		10	10		10	10
Heavy Vehicles (%)	4%	0%	0%	5%	0%	0%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases			6			8
Actuated Green, G (s)	93.2			93.2	15.6	15.6
Effective Green, g (s)	94.2			94.2	16.6	16.6
Actuated g/C Ratio	0.79			0.79	0.14	0.14
Clearance Time (s)	5.6			5.6	5.6	5.6
Vehicle Extension (s)	5.0			5.0	3.5	3.5
Lane Grp Cap (vph)	2654			1655	249	217
v/s Ratio Prot	0.15				c0.08	
v/s Ratio Perm				c0.35		0.03
v/c Ratio	0.20			0.45	0.57	0.21
Uniform Delay, d1	3.3			4.3	48.3	45.9
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.2			0.1	3.2	0.6
Delay (s)	3.4			4.4	51.5	46.5
Level of Service	A			A	D	D
Approach Delay (s)	3.4			4.4	48.0	
Approach LOS	A			A	D	

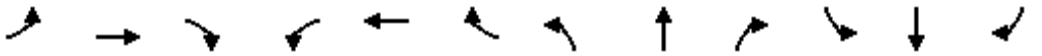
Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	285	0	0	345	130	0	0	80	120	0	95
Future Volume (vph)	40	285	0	0	345	130	0	0	80	120	0	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (m)	25.0			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.959			0.865				0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1805	3438	0	0	3355	0	0	1644	0	1805	0	1615
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1805	3438	0	0	3355	0	0	1644	0	1805	0	1615
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		132.8			110.3			48.2			88.5	
Travel Time (s)		9.6			7.9			3.5			6.4	
Confl. Peds. (#/hr)	15		10	10		15	5		5	5		5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	5%	0%	0%	4%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	45	324	0	0	392	148	0	0	91	136	0	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	324	0	0	540	0	0	91	0	136	0	108
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

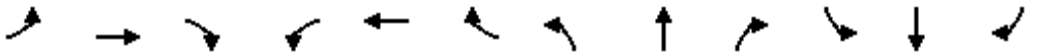
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 40.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	285	0	0	345	130	0	0	80	120	0	95
Future Volume (Veh/h)	40	285	0	0	345	130	0	0	80	120	0	95
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	45	324	0	0	392	148	0	0	91	136	0	108
Pedestrians		5			5			10			15	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		133			110							
pX, platoon unblocked												
vC, conflicting volume	555			334			733	979	177	829	905	290
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	555			334			733	979	177	829	905	290
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			100			100	100	89	39	100	85
cM capacity (veh/h)	1013			1226			248	236	831	222	261	701

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	45	162	162	261	279	91	136	108
Volume Left	45	0	0	0	0	0	136	0
Volume Right	0	0	0	0	148	91	0	108
cSH	1013	1700	1700	1700	1700	831	222	701
Volume to Capacity	0.04	0.10	0.10	0.15	0.16	0.11	0.61	0.15
Queue Length 95th (m)	1.1	0.0	0.0	0.0	0.0	2.9	28.5	4.3
Control Delay (s)	8.7	0.0	0.0	0.0	0.0	9.9	44.0	11.1
Lane LOS	A					A	E	B
Approach Delay (s)	1.1			0.0		9.9	29.4	
Approach LOS						A	D	

Intersection Summary				
Average Delay	6.8			
Intersection Capacity Utilization	40.8%	ICU Level of Service	A	
Analysis Period (min)	15			

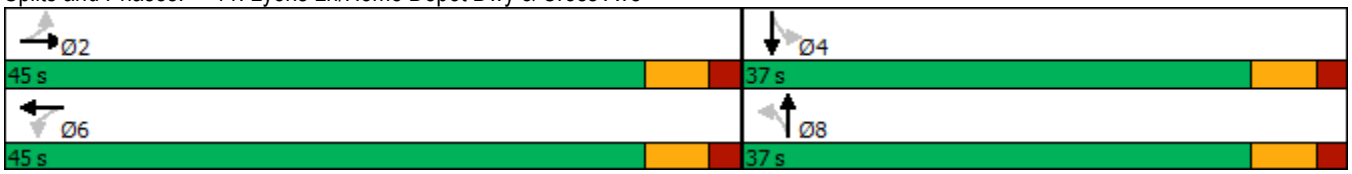


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	220	30	20	395	15	140	5	85	25	5	95
Future Volume (vph)	70	220	30	20	395	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	25.0		0.0	35.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98	1.00		0.99	1.00		1.00	0.98		0.99	0.98	
Frt		0.982			0.994			0.858			0.858	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3355	0	1805	3448	0	1805	1595	0	1805	1588	0
Flt Permitted	0.476			0.572			0.681			0.689		
Satd. Flow (perm)	888	3355	0	1080	3448	0	1288	1595	0	1296	1588	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			7			100			112	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		47.5			132.8			150.8			63.6	
Travel Time (s)		3.4			9.6			10.9			4.6	
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	82	259	35	24	465	18	165	6	100	29	6	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	294	0	24	483	0	165	106	0	29	118	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

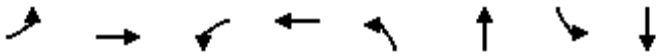
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		35.0	35.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	41.0	41.0		41.0	41.0		28.0	28.0		28.0	28.0	
Total Split (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Total Split (%)	54.9%	54.9%		54.9%	54.9%		45.1%	45.1%		45.1%	45.1%	
Maximum Green (s)	39.0	39.0		39.0	39.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	15	15		15	15		10	10		10	10	
Act Effct Green (s)	36.2	36.2		36.2	36.2		15.5	15.5		15.5	15.5	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
v/c Ratio	0.16	0.15		0.04	0.24		0.51	0.22		0.09	0.25	
Control Delay	8.1	6.2		7.1	7.1		25.5	6.1		17.5	5.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	8.1	6.2		7.1	7.1		25.5	6.1		17.5	5.9	
LOS	A	A		A	A		C	A		B	A	
Approach Delay		6.6			7.1			17.9			8.2	
Approach LOS		A			A			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 61.7			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 9.3		Intersection LOS: A	
Intersection Capacity Utilization 82.0%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 11: Lyons Ln/Home Depot Dwy & Cross Ave

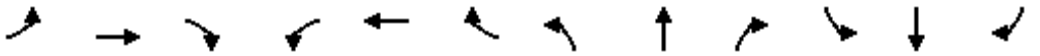


11: Lyons Ln/Home Depot Dwy & Cross Ave



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	82	294	24	483	165	106	29	118
v/c Ratio	0.16	0.15	0.04	0.24	0.51	0.22	0.09	0.25
Control Delay	8.1	6.2	7.1	7.1	25.5	6.1	17.5	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.1	6.2	7.1	7.1	25.5	6.1	17.5	5.9
Queue Length 50th (m)	3.8	6.4	1.0	12.1	16.8	0.5	2.7	0.5
Queue Length 95th (m)	11.9	14.2	4.5	24.1	30.4	8.9	7.5	9.3
Internal Link Dist (m)		23.5		108.8		126.8		39.6
Turn Bay Length (m)			25.0		35.0			
Base Capacity (vph)	578	2194	703	2249	671	879	675	881
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.13	0.03	0.21	0.25	0.12	0.04	0.13

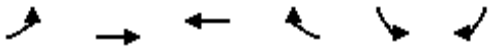
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	220	30	20	395	15	140	5	85	25	5	95
Future Volume (vph)	70	220	30	20	395	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1779	3357		1797	3451		1799	1600		1792	1589	
Flt Permitted	0.48	1.00		0.57	1.00		0.68	1.00		0.69	1.00	
Satd. Flow (perm)	892	3357		1082	3451		1290	1600		1299	1589	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	82	259	35	24	465	18	165	6	100	29	6	112
RTOR Reduction (vph)	0	10	0	0	3	0	0	75	0	0	84	0
Lane Group Flow (vph)	82	284	0	24	480	0	165	31	0	29	34	0
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.2	35.2		35.2	35.2		14.4	14.4		14.4	14.4	
Effective Green, g (s)	36.2	36.2		36.2	36.2		15.4	15.4		15.4	15.4	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	524	1972		635	2028		322	400		324	397	
v/s Ratio Prot		0.08			c0.14			0.02			0.02	
v/s Ratio Perm	0.09			0.02			c0.13			0.02		
v/c Ratio	0.16	0.14		0.04	0.24		0.51	0.08		0.09	0.09	
Uniform Delay, d1	5.8	5.7		5.4	6.1		19.9	17.7		17.7	17.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.1		0.1	0.1		1.8	0.1		0.2	0.1	
Delay (s)	6.1	5.8		5.4	6.2		21.7	17.8		17.9	17.8	
Level of Service	A	A		A	A		C	B		B	B	
Approach Delay (s)		5.8			6.2			20.2			17.8	
Approach LOS		A			A			C			B	

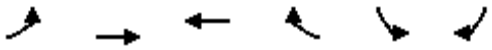
Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	61.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	5	325	630	0	10	15
Future Volume (vph)	5	325	630	0	10	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt					0.920	
Flt Protected	0.950				0.980	
Satd. Flow (prot)	1805	3471	3505	0	1713	0
Flt Permitted	0.950				0.980	
Satd. Flow (perm)	1805	3471	3505	0	1713	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		443.3	47.5		121.4	
Travel Time (s)		31.9	3.4		8.7	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	4%	3%	0%	0%	0%
Adj. Flow (vph)	5	357	692	0	11	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	357	692	0	27	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

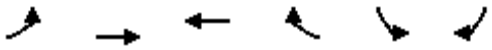
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.4%		ICU Level of Service A	
Analysis Period (min) 15			



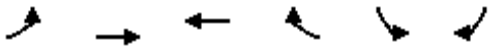
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	325	630	0	10	15
Future Volume (Veh/h)	5	325	630	0	10	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	5	357	692	0	11	16
Pedestrians					15	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			48			
pX, platoon unblocked	0.94				0.94	0.94
vC, conflicting volume	707				896	361
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	573				773	207
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				97	98
cM capacity (veh/h)	942				315	752

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	5	178	178	461	231	27
Volume Left	5	0	0	0	0	11
Volume Right	0	0	0	0	0	16
cSH	942	1700	1700	1700	1700	481
Volume to Capacity	0.01	0.10	0.10	0.27	0.14	0.06
Queue Length 95th (m)	0.1	0.0	0.0	0.0	0.0	1.4
Control Delay (s)	8.8	0.0	0.0	0.0	0.0	12.9
Lane LOS	A					B
Approach Delay (s)	0.1			0.0		12.9
Approach LOS						B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	27.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	265	665	885	55	45	595
Future Volume (vph)	265	665	885	55	45	595
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0			0.0	60.0	0.0
Storage Lanes	1			0	1	2
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.88
Ped Bike Factor	1.00		1.00			
Frt			0.991			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1719	3574	3539	0	1805	2760
Flt Permitted	0.242				0.950	
Satd. Flow (perm)	437	3574	3539	0	1805	2760
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			6			633
Link Speed (k/h)		50	50		50	
Link Distance (m)		209.5	575.4		443.3	
Travel Time (s)		15.1	41.4		31.9	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Adj. Flow (vph)	282	707	941	59	48	633
Shared Lane Traffic (%)						
Lane Group Flow (vph)	282	707	1000	0	48	633
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		7.2	7.2		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			



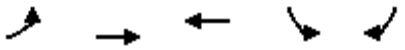
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	6.0	38.0	38.0		10.0	10.0
Minimum Split (s)	12.0	47.6	47.6		33.8	33.8
Total Split (s)	35.0	109.2	74.2		30.8	30.8
Total Split (%)	25.0%	78.0%	53.0%		22.0%	22.0%
Maximum Green (s)	29.0	102.6	67.6		25.0	25.0
Yellow Time (s)	4.0	3.7	3.7		3.3	3.3
All-Red Time (s)	2.0	2.9	2.9		2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.6	5.6		4.8	4.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Recall Mode	None	C-Min	C-Min		None	None
Walk Time (s)		10.0	10.0		10.0	10.0
Flash Dont Walk (s)		31.0	31.0		18.0	18.0
Pedestrian Calls (#/hr)		10	10		0	0
Act Effct Green (s)	117.7	117.1	99.2		12.5	12.5
Actuated g/C Ratio	0.84	0.84	0.71		0.09	0.09
v/c Ratio	0.58	0.24	0.40		0.30	0.77
Control Delay	7.4	2.7	5.1		63.8	11.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	7.4	2.7	5.1		63.8	11.1
LOS	A	A	A		E	B
Approach Delay		4.0	5.1		14.8	
Approach LOS		A	A		B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 7.2		Intersection LOS: A	
Intersection Capacity Utilization 70.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 13: Speers Rd/Cornwall Rd & Cross Ave

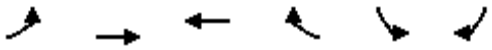


13: Speers Rd/Cornwall Rd & Cross Ave



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	282	707	1000	48	633
v/c Ratio	0.58	0.24	0.40	0.30	0.77
Control Delay	7.4	2.7	5.1	63.8	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.4	2.7	5.1	63.8	11.1
Queue Length 50th (m)	11.1	15.9	19.1	13.5	0.0
Queue Length 95th (m)	23.6	28.6	113.3	25.9	19.3
Internal Link Dist (m)		185.5	551.4	419.3	
Turn Bay Length (m)	70.0			60.0	
Base Capacity (vph)	641	2989	2509	335	1028
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.44	0.24	0.40	0.14	0.62

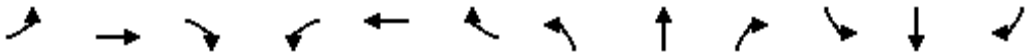
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	265	665	885	55	45	595
Future Volume (vph)	265	665	885	55	45	595
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		4.8	4.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1718	3574	3539		1805	2760
Flt Permitted	0.24	1.00	1.00		0.95	1.00
Satd. Flow (perm)	437	3574	3539		1805	2760
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	282	707	941	59	48	633
RTOR Reduction (vph)	0	0	2	0	0	576
Lane Group Flow (vph)	282	707	998	0	48	57
Confl. Peds. (#/hr)	15			15		
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Actuated Green, G (s)	116.1	116.1	98.2		11.5	11.5
Effective Green, g (s)	117.1	117.1	99.2		12.5	12.5
Actuated g/C Ratio	0.84	0.84	0.71		0.09	0.09
Clearance Time (s)	6.0	6.6	6.6		5.8	5.8
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Lane Grp Cap (vph)	483	2989	2507		161	246
v/s Ratio Prot	c0.05	0.20	0.28			
v/s Ratio Perm	c0.43				c0.03	0.02
v/c Ratio	0.58	0.24	0.40		0.30	0.23
Uniform Delay, d1	4.3	2.3	8.3		59.6	59.3
Progression Factor	1.00	1.00	0.52		1.00	1.00
Incremental Delay, d2	1.9	0.2	0.5		1.0	0.5
Delay (s)	6.2	2.5	4.7		60.7	59.8
Level of Service	A	A	A		E	E
Approach Delay (s)		3.6	4.7		59.8	
Approach LOS		A	A		E	

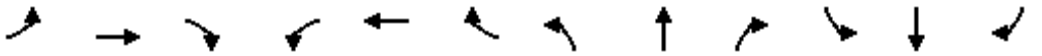
Intersection Summary			
HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	65	0	15	0	160	45	20	290	0
Future Volume (vph)	0	0	0	65	0	15	0	160	45	20	290	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.974			0.967				
Flt Protected					0.961						0.997	
Satd. Flow (prot)	0	1900	0	0	1750	0	0	3411	0	0	3599	0
Flt Permitted					0.961						0.997	
Satd. Flow (perm)	0	1900	0	0	1750	0	0	3411	0	0	3599	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		33.6			129.3			420.1			134.0	
Travel Time (s)		2.4			9.3			30.2			9.6	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	0%	3%	0%	0%	0%	0%
Adj. Flow (vph)	0	0	0	76	0	18	0	188	53	24	341	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	94	0	0	241	0	0	365	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	65	0	15	0	160	45	20	290	0
Future Volume (Veh/h)	0	0	0	65	0	15	0	160	45	20	290	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	76	0	18	0	188	53	24	341	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	501	630	170	433	604	120	341			241		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	501	630	170	433	604	120	341			241		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	85	100	98	100			98		
cM capacity (veh/h)	442	394	850	500	408	915	1229			1337		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	94	94	147	194	170
Volume Left	0	76	0	0	24	0
Volume Right	0	18	0	53	0	0
cSH	1700	547	1229	1700	1337	1700
Volume to Capacity	0.00	0.17	0.00	0.09	0.02	0.10
Queue Length 95th (m)	0.0	4.9	0.0	0.0	0.4	0.0
Control Delay (s)	0.0	12.9	0.0	0.0	1.1	0.0
Lane LOS	A	B			A	
Approach Delay (s)	0.0	12.9	0.0		0.6	
Approach LOS	A	B				

Intersection Summary				
Average Delay	2.0			
Intersection Capacity Utilization	29.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	105	70	75	100	150	115
Future Volume (vph)	105	70	75	100	150	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.946				0.942	
Flt Protected				0.979	0.972	
Satd. Flow (prot)	1766	0	0	1860	1722	0
Flt Permitted				0.979	0.972	
Satd. Flow (perm)	1766	0	0	1860	1722	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	850.9			1164.2	455.7	
Travel Time (s)	61.3			83.8	32.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	3%	0%	0%	1%	1%
Adj. Flow (vph)	118	79	84	112	169	129
Shared Lane Traffic (%)						
Lane Group Flow (vph)	197	0	0	196	298	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

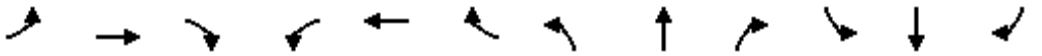
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	105	70	75	100	150	115
Future Volume (Veh/h)	105	70	75	100	150	115
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	118	79	84	112	169	129
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			197		438	158
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			197		438	158
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			94		69	86
cM capacity (veh/h)			1388		543	891

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	197	196	298
Volume Left	0	84	169
Volume Right	79	0	129
cSH	1700	1388	654
Volume to Capacity	0.12	0.06	0.46
Queue Length 95th (m)	0.0	1.5	19.1
Control Delay (s)	0.0	3.6	15.0
Lane LOS		A	C
Approach Delay (s)	0.0	3.6	15.0
Approach LOS			C

Intersection Summary			
Average Delay	7.5		
Intersection Capacity Utilization	44.6%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	530	90	60	660	85	130	80	45	65	50	50
Future Volume (vph)	45	530	90	60	660	85	130	80	45	65	50	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		0.99					0.98
Frt		0.978			0.983			0.946				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3451	0	1805	3471	0	1770	1786	0	1805	1827	1553
Flt Permitted	0.328			0.394			0.722			0.672		
Satd. Flow (perm)	609	3451	0	746	3471	0	1338	1786	0	1277	1827	1520
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		34			24			30				53
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			455.7	
Travel Time (s)		43.9			11.1			15.4			32.8	
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Adj. Flow (vph)	48	564	96	64	702	90	138	85	48	69	53	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	660	0	64	792	0	138	133	0	69	53	53
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	26.5	26.5		26.5	26.5		12.9	12.9		12.9	12.9	12.9
Actuated g/C Ratio	0.54	0.54		0.54	0.54		0.26	0.26		0.26	0.26	0.26
v/c Ratio	0.15	0.35		0.16	0.42		0.39	0.27		0.20	0.11	0.12
Control Delay	7.5	6.9		7.4	7.5		18.9	13.4		16.1	14.7	6.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	7.5	6.9		7.4	7.5		18.9	13.4		16.1	14.7	6.0
LOS	A	A		A	A		B	B		B	B	A
Approach Delay		6.9			7.5			16.2			12.6	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 48.9			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.42			
Intersection Signal Delay: 8.9		Intersection LOS: A	
Intersection Capacity Utilization 75.5%		ICU Level of Service D	
Analysis Period (min) 15			

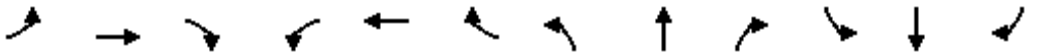
Splits and Phases: 16: Chartwell Rd & Cornwall Rd





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	48	660	64	792	138	133	69	53	53
v/c Ratio	0.15	0.35	0.16	0.42	0.39	0.27	0.20	0.11	0.12
Control Delay	7.5	6.9	7.4	7.5	18.9	13.4	16.1	14.7	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.5	6.9	7.4	7.5	18.9	13.4	16.1	14.7	6.0
Queue Length 50th (m)	1.8	13.7	2.4	17.8	9.7	6.9	4.6	3.5	0.0
Queue Length 95th (m)	7.1	27.8	8.7	35.0	25.4	20.1	14.2	11.2	6.6
Internal Link Dist (m)		585.1		130.4		189.6		431.7	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	609	3451	746	3471	870	1172	830	1188	1006
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.19	0.09	0.23	0.16	0.11	0.08	0.04	0.05

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	530	90	60	660	85	130	80	45	65	50	50
Future Volume (vph)	45	530	90	60	660	85	130	80	45	65	50	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.98		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1767	3454		1802	3473		1765	1786		1805	1827	1524
Flt Permitted	0.33	1.00		0.39	1.00		0.72	1.00		0.67	1.00	1.00
Satd. Flow (perm)	610	3454		748	3473		1342	1786		1277	1827	1524
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	48	564	96	64	702	90	138	85	48	69	53	53
RTOR Reduction (vph)	0	16	0	0	11	0	0	22	0	0	0	39
Lane Group Flow (vph)	48	644	0	64	781	0	138	111	0	69	53	14
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	25.5	25.5		25.5	25.5		11.9	11.9		11.9	11.9	11.9
Effective Green, g (s)	26.5	26.5		26.5	26.5		12.9	12.9		12.9	12.9	12.9
Actuated g/C Ratio	0.54	0.54		0.54	0.54		0.26	0.26		0.26	0.26	0.26
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	331	1875		406	1885		354	472		337	482	402
v/s Ratio Prot		0.19			c0.22			0.06			0.03	
v/s Ratio Perm	0.08			0.09			c0.10			0.05		0.01
v/c Ratio	0.15	0.34		0.16	0.41		0.39	0.24		0.20	0.11	0.03
Uniform Delay, d1	5.5	6.3		5.6	6.6		14.7	14.1		14.0	13.6	13.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.5	0.3		0.4	0.4		1.0	0.4		0.4	0.1	0.0
Delay (s)	6.0	6.5		6.0	6.9		15.7	14.4		14.4	13.7	13.4
Level of Service	A	A		A	A		B	B		B	B	B
Approach Delay (s)		6.5			6.9			15.1			13.9	
Approach LOS		A			A			B			B	

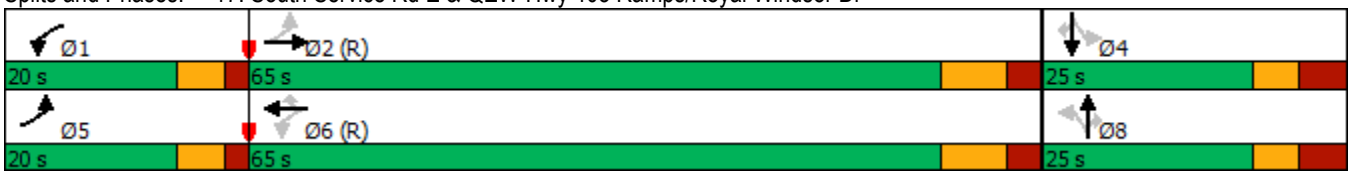
Intersection Summary			
HCM 2000 Control Delay	8.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	48.8	Sum of lost time (s)	9.4
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	680	25	115	655	5	45	15	180	0	35	35
Future Volume (vph)	5	680	25	115	655	5	45	15	180	0	35	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	125.0		0.0	145.0		55.0	15.0		40.0	35.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												0.98
Frt		0.995				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3502	3386	0	1752	3505	1615	1656	1900	1599	1900	1712	1615
Flt Permitted	0.378			0.313			0.732					
Satd. Flow (perm)	1393	3386	0	577	3505	1615	1276	1900	1599	1900	1712	1585
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				107			198			113
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		232.7			227.3			1164.2			153.5	
Travel Time (s)		16.8			16.4			83.8			11.1	
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	6%	8%	3%	3%	0%	9%	0%	1%	0%	11%	0%
Adj. Flow (vph)	5	747	27	126	720	5	49	16	198	0	38	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	774	0	126	720	5	49	16	198	0	38	38
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

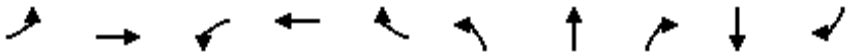
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	8.0	20.0		8.0	20.0	20.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	14.0	28.4		14.0	28.4	28.4	17.8	17.8	17.8	17.8	17.8	17.8
Total Split (s)	20.0	65.0		20.0	65.0	65.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	18.2%	59.1%		18.2%	59.1%	59.1%	22.7%	22.7%	22.7%	22.7%	22.7%	22.7%
Maximum Green (s)	14.0	56.6		14.0	56.6	56.6	17.2	17.2	17.2	17.2	17.2	17.2
Yellow Time (s)	4.0	5.4		4.0	5.4	5.4	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.0	3.0		2.0	3.0	3.0	4.1	4.1	4.1	4.1	4.1	4.1
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	81.0	69.6		85.4	81.0	81.0	12.0	12.0	12.0		12.0	12.0
Actuated g/C Ratio	0.74	0.63		0.78	0.74	0.74	0.11	0.11	0.11		0.11	0.11
v/c Ratio	0.00	0.36		0.23	0.28	0.00	0.35	0.08	0.56		0.20	0.14
Control Delay	3.0	10.4		4.0	5.9	0.0	52.3	44.0	12.9		46.7	1.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	3.0	10.4		4.0	5.9	0.0	52.3	44.0	12.9		46.7	1.1
LOS	A	B		A	A	A	D	D	B		D	A
Approach Delay		10.3			5.6			22.2			23.9	
Approach LOS		B			A			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 10.4		Intersection LOS: B	
Intersection Capacity Utilization 52.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr



17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	5	774	126	720	5	49	16	198	38	38
v/c Ratio	0.00	0.36	0.23	0.28	0.00	0.35	0.08	0.56	0.20	0.14
Control Delay	3.0	10.4	4.0	5.9	0.0	52.3	44.0	12.9	46.7	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.0	10.4	4.0	5.9	0.0	52.3	44.0	12.9	46.7	1.1
Queue Length 50th (m)	0.1	38.6	5.1	20.4	0.0	10.5	3.3	0.0	8.1	0.0
Queue Length 95th (m)	0.5	57.0	10.9	50.6	0.0	22.4	10.0	20.9	18.0	0.0
Internal Link Dist (m)		208.7		203.3			1140.2		129.5	
Turn Bay Length (m)	125.0		145.0		55.0	15.0		40.0		
Base Capacity (vph)	1378	2143	612	2579	1216	211	314	429	283	356
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.36	0.21	0.28	0.00	0.23	0.05	0.46	0.13	0.11

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	680	25	115	655	5	45	15	180	0	35	35
Future Volume (vph)	5	680	25	115	655	5	45	15	180	0	35	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8		6.8	6.8
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	3502	3386		1752	3505	1615	1656	1900	1599		1712	1579
Flt Permitted	0.38	1.00		0.31	1.00	1.00	0.73	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1393	3386		578	3505	1615	1277	1900	1599		1712	1579
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	5	747	27	126	720	5	49	16	198	0	38	38
RTOR Reduction (vph)	0	2	0	0	0	2	0	0	176	0	0	34
Lane Group Flow (vph)	5	772	0	126	720	3	49	16	22	0	38	4
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	0%	6%	8%	3%	3%	0%	9%	0%	1%	0%	11%	0%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	70.2	68.6		82.8	75.2	75.2	11.0	11.0	11.0		11.0	11.0
Effective Green, g (s)	72.2	69.6		83.8	76.2	76.2	12.0	12.0	12.0		12.0	12.0
Actuated g/C Ratio	0.66	0.63		0.76	0.69	0.69	0.11	0.11	0.11		0.11	0.11
Clearance Time (s)	6.0	8.4		6.0	8.4	8.4	7.8	7.8	7.8		7.8	7.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	964	2142		538	2428	1118	139	207	174		186	172
v/s Ratio Prot	0.00	c0.23		c0.02	c0.21			0.01			0.02	
v/s Ratio Perm	0.00			0.16		0.00	c0.04		0.01			0.00
v/c Ratio	0.01	0.36		0.23	0.30	0.00	0.35	0.08	0.12		0.20	0.02
Uniform Delay, d1	6.5	9.6		3.9	6.5	5.2	45.4	44.0	44.3		44.6	43.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.5		0.2	0.3	0.0	1.5	0.2	0.3		0.5	0.1
Delay (s)	6.5	10.1		4.1	6.8	5.2	46.9	44.2	44.6		45.2	43.8
Level of Service	A	B		A	A	A	D	D	D		D	D
Approach Delay (s)		10.1			6.4			45.0			44.5	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

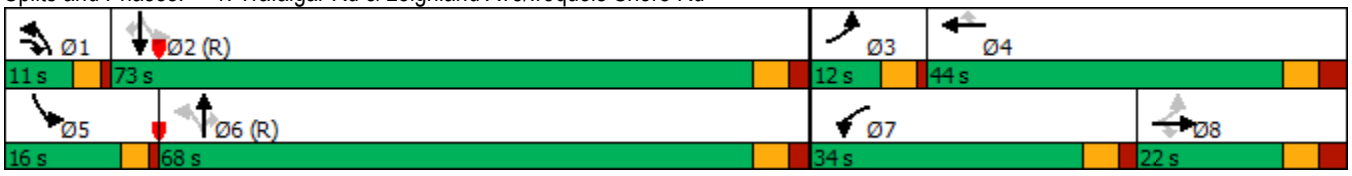
2) 2031 Future Background Traffic Conditions (Without Corridor Growth)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	100	335	685	55	120	145	1170	775	195	2070	50
Future Volume (vph)	35	100	335	685	55	120	145	1170	775	195	2070	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.96					0.95			0.97	1.00		0.93
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1863	1568	3367	1827	1553	1719	4988	1568	1787	5085	1524
Flt Permitted	0.720			0.950			0.062			0.157		
Satd. Flow (perm)	1277	1863	1568	3367	1827	1470	112	4988	1525	295	5085	1424
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136			123			707			142
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			521.8			275.4			339.2	
Travel Time (s)		27.7			37.6			19.8			24.4	
Confl. Peds. (#/hr)	35					35	35		10	10		35
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Adj. Flow (vph)	35	101	338	692	56	121	146	1182	783	197	2091	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	101	338	692	56	121	146	1182	783	197	2091	51
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

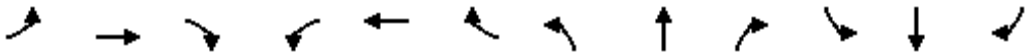
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	11.0	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	12.0	22.0	11.0	34.0	44.0	44.0	11.0	68.0	68.0	16.0	73.0	73.0
Total Split (%)	8.6%	15.7%	7.9%	24.3%	31.4%	31.4%	7.9%	48.6%	48.6%	11.4%	52.1%	52.1%
Maximum Green (s)	7.3	15.2	7.0	28.3	37.2	37.2	7.0	61.9	61.9	12.0	66.9	66.9
Yellow Time (s)	3.7	3.7	3.0	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	1.0	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					20	20		25	25		25	25
Act Effct Green (s)	24.1	13.8	30.0	29.3	38.3	38.3	78.4	66.0	66.0	81.4	67.9	67.9
Actuated g/C Ratio	0.17	0.10	0.21	0.21	0.27	0.27	0.56	0.47	0.47	0.58	0.48	0.48
v/c Ratio	0.14	0.55	0.76	0.98	0.11	0.25	0.80	0.50	0.72	0.65	0.85	0.07
Control Delay	32.6	71.4	42.8	84.7	39.7	7.4	63.2	19.5	13.8	23.9	35.7	0.2
Queue Delay	0.0	0.0	6.1	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.3	0.0
Total Delay	32.6	71.4	48.9	84.7	39.7	7.4	63.2	19.5	14.2	23.9	36.0	0.2
LOS	C	E	D	F	D	A	E	B	B	C	D	A
Approach Delay		52.5			71.1			20.6			34.2	
Approach LOS		D			E			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 36.3		Intersection LOS: D	
Intersection Capacity Utilization 91.8%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



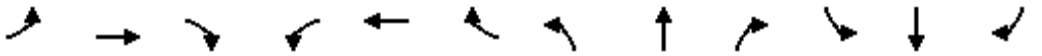
1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	35	101	338	692	56	121	146	1182	783	197	2091	51
v/c Ratio	0.14	0.55	0.76	0.98	0.11	0.25	0.80	0.50	0.72	0.65	0.85	0.07
Control Delay	32.6	71.4	42.8	84.7	39.7	7.4	63.2	19.5	13.8	23.9	35.7	0.2
Queue Delay	0.0	0.0	6.1	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.3	0.0
Total Delay	32.6	71.4	48.9	84.7	39.7	7.4	63.2	19.5	14.2	23.9	36.0	0.2
Queue Length 50th (m)	6.7	28.5	57.2	104.5	12.6	0.0	27.6	88.3	107.8	25.0	191.0	0.0
Queue Length 95th (m)	14.4	48.0	96.0	#145.7	23.9	15.4	#71.9	97.1	223.2	39.7	212.8	0.0
Internal Link Dist (m)		361.1			497.8			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	248	215	442	704	516	503	182	2352	1092	313	2466	763
Starvation Cap Reductn	0	0	0	0	0	0	0	0	69	0	0	0
Spillback Cap Reductn	0	0	64	0	0	0	0	0	0	0	71	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.47	0.89	0.98	0.11	0.24	0.80	0.50	0.77	0.63	0.87	0.07

Intersection Summary

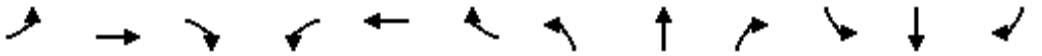
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	100	335	685	55	120	145	1170	775	195	2070	50
Future Volume (vph)	35	100	335	685	55	120	145	1170	775	195	2070	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.97	1.00	1.00	0.93
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1704	1863	1568	3367	1827	1470	1719	4988	1525	1787	5085	1424
Flt Permitted	0.72	1.00	1.00	0.95	1.00	1.00	0.06	1.00	1.00	0.16	1.00	1.00
Satd. Flow (perm)	1293	1863	1568	3367	1827	1470	111	4988	1525	296	5085	1424
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	35	101	338	692	56	121	146	1182	783	197	2091	51
RTOR Reduction (vph)	0	0	112	0	0	88	0	0	379	0	0	27
Lane Group Flow (vph)	35	101	226	692	56	33	146	1182	404	197	2091	24
Confl. Peds. (#/hr)	35					35	35		10	10		35
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	19.6	13.8	23.2	28.3	37.3	37.3	73.4	64.0	64.0	77.2	65.9	65.9
Effective Green, g (s)	21.6	14.8	25.2	29.3	38.3	38.3	75.4	65.0	65.0	79.2	66.9	66.9
Actuated g/C Ratio	0.15	0.11	0.18	0.21	0.27	0.27	0.54	0.46	0.46	0.57	0.48	0.48
Clearance Time (s)	4.7	6.8	4.0	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	219	196	282	704	499	402	179	2315	708	298	2429	680
v/s Ratio Prot	0.01	0.05	c0.06	c0.21	0.03		c0.06	0.24		c0.06	c0.41	
v/s Ratio Perm	0.02		0.08			0.02	0.38		0.27	0.32		0.02
v/c Ratio	0.16	0.52	0.80	0.98	0.11	0.08	0.82	0.51	0.57	0.66	0.86	0.04
Uniform Delay, d1	51.1	59.2	55.0	55.1	38.1	37.8	36.1	26.3	27.3	17.6	32.4	19.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.24	0.72	2.96	1.00	1.00	1.00
Incremental Delay, d2	0.3	2.3	15.1	29.5	0.1	0.1	21.1	0.7	2.8	5.4	4.3	0.1
Delay (s)	51.5	61.5	70.1	84.6	38.2	37.9	65.7	19.7	83.7	23.1	36.7	19.5
Level of Service	D	E	E	F	D	D	E	B	F	C	D	B
Approach Delay (s)		66.9			75.1			46.6			35.2	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	47.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	91.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

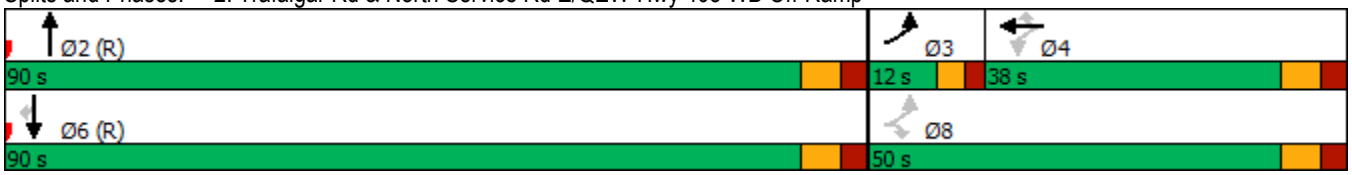


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	380	0	200	0	1900	0	0	3130	5
Future Volume (vph)	5	0	225	380	0	200	0	1900	0	0	3130	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.96
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.950							
Satd. Flow (prot)	1805	0	1599	1649	1649	1568	0	4988	0	0	5036	1615
Flt Permitted	0.340			0.950	0.950							
Satd. Flow (perm)	646	0	1599	1649	1649	1568	0	4988	0	0	5036	1543
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			93						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							10		5	5		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Adj. Flow (vph)	5	0	232	392	0	206	0	1959	0	0	3227	5
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	5	0	232	196	196	206	0	1959	0	0	3227	5
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

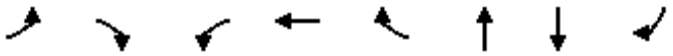
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	12.0		50.0	38.0	38.0	38.0		90.0			90.0	90.0
Total Split (%)	8.6%		35.7%	27.1%	27.1%	27.1%		64.3%			64.3%	64.3%
Maximum Green (s)	7.0		43.0	31.0	31.0	31.0		83.0			83.0	83.0
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		10			10	10
Act Effct Green (s)	28.7		26.7	24.3	24.3	24.3		101.3			101.3	101.3
Actuated g/C Ratio	0.20		0.19	0.17	0.17	0.17		0.72			0.72	0.72
v/c Ratio	0.03		0.70	0.69	0.69	0.59		0.54			0.89	0.00
Control Delay	37.8		55.8	65.9	65.9	34.8		8.2			24.8	0.0
Queue Delay	0.0		0.0	0.0	0.0	0.0		0.0			0.9	0.0
Total Delay	37.8		55.8	65.9	65.9	34.8		8.2			25.8	0.0
LOS	D		E	E	E	C		A			C	A
Approach Delay		55.5			55.2			8.2			25.7	
Approach LOS		E			E			A			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 24.1		Intersection LOS: C	
Intersection Capacity Utilization 99.9%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp



2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp

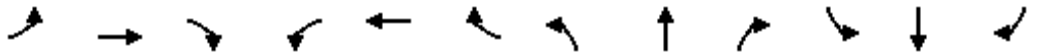


Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	5	232	196	196	206	1959	3227	5
v/c Ratio	0.03	0.70	0.69	0.69	0.59	0.54	0.89	0.00
Control Delay	37.8	55.8	65.9	65.9	34.8	8.2	24.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0
Total Delay	37.8	55.8	65.9	65.9	34.8	8.2	25.8	0.0
Queue Length 50th (m)	1.2	56.5	56.7	56.7	30.1	73.8	244.1	0.0
Queue Length 95th (m)	4.4	73.3	81.7	81.7	54.6	94.7	m#394.2	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	198	523	376	376	430	3607	3642	1135
Starvation Cap Reductn	0	0	0	0	0	0	186	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.44	0.52	0.52	0.48	0.54	0.93	0.00

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

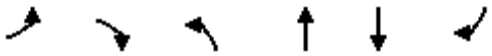
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	380	0	200	0	1900	0	0	3130	5
Future Volume (vph)	5	0	225	380	0	200	0	1900	0	0	3130	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.96
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1649	1649	1568		4988			5036	1543
Flt Permitted	0.34		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	647		1599	1649	1649	1568		4988			5036	1543
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	5	0	232	392	0	206	0	1959	0	0	3227	5
RTOR Reduction (vph)	0	0	24	0	0	77	0	0	0	0	0	2
Lane Group Flow (vph)	5	0	208	196	196	129	0	1959	0	0	3227	3
Confl. Peds. (#/hr)							10		5	5		10
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	29.7		29.7	23.3	23.3	23.3		96.3			96.3	96.3
Effective Green, g (s)	30.7		30.7	24.3	24.3	24.3		97.3			97.3	97.3
Actuated g/C Ratio	0.22		0.22	0.17	0.17	0.17		0.69			0.69	0.69
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	161		350	286	286	272		3466			3500	1072
v/s Ratio Prot	0.00							0.39			c0.64	
v/s Ratio Perm	0.01		c0.13	c0.12	0.12	0.08						0.00
v/c Ratio	0.03		0.59	0.69	0.69	0.47		0.57			0.92	0.00
Uniform Delay, d1	43.4		49.1	54.3	54.3	52.1		10.7			18.1	6.5
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.76			1.42	1.00
Incremental Delay, d2	0.1		2.9	6.7	6.7	1.3		0.5			2.9	0.0
Delay (s)	43.5		51.9	60.9	60.9	53.4		8.7			28.6	6.5
Level of Service	D		D	E	E	D		A			C	A
Approach Delay (s)		51.7			58.3			8.7			28.6	
Approach LOS		D			E			A			C	

Intersection Summary			
HCM 2000 Control Delay	26.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	99.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

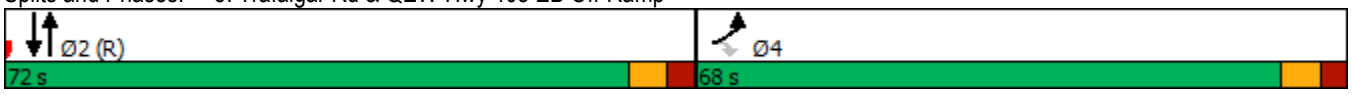


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	885	625	0	1465	2200	0
Future Volume (vph)	885	625	0	1465	2200	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3433	1583	0	4940	5036	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	*1800	0	4940	5036	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		1				
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			45.3	331.3	
Travel Time (s)	15.4			3.3	23.9	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Adj. Flow (vph)	903	638	0	1495	2245	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	903	638	0	1495	2245	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	68.0	68.0		72.0	72.0	
Total Split (%)	48.6%	48.6%		51.4%	51.4%	
Maximum Green (s)	61.0	61.0		65.0	65.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		10	10	
Act Effct Green (s)	56.6	56.6		71.4	71.4	
Actuated g/C Ratio	0.40	0.40		0.51	0.51	
v/c Ratio	0.65	0.88		0.59	0.87	
Control Delay	35.7	52.3		23.4	29.8	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	35.7	52.3		23.4	29.8	
LOS	D	D		C	C	
Approach Delay	42.5			23.4	29.8	
Approach LOS	D			C	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 31.7		Intersection LOS: C	
Intersection Capacity Utilization 91.2%		ICU Level of Service F	
Analysis Period (min) 15			
* User Entered Value			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



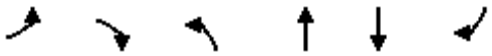
3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	903	638	1495	2245
v/c Ratio	0.65	0.88	0.59	0.87
Control Delay	35.7	52.3	23.4	29.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	35.7	52.3	23.4	29.8
Queue Length 50th (m)	105.9	165.6	71.2	180.1
Queue Length 95th (m)	122.8	212.1	m78.9	#226.5
Internal Link Dist (m)	190.2		21.3	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1520	797	2519	2568
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.59	0.80	0.59	0.87

Intersection Summary

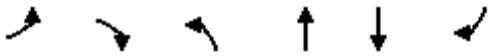
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	885	625	0	1465	2200	0
Future Volume (vph)	885	625	0	1465	2200	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	1583		4940	5036	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	1800		4940	5036	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	903	638	0	1495	2245	0
RTOR Reduction (vph)	0	1	0	0	0	0
Lane Group Flow (vph)	903	637	0	1495	2245	0
Confl. Peds. (#/hr)			10			10
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	55.6	55.6		70.4	70.4	
Effective Green, g (s)	56.6	56.6		71.4	71.4	
Actuated g/C Ratio	0.40	0.40		0.51	0.51	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1387	727		2519	2568	
v/s Ratio Prot	0.26			0.30	c0.45	
v/s Ratio Perm		c0.35				
v/c Ratio	0.65	0.88		0.59	0.87	
Uniform Delay, d1	33.7	38.5		24.1	30.3	
Progression Factor	1.00	1.00		0.90	0.86	
Incremental Delay, d2	1.1	11.5		0.7	2.5	
Delay (s)	34.8	50.0		22.5	28.6	
Level of Service	C	D		C	C	
Approach Delay (s)	41.1			22.5	28.6	
Approach LOS	D			C	C	

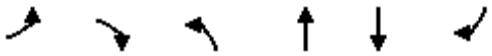
Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	40	0	1630	2155	680
Future Volume (vph)	0	40	0	1630	2155	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.964	
Flt Protected						
Satd. Flow (prot)	0	1565	0	4940	4855	0
Flt Permitted						
Satd. Flow (perm)	0	1565	0	4940	4855	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	144.9			271.4	45.3	
Travel Time (s)	10.4			19.5	3.3	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	5%	0%	5%	3%	3%
Adj. Flow (vph)	0	43	0	1753	2317	731
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	43	0	1753	3048	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 67.1%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	40	0	1630	2155	680
Future Volume (Veh/h)	0	40	0	1630	2155	680
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	43	0	1753	2317	731
Pedestrians	10					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				271	45	
pX, platoon unblocked	0.68	0.60	0.60			
vC, conflicting volume	3277	1148	3058			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1153	0	2105			
tC, single (s)	6.8	7.0	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	93	100			
cM capacity (veh/h)	131	642	158			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	43	584	584	584	927	927	1194
Volume Left	0	0	0	0	0	0	0
Volume Right	43	0	0	0	0	0	731
cSH	642	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.07	0.34	0.34	0.34	0.55	0.55	0.70
Queue Length 95th (m)	1.7	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	11.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	11.0	0.0			0.0		
Approach LOS	B						

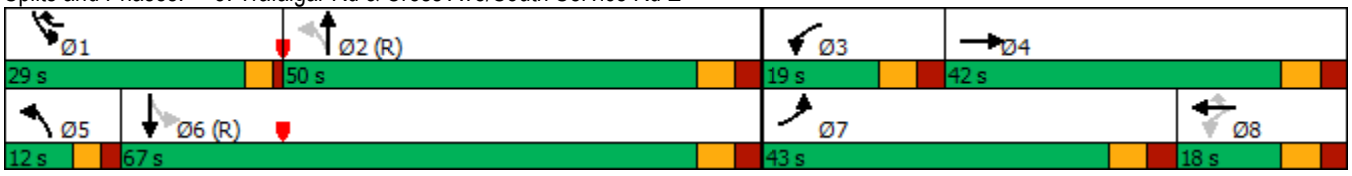
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	67.1%	ICU Level of Service		C
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	790	75	150	65	60	145	110	1180	35	190	1450	440
Future Volume (vph)	790	75	150	65	60	145	110	1180	35	190	1450	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		0.0	50.0		0.0	120.0		0.0	55.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.99		1.00				1.00			0.99	
Frt		0.900				0.850		0.996			0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3273	1594	0	1736	1810	1553	1671	5013	0	1736	4845	0
Flt Permitted	0.950			0.614			0.071			0.120		
Satd. Flow (perm)	3273	1594	0	1117	1810	1553	125	5013	0	219	4845	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		70				140		3			69	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		217.0			420.1			277.9			271.4	
Travel Time (s)		15.6			30.2			20.0			19.5	
Confl. Peds. (#/hr)			5	5			15		5	5		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Adj. Flow (vph)	814	77	155	67	62	149	113	1216	36	196	1495	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	814	232	0	67	62	149	113	1252	0	196	1949	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		12.0	10.0	7.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0		19.0	17.0	11.0	12.0	34.0		11.0	34.0	
Total Split (s)	43.0	42.0		19.0	18.0	29.0	12.0	50.0		29.0	67.0	
Total Split (%)	30.7%	30.0%		13.6%	12.9%	20.7%	8.6%	35.7%		20.7%	47.9%	
Maximum Green (s)	36.0	35.0		12.0	11.0	25.0	7.0	43.0		25.0	60.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	1.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0						7.0			7.0	
Flash Dont Walk (s)		28.0						20.0			20.0	
Pedestrian Calls (#/hr)		5						10			10	
Act Effct Green (s)	36.6	35.6		22.4	11.6	30.7	67.9	57.6		79.5	64.9	
Actuated g/C Ratio	0.26	0.25		0.16	0.08	0.22	0.48	0.41		0.57	0.46	
v/c Ratio	0.95	0.51		0.29	0.41	0.33	0.74	0.61		0.65	0.85	
Control Delay	71.5	35.0		34.9	69.7	8.9	52.2	36.4		37.1	39.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	71.5	35.0		34.9	69.7	8.9	52.2	36.4		37.1	39.5	
LOS	E	C		C	E	A	D	D		D	D	
Approach Delay		63.4			28.7			37.7			39.3	
Approach LOS		E			C			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 43.5		Intersection LOS: D	
Intersection Capacity Utilization 93.5%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 5: Trafalgar Rd & Cross Ave/South Service Rd E



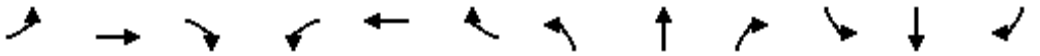
5: Trafalgar Rd & Cross Ave/South Service Rd E



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	814	232	67	62	149	113	1252	196	1949
v/c Ratio	0.95	0.51	0.29	0.41	0.33	0.74	0.61	0.65	0.85
Control Delay	71.5	35.0	34.9	69.7	8.9	52.2	36.4	37.1	39.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.5	35.0	34.9	69.7	8.9	52.2	36.4	37.1	39.5
Queue Length 50th (m)	120.3	40.2	12.2	17.4	2.0	23.5	90.9	38.8	150.9
Queue Length 95th (m)	#160.3	68.0	23.1	33.3	18.6	m#33.5	m106.2	m49.5	175.3
Internal Link Dist (m)		193.0		396.1			253.9		247.4
Turn Bay Length (m)	130.0		50.0			120.0		55.0	
Base Capacity (vph)	865	461	235	155	545	152	2065	407	2281
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.50	0.29	0.40	0.27	0.74	0.61	0.48	0.85

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	790	75	150	65	60	145	110	1180	35	190	1450	440
Future Volume (vph)	790	75	150	65	60	145	110	1180	35	190	1450	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.90		1.00	1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3273	1593		1731	1810	1553	1671	5011		1735	4846	
Flt Permitted	0.95	1.00		0.61	1.00	1.00	0.07	1.00		0.12	1.00	
Satd. Flow (perm)	3273	1593		1119	1810	1553	125	5011		219	4846	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	814	77	155	67	62	149	113	1216	36	196	1495	454
RTOR Reduction (vph)	0	52	0	0	0	114	0	2	0	0	38	0
Lane Group Flow (vph)	814	180	0	67	62	35	113	1250	0	196	1911	0
Confl. Peds. (#/hr)			5	5			15		5	5		15
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Actuated Green, G (s)	35.6	34.6		18.2	8.6	24.1	62.6	55.3		74.8	62.5	
Effective Green, g (s)	36.6	35.6		20.2	9.6	26.1	64.6	56.3		75.8	63.5	
Actuated g/C Ratio	0.26	0.25		0.14	0.07	0.19	0.46	0.40		0.54	0.45	
Clearance Time (s)	7.0	7.0		7.0	7.0	4.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	855	405		207	124	289	149	2015		297	2198	
v/s Ratio Prot	c0.25	c0.11		0.02	0.03	0.01	0.04	0.25		c0.08	c0.39	
v/s Ratio Perm				0.02		0.01	0.30			0.28		
v/c Ratio	0.95	0.44		0.32	0.50	0.12	0.76	0.62		0.66	0.87	
Uniform Delay, d1	50.8	43.9		53.3	62.9	47.4	28.9	33.3		21.4	34.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.13	1.03		1.63	1.11	
Incremental Delay, d2	20.0	1.1		1.1	4.3	0.2	13.2	0.9		3.1	3.0	
Delay (s)	70.8	44.9		54.4	67.2	47.6	45.8	35.3		37.9	41.3	
Level of Service	E	D		D	E	D	D	D		D	D	
Approach Delay (s)		65.1			53.6			36.2			41.0	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	45.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	430	70	30	355	640	50	405	55	670	645	385
Future Volume (vph)	300	430	70	30	355	640	50	405	55	670	645	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.98	0.99		0.99		0.95	0.99	1.00		0.99		0.96
Frt		0.979				0.850		0.982				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3367	3322	0	1736	3438	1553	1770	3450	0	3400	1881	1553
Flt Permitted	0.950			0.455			0.299			0.950		
Satd. Flow (perm)	3299	3322	0	819	3438	1483	553	3450	0	3365	1881	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				486		11				324
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			277.9	
Travel Time (s)		41.4			45.2			10.0			20.0	
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Adj. Flow (vph)	313	448	73	31	370	667	52	422	57	698	672	401
Shared Lane Traffic (%)												
Lane Group Flow (vph)	313	521	0	31	370	667	52	479	0	698	672	401
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	18.0	44.0		12.0	38.0	38.0	11.0	47.0		37.0	73.0	73.0
Total Split (%)	12.9%	31.4%		8.6%	27.1%	27.1%	7.9%	33.6%		26.4%	52.1%	52.1%
Maximum Green (s)	12.3	37.6		7.0	31.6	31.6	7.0	40.1		32.0	66.1	66.1
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		20			20	20		15			15	15
Act Effct Green (s)	16.6	42.7		38.5	28.8	28.8	53.0	42.1		32.5	69.7	69.7
Actuated g/C Ratio	0.12	0.30		0.28	0.21	0.21	0.38	0.30		0.23	0.50	0.50
v/c Ratio	0.78	0.51		0.11	0.52	0.97	0.19	0.46		0.89	0.72	0.44
Control Delay	75.1	47.5		28.9	51.6	41.2	18.5	41.3		80.6	31.8	9.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.1	0.0
Total Delay	75.1	47.5		28.9	51.6	41.2	18.5	41.3		80.6	31.8	9.6
LOS	E	D		C	D	D	B	D		F	C	A
Approach Delay		57.9			44.4			39.0			46.0	
Approach LOS		E			D			D			D	

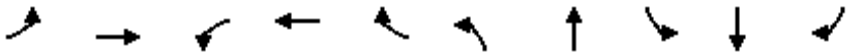
Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 47.1 Intersection LOS: D
Intersection Capacity Utilization 93.0% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd



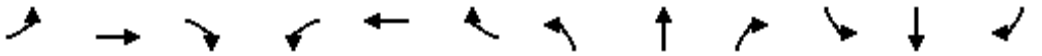
6: Trafalgar Rd & Cornwall Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	313	521	31	370	667	52	479	698	672	401
v/c Ratio	0.78	0.51	0.11	0.52	0.97	0.19	0.46	0.89	0.72	0.44
Control Delay	75.1	47.5	28.9	51.6	41.2	18.5	41.3	80.6	31.8	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total Delay	75.1	47.5	28.9	51.6	41.2	18.5	41.3	80.6	31.8	9.6
Queue Length 50th (m)	46.5	66.3	5.5	49.1	62.4	6.9	61.7	111.2	99.5	22.1
Queue Length 95th (m)	#80.3	90.6	13.1	65.6	#147.7	12.6	76.7 m	#133.7	m114.0	m31.1
Internal Link Dist (m)		551.4		604.3			115.4		253.9	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	400	1022	279	800	718	278	1089	806	959	922
Starvation Cap Reductn	0	0	0	0	0	0	0	0	12	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.51	0.11	0.46	0.93	0.19	0.44	0.87	0.71	0.43

Intersection Summary

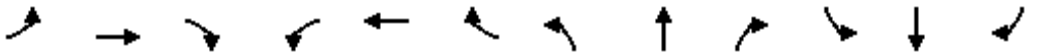
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	430	70	30	355	640	50	405	55	670	645	385
Future Volume (vph)	300	430	70	30	355	640	50	405	55	670	645	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.95	1.00	1.00		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3367	3322		1723	3438	1483	1766	3450		3400	1881	1498
Flt Permitted	0.95	1.00		0.45	1.00	1.00	0.30	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3367	3322		825	3438	1483	557	3450		3400	1881	1498
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	312	448	73	31	370	667	52	422	57	698	672	401
RTOR Reduction (vph)	0	9	0	0	0	379	0	8	0	0	0	169
Lane Group Flow (vph)	313	512	0	31	370	288	52	471	0	698	672	232
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	15.6	41.7		34.4	29.9	29.9	44.6	39.0		31.5	65.9	65.9
Effective Green, g (s)	16.6	42.7		36.4	30.9	30.9	46.6	40.0		32.5	66.9	66.9
Actuated g/C Ratio	0.12	0.31		0.26	0.22	0.22	0.33	0.29		0.23	0.48	0.48
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Lane Grp Cap (vph)	399	1013		249	758	327	242	985		789	898	715
v/s Ratio Prot	c0.09	0.15		0.00	0.11		0.01	0.14		c0.21	c0.36	
v/s Ratio Perm				0.03		c0.19	0.06					0.15
v/c Ratio	0.78	0.51		0.12	0.49	0.88	0.21	0.48		0.88	0.75	0.32
Uniform Delay, d1	60.0	40.0		39.0	47.6	52.8	32.5	41.4		51.9	29.7	22.6
Progression Factor	1.03	1.15		1.00	1.00	1.00	1.00	1.00		1.38	0.97	1.77
Incremental Delay, d2	9.5	0.4		0.3	0.5	23.1	0.4	1.7		7.7	3.5	0.7
Delay (s)	71.0	46.3		39.3	48.1	75.9	33.0	43.0		79.5	32.5	40.6
Level of Service	E	D		D	D	E	C	D		E	C	D
Approach Delay (s)		55.5			65.2			42.0			52.9	
Approach LOS		E			E			D			D	

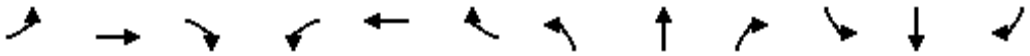
Intersection Summary			
HCM 2000 Control Delay	55.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	93.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	15	0	5	615	140	0	5	0	20	5	100
Future Volume (vph)	0	15	0	5	615	140	0	5	0	20	5	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.975						0.892	
Flt Protected											0.992	
Satd. Flow (prot)	0	1792	0	0	1813	0	0	1900	0	0	1480	0
Flt Permitted											0.992	
Satd. Flow (perm)	0	1792	0	0	1813	0	0	1900	0	0	1480	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		175.8			144.9			44.8			92.1	
Travel Time (s)		12.7			10.4			3.2			6.6	
Confl. Peds. (#/hr)			5	5					10	10		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	6%	0%	0%	2%	3%	0%	0%	0%	0%	0%	17%
Adj. Flow (vph)	0	17	0	6	691	157	0	6	0	22	6	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	17	0	0	854	0	0	6	0	0	140	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

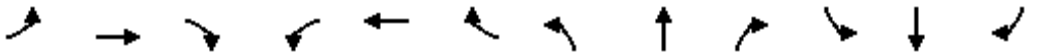
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	15	0	5	615	140	0	5	0	20	5	100
Future Volume (Veh/h)	0	15	0	5	615	140	0	5	0	20	5	100
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	17	0	6	691	157	0	6	0	22	6	112
Pedestrians					10			5				
Lane Width (m)					3.6			3.6				
Walking Speed (m/s)					1.2			1.2				
Percent Blockage					1			0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		355										
pX, platoon unblocked												
vC, conflicting volume	848			22			918	882	32	812	804	770
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	848			22			918	882	32	812	804	770
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.4
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.5
p0 queue free %	100			100			100	98	100	92	98	70
cM capacity (veh/h)	798			1600			174	285	1035	291	316	378

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	17	854	6	140
Volume Left	0	6	0	22
Volume Right	0	157	0	112
cSH	798	1600	285	358
Volume to Capacity	0.00	0.00	0.02	0.39
Queue Length 95th (m)	0.0	0.1	0.5	14.5
Control Delay (s)	0.0	0.1	17.9	21.4
Lane LOS		A	C	C
Approach Delay (s)	0.0	0.1	17.9	21.4
Approach LOS			C	C

Intersection Summary				
Average Delay	3.1			
Intersection Capacity Utilization	65.8%	ICU Level of Service	C	
Analysis Period (min)	15			

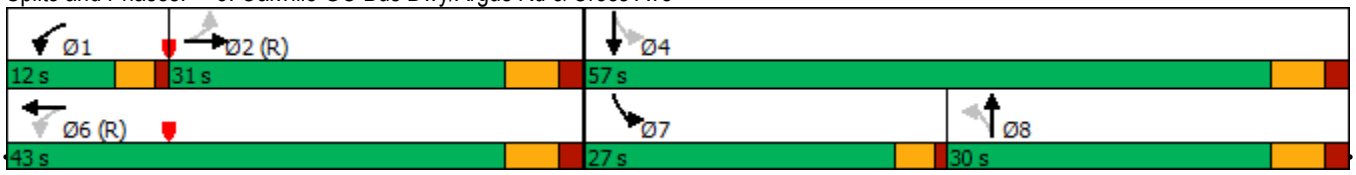


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	780	15	20	555	25	15	0	30	175	10	440
Future Volume (vph)	20	780	15	20	555	25	15	0	30	175	10	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	30.0			15.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		1.00	1.00			0.97		0.98	0.96	
Frt		0.997			0.993			0.909			0.853	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1719	3498	0	950	3533	0	0	845	0	1719	1528	0
Flt Permitted	0.426			0.249				0.781		0.727		
Satd. Flow (perm)	764	3498	0	248	3533	0	0	668	0	1285	1528	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			5			120			140	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		107.3			217.0			71.0			179.3	
Travel Time (s)		7.7			15.6			5.1			12.9	
Confl. Peds. (#/hr)	10		10	10		10	20		20	20		20
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	1%	100%	90%	1%	7%	100%	100%	94%	5%	100%	0%
Adj. Flow (vph)	21	804	15	21	572	26	15	0	31	180	10	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	819	0	21	598	0	0	46	0	180	464	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

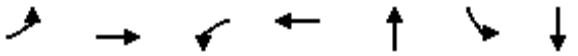
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	22.0	22.0		8.0	22.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	29.0	29.0		12.0	29.0		29.0	29.0		9.0	29.0	
Total Split (s)	31.0	31.0		12.0	43.0		30.0	30.0		27.0	57.0	
Total Split (%)	31.0%	31.0%		12.0%	43.0%		30.0%	30.0%		27.0%	57.0%	
Maximum Green (s)	25.0	25.0		8.0	37.0		24.0	24.0		23.0	51.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	5.0	5.0		2.5	5.0		4.0	4.0		3.0	4.0	
Recall Mode	C-Min	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	16.0	16.0			16.0		16.0	16.0			16.0	
Pedestrian Calls (#/hr)	10	10			10		20	20			20	
Act Effct Green (s)	52.3	52.3		59.2	57.2			16.8		34.8	32.8	
Actuated g/C Ratio	0.52	0.52		0.59	0.57			0.17		0.35	0.33	
v/c Ratio	0.05	0.45		0.10	0.30			0.22		0.35	0.78	
Control Delay	20.0	19.6		13.6	13.2			2.4		23.5	29.1	
Queue Delay	0.0	1.6		0.0	0.0			0.0		0.0	0.0	
Total Delay	20.0	21.2		13.6	13.2			2.4		23.5	29.1	
LOS	B	C		B	B			A		C	C	
Approach Delay		21.1			13.3			2.4			27.5	
Approach LOS		C			B			A			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 20.4		Intersection LOS: C	
Intersection Capacity Utilization 60.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: Oakville GO Bus Dwy/Argus Rd & Cross Ave



8: Oakville GO Bus Dwy/Argus Rd & Cross Ave

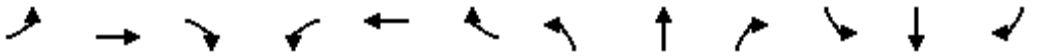


Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	21	819	21	598	46	180	464
v/c Ratio	0.05	0.45	0.10	0.30	0.22	0.35	0.78
Control Delay	20.0	19.6	13.6	13.2	2.4	23.5	29.1
Queue Delay	0.0	1.6	0.0	0.0	0.0	0.0	0.0
Total Delay	20.0	21.2	13.6	13.2	2.4	23.5	29.1
Queue Length 50th (m)	1.7	43.8	1.6	29.3	0.0	27.2	62.4
Queue Length 95th (m)	8.6	98.1	6.5	54.1	0.0	35.5	82.8
Internal Link Dist (m)		83.3		193.0	47.0		155.3
Turn Bay Length (m)	20.0		20.0			15.0	
Base Capacity (vph)	399	1831	210	2021	257	559	861
Starvation Cap Reductn	0	788	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.79	0.10	0.30	0.18	0.32	0.54

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	780	15	20	555	25	15	0	30	175	10	440
Future Volume (vph)	20	780	15	20	555	25	15	0	30	175	10	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.97		1.00	0.96	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00		0.98	1.00	
Frt	1.00	1.00		1.00	0.99			0.91		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1703	3499		949	3535			842		1691	1529	
Flt Permitted	0.43	1.00		0.25	1.00			0.78		0.73	1.00	
Satd. Flow (perm)	763	3499		249	3535			668		1294	1529	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	21	804	15	21	572	26	15	0	31	180	10	454
RTOR Reduction (vph)	0	1	0	0	2	0	0	39	0	0	92	0
Lane Group Flow (vph)	21	818	0	21	596	0	0	7	0	180	372	0
Confl. Peds. (#/hr)	10		10	10		10	20		20	20		20
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	5%	1%	100%	90%	1%	7%	100%	100%	94%	5%	100%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	47.7	47.7		54.9	54.9			13.8		33.1	33.1	
Effective Green, g (s)	48.7	48.7		55.9	55.9			14.8		34.1	34.1	
Actuated g/C Ratio	0.49	0.49		0.56	0.56			0.15		0.34	0.34	
Clearance Time (s)	6.0	6.0		4.0	6.0			6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0		2.5	5.0			4.0		3.0	4.0	
Lane Grp Cap (vph)	371	1704		168	1976			98		505	521	
v/s Ratio Prot		c0.23		0.01	c0.17					0.06	c0.24	
v/s Ratio Perm	0.03			0.06				0.01		0.06		
v/c Ratio	0.06	0.48		0.12	0.30			0.07		0.36	0.71	
Uniform Delay, d1	13.5	17.2		11.0	11.7			36.7		24.4	28.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.3	1.0		0.2	0.4			0.4		0.4	4.9	
Delay (s)	13.8	18.1		11.3	12.1			37.1		24.8	33.6	
Level of Service	B	B		B	B			D		C	C	
Approach Delay (s)		18.0			12.1			37.1			31.2	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	290	90	650	430	15	60	0	235	275	0	75
Future Volume (vph)	25	290	90	650	430	15	60	0	235	275	0	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00		1.00		0.97		0.99	
Frt		0.967			0.998				0.850		0.971	
Flt Protected		0.997			0.971		0.950				0.962	
Satd. Flow (prot)	0	3270	0	0	3416	0	1805	0	1615	0	1769	0
Flt Permitted		0.820			0.568		0.536				0.962	
Satd. Flow (perm)	0	2688	0	0	1998	0	1013	0	1570	0	1759	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28			2				255		51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		139.5			107.3			62.6			201.6	
Travel Time (s)		10.0			7.7			4.5			14.5	
Confl. Peds. (#/hr)	15					15	5		10	10		5
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	27	315	98	707	467	16	65	0	255	299	0	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	440	0	0	1190	0	65	0	255	0	381	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	100		100
Number of Detectors	1	2		1	2		1		1	1	2	
Detector Template	Left	Thru		Left	Thru		Left		Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0		2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0		2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4						9.4	
Detector 2 Size(m)		0.6			0.6						0.6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type	Perm	NA		custom	NA		Perm		Perm	custom	NA	
Protected Phases		2		1	1 6					7	7 4	

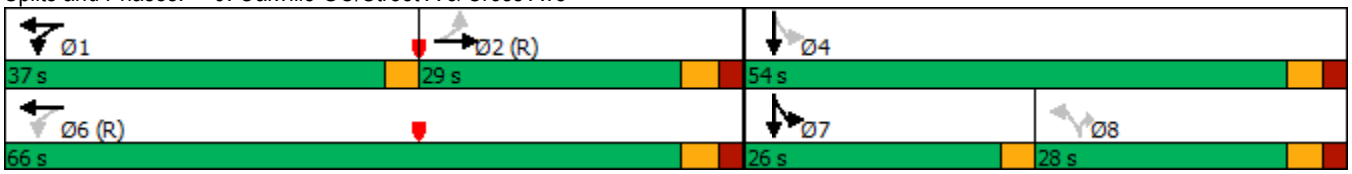
Lane Group	Ø4	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	4	6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			8		8	4		
Detector Phase	2	2		1	1 6		8		8	7	7 4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		8.0			10.0		10.0	8.0		
Minimum Split (s)	27.6	27.6		11.0			27.6		27.6	11.0		
Total Split (s)	29.0	29.0		37.0			28.0		28.0	26.0		
Total Split (%)	24.2%	24.2%		30.8%			23.3%		23.3%	21.7%		
Maximum Green (s)	23.4	23.4		34.0			22.4		22.4	23.0		
Yellow Time (s)	3.3	3.3		3.0			3.3		3.3	3.0		
All-Red Time (s)	2.3	2.3		0.0			2.3		2.3	0.0		
Lost Time Adjust (s)		-1.0					-1.0		-1.0			
Total Lost Time (s)		4.6					4.6		4.6			
Lead/Lag	Lag	Lag		Lead			Lag		Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes		
Vehicle Extension (s)	5.0	5.0		2.5			3.5		3.5	3.0		
Recall Mode	C-Min	C-Min		None			None		None	None		
Walk Time (s)	7.0	7.0					7.0		7.0			
Flash Dont Walk (s)	15.0	15.0					15.0		15.0			
Pedestrian Calls (#/hr)	10	10					10		10			
Act Effct Green (s)		36.9			72.9		15.5		15.5		43.1	
Actuated g/C Ratio		0.31			0.61		0.13		0.13		0.36	
v/c Ratio		0.52			0.99dl		0.50		0.60		0.57	
Control Delay		37.4			18.7		60.5		11.6		29.4	
Queue Delay		0.0			14.7		0.0		0.0		0.0	
Total Delay		37.4			33.4		60.5		11.6		29.4	
LOS		D			C		E		B		C	
Approach Delay		37.4			33.4			21.5			29.4	
Approach LOS		D			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 31.9		Intersection LOS: C	
Intersection Capacity Utilization 89.8%		ICU Level of Service E	
Analysis Period (min) 15			

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 9: Oakville GO/Street A & Cross Ave



Lane Group	Ø4	Ø6
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	10.0	20.0
Minimum Split (s)	27.6	27.6
Total Split (s)	54.0	66.0
Total Split (%)	45%	55%
Maximum Green (s)	48.4	60.4
Yellow Time (s)	3.3	3.3
All-Red Time (s)	2.3	2.3
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	5.0
Recall Mode	None	C-Min
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	15.0	15.0
Pedestrian Calls (#/hr)	10	10
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

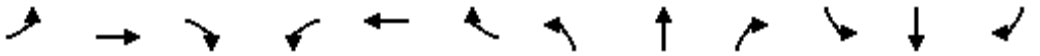
Intersection Summary



Lane Group	EBT	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	440	1190	65	255	381
v/c Ratio	0.52	0.99dl	0.50	0.60	0.57
Control Delay	37.4	18.7	60.5	11.6	29.4
Queue Delay	0.0	14.7	0.0	0.0	0.0
Total Delay	37.4	33.4	60.5	11.6	29.4
Queue Length 50th (m)	45.1	87.6	15.4	0.0	65.4
Queue Length 95th (m)	71.1	129.5	28.6	22.9	86.2
Internal Link Dist (m)	115.5	83.3			177.6
Turn Bay Length (m)					
Base Capacity (vph)	845	1635	197	511	793
Starvation Cap Reductn	0	451	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.52	1.01	0.33	0.50	0.48

Intersection Summary

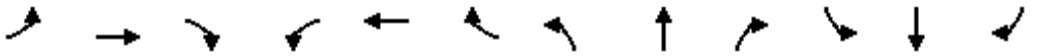
dl Defacto Left Lane. Recode with 1 though lane as a left lane.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	290	90	650	430	15	60	0	235	275	0	75
Future Volume (vph)	25	290	90	650	430	15	60	0	235	275	0	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6			2.0		4.6		4.6		2.0	
Lane Util. Factor		0.95			0.95		1.00		1.00		1.00	
Frpb, ped/bikes		1.00			1.00		1.00		0.97		1.00	
Flpb, ped/bikes		1.00			1.00		1.00		1.00		0.99	
Frt		0.97			1.00		1.00		0.85		0.97	
Flt Protected		1.00			0.97		0.95		1.00		0.96	
Satd. Flow (prot)		3267			3417		1796		1570		1757	
Flt Permitted		0.82			0.57		0.54		1.00		0.96	
Satd. Flow (perm)		2687			1997		1013		1570		1757	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	315	98	707	467	16	65	0	255	299	0	82
RTOR Reduction (vph)	0	19	0	0	1	0	0	0	222	0	34	0
Lane Group Flow (vph)	0	421	0	0	1189	0	65	0	33	0	347	0
Confl. Peds. (#/hr)	15					15	5		10	10		5
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	0%	9%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		custom	NA		Perm		Perm	custom	NA	
Protected Phases		2		1	1 6					7	7 4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)		35.9			69.3		14.5		14.5		39.5	
Effective Green, g (s)		36.9			70.3		15.5		15.5		40.5	
Actuated g/C Ratio		0.31			0.59		0.13		0.13		0.34	
Clearance Time (s)		5.6					5.6		5.6			
Vehicle Extension (s)		5.0					3.5		3.5			
Lane Grp Cap (vph)		826			1541		130		202		592	
v/s Ratio Prot					c0.20						c0.11	
v/s Ratio Perm		c0.16			0.25		0.06		0.02		0.09	
v/c Ratio		0.51			0.99dl		0.50		0.16		0.59	
Uniform Delay, d1		34.1			18.8		48.6		46.5		32.8	
Progression Factor		1.00			1.00		1.00		1.00		1.00	
Incremental Delay, d2		2.2			2.4		3.5		0.5		1.5	
Delay (s)		36.4			21.1		52.2		46.9		34.3	
Level of Service		D			C		D		D		C	
Approach Delay (s)		36.4			21.1			48.0			34.3	
Approach LOS		D			C			D			C	

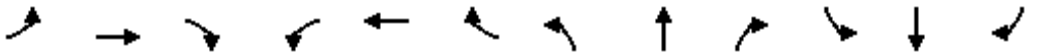
Intersection Summary			
HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	255	0	5	420	155	0	0	0	155	0	25
Future Volume (vph)	25	255	0	5	420	155	0	0	0	155	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (m)	25.0			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.960							0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1805	3312	0	0	3267	0	0	1900	0	1787	0	1509
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1805	3312	0	0	3267	0	0	1900	0	1787	0	1509
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		132.8			139.5			48.2			88.5	
Travel Time (s)		9.6			10.0			3.5			6.4	
Confl. Peds. (#/hr)	20		10	10		20						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	0%	0%	8%	1%	0%	0%	0%	1%	0%	7%
Adj. Flow (vph)	27	277	0	5	457	168	0	0	0	168	0	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	277	0	0	630	0	0	0	0	168	0	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

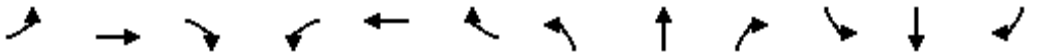
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	255	0	5	420	155	0	0	0	155	0	25
Future Volume (Veh/h)	25	255	0	5	420	155	0	0	0	155	0	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	277	0	5	457	168	0	0	0	168	0	27
Pedestrians								10			20	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			2	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		133			140							
pX, platoon unblocked												
vC, conflicting volume	645			287			606	996	148	764	912	332
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	645			287			606	996	148	764	912	332
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	7.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.4
p0 queue free %	97			100			100	100	100	39	100	96
cM capacity (veh/h)	934			1276			350	232	870	278	260	638

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	27	138	138	234	396	0	168	27
Volume Left	27	0	0	5	0	0	168	0
Volume Right	0	0	0	0	168	0	0	27
cSH	934	1700	1700	1276	1700	1700	278	638
Volume to Capacity	0.03	0.08	0.08	0.00	0.23	0.12	0.61	0.04
Queue Length 95th (m)	0.7	0.0	0.0	0.1	0.0	0.0	29.1	1.1
Control Delay (s)	9.0	0.0	0.0	0.2	0.0	0.0	36.0	10.9
Lane LOS	A			A		A	E	B
Approach Delay (s)	0.8			0.1		0.0	32.5	
Approach LOS						A	D	

Intersection Summary				
Average Delay	5.9			
Intersection Capacity Utilization	36.0%	ICU Level of Service	A	
Analysis Period (min)	15			

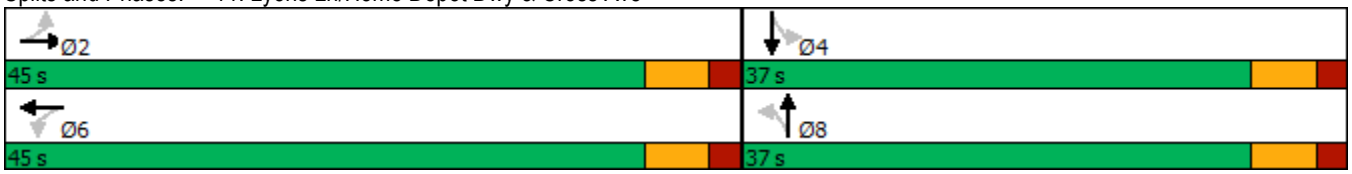


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	245	130	180	265	5	15	5	20	20	10	45
Future Volume (vph)	55	245	130	180	265	5	15	5	20	20	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	25.0		0.0	35.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99				1.00		0.99	0.99		0.99	0.99	
Frt		0.948			0.997			0.881			0.878	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3232	0	1787	3094	0	1805	1588	0	1703	1580	0
Flt Permitted	0.561			0.499			0.715			0.738		
Satd. Flow (perm)	1059	3232	0	939	3094	0	1352	1588	0	1316	1580	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		151			3			23			52	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		47.5			132.8			150.8			63.6	
Travel Time (s)		3.4			9.6			10.9			4.6	
Confl. Peds. (#/hr)	5					5	5		5	5		5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	9%	0%	1%	16%	29%	0%	0%	5%	6%	0%	5%
Adj. Flow (vph)	64	285	151	209	308	6	17	6	23	23	12	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	436	0	209	314	0	17	29	0	23	64	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

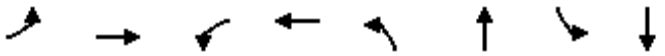
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		35.0	35.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	41.0	41.0		41.0	41.0		28.0	28.0		28.0	28.0	
Total Split (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Total Split (%)	54.9%	54.9%		54.9%	54.9%		45.1%	45.1%		45.1%	45.1%	
Maximum Green (s)	39.0	39.0		39.0	39.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	5	5		5	5		5	5		5	5	
Act Effct Green (s)	43.8	43.8		43.8	43.8		13.1	13.1		13.1	13.1	
Actuated g/C Ratio	0.76	0.76		0.76	0.76		0.23	0.23		0.23	0.23	
v/c Ratio	0.08	0.18		0.29	0.13		0.06	0.08		0.08	0.16	
Control Delay	6.1	3.5		7.6	4.9		17.7	9.7		18.1	8.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	6.1	3.5		7.6	4.9		17.7	9.7		18.1	8.4	
LOS	A	A		A	A		B	A		B	A	
Approach Delay		3.9			6.0			12.7			11.0	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 57.9			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.29			
Intersection Signal Delay: 5.7		Intersection LOS: A	
Intersection Capacity Utilization 80.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 11: Lyons Ln/Home Depot Dwy & Cross Ave

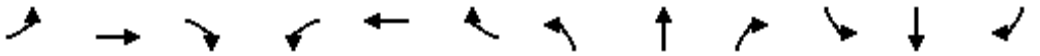


11: Lyons Ln/Home Depot Dwy & Cross Ave



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	436	209	314	17	29	23	64
v/c Ratio	0.08	0.18	0.29	0.13	0.06	0.08	0.08	0.16
Control Delay	6.1	3.5	7.6	4.9	17.7	9.7	18.1	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.1	3.5	7.6	4.9	17.7	9.7	18.1	8.4
Queue Length 50th (m)	2.3	5.4	9.0	6.0	1.5	0.6	2.1	1.1
Queue Length 95th (m)	9.5	16.0	30.3	16.6	5.3	5.3	6.5	8.0
Internal Link Dist (m)		23.5		108.8		126.8		39.6
Turn Bay Length (m)			25.0		35.0			
Base Capacity (vph)	843	2605	748	2465	755	896	734	905
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.17	0.28	0.13	0.02	0.03	0.03	0.07

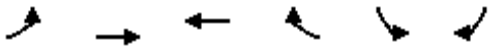
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	245	130	180	265	5	15	5	20	20	10	45
Future Volume (vph)	55	245	130	180	265	5	15	5	20	20	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	1.00		1.00	0.88		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1797	3232		1787	3095		1798	1590		1696	1582	
Flt Permitted	0.56	1.00		0.50	1.00		0.72	1.00		0.74	1.00	
Satd. Flow (perm)	1061	3232		938	3095		1354	1590		1318	1582	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	64	285	151	209	308	6	17	6	23	23	12	52
RTOR Reduction (vph)	0	47	0	0	1	0	0	20	0	0	44	0
Lane Group Flow (vph)	64	389	0	209	313	0	17	9	0	23	20	0
Confl. Peds. (#/hr)	5					5	5		5	5		5
Heavy Vehicles (%)	0%	9%	0%	1%	16%	29%	0%	0%	5%	6%	0%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	40.6	40.6		40.6	40.6		7.8	7.8		7.8	7.8	
Effective Green, g (s)	41.6	41.6		41.6	41.6		8.8	8.8		8.8	8.8	
Actuated g/C Ratio	0.69	0.69		0.69	0.69		0.15	0.15		0.15	0.15	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	730	2226		646	2131		197	231		192	230	
v/s Ratio Prot		0.12			0.10			0.01			0.01	
v/s Ratio Perm	0.06			c0.22			0.01			c0.02		
v/c Ratio	0.09	0.17		0.32	0.15		0.09	0.04		0.12	0.09	
Uniform Delay, d1	3.1	3.3		3.8	3.3		22.3	22.2		22.4	22.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.1		0.6	0.1		0.3	0.1		0.4	0.2	
Delay (s)	3.2	3.4		4.4	3.3		22.6	22.3		22.8	22.5	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		3.4			3.7			22.4			22.6	
Approach LOS		A			A			C			C	

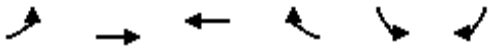
Intersection Summary			
HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	60.4	Sum of lost time (s)	10.0
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	385	320	5	50	30
Future Volume (vph)	10	385	320	5	50	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.998		0.950	
Flt Protected	0.950				0.970	
Satd. Flow (prot)	1805	3471	3251	0	1751	0
Flt Permitted	0.950				0.970	
Satd. Flow (perm)	1805	3471	3251	0	1751	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		443.3	47.5		121.4	
Travel Time (s)		31.9	3.4		8.7	
Confl. Peds. (#/hr)	5			5		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	4%	11%	0%	0%	0%
Adj. Flow (vph)	11	443	368	6	57	34
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	443	374	0	91	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

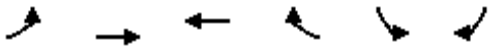
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.9%		ICU Level of Service A	
Analysis Period (min) 15			



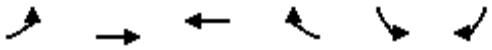
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	385	320	5	50	30
Future Volume (Veh/h)	10	385	320	5	50	30
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	11	443	368	6	57	34
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			48			
pX, platoon unblocked	0.98				0.98	0.98
vC, conflicting volume	379				620	192
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	336				581	146
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				87	96
cM capacity (veh/h)	1209				436	863

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	11	222	222	245	129	91
Volume Left	11	0	0	0	0	57
Volume Right	0	0	0	0	6	34
cSH	1209	1700	1700	1700	1700	535
Volume to Capacity	0.01	0.13	0.13	0.14	0.08	0.17
Queue Length 95th (m)	0.2	0.0	0.0	0.0	0.0	4.9
Control Delay (s)	8.0	0.0	0.0	0.0	0.0	13.1
Lane LOS	A					B
Approach Delay (s)	0.2			0.0		13.1
Approach LOS						B

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	21.9%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	320	755	605	35	105	280
Future Volume (vph)	320	755	605	35	105	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0			0.0	60.0	0.0
Storage Lanes	1			0	1	2
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.88
Ped Bike Factor	1.00		1.00			
Frt			0.992			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1703	3438	3414	0	1805	2561
Flt Permitted	0.355				0.950	
Satd. Flow (perm)	633	3438	3414	0	1805	2561
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			6			295
Link Speed (k/h)		50	50		50	
Link Distance (m)		209.5	575.4		443.3	
Travel Time (s)		15.1	41.4		31.9	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	5%	5%	0%	0%	11%
Adj. Flow (vph)	337	795	637	37	111	295
Shared Lane Traffic (%)						
Lane Group Flow (vph)	337	795	674	0	111	295
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		7.2	7.2		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	6.0	38.0	38.0		10.0	10.0
Minimum Split (s)	12.0	47.6	47.6		33.8	33.8
Total Split (s)	35.0	109.2	74.2		30.8	30.8
Total Split (%)	25.0%	78.0%	53.0%		22.0%	22.0%
Maximum Green (s)	29.0	102.6	67.6		25.0	25.0
Yellow Time (s)	4.0	3.7	3.7		3.3	3.3
All-Red Time (s)	2.0	2.9	2.9		2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.6	5.6		4.8	4.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Recall Mode	None	C-Min	C-Min		None	None
Walk Time (s)		10.0	10.0		10.0	10.0
Flash Dont Walk (s)		31.0	31.0		18.0	18.0
Pedestrian Calls (#/hr)		10	10		0	0
Act Effct Green (s)	115.0	114.4	96.0		15.2	15.2
Actuated g/C Ratio	0.82	0.82	0.69		0.11	0.11
v/c Ratio	0.54	0.28	0.29		0.57	0.55
Control Delay	6.5	3.5	8.0		70.1	9.7
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	6.5	3.5	8.0		70.1	9.7
LOS	A	A	A		E	A
Approach Delay		4.4	8.0		26.3	
Approach LOS		A	A		C	

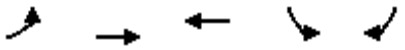
Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 9.5 Intersection LOS: A
Intersection Capacity Utilization 73.1% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 13: Speers Rd/Cornwall Rd & Cross Ave

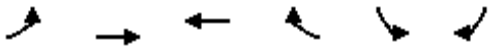


13: Speers Rd/Cornwall Rd & Cross Ave



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	337	795	674	111	295
v/c Ratio	0.54	0.28	0.29	0.57	0.55
Control Delay	6.5	3.5	8.0	70.1	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	6.5	3.5	8.0	70.1	9.7
Queue Length 50th (m)	17.5	23.3	33.2	31.3	0.0
Queue Length 95th (m)	31.6	36.3	43.0	50.3	14.8
Internal Link Dist (m)		185.5	551.4	419.3	
Turn Bay Length (m)	70.0			60.0	
Base Capacity (vph)	749	2809	2342	335	715
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.45	0.28	0.29	0.33	0.41

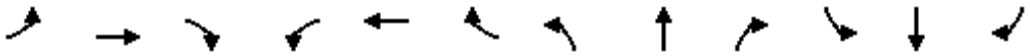
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	320	755	605	35	105	280
Future Volume (vph)	320	755	605	35	105	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		4.8	4.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1700	3438	3414		1805	2561
Flt Permitted	0.36	1.00	1.00		0.95	1.00
Satd. Flow (perm)	636	3438	3414		1805	2561
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	337	795	637	37	111	295
RTOR Reduction (vph)	0	0	2	0	0	263
Lane Group Flow (vph)	337	795	672	0	111	32
Confl. Peds. (#/hr)	15			15		
Heavy Vehicles (%)	6%	5%	5%	0%	0%	11%
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Actuated Green, G (s)	113.4	113.4	95.0		14.2	14.2
Effective Green, g (s)	114.4	114.4	96.0		15.2	15.2
Actuated g/C Ratio	0.82	0.82	0.69		0.11	0.11
Clearance Time (s)	6.0	6.6	6.6		5.8	5.8
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Lane Grp Cap (vph)	621	2809	2341		195	278
v/s Ratio Prot	c0.05	0.23	0.20			
v/s Ratio Perm	c0.39				c0.06	0.01
v/c Ratio	0.54	0.28	0.29		0.57	0.12
Uniform Delay, d1	3.6	3.0	8.6		59.3	56.3
Progression Factor	1.00	1.00	0.84		1.00	1.00
Incremental Delay, d2	1.1	0.3	0.3		3.8	0.2
Delay (s)	4.7	3.3	7.5		63.1	56.5
Level of Service	A	A	A		E	E
Approach Delay (s)		3.7	7.5		58.3	
Approach LOS		A	A		E	

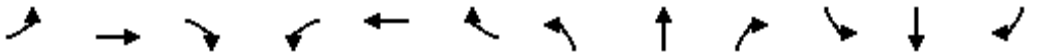
Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	80	0	5	0	175	60	10	185	0
Future Volume (vph)	0	0	0	80	0	5	0	175	60	10	185	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.992			0.962				
Flt Protected					0.955						0.998	
Satd. Flow (prot)	0	1900	0	0	1632	0	0	3372	0	0	3503	0
Flt Permitted					0.955						0.998	
Satd. Flow (perm)	0	1900	0	0	1632	0	0	3372	0	0	3503	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		33.6			124.9			420.1			134.0	
Travel Time (s)		2.4			9.0			30.2			9.6	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	11%	0%	0%	50%	3%	3%	0%	3%	0%
Adj. Flow (vph)	0	0	0	92	0	6	0	201	69	11	213	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	98	0	0	270	0	0	224	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	24.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	80	0	5	0	175	60	10	185	0
Future Volume (Veh/h)	0	0	0	80	0	5	0	175	60	10	185	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	0	0	92	0	6	0	201	69	11	213	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	342	505	106	364	470	135	213			270		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	342	505	106	364	470	135	213			270		
tC, single (s)	7.5	6.5	6.9	7.7	6.5	6.9	5.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.7			2.2		
p0 queue free %	100	100	100	83	100	99	100			99		
cM capacity (veh/h)	586	469	934	542	490	895	1067			1305		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	98	100	170	118	106
Volume Left	0	92	0	0	11	0
Volume Right	0	6	0	69	0	0
cSH	1700	555	1067	1700	1305	1700
Volume to Capacity	0.00	0.18	0.00	0.10	0.01	0.06
Queue Length 95th (m)	0.0	5.1	0.0	0.0	0.2	0.0
Control Delay (s)	0.0	12.9	0.0	0.0	0.8	0.0
Lane LOS	A	B			A	
Approach Delay (s)	0.0	12.9	0.0		0.4	
Approach LOS	A	B				

Intersection Summary				
Average Delay	2.3			
Intersection Capacity Utilization	24.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	75	60	95	150	70	20
Future Volume (vph)	75	60	95	150	70	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.940				0.970	
Flt Protected				0.981	0.962	
Satd. Flow (prot)	1719	0	0	1816	1740	0
Flt Permitted				0.981	0.962	
Satd. Flow (perm)	1719	0	0	1816	1740	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	632.0			1164.2	455.7	
Travel Time (s)	45.5			83.8	32.8	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	7%	0%	2%	3%	1%	5%
Adj. Flow (vph)	91	73	116	183	85	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	164	0	0	299	109	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

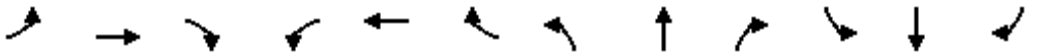
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	75	60	95	150	70	20
Future Volume (Veh/h)	75	60	95	150	70	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	91	73	116	183	85	24
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			164		542	128
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			164		542	128
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		82	97
cM capacity (veh/h)			1414		462	915

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	164	299	109
Volume Left	0	116	85
Volume Right	73	0	24
cSH	1700	1414	518
Volume to Capacity	0.10	0.08	0.21
Queue Length 95th (m)	0.0	2.1	6.3
Control Delay (s)	0.0	3.5	13.8
Lane LOS		A	B
Approach Delay (s)	0.0	3.5	13.8
Approach LOS			B

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	35.9%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	645	205	40	525	35	230	65	60	35	75	25
Future Volume (vph)	25	645	205	40	525	35	230	65	60	35	75	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00		1.00	0.99		1.00		0.98
Frt		0.964			0.991			0.928				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	3338	0	1752	3436	0	1736	1732	0	1703	1881	1553
Flt Permitted	0.405			0.253			0.704			0.670		
Satd. Flow (perm)	703	3338	0	467	3436	0	1280	1732	0	1196	1881	1526
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		75			12			48				32
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			455.7	
Travel Time (s)		43.9			11.1			15.4			32.8	
Confl. Peds. (#/hr)	5					5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Adj. Flow (vph)	27	701	223	43	571	38	250	71	65	38	82	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	924	0	43	609	0	250	136	0	38	82	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	31.0	31.0		31.0	31.0		19.0	19.0		19.0	19.0	19.0
Actuated g/C Ratio	0.52	0.52		0.52	0.52		0.32	0.32		0.32	0.32	0.32
v/c Ratio	0.07	0.52		0.18	0.34		0.62	0.23		0.10	0.14	0.05
Control Delay	9.6	10.6		11.6	9.6		25.4	12.0		16.1	16.0	6.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	9.6	10.6		11.6	9.6		25.4	12.0		16.1	16.0	6.0
LOS	A	B		B	A		C	B		B	B	A
Approach Delay		10.6			9.7			20.7			14.2	
Approach LOS		B			A			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 59.8			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 12.4		Intersection LOS: B	
Intersection Capacity Utilization 68.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 16: Chartwell Rd & Cornwall Rd





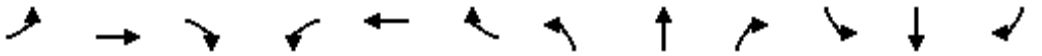
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	27	924	43	609	250	136	38	82	27
v/c Ratio	0.07	0.52	0.18	0.34	0.62	0.23	0.10	0.14	0.05
Control Delay	9.6	10.6	11.6	9.6	25.4	12.0	16.1	16.0	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.6	10.6	11.6	9.6	25.4	12.0	16.1	16.0	6.0
Queue Length 50th (m)	1.3	28.6	2.3	18.0	21.9	6.5	2.8	6.0	0.0
Queue Length 95th (m)	6.5	63.2	10.1	40.3	54.6	21.4	10.4	18.0	4.6
Internal Link Dist (m)		585.1		130.4		189.6		431.7	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	649	3088	431	3174	704	975	658	1035	854
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.30	0.10	0.19	0.36	0.14	0.06	0.08	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	645	205	40	525	35	230	65	60	35	75	25
Future Volume (vph)	25	645	205	40	525	35	230	65	60	35	75	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.99		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1652	3338		1752	3435		1730	1734		1698	1881	1529
Flt Permitted	0.40	1.00		0.25	1.00		0.70	1.00		0.67	1.00	1.00
Satd. Flow (perm)	704	3338		467	3435		1282	1734		1198	1881	1529
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	701	223	43	571	38	250	71	65	38	82	27
RTOR Reduction (vph)	0	36	0	0	6	0	0	33	0	0	0	18
Lane Group Flow (vph)	27	888	0	43	603	0	250	103	0	38	82	9
Confl. Peds. (#/hr)	5					5	5		5	5		5
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	29.9	29.9		29.9	29.9		17.9	17.9		17.9	17.9	17.9
Effective Green, g (s)	30.9	30.9		30.9	30.9		18.9	18.9		18.9	18.9	18.9
Actuated g/C Ratio	0.52	0.52		0.52	0.52		0.32	0.32		0.32	0.32	0.32
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	367	1742		243	1792		409	553		382	600	488
v/s Ratio Prot		c0.27			0.18			0.06			0.04	
v/s Ratio Perm	0.04			0.09			c0.20			0.03		0.01
v/c Ratio	0.07	0.51		0.18	0.34		0.61	0.19		0.10	0.14	0.02
Uniform Delay, d1	7.0	9.2		7.5	8.2		17.0	14.6		14.2	14.3	13.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.6		0.9	0.3		3.1	0.2		0.2	0.1	0.0
Delay (s)	7.2	9.8		8.3	8.5		20.1	14.8		14.3	14.5	13.8
Level of Service	A	A		A	A		C	B		B	B	B
Approach Delay (s)		9.7			8.5			18.3			14.3	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	59.2	Sum of lost time (s)	9.4
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

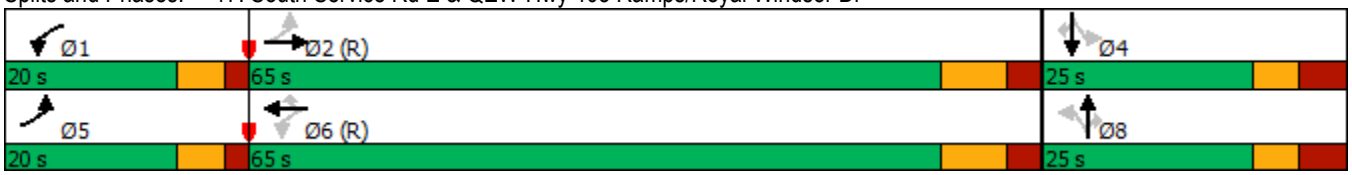


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	630	70	145	560	0	5	20	80	0	50	15
Future Volume (vph)	55	630	70	145	560	0	5	20	80	0	50	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	125.0		0.0	145.0		55.0	15.0		40.0	35.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985							0.850			0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3213	3364	0	1787	3312	1900	1805	1900	1455	1900	1863	1122
Flt Permitted	0.427			0.337			0.722					
Satd. Flow (perm)	1444	3364	0	634	3312	1900	1372	1900	1455	1900	1863	1122
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16							113			113
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		232.7			227.3			1164.2			153.5	
Travel Time (s)		16.8			16.4			83.8			11.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	9%	6%	3%	1%	9%	0%	0%	0%	11%	0%	2%	44%
Adj. Flow (vph)	59	670	74	154	596	0	5	21	85	0	53	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	744	0	154	596	0	5	21	85	0	53	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	8.0	20.0		8.0	20.0	20.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	14.0	28.4		14.0	28.4	28.4	17.8	17.8	17.8	17.8	17.8	17.8
Total Split (s)	20.0	65.0		20.0	65.0	65.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	18.2%	59.1%		18.2%	59.1%	59.1%	22.7%	22.7%	22.7%	22.7%	22.7%	22.7%
Maximum Green (s)	14.0	56.6		14.0	56.6	56.6	17.2	17.2	17.2	17.2	17.2	17.2
Yellow Time (s)	4.0	5.4		4.0	5.4	5.4	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.0	3.0		2.0	3.0	3.0	4.1	4.1	4.1	4.1	4.1	4.1
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	81.1	69.7		83.7	73.3		11.3	11.3	11.3		11.3	11.3
Actuated g/C Ratio	0.74	0.63		0.76	0.67		0.10	0.10	0.10		0.10	0.10
v/c Ratio	0.05	0.35		0.26	0.27		0.04	0.11	0.34		0.28	0.07
Control Delay	2.9	10.0		3.9	8.4		44.8	46.0	7.8		49.4	0.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	2.9	10.0		3.9	8.4		44.8	46.0	7.8		49.4	0.7
LOS	A	A		A	A		D	D	A		D	A
Approach Delay		9.5			7.5			16.7			38.1	
Approach LOS		A			A			B			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.35			
Intersection Signal Delay: 10.2		Intersection LOS: B	
Intersection Capacity Utilization 52.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr

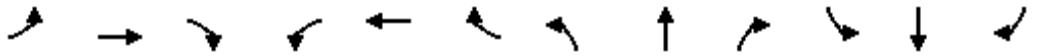


17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	59	744	154	596	5	21	85	53	16
v/c Ratio	0.05	0.35	0.26	0.27	0.04	0.11	0.34	0.28	0.07
Control Delay	2.9	10.0	3.9	8.4	44.8	46.0	7.8	49.4	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.9	10.0	3.9	8.4	44.8	46.0	7.8	49.4	0.7
Queue Length 50th (m)	1.1	36.1	6.3	28.2	1.1	4.4	0.0	11.3	0.0
Queue Length 95th (m)	2.5	53.4	11.6	39.0	4.8	12.2	8.8	23.8	0.0
Internal Link Dist (m)		208.7		203.3		1140.2		129.5	
Turn Bay Length (m)	125.0		145.0		15.0		40.0		
Base Capacity (vph)	1375	2135	657	2206	227	314	335	308	279
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.35	0.23	0.27	0.02	0.07	0.25	0.17	0.06

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	630	70	145	560	0	5	20	80	0	50	15
Future Volume (vph)	55	630	70	145	560	0	5	20	80	0	50	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.4		5.0	7.4		6.8	6.8	6.8		6.8	6.8
Lane Util. Factor	0.97	0.95		1.00	0.95		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	3213	3364		1787	3312		1805	1900	1455		1863	1122
Flt Permitted	0.43	1.00		0.34	1.00		0.72	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1443	3364		635	3312		1373	1900	1455		1863	1122
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	59	670	74	154	596	0	5	21	85	0	53	16
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	76	0	0	14
Lane Group Flow (vph)	59	738	0	154	596	0	5	21	9	0	53	2
Heavy Vehicles (%)	9%	6%	3%	1%	9%	0%	0%	0%	11%	0%	2%	44%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	75.1	68.7		79.9	71.1		10.3	10.3	10.3		10.3	10.3
Effective Green, g (s)	77.1	69.7		81.9	72.1		11.3	11.3	11.3		11.3	11.3
Actuated g/C Ratio	0.70	0.63		0.74	0.66		0.10	0.10	0.10		0.10	0.10
Clearance Time (s)	6.0	8.4		6.0	8.4		7.8	7.8	7.8		7.8	7.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	1130	2131		575	2170		141	195	149		191	115
v/s Ratio Prot	0.00	c0.22		c0.02	0.18			0.01			c0.03	
v/s Ratio Perm	0.03			0.18			0.00		0.01			0.00
v/c Ratio	0.05	0.35		0.27	0.27		0.04	0.11	0.06		0.28	0.01
Uniform Delay, d1	5.0	9.5		4.2	8.0		44.4	44.8	44.5		45.6	44.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.4		0.3	0.3		0.1	0.2	0.2		0.8	0.0
Delay (s)	5.0	9.9		4.4	8.3		44.5	45.0	44.7		46.4	44.4
Level of Service	A	A		A	A		D	D	D		D	D
Approach Delay (s)		9.5			7.5			44.8			45.9	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	115	175	0	25	35	0
Future Volume (vph)	115	175	0	25	35	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.919					
Flt Protected					0.950	
Satd. Flow (prot)	1712	0	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1712	0	0	1863	1770	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	64.3			219.4	105.4	
Travel Time (s)	4.6			15.8	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	190	0	27	38	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	315	0	0	27	38	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	115	175	0	25	35	0
Future Volume (Veh/h)	115	175	0	25	35	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	125	190	0	27	38	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			315		247	220
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			315		247	220
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		95	100
cM capacity (veh/h)			1245		741	820

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	315	27	38
Volume Left	0	0	38
Volume Right	190	0	0
cSH	1700	1245	741
Volume to Capacity	0.19	0.00	0.05
Queue Length 95th (m)	0.0	0.0	1.3
Control Delay (s)	0.0	0.0	10.1
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.1
Approach LOS			B

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	26.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	115	0	35	25	0	175
Future Volume (vph)	115	0	35	25	0	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.972		
Satd. Flow (prot)	1863	0	0	1811	1611	0
Flt Permitted				0.972		
Satd. Flow (perm)	1863	0	0	1811	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	53.7			64.3	43.5	
Travel Time (s)	3.9			4.6	3.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	0	38	27	0	190
Shared Lane Traffic (%)						
Lane Group Flow (vph)	125	0	0	65	190	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

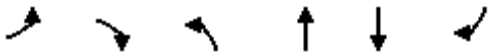
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	115	0	35	25	0	175
Future Volume (Veh/h)	115	0	35	25	0	175
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	125	0	38	27	0	190
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			125		228	125
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			125		228	125
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	79
cM capacity (veh/h)			1462		740	926

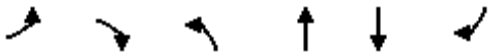
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	125	65	190
Volume Left	0	38	0
Volume Right	0	0	190
cSH	1700	1462	926
Volume to Capacity	0.07	0.03	0.21
Queue Length 95th (m)	0.0	0.6	6.1
Control Delay (s)	0.0	4.5	9.9
Lane LOS		A	A
Approach Delay (s)	0.0	4.5	9.9
Approach LOS			A

Intersection Summary			
Average Delay		5.7	
Intersection Capacity Utilization		27.4%	ICU Level of Service A
Analysis Period (min)		15	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	175	35	35	175	0
Future Volume (vph)	0	175	35	35	175	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.976		
Satd. Flow (prot)	1611	0	0	1818	1863	0
Flt Permitted				0.976		
Satd. Flow (perm)	1611	0	0	1818	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	49.0			201.6	105.4	
Travel Time (s)	3.5			14.5	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	190	38	38	190	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	190	0	0	76	190	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	175	35	35	175	0
Future Volume (Veh/h)	0	175	35	35	175	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	190	38	38	190	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				201		
pX, platoon unblocked						
vC, conflicting volume	304	190	190			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	304	190	190			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	78	97			
cM capacity (veh/h)	669	852	1384			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	190	76	190
Volume Left	0	38	0
Volume Right	190	0	0
cSH	852	1384	1700
Volume to Capacity	0.22	0.03	0.11
Queue Length 95th (m)	6.8	0.7	0.0
Control Delay (s)	10.4	3.9	0.0
Lane LOS	B	A	
Approach Delay (s)	10.4	3.9	0.0
Approach LOS	B		

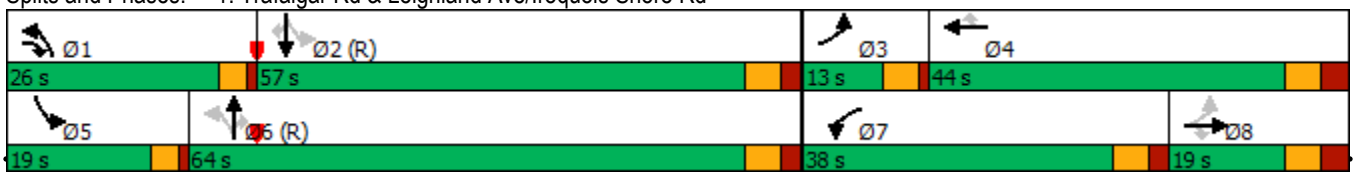
Intersection Summary			
Average Delay	5.0		
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	115	280	765	150	285	295	1840	875	130	1310	115
Future Volume (vph)	100	115	280	765	150	285	295	1840	875	130	1310	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.95					0.92			0.97			0.87
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1881	1599	3467	1881	1615	1787	5136	1599	1805	5085	1615
Flt Permitted	0.659			0.950			0.087			0.075		
Satd. Flow (perm)	1185	1881	1599	3467	1881	1485	164	5136	1543	142	5085	1399
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			193			634			173
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			521.8			275.4			339.2	
Travel Time (s)		27.7			37.6			19.8			24.4	
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Adj. Flow (vph)	103	119	289	789	155	294	304	1897	902	134	1351	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	119	289	789	155	294	304	1897	902	134	1351	119
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

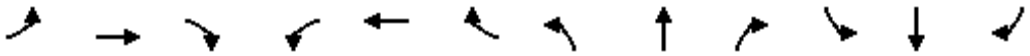
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	11.0	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	13.0	19.0	26.0	38.0	44.0	44.0	26.0	64.0	64.0	19.0	57.0	57.0
Total Split (%)	9.3%	13.6%	18.6%	27.1%	31.4%	31.4%	18.6%	45.7%	45.7%	13.6%	40.7%	40.7%
Maximum Green (s)	8.3	12.2	22.0	32.3	37.2	37.2	22.0	57.9	57.9	15.0	50.9	50.9
Yellow Time (s)	3.7	3.7	3.0	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	1.0	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					30	30		50	50		50	50
Act Effct Green (s)	24.0	12.8	40.3	33.3	38.0	38.0	80.4	63.1	63.1	68.0	53.6	53.6
Actuated g/C Ratio	0.17	0.09	0.29	0.24	0.27	0.27	0.57	0.45	0.45	0.49	0.38	0.38
v/c Ratio	0.42	0.70	0.54	0.96	0.30	0.54	0.88	0.82	0.86	0.63	0.69	0.19
Control Delay	37.6	82.8	29.8	75.1	42.5	18.6	58.7	20.1	14.1	39.9	39.0	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.7	0.0	0.0	0.0
Total Delay	37.6	82.8	29.8	75.1	42.5	18.6	58.7	20.1	25.8	39.9	39.0	1.4
LOS	D	F	C	E	D	B	E	C	C	D	D	A
Approach Delay		43.7			57.6			25.5			36.3	
Approach LOS		D			E			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 35.8		Intersection LOS: D	
Intersection Capacity Utilization 90.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



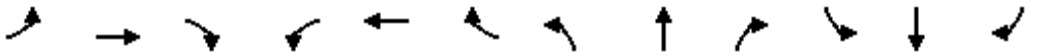
1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	103	119	289	789	155	294	304	1897	902	134	1351	119
v/c Ratio	0.42	0.70	0.54	0.96	0.30	0.54	0.88	0.82	0.86	0.63	0.69	0.19
Control Delay	37.6	82.8	29.8	75.1	42.5	18.6	58.7	20.1	14.1	39.9	39.0	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.7	0.0	0.0	0.0
Total Delay	37.6	82.8	29.8	75.1	42.5	18.6	58.7	20.1	25.8	39.9	39.0	1.4
Queue Length 50th (m)	19.6	34.1	44.2	117.8	36.0	23.6	58.1	111.5	88.7	20.4	122.8	0.0
Queue Length 95th (m)	33.5	#60.7	74.6	#158.5	56.6	54.4	m78.8	168.9	#275.7	42.4	141.0	3.0
Internal Link Dist (m)		361.1			497.8			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	245	177	548	824	513	545	360	2313	1043	262	1946	642
Starvation Cap Reductn	0	0	0	0	0	0	0	0	135	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.67	0.53	0.96	0.30	0.54	0.84	0.82	0.99	0.51	0.69	0.19

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	115	280	765	150	285	295	1840	875	130	1310	115
Future Volume (vph)	100	115	280	765	150	285	295	1840	875	130	1310	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.92	1.00	1.00	0.97	1.00	1.00	0.87
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1743	1881	1599	3467	1881	1485	1787	5136	1543	1805	5085	1399
Flt Permitted	0.66	1.00	1.00	0.95	1.00	1.00	0.09	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	1209	1881	1599	3467	1881	1485	163	5136	1543	142	5085	1399
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	103	119	289	789	155	294	304	1897	902	134	1351	119
RTOR Reduction (vph)	0	0	79	0	0	141	0	0	349	0	0	74
Lane Group Flow (vph)	103	119	210	789	155	153	304	1897	553	134	1351	45
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	19.9	11.8	32.6	32.3	37.0	37.0	77.3	62.0	62.0	63.8	52.5	52.5
Effective Green, g (s)	21.9	12.8	34.6	33.3	38.0	38.0	78.3	63.0	63.0	65.8	53.5	53.5
Actuated g/C Ratio	0.16	0.09	0.25	0.24	0.27	0.27	0.56	0.45	0.45	0.47	0.38	0.38
Clearance Time (s)	4.7	6.8	4.0	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	223	171	395	824	510	403	344	2311	694	212	1943	534
v/s Ratio Prot	0.03	c0.06	0.08	c0.23	0.08		c0.14	0.37		0.06	0.27	
v/s Ratio Perm	0.04		0.05			0.10	c0.36		0.36	0.24		0.03
v/c Ratio	0.46	0.70	0.53	0.96	0.30	0.38	0.88	0.82	0.80	0.63	0.70	0.09
Uniform Delay, d1	52.9	61.7	45.7	52.7	40.5	41.4	39.4	33.6	33.0	27.5	36.4	27.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.26	0.53	0.84	1.00	1.00	1.00
Incremental Delay, d2	1.5	11.6	1.4	21.4	0.3	0.6	12.9	1.7	4.9	6.0	2.1	0.3
Delay (s)	54.5	73.3	47.1	74.0	40.8	42.0	62.7	19.6	32.5	33.5	38.5	27.9
Level of Service	D	E	D	E	D	D	E	B	C	C	D	C
Approach Delay (s)		54.7			62.3			27.6			37.3	
Approach LOS		D			E			C			D	

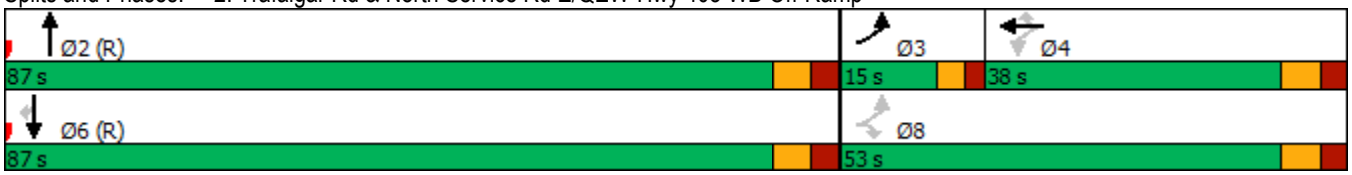
Intersection Summary			
HCM 2000 Control Delay	38.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	90.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	270	545	5	340	0	2660	0	0	2365	15
Future Volume (vph)	25	0	270	545	5	340	0	2660	0	0	2365	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.94
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.953							
Satd. Flow (prot)	1805	0	1599	1681	1687	1583	0	5136	0	0	5036	1524
Flt Permitted	0.217			0.950	0.953							
Satd. Flow (perm)	412	0	1599	1681	1687	1583	0	5136	0	0	5036	1437
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			96						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							15		10	10		15
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Adj. Flow (vph)	27	0	287	580	5	362	0	2830	0	0	2516	16
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	27	0	287	290	295	362	0	2830	0	0	2516	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

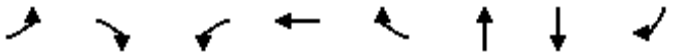
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	15.0		53.0	38.0	38.0	38.0		87.0			87.0	87.0
Total Split (%)	10.7%		37.9%	27.1%	27.1%	27.1%		62.1%			62.1%	62.1%
Maximum Green (s)	10.0		46.0	31.0	31.0	31.0		80.0			80.0	80.0
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		15			15	15
Act Effct Green (s)	40.2		38.2	29.8	29.8	29.8		89.8			89.8	89.8
Actuated g/C Ratio	0.29		0.27	0.21	0.21	0.21		0.64			0.64	0.64
v/c Ratio	0.13		0.63	0.81	0.82	0.88		0.86			0.78	0.02
Control Delay	32.8		44.3	70.3	71.3	61.2		16.6			27.0	0.1
Queue Delay	0.0		0.0	0.0	0.0	0.0		0.1			0.0	0.0
Total Delay	32.8		44.3	70.3	71.3	61.2		16.6			27.0	0.1
LOS	C		D	E	E	E		B			C	A
Approach Delay		43.3			67.1			16.6			26.8	
Approach LOS		D			E			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 29.0		Intersection LOS: C	
Intersection Capacity Utilization 92.6%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp



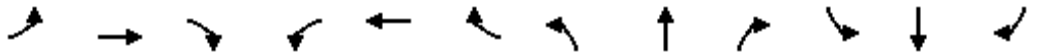
2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp



Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	27	287	290	295	362	2830	2516	16
v/c Ratio	0.13	0.63	0.81	0.82	0.88	0.86	0.78	0.02
Control Delay	32.8	44.3	70.3	71.3	61.2	16.6	27.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	32.8	44.3	70.3	71.3	61.2	16.6	27.0	0.1
Queue Length 50th (m)	5.2	59.8	82.2	84.0	75.2	297.9	206.8	0.0
Queue Length 95th (m)	12.3	89.6	#122.7	#128.1	#129.1	204.8	m227.2	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	227	557	390	391	441	3292	3228	946
Starvation Cap Reductn	0	0	0	0	0	4	0	0
Spillback Cap Reductn	0	0	0	0	0	23	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.52	0.74	0.75	0.82	0.87	0.78	0.02

Intersection Summary

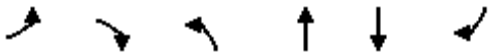
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



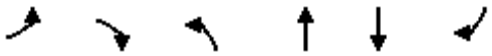
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	270	545	5	340	0	2660	0	0	2365	15
Future Volume (vph)	25	0	270	545	5	340	0	2660	0	0	2365	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.94
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1681	1687	1583		5136			5036	1437
Flt Permitted	0.22		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	412		1599	1681	1687	1583		5136			5036	1437
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	27	0	287	580	5	362	0	2830	0	0	2516	16
RTOR Reduction (vph)	0	0	22	0	0	76	0	0	0	0	0	6
Lane Group Flow (vph)	27	0	265	290	295	286	0	2830	0	0	2516	10
Confl. Peds. (#/hr)							15		10	10		15
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	39.3		39.3	28.8	28.8	28.8		86.7			86.7	86.7
Effective Green, g (s)	40.3		40.3	29.8	29.8	29.8		87.7			87.7	87.7
Actuated g/C Ratio	0.29		0.29	0.21	0.21	0.21		0.63			0.63	0.63
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	183		460	357	359	336		3217			3154	900
v/s Ratio Prot	0.01							c0.55			0.50	
v/s Ratio Perm	0.04		c0.17	0.17	0.17	c0.18						0.01
v/c Ratio	0.15		0.58	0.81	0.82	0.85		0.88			0.80	0.01
Uniform Delay, d1	37.7		42.6	52.4	52.6	53.0		21.8			19.5	9.8
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.63			1.26	1.00
Incremental Delay, d2	0.6		1.9	13.1	14.0	18.4		2.6			1.5	0.0
Delay (s)	38.3		44.4	65.6	66.6	71.4		16.2			26.2	9.9
Level of Service	D		D	E	E	E		B			C	A
Approach Delay (s)		43.9			68.1			16.2			26.1	
Approach LOS		D			E			B			C	

Intersection Summary			
HCM 2000 Control Delay	28.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



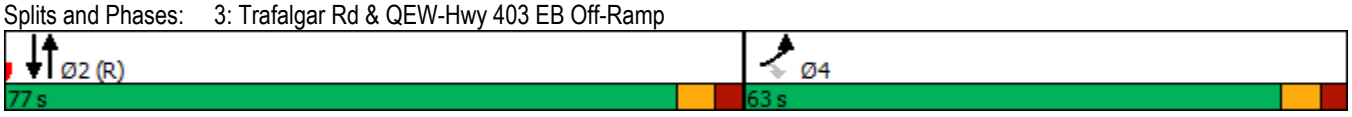
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1005	470	0	1925	1960	0
Future Volume (vph)	1005	470	0	1925	1960	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3467	1583	0	5085	5085	0
Flt Permitted	0.950					
Satd. Flow (perm)	3467	*1800	0	5085	5085	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		3				
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			45.3	331.3	
Travel Time (s)	15.4			3.3	23.9	
Confl. Peds. (#/hr)			25			25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Adj. Flow (vph)	1058	495	0	2026	2063	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1058	495	0	2026	2063	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	63.0	63.0		77.0	77.0	
Total Split (%)	45.0%	45.0%		55.0%	55.0%	
Maximum Green (s)	56.0	56.0		70.0	70.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		15	15	
Act Effct Green (s)	51.1	51.1		76.9	76.9	
Actuated g/C Ratio	0.36	0.36		0.55	0.55	
v/c Ratio	0.84	0.75		0.73	0.74	
Control Delay	47.1	46.2		28.6	23.6	
Queue Delay	0.0	0.0		0.1	0.0	
Total Delay	47.1	46.2		28.6	23.6	
LOS	D	D		C	C	
Approach Delay	46.8			28.6	23.6	
Approach LOS	D			C	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 31.8		Intersection LOS: C	
Intersection Capacity Utilization 77.0%		ICU Level of Service D	
Analysis Period (min) 15			
* User Entered Value			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



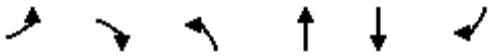
3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	1058	495	2026	2063
v/c Ratio	0.84	0.75	0.73	0.74
Control Delay	47.1	46.2	28.6	23.6
Queue Delay	0.0	0.0	0.1	0.0
Total Delay	47.1	46.2	28.6	23.6
Queue Length 50th (m)	143.5	124.1	171.1	116.0
Queue Length 95th (m)	161.1	158.2	m120.8	159.3
Internal Link Dist (m)	190.2		21.3	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1411	734	2794	2794
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	77	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.75	0.67	0.75	0.74

Intersection Summary

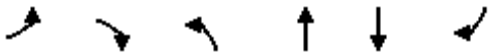
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1005	470	0	1925	1960	0
Future Volume (vph)	1005	470	0	1925	1960	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3467	1583		5085	5085	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3467	1800		5085	5085	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1058	495	0	2026	2063	0
RTOR Reduction (vph)	0	2	0	0	0	0
Lane Group Flow (vph)	1058	493	0	2026	2063	0
Confl. Peds. (#/hr)			25			25
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	50.1	50.1		75.9	75.9	
Effective Green, g (s)	51.1	51.1		76.9	76.9	
Actuated g/C Ratio	0.37	0.37		0.55	0.55	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1265	657		2793	2793	
v/s Ratio Prot	c0.31			0.40	c0.41	
v/s Ratio Perm		0.27				
v/c Ratio	0.84	0.75		0.73	0.74	
Uniform Delay, d1	40.6	38.9		23.6	23.9	
Progression Factor	1.00	1.00		1.12	0.90	
Incremental Delay, d2	5.0	4.8		1.0	1.2	
Delay (s)	45.6	43.7		27.5	22.8	
Level of Service	D	D		C	C	
Approach Delay (s)	45.0			27.5	22.8	
Approach LOS	D			C	C	

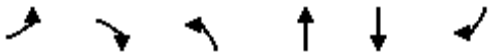
Intersection Summary			
HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	60	0	1990	1785	680
Future Volume (vph)	0	60	0	1990	1785	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.959	
Flt Protected						
Satd. Flow (prot)	0	1522	0	5085	4872	0
Flt Permitted						
Satd. Flow (perm)	0	1522	0	5085	4872	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	144.9			271.4	45.3	
Travel Time (s)	10.4			19.5	3.3	
Confl. Peds. (#/hr)			20			20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	8%	0%	2%	1%	5%
Adj. Flow (vph)	0	64	0	2117	1899	723
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	64	0	2117	2622	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.6%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	60	0	1990	1785	680
Future Volume (Veh/h)	0	60	0	1990	1785	680
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	64	0	2117	1899	723
Pedestrians	20					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	2					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				271	45	
pX, platoon unblocked	0.77	0.69	0.69			
vC, conflicting volume	2986	1014	2642			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1083	0	1806			
tC, single (s)	6.8	7.1	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	100	91	100			
cM capacity (veh/h)	164	722	234			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	64	706	706	706	760	760	1103
Volume Left	0	0	0	0	0	0	0
Volume Right	64	0	0	0	0	0	723
cSH	722	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.09	0.42	0.42	0.42	0.45	0.45	0.65
Queue Length 95th (m)	2.3	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	10.5	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.5	0.0			0.0		
Approach LOS	B						

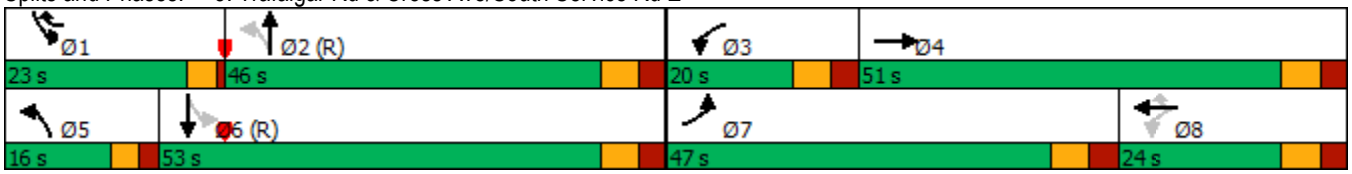
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	950	70	120	65	100	275	140	1085	30	150	1295	390
Future Volume (vph)	950	70	120	65	100	275	140	1085	30	150	1295	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		0.0	50.0		0.0	120.0		0.0	55.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.98		0.98				1.00			0.99	
Frt		0.905				0.850		0.996			0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	1619	0	1805	1900	1599	1719	5112	0	1752	4920	0
Flt Permitted	0.950			0.634			0.084			0.122		
Satd. Flow (perm)	3400	1619	0	1183	1900	1599	152	5112	0	225	4920	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		65				140		3			58	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		217.0			420.1			277.9			271.4	
Travel Time (s)		15.6			30.2			20.0			19.5	
Confl. Peds. (#/hr)			20	20			15		15	15		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Adj. Flow (vph)	979	72	124	67	103	284	144	1119	31	155	1335	402
Shared Lane Traffic (%)												
Lane Group Flow (vph)	979	196	0	67	103	284	144	1150	0	155	1737	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		12.0	10.0	7.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0		19.0	17.0	11.0	12.0	34.0		11.0	34.0	
Total Split (s)	47.0	51.0		20.0	24.0	23.0	16.0	46.0		23.0	53.0	
Total Split (%)	33.6%	36.4%		14.3%	17.1%	16.4%	11.4%	32.9%		16.4%	37.9%	
Maximum Green (s)	40.0	44.0		13.0	17.0	19.0	11.0	39.0		19.0	46.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	1.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0						7.0			7.0	
Flash Dont Walk (s)		28.0						20.0			20.0	
Pedestrian Calls (#/hr)		10						15			15	
Act Effct Green (s)	41.0	46.5		27.7	14.7	34.9	63.1	49.1		66.7	50.3	
Actuated g/C Ratio	0.29	0.33		0.20	0.10	0.25	0.45	0.35		0.48	0.36	
v/c Ratio	0.98	0.34		0.23	0.52	0.56	0.71	0.64		0.59	0.96	
Control Delay	73.8	25.6		28.5	68.2	26.0	50.4	41.2		40.7	56.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	73.8	25.6		28.5	68.2	26.0	50.4	41.2		40.7	56.1	
LOS	E	C		C	E	C	D	D		D	E	
Approach Delay		65.8			35.9			42.2			54.9	
Approach LOS		E			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 52.4		Intersection LOS: D	
Intersection Capacity Utilization 95.6%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 5: Trafalgar Rd & Cross Ave/South Service Rd E



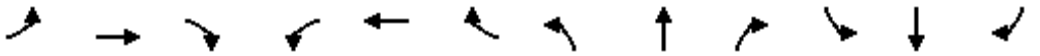
5: Trafalgar Rd & Cross Ave/South Service Rd E



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	979	196	67	103	284	144	1150	155	1737
v/c Ratio	0.98	0.34	0.23	0.52	0.56	0.71	0.64	0.59	0.96
Control Delay	73.8	25.6	28.5	68.2	26.0	50.4	41.2	40.7	56.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.8	25.6	28.5	68.2	26.0	50.4	41.2	40.7	56.1
Queue Length 50th (m)	146.4	29.2	11.2	28.9	36.5	32.8	85.3	29.5	139.4
Queue Length 95th (m)	#192.6	50.4	20.1	47.8	61.4	m44.3	m106.3	m49.4	#220.5
Internal Link Dist (m)		193.0		396.1			253.9		247.4
Turn Bay Length (m)	130.0		50.0			120.0		55.0	
Base Capacity (vph)	995	595	304	244	564	209	1794	329	1804
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.33	0.22	0.42	0.50	0.69	0.64	0.47	0.96

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	950	70	120	65	100	275	140	1085	30	150	1295	390
Future Volume (vph)	950	70	120	65	100	275	140	1085	30	150	1295	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.98		1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3400	1620		1785	1900	1599	1719	5111		1752	4921	
Flt Permitted	0.95	1.00		0.63	1.00	1.00	0.08	1.00		0.12	1.00	
Satd. Flow (perm)	3400	1620		1192	1900	1599	152	5111		226	4921	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	979	72	124	67	103	284	144	1119	31	155	1335	402
RTOR Reduction (vph)	0	43	0	0	0	110	0	2	0	0	38	0
Lane Group Flow (vph)	979	153	0	67	103	174	144	1148	0	155	1699	0
Confl. Peds. (#/hr)			20	20			15		15	15		15
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Actuated Green, G (s)	40.0	45.5		24.7	15.1	28.3	57.7	46.7		61.1	47.9	
Effective Green, g (s)	41.0	46.5		26.7	16.1	30.3	59.7	47.7		63.1	48.9	
Actuated g/C Ratio	0.29	0.33		0.19	0.12	0.22	0.43	0.34		0.45	0.35	
Clearance Time (s)	7.0	7.0		7.0	7.0	4.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	995	538		272	218	346	199	1741		256	1718	
v/s Ratio Prot	c0.29	0.09		0.02	0.05	c0.05	c0.06	0.22		c0.06	c0.35	
v/s Ratio Perm				0.03		0.06	0.25			0.21		
v/c Ratio	0.98	0.28		0.25	0.47	0.50	0.72	0.66		0.61	0.99	
Uniform Delay, d1	49.2	34.5		47.6	58.0	48.2	32.3	39.2		26.2	45.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.33	1.02		1.61	1.06	
Incremental Delay, d2	24.5	0.4		0.6	2.2	1.2	7.4	1.2		2.9	16.0	
Delay (s)	73.6	34.9		48.2	60.2	49.4	50.5	41.3		45.1	64.1	
Level of Service	E	C		D	E	D	D	D		D	E	
Approach Delay (s)		67.2			51.7			42.4			62.5	
Approach LOS		E			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	57.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

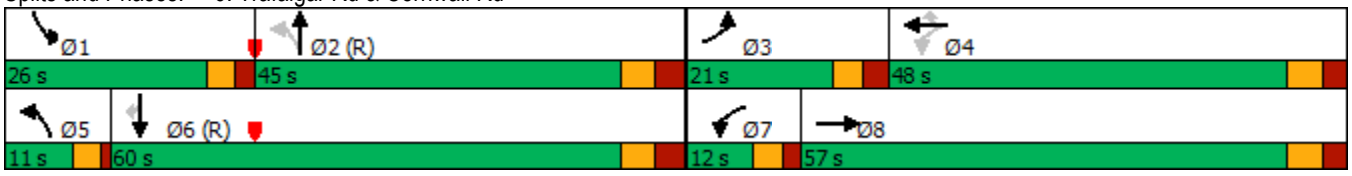
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	420	45	55	530	615	60	520	60	495	560	300
Future Volume (vph)	360	420	45	55	530	615	60	520	60	495	560	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.97	1.00		0.99		0.93	1.00	1.00		0.98		0.98
Frt		0.986				0.850		0.984				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	3482	0	1805	3539	1583	1770	3539	0	3433	1881	1553
Flt Permitted	0.950			0.478			0.240			0.950		
Satd. Flow (perm)	3368	3482	0	898	3539	1470	445	3539	0	3373	1881	1516
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9				326		9				247
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			277.9	
Travel Time (s)		41.4			45.2			10.0			20.0	
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Adj. Flow (vph)	371	433	46	57	546	634	62	536	62	510	577	309
Shared Lane Traffic (%)												
Lane Group Flow (vph)	371	479	0	57	546	634	62	598	0	510	577	309
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	21.0	57.0		12.0	48.0	48.0	11.0	45.0		26.0	60.0	60.0
Total Split (%)	15.0%	40.7%		8.6%	34.3%	34.3%	7.9%	32.1%		18.6%	42.9%	42.9%
Maximum Green (s)	15.3	50.6		7.0	41.6	41.6	7.0	38.1		21.0	53.1	53.1
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		30			30	30		15			15	15
Act Effct Green (s)	17.7	53.4		50.8	41.0	41.0	49.7	38.8		22.4	56.5	56.5
Actuated g/C Ratio	0.13	0.38		0.36	0.29	0.29	0.36	0.28		0.16	0.40	0.40
v/c Ratio	0.85	0.36		0.15	0.53	0.96	0.27	0.61		0.93	0.76	0.41
Control Delay	79.3	37.3		22.1	43.2	49.7	24.0	46.5		91.6	41.1	13.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	79.3	37.3		22.1	43.2	49.7	24.0	46.5		91.6	41.1	13.4
LOS	E	D		C	D	D	C	D		F	D	B
Approach Delay		55.6			45.6			44.4			53.5	
Approach LOS		E			D			D			D	

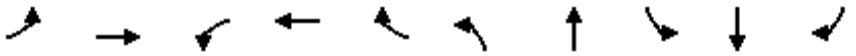
Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 50.1 Intersection LOS: D
Intersection Capacity Utilization 94.5% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd



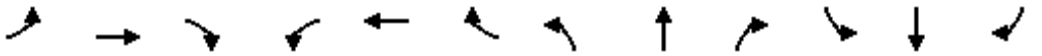
6: Trafalgar Rd & Cornwall Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	371	479	57	546	634	62	598	510	577	309
v/c Ratio	0.85	0.36	0.15	0.53	0.96	0.27	0.61	0.93	0.76	0.41
Control Delay	79.3	37.3	22.1	43.2	49.7	24.0	46.5	91.6	41.1	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.3	37.3	22.1	43.2	49.7	24.0	46.5	91.6	41.1	13.4
Queue Length 50th (m)	56.0	53.0	8.9	69.0	102.4	9.6	79.5	81.6	93.2	25.2
Queue Length 95th (m)	#87.2	74.9	17.6	87.8	#185.9	18.1	99.3	m#87.2	m98.6	m28.2
Internal Link Dist (m)		551.4		604.3			115.4		253.9	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	438	1334	380	1082	676	233	1021	550	776	771
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.36	0.15	0.50	0.94	0.27	0.59	0.93	0.74	0.40

Intersection Summary

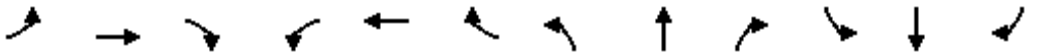
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	420	45	55	530	615	60	520	60	495	560	300
Future Volume (vph)	360	420	45	55	530	615	60	520	60	495	560	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.93	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3467	3481		1796	3539	1470	1768	3541		3433	1881	1516
Flt Permitted	0.95	1.00		0.48	1.00	1.00	0.24	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3467	3481		904	3539	1470	447	3541		3433	1881	1516
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	371	433	46	57	546	634	62	536	62	510	577	309
RTOR Reduction (vph)	0	6	0	0	0	228	0	7	0	0	0	150
Lane Group Flow (vph)	371	473	0	57	546	406	62	591	0	510	577	159
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	16.7	52.4		47.0	41.0	41.0	42.5	36.9		21.4	53.7	53.7
Effective Green, g (s)	17.7	53.4		49.0	42.0	42.0	44.5	37.9		22.4	54.7	54.7
Actuated g/C Ratio	0.13	0.38		0.35	0.30	0.30	0.32	0.27		0.16	0.39	0.39
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Lane Grp Cap (vph)	438	1327		361	1061	441	204	958		549	734	592
v/s Ratio Prot	c0.11	0.14		0.01	0.15		0.01	0.17		c0.15	c0.31	
v/s Ratio Perm				0.05		c0.28	0.08					0.10
v/c Ratio	0.85	0.36		0.16	0.51	0.92	0.30	0.62		0.93	0.79	0.27
Uniform Delay, d1	59.8	31.0		30.5	40.6	47.4	34.9	44.7		58.0	37.5	29.0
Progression Factor	1.03	1.18		1.00	1.00	1.00	1.00	1.00		1.38	1.00	1.83
Incremental Delay, d2	13.8	0.2		0.3	0.4	24.4	0.8	3.0		12.4	3.9	0.5
Delay (s)	75.5	36.8		30.8	41.0	71.8	35.8	47.7		92.2	41.3	53.5
Level of Service	E	D		C	D	E	D	D		F	D	D
Approach Delay (s)		53.7			56.3			46.6			62.6	
Approach LOS		D			E			D			E	

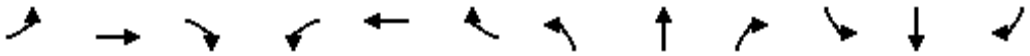
Intersection Summary			
HCM 2000 Control Delay	56.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	94.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	25	0	0	520	170	0	0	0	30	5	65
Future Volume (vph)	10	25	0	0	520	170	0	0	0	30	5	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.967						0.912	
Flt Protected		0.986									0.985	
Satd. Flow (prot)	0	1822	0	0	1745	0	0	1900	0	0	1707	0
Flt Permitted		0.986									0.985	
Satd. Flow (perm)	0	1822	0	0	1745	0	0	1900	0	0	1707	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		175.8			144.9			44.8			92.1	
Travel Time (s)		12.7			10.4			3.2			6.6	
Confl. Peds. (#/hr)			10	10					10	10		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	4%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	11	27	0	0	559	183	0	0	0	32	5	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	0	0	742	0	0	0	0	0	107	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

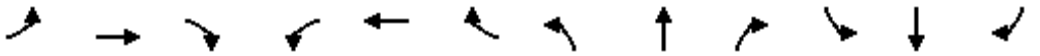
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 50.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	25	0	0	520	170	0	0	0	30	5	65
Future Volume (Veh/h)	10	25	0	0	520	170	0	0	0	30	5	65
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	11	27	0	0	559	183	0	0	0	32	5	70
Pedestrians					10			10				
Lane Width (m)					3.6			3.6				
Walking Speed (m/s)					1.2			1.2				
Percent Blockage					1			1				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		355										
pX, platoon unblocked												
vC, conflicting volume	742			37			782	801	47	710	710	650
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	742			37			782	801	47	710	710	650
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	91	99	85
cM capacity (veh/h)	874			1573			258	313	1011	343	354	472

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	38	742	0	107
Volume Left	11	0	0	32
Volume Right	0	183	0	70
cSH	874	1573	1700	419
Volume to Capacity	0.01	0.00	0.02	0.26
Queue Length 95th (m)	0.3	0.0	0.0	8.0
Control Delay (s)	2.7	0.0	0.0	16.5
Lane LOS	A		A	C
Approach Delay (s)	2.7	0.0	0.0	16.5
Approach LOS			A	C

Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	50.9%	ICU Level of Service	A	
Analysis Period (min)	15			

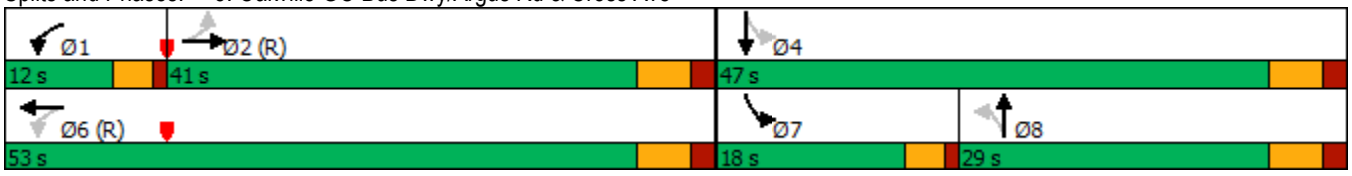


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	810	15	15	510	75	15	0	30	220	15	205
Future Volume (vph)	25	810	15	15	510	75	15	0	30	220	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	30.0			15.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		1.00	0.99			0.94		0.95	0.94	
Frt		0.997			0.981			0.910			0.860	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1805	3533	0	902	3487	0	0	831	0	1787	1437	0
Flt Permitted	0.413			0.217				0.851		0.725		
Satd. Flow (perm)	774	3533	0	205	3487	0	0	708	0	1294	1437	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			22			120			220	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		107.3			217.0			71.0			179.3	
Travel Time (s)		7.7			15.6			5.1			12.9	
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Adj. Flow (vph)	27	871	16	16	548	81	16	0	32	237	16	220
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	887	0	16	629	0	0	48	0	237	236	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

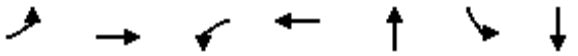
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	22.0	22.0		8.0	22.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	29.0	29.0		12.0	29.0		29.0	29.0		9.0	29.0	
Total Split (s)	41.0	41.0		12.0	53.0		29.0	29.0		18.0	47.0	
Total Split (%)	41.0%	41.0%		12.0%	53.0%		29.0%	29.0%		18.0%	47.0%	
Maximum Green (s)	35.0	35.0		8.0	47.0		23.0	23.0		14.0	41.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	5.0	5.0		2.5	5.0		4.0	4.0		3.0	4.0	
Recall Mode	C-Min	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	16.0	16.0			16.0		16.0	16.0			16.0	
Pedestrian Calls (#/hr)	15	15			15		45	45			45	
Act Effct Green (s)	51.1	51.1		57.9	55.9			18.8		36.1	34.1	
Actuated g/C Ratio	0.51	0.51		0.58	0.56			0.19		0.36	0.34	
v/c Ratio	0.07	0.49		0.09	0.32			0.21		0.44	0.37	
Control Delay	20.2	21.0		14.1	14.1			2.0		24.2	5.0	
Queue Delay	0.0	0.8		0.0	0.0			0.0		0.0	0.0	
Total Delay	20.2	21.8		14.1	14.1			2.0		24.2	5.0	
LOS	C	C		B	B			A		C	A	
Approach Delay		21.8			14.1			2.0			14.6	
Approach LOS		C			B			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay: 17.3		Intersection LOS: B	
Intersection Capacity Utilization 50.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: Oakville GO Bus Dwy/Argus Rd & Cross Ave

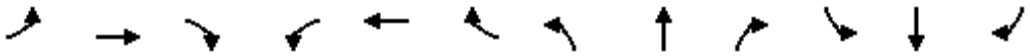


8: Oakville GO Bus Dwy/Argus Rd & Cross Ave



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	27	887	16	629	48	237	236
v/c Ratio	0.07	0.49	0.09	0.32	0.21	0.44	0.37
Control Delay	20.2	21.0	14.1	14.1	2.0	24.2	5.0
Queue Delay	0.0	0.8	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	21.8	14.1	14.1	2.0	24.2	5.0
Queue Length 50th (m)	3.0	67.4	1.7	42.1	0.0	28.7	1.8
Queue Length 95th (m)	9.9	103.0	5.2	53.1	0.0	48.4	16.4
Internal Link Dist (m)		83.3		193.0	47.0		155.3
Turn Bay Length (m)	20.0		20.0			15.0	
Base Capacity (vph)	395	1806	181	1978	261	550	738
Starvation Cap Reductn	0	563	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.71	0.09	0.32	0.18	0.43	0.32

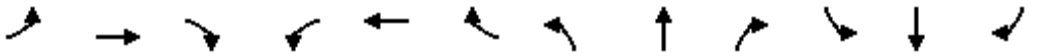
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	810	15	15	510	75	15	0	30	220	15	205
Future Volume (vph)	25	810	15	15	510	75	15	0	30	220	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99			0.95		1.00	0.94	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			0.99		0.96	1.00	
Frt	1.00	1.00		1.00	0.98			0.91		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1780	3534		902	3486			819		1722	1437	
Flt Permitted	0.41	1.00		0.22	1.00			0.85		0.72	1.00	
Satd. Flow (perm)	774	3534		206	3486			708		1314	1437	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	27	871	16	16	548	81	16	0	32	237	16	220
RTOR Reduction (vph)	0	1	0	0	10	0	0	40	0	0	142	0
Lane Group Flow (vph)	27	886	0	16	619	0	0	8	0	237	94	0
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	46.5	46.5		53.7	53.7			15.8		34.3	34.3	
Effective Green, g (s)	47.5	47.5		54.7	54.7			16.8		35.3	35.3	
Actuated g/C Ratio	0.48	0.48		0.55	0.55			0.17		0.35	0.35	
Clearance Time (s)	6.0	6.0		4.0	6.0			6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0		2.5	5.0			4.0		3.0	4.0	
Lane Grp Cap (vph)	367	1678		141	1906			118		527	507	
v/s Ratio Prot		c0.25		0.00	c0.18					c0.07	0.07	
v/s Ratio Perm	0.03			0.06				0.01		c0.09		
v/c Ratio	0.07	0.53		0.11	0.32			0.07		0.45	0.18	
Uniform Delay, d1	14.3	18.4		11.9	12.5			35.0		24.3	22.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.4	1.2		0.3	0.5			0.3		0.6	0.2	
Delay (s)	14.7	19.6		12.1	12.9			35.3		24.9	22.6	
Level of Service	B	B		B	B			D		C	C	
Approach Delay (s)		19.4			12.9			35.3			23.8	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	18.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	50.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



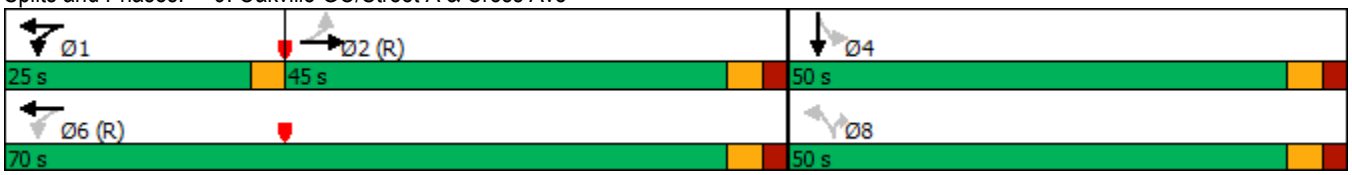
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	450	80	360	415	10	130	0	310	95	0	45
Future Volume (vph)	50	450	80	360	415	10	130	0	310	95	0	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00		0.99		0.97		0.98	
Frt		0.979			0.998				0.850		0.956	
Flt Protected		0.996			0.978		0.950				0.967	
Satd. Flow (prot)	0	3392	0	0	3431	0	1805	0	1615	0	1741	0
Flt Permitted		0.800			0.572		0.670				0.967	
Satd. Flow (perm)	0	2719	0	0	2000	0	1258	0	1570	0	1721	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			2				337		51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		139.5			107.3			62.6			201.6	
Travel Time (s)		10.0			7.7			4.5			14.5	
Confl. Peds. (#/hr)	30		10	10		30	10		10	10		10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	54	489	87	391	451	11	141	0	337	103	0	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	630	0	0	853	0	141	0	337	0	152	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	100		100
Number of Detectors	1	2		1	2		1		1	1	2	
Detector Template	Left	Thru		Left	Thru		Left		Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0		2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0		2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4						9.4	
Detector 2 Size(m)		0.6			0.6						0.6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type	Perm	NA		custom	NA		Perm		Perm	Perm	NA	
Protected Phases		2		1	1 6						4	
Permitted Phases	2			6			8		8	4		

Lane Group	Ø6
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (k/h)	
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(m)	
Detector 2 Size(m)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	6
Permitted Phases	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		1	1 6		8		8	4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		8.0			10.0		10.0	10.0	10.0	
Minimum Split (s)	40.6	40.6		11.0			27.6		27.6	27.6	27.6	
Total Split (s)	45.0	45.0		25.0			50.0		50.0	50.0	50.0	
Total Split (%)	37.5%	37.5%		20.8%			41.7%		41.7%	41.7%	41.7%	
Maximum Green (s)	39.4	39.4		22.0			44.4		44.4	44.4	44.4	
Yellow Time (s)	3.3	3.3		3.0			3.3		3.3	3.3	3.3	
All-Red Time (s)	2.3	2.3		0.0			2.3		2.3	2.3	2.3	
Lost Time Adjust (s)		-1.0					-1.0		-1.0		-1.0	
Total Lost Time (s)		4.6					4.6		4.6		4.6	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	5.0	5.0		2.5			3.5		3.5	3.0	3.0	
Recall Mode	C-Min	C-Min		None			None		None	None	None	
Walk Time (s)	7.0	7.0					7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	15.0	15.0					15.0		15.0	15.0	15.0	
Pedestrian Calls (#/hr)	20	20					10		10	10	10	
Act Effct Green (s)		72.1			92.7		20.7		20.7		20.7	
Actuated g/C Ratio		0.60			0.77		0.17		0.17		0.17	
v/c Ratio		0.38			0.49		0.65		0.61		0.45	
Control Delay		14.8			5.7		59.4		9.3		32.0	
Queue Delay		0.0			0.9		0.0		0.0		0.0	
Total Delay		14.8			6.6		59.4		9.3		32.0	
LOS		B			A		E		A		C	
Approach Delay		14.8			6.6			24.1			32.0	
Approach LOS		B			A			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 14.8		Intersection LOS: B	
Intersection Capacity Utilization 78.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 9: Oakville GO/Street A & Cross Ave



Lane Group	Ø6
Detector Phase	
Switch Phase	
Minimum Initial (s)	35.0
Minimum Split (s)	40.6
Total Split (s)	70.0
Total Split (%)	58%
Maximum Green (s)	64.4
Yellow Time (s)	3.3
All-Red Time (s)	2.3
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	5.0
Recall Mode	C-Min
Walk Time (s)	7.0
Flash Dont Walk (s)	15.0
Pedestrian Calls (#/hr)	20
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary



Lane Group	EBT	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	630	853	141	337	152
v/c Ratio	0.38	0.49	0.65	0.61	0.45
Control Delay	14.8	5.7	59.4	9.3	32.0
Queue Delay	0.0	0.9	0.0	0.0	0.0
Total Delay	14.8	6.6	59.4	9.3	32.0
Queue Length 50th (m)	38.7	28.0	33.0	0.0	22.3
Queue Length 95th (m)	70.7	49.7	51.0	24.1	39.8
Internal Link Dist (m)	115.5	83.3			177.6
Turn Bay Length (m)					
Base Capacity (vph)	1639	1820	475	803	682
Starvation Cap Reductn	0	630	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.38	0.72	0.30	0.42	0.22

Intersection Summary

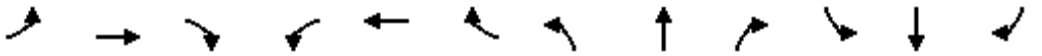
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	450	80	360	415	10	130	0	310	95	0	45
Future Volume (vph)	50	450	80	360	415	10	130	0	310	95	0	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6			2.0		4.6		4.6		4.6	
Lane Util. Factor		0.95			0.95		1.00		1.00		1.00	
Frpb, ped/bikes		0.99			1.00		1.00		0.97		0.99	
Flpb, ped/bikes		1.00			1.00		0.99		1.00		0.99	
Frt		0.98			1.00		1.00		0.85		0.96	
Flt Protected		1.00			0.98		0.95		1.00		0.97	
Satd. Flow (prot)		3385			3422		1786		1570		1723	
Flt Permitted		0.80			0.57		0.67		1.00		0.97	
Satd. Flow (perm)		2721			2003		1259		1570		1723	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	489	87	391	451	11	141	0	337	103	0	49
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	279	0	42	0
Lane Group Flow (vph)	0	624	0	0	853	0	141	0	58	0	110	0
Confl. Peds. (#/hr)	30		10	10		30	10		10	10		10
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		custom	NA		Perm		Perm	Perm	NA	
Protected Phases		2		1	1 6						4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)		71.0			89.1		19.7		19.7		19.7	
Effective Green, g (s)		72.0			90.1		20.7		20.7		20.7	
Actuated g/C Ratio		0.60			0.75		0.17		0.17		0.17	
Clearance Time (s)		5.6					5.6		5.6		5.6	
Vehicle Extension (s)		5.0					3.5		3.5		3.0	
Lane Grp Cap (vph)		1632			1694		217		270		297	
v/s Ratio Prot					c0.07							
v/s Ratio Perm		c0.23			0.31		c0.11		0.04		0.06	
v/c Ratio		0.38			0.50		0.65		0.22		0.37	
Uniform Delay, d1		12.5			6.0		46.3		42.7		43.9	
Progression Factor		1.00			1.00		1.00		1.00		1.00	
Incremental Delay, d2		0.7			0.2		6.8		0.5		0.8	
Delay (s)		13.1			6.2		53.1		43.1		44.7	
Level of Service		B			A		D		D		D	
Approach Delay (s)		13.1			6.2			46.1			44.7	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	375	0	0	460	130	0	0	80	120	0	95
Future Volume (vph)	40	375	0	0	460	130	0	0	80	120	0	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (m)	25.0			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.967			0.865				0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1805	3438	0	0	3378	0	0	1644	0	1805	0	1615
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1805	3438	0	0	3378	0	0	1644	0	1805	0	1615
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		132.8			139.5			48.2			88.5	
Travel Time (s)		9.6			10.0			3.5			6.4	
Confl. Peds. (#/hr)	15		10	10		15	5		5	5		5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	5%	0%	0%	4%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	45	426	0	0	523	148	0	0	91	136	0	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	426	0	0	671	0	0	91	0	136	0	108
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

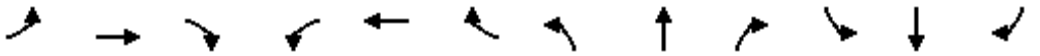
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	375	0	0	460	130	0	0	80	120	0	95
Future Volume (Veh/h)	40	375	0	0	460	130	0	0	80	120	0	95
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	45	426	0	0	523	148	0	0	91	136	0	108
Pedestrians		5			5			10			15	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		133			140							
pX, platoon unblocked												
vC, conflicting volume	686			436			900	1212	228	1011	1138	356
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	686			436			900	1212	228	1011	1138	356
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			100			100	100	88	16	100	83
cM capacity (veh/h)	906			1125			184	171	771	161	189	636

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	45	213	213	349	322	91	136	108
Volume Left	45	0	0	0	0	0	136	0
Volume Right	0	0	0	0	148	91	0	108
cSH	906	1700	1700	1700	1700	771	161	636
Volume to Capacity	0.05	0.13	0.13	0.21	0.19	0.12	0.84	0.17
Queue Length 95th (m)	1.3	0.0	0.0	0.0	0.0	3.2	45.8	4.9
Control Delay (s)	9.2	0.0	0.0	0.0	0.0	10.3	90.3	11.8
Lane LOS	A					B	F	B
Approach Delay (s)	0.9			0.0		10.3	55.6	
Approach LOS						B	F	

Intersection Summary				
Average Delay	10.1			
Intersection Capacity Utilization	43.8%	ICU Level of Service		A
Analysis Period (min)	15			



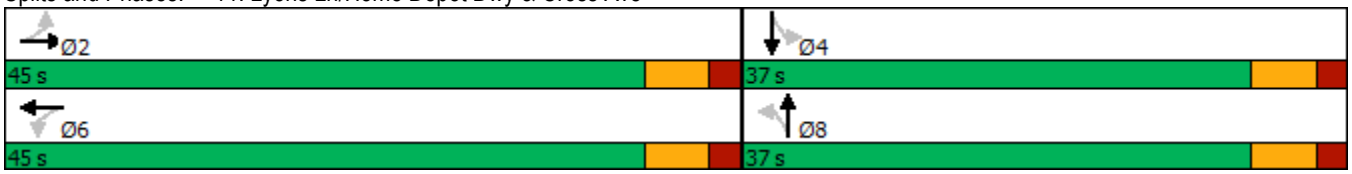
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	310	30	20	510	15	140	5	85	25	5	95
Future Volume (vph)	70	310	30	20	510	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	25.0		0.0	35.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		0.99	1.00		1.00	0.98		0.99	0.98	
Frt		0.987			0.996			0.858			0.858	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3370	0	1805	3455	0	1805	1595	0	1805	1588	0
Flt Permitted	0.411			0.516			0.681			0.689		
Satd. Flow (perm)	770	3370	0	975	3455	0	1288	1595	0	1296	1588	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			5			100			112	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		47.5			132.8			150.8			63.6	
Travel Time (s)		3.4			9.6			10.9			4.6	
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	82	365	35	24	600	18	165	6	100	29	6	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	400	0	24	618	0	165	106	0	29	118	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		35.0	35.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	41.0	41.0		41.0	41.0		28.0	28.0		28.0	28.0	
Total Split (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Total Split (%)	54.9%	54.9%		54.9%	54.9%		45.1%	45.1%		45.1%	45.1%	
Maximum Green (s)	39.0	39.0		39.0	39.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	15	15		15	15		10	10		10	10	
Act Effct Green (s)	36.2	36.2		36.2	36.2		15.5	15.5		15.5	15.5	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
v/c Ratio	0.18	0.20		0.04	0.30		0.51	0.22		0.09	0.25	
Control Delay	8.5	6.7		7.2	7.5		25.5	6.1		17.5	5.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	8.5	6.7		7.2	7.5		25.5	6.1		17.5	5.9	
LOS	A	A		A	A		C	A		B	A	
Approach Delay		7.0			7.5			17.9			8.2	
Approach LOS		A			A			B			A	

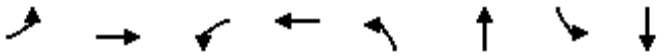
Intersection Summary

Area Type: Other
Cycle Length: 82
Actuated Cycle Length: 61.7
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 9.3 Intersection LOS: A
Intersection Capacity Utilization 82.0% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 11: Lyons Ln/Home Depot Dwy & Cross Ave

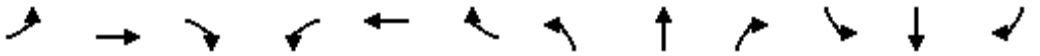


11: Lyons Ln/Home Depot Dwy & Cross Ave



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	82	400	24	618	165	106	29	118
v/c Ratio	0.18	0.20	0.04	0.30	0.51	0.22	0.09	0.25
Control Delay	8.5	6.7	7.2	7.5	25.5	6.1	17.5	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.5	6.7	7.2	7.5	25.5	6.1	17.5	5.9
Queue Length 50th (m)	3.8	9.4	1.0	16.3	16.8	0.5	2.7	0.5
Queue Length 95th (m)	12.3	19.6	4.5	31.3	30.4	8.9	7.5	9.3
Internal Link Dist (m)		23.5		108.8		126.8		39.6
Turn Bay Length (m)			25.0		35.0			
Base Capacity (vph)	501	2201	635	2253	671	879	675	881
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.18	0.04	0.27	0.25	0.12	0.04	0.13

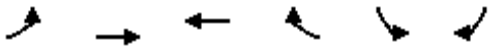
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	310	30	20	510	15	140	5	85	25	5	95
Future Volume (vph)	70	310	30	20	510	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1784	3370		1798	3455		1799	1600		1792	1589	
Flt Permitted	0.41	1.00		0.52	1.00		0.68	1.00		0.69	1.00	
Satd. Flow (perm)	771	3370		977	3455		1290	1600		1299	1589	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	82	365	35	24	600	18	165	6	100	29	6	112
RTOR Reduction (vph)	0	7	0	0	2	0	0	75	0	0	84	0
Lane Group Flow (vph)	82	393	0	24	616	0	165	31	0	29	34	0
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.2	35.2		35.2	35.2		14.4	14.4		14.4	14.4	
Effective Green, g (s)	36.2	36.2		36.2	36.2		15.4	15.4		15.4	15.4	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	453	1980		574	2030		322	400		324	397	
v/s Ratio Prot		0.12			c0.18			0.02			0.02	
v/s Ratio Perm	0.11			0.02			c0.13			0.02		
v/c Ratio	0.18	0.20		0.04	0.30		0.51	0.08		0.09	0.09	
Uniform Delay, d1	5.9	5.9		5.4	6.4		19.9	17.7		17.7	17.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.1		0.1	0.2		1.8	0.1		0.2	0.1	
Delay (s)	6.3	6.0		5.4	6.6		21.7	17.8		17.9	17.8	
Level of Service	A	A		A	A		C	B		B	B	
Approach Delay (s)		6.1			6.5			20.2			17.8	
Approach LOS		A			A			C			B	

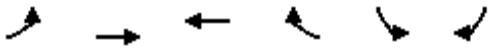
Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	61.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	405	715	30	20	25
Future Volume (vph)	25	405	715	30	20	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.994		0.926	
Flt Protected	0.950				0.978	
Satd. Flow (prot)	1805	3471	3488	0	1721	0
Flt Permitted	0.950				0.978	
Satd. Flow (perm)	1805	3471	3488	0	1721	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		443.3	47.5		121.4	
Travel Time (s)		31.9	3.4		8.7	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	4%	3%	0%	0%	0%
Adj. Flow (vph)	27	445	786	33	22	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	445	819	0	49	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

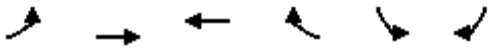
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.8%		ICU Level of Service A	
Analysis Period (min) 15			



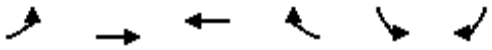
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	405	715	30	20	25
Future Volume (Veh/h)	25	405	715	30	20	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	27	445	786	33	22	27
Pedestrians					15	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			48			
pX, platoon unblocked	0.92				0.92	0.92
vC, conflicting volume	834				1094	424
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	645				928	200
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				91	96
cM capacity (veh/h)	862				238	739

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	27	222	222	524	295	49
Volume Left	27	0	0	0	0	22
Volume Right	0	0	0	0	33	27
cSH	862	1700	1700	1700	1700	380
Volume to Capacity	0.03	0.13	0.13	0.31	0.17	0.13
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0	3.5
Control Delay (s)	9.3	0.0	0.0	0.0	0.0	15.9
Lane LOS	A					C
Approach Delay (s)	0.5			0.0		15.9
Approach LOS						C

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	30.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	325	680	895	100	110	620
Future Volume (vph)	325	680	895	100	110	620
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0			0.0	60.0	0.0
Storage Lanes	1			0	1	2
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.88
Ped Bike Factor	1.00		1.00			
Frt			0.985			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1719	3574	3515	0	1805	2760
Flt Permitted	0.207				0.950	
Satd. Flow (perm)	374	3574	3515	0	1805	2760
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			12			660
Link Speed (k/h)		50	50		50	
Link Distance (m)		209.5	575.4		443.3	
Travel Time (s)		15.1	41.4		31.9	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Adj. Flow (vph)	346	723	952	106	117	660
Shared Lane Traffic (%)						
Lane Group Flow (vph)	346	723	1058	0	117	660
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		7.2	7.2		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			

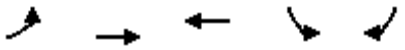


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	6.0	38.0	38.0		10.0	10.0
Minimum Split (s)	12.0	47.6	47.6		33.8	33.8
Total Split (s)	35.0	109.2	74.2		30.8	30.8
Total Split (%)	25.0%	78.0%	53.0%		22.0%	22.0%
Maximum Green (s)	29.0	102.6	67.6		25.0	25.0
Yellow Time (s)	4.0	3.7	3.7		3.3	3.3
All-Red Time (s)	2.0	2.9	2.9		2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.6	5.6		4.8	4.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Recall Mode	None	C-Min	C-Min		None	None
Walk Time (s)		10.0	10.0		10.0	10.0
Flash Dont Walk (s)		31.0	31.0		18.0	18.0
Pedestrian Calls (#/hr)		10	10		0	0
Act Effct Green (s)	114.3	113.7	89.4		15.9	15.9
Actuated g/C Ratio	0.82	0.81	0.64		0.11	0.11
v/c Ratio	0.71	0.25	0.47		0.57	0.73
Control Delay	14.8	3.6	13.5		69.0	9.2
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	14.8	3.6	13.5		69.0	9.2
LOS	B	A	B		E	A
Approach Delay		7.2	13.5		18.2	
Approach LOS		A	B		B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 12.4		Intersection LOS: B	
Intersection Capacity Utilization 73.3%		ICU Level of Service D	
Analysis Period (min) 15			

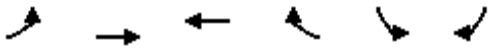
Splits and Phases: 13: Speers Rd/Cornwall Rd & Cross Ave





Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	346	723	1058	117	660
v/c Ratio	0.71	0.25	0.47	0.57	0.73
Control Delay	14.8	3.6	13.5	69.0	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	3.6	13.5	69.0	9.2
Queue Length 50th (m)	18.5	21.0	40.5	33.0	0.0
Queue Length 95th (m)	52.5	34.0	171.8	51.8	18.9
Internal Link Dist (m)		185.5	551.4	419.3	
Turn Bay Length (m)	70.0			60.0	
Base Capacity (vph)	595	2901	2249	335	1050
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.58	0.25	0.47	0.35	0.63

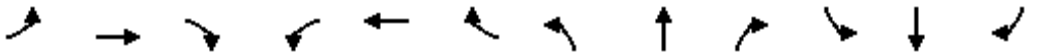
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	325	680	895	100	110	620
Future Volume (vph)	325	680	895	100	110	620
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		4.8	4.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1718	3574	3514		1805	2760
Flt Permitted	0.21	1.00	1.00		0.95	1.00
Satd. Flow (perm)	375	3574	3514		1805	2760
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	346	723	952	106	117	660
RTOR Reduction (vph)	0	0	4	0	0	585
Lane Group Flow (vph)	346	723	1054	0	117	75
Confl. Peds. (#/hr)	15			15		
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Actuated Green, G (s)	112.7	112.7	88.4		14.9	14.9
Effective Green, g (s)	113.7	113.7	89.4		15.9	15.9
Actuated g/C Ratio	0.81	0.81	0.64		0.11	0.11
Clearance Time (s)	6.0	6.6	6.6		5.8	5.8
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Lane Grp Cap (vph)	489	2902	2243		204	313
v/s Ratio Prot	c0.10	0.20	0.30			
v/s Ratio Perm	c0.48				c0.06	0.03
v/c Ratio	0.71	0.25	0.47		0.57	0.24
Uniform Delay, d1	9.0	3.1	13.1		58.8	56.5
Progression Factor	1.00	1.00	0.86		1.00	1.00
Incremental Delay, d2	4.8	0.2	0.7		3.9	0.4
Delay (s)	13.8	3.3	11.9		62.7	56.9
Level of Service	B	A	B		E	E
Approach Delay (s)		6.7	11.9		57.8	
Approach LOS		A	B		E	

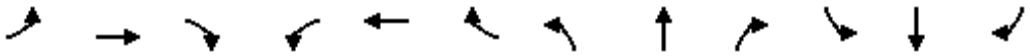
Intersection Summary			
HCM 2000 Control Delay	22.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	100	0	15	0	170	100	20	320	0
Future Volume (vph)	0	0	0	100	0	15	0	170	100	20	320	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.982			0.944				
Flt Protected					0.958						0.997	
Satd. Flow (prot)	0	1900	0	0	1757	0	0	3345	0	0	3599	0
Flt Permitted					0.958						0.997	
Satd. Flow (perm)	0	1900	0	0	1757	0	0	3345	0	0	3599	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		33.6			124.9			420.1			134.0	
Travel Time (s)		2.4			9.0			30.2			9.6	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	0%	3%	0%	0%	0%	0%
Adj. Flow (vph)	0	0	0	118	0	18	0	200	118	24	376	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	136	0	0	318	0	0	400	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	100	0	15	0	170	100	20	320	0
Future Volume (Veh/h)	0	0	0	100	0	15	0	170	100	20	320	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	118	0	18	0	200	118	24	376	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	542	742	188	495	683	159	376			318		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	542	742	188	495	683	159	376			318		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	74	100	98	100			98		
cM capacity (veh/h)	413	339	828	451	367	864	1194			1253		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	136	100	218	212	188
Volume Left	0	118	0	0	24	0
Volume Right	0	18	0	118	0	0
cSH	1700	481	1194	1700	1253	1700
Volume to Capacity	0.00	0.28	0.00	0.13	0.02	0.11
Queue Length 95th (m)	0.0	9.2	0.0	0.0	0.5	0.0
Control Delay (s)	0.0	15.4	0.0	0.0	1.0	0.0
Lane LOS	A	C			A	
Approach Delay (s)	0.0	15.4	0.0		0.6	
Approach LOS	A	C				

Intersection Summary				
Average Delay	2.7			
Intersection Capacity Utilization	33.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	115	70	75	130	150	115
Future Volume (vph)	115	70	75	130	150	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.949				0.942	
Flt Protected				0.982	0.972	
Satd. Flow (prot)	1772	0	0	1866	1722	0
Flt Permitted				0.982	0.972	
Satd. Flow (perm)	1772	0	0	1866	1722	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	632.0			1164.2	455.7	
Travel Time (s)	45.5			83.8	32.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	3%	0%	0%	1%	1%
Adj. Flow (vph)	129	79	84	146	169	129
Shared Lane Traffic (%)						
Lane Group Flow (vph)	208	0	0	230	298	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 46.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	115	70	75	130	150	115
Future Volume (Veh/h)	115	70	75	130	150	115
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	129	79	84	146	169	129
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			208		482	168
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			208		482	168
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			94		67	85
cM capacity (veh/h)			1375		511	878

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	208	230	298
Volume Left	0	84	169
Volume Right	79	0	129
cSH	1700	1375	624
Volume to Capacity	0.12	0.06	0.48
Queue Length 95th (m)	0.0	1.6	20.6
Control Delay (s)	0.0	3.2	15.9
Lane LOS		A	C
Approach Delay (s)	0.0	3.2	15.9
Approach LOS			C

Intersection Summary			
Average Delay	7.4		
Intersection Capacity Utilization	46.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	555	100	60	700	85	155	80	45	65	50	50
Future Volume (vph)	45	555	100	60	700	85	155	80	45	65	50	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		0.99					0.98
Frt		0.977			0.984			0.946				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3447	0	1805	3475	0	1770	1786	0	1805	1827	1553
Flt Permitted	0.305			0.372			0.722			0.672		
Satd. Flow (perm)	567	3447	0	704	3475	0	1338	1786	0	1277	1827	1520
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			23			30				53
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			455.7	
Travel Time (s)		43.9			11.1			15.4			32.8	
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Adj. Flow (vph)	48	590	106	64	745	90	165	85	48	69	53	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	696	0	64	835	0	165	133	0	69	53	53
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	27.6	27.6		27.6	27.6		14.0	14.0		14.0	14.0	14.0
Actuated g/C Ratio	0.54	0.54		0.54	0.54		0.27	0.27		0.27	0.27	0.27
v/c Ratio	0.16	0.37		0.17	0.44		0.45	0.26		0.20	0.11	0.12
Control Delay	8.3	7.4		8.1	8.1		20.5	13.7		16.6	15.2	6.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	8.3	7.4		8.1	8.1		20.5	13.7		16.6	15.2	6.1
LOS	A	A		A	A		C	B		B	B	A
Approach Delay		7.4			8.1			17.5			13.0	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 51.2			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.45			
Intersection Signal Delay: 9.6		Intersection LOS: A	
Intersection Capacity Utilization 76.9%		ICU Level of Service D	
Analysis Period (min) 15			

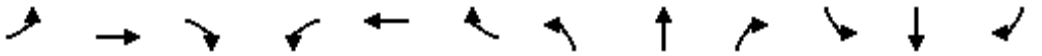
Splits and Phases: 16: Chartwell Rd & Cornwall Rd





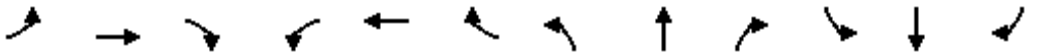
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	48	696	64	835	165	133	69	53	53
v/c Ratio	0.16	0.37	0.17	0.44	0.45	0.26	0.20	0.11	0.12
Control Delay	8.3	7.4	8.1	8.1	20.5	13.7	16.6	15.2	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.3	7.4	8.1	8.1	20.5	13.7	16.6	15.2	6.1
Queue Length 50th (m)	1.9	15.7	2.6	20.4	11.9	6.9	4.6	3.5	0.0
Queue Length 95th (m)	7.9	32.5	9.5	41.1	31.9	21.3	15.1	11.8	6.8
Internal Link Dist (m)		585.1		130.4		189.6		431.7	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	557	3390	692	3417	837	1129	799	1144	971
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.21	0.09	0.24	0.20	0.12	0.09	0.05	0.05

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	555	100	60	700	85	155	80	45	65	50	50
Future Volume (vph)	45	555	100	60	700	85	155	80	45	65	50	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.98		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1767	3450		1802	3476		1765	1786		1805	1827	1524
Flt Permitted	0.30	1.00		0.37	1.00		0.72	1.00		0.67	1.00	1.00
Satd. Flow (perm)	567	3450		705	3476		1342	1786		1277	1827	1524
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	48	590	106	64	745	90	165	85	48	69	53	53
RTOR Reduction (vph)	0	17	0	0	11	0	0	22	0	0	0	38
Lane Group Flow (vph)	48	679	0	64	824	0	165	111	0	69	53	15
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	26.6	26.6		26.6	26.6		13.0	13.0		13.0	13.0	13.0
Effective Green, g (s)	27.6	27.6		27.6	27.6		14.0	14.0		14.0	14.0	14.0
Actuated g/C Ratio	0.54	0.54		0.54	0.54		0.27	0.27		0.27	0.27	0.27
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	306	1867		381	1881		368	490		350	501	418
v/s Ratio Prot		0.20			c0.24			0.06			0.03	
v/s Ratio Perm	0.08			0.09			c0.12			0.05		0.01
v/c Ratio	0.16	0.36		0.17	0.44		0.45	0.23		0.20	0.11	0.03
Uniform Delay, d1	5.9	6.7		5.9	7.0		15.3	14.3		14.2	13.8	13.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.6	0.3		0.5	0.4		1.2	0.3		0.4	0.1	0.0
Delay (s)	6.5	7.0		6.4	7.4		16.5	14.6		14.6	14.0	13.6
Level of Service	A	A		A	A		B	B		B	B	B
Approach Delay (s)		6.9			7.4			15.7			14.1	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	8.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	51.0	Sum of lost time (s)	9.4
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

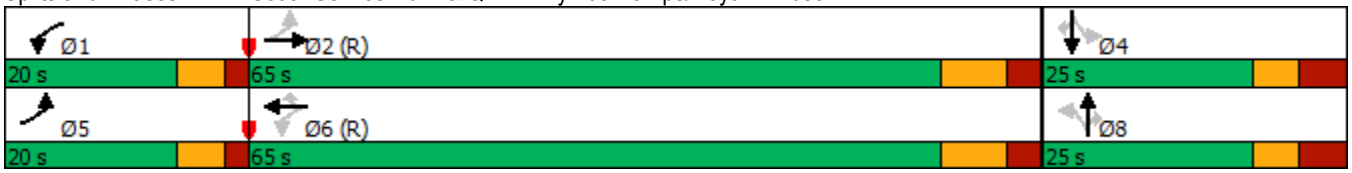


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	680	25	140	655	5	45	15	190	0	40	35
Future Volume (vph)	5	680	25	140	655	5	45	15	190	0	40	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	125.0		0.0	145.0		55.0	15.0		40.0	35.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												0.98
Frt		0.995				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3502	3386	0	1752	3505	1615	1656	1900	1599	1900	1712	1615
Flt Permitted	0.378			0.312			0.728					
Satd. Flow (perm)	1393	3386	0	576	3505	1615	1269	1900	1599	1900	1712	1585
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				107			209			113
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		232.7			227.3			1164.2			153.5	
Travel Time (s)		16.8			16.4			83.8			11.1	
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	6%	8%	3%	3%	0%	9%	0%	1%	0%	11%	0%
Adj. Flow (vph)	5	747	27	154	720	5	49	16	209	0	44	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	774	0	154	720	5	49	16	209	0	44	38
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

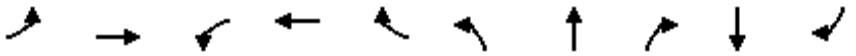
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	8.0	20.0		8.0	20.0	20.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	14.0	28.4		14.0	28.4	28.4	17.8	17.8	17.8	17.8	17.8	17.8
Total Split (s)	20.0	65.0		20.0	65.0	65.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	18.2%	59.1%		18.2%	59.1%	59.1%	22.7%	22.7%	22.7%	22.7%	22.7%	22.7%
Maximum Green (s)	14.0	56.6		14.0	56.6	56.6	17.2	17.2	17.2	17.2	17.2	17.2
Yellow Time (s)	4.0	5.4		4.0	5.4	5.4	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.0	3.0		2.0	3.0	3.0	4.1	4.1	4.1	4.1	4.1	4.1
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	80.2	68.8		85.8	80.9	80.9	12.1	12.1	12.1		12.1	12.1
Actuated g/C Ratio	0.73	0.63		0.78	0.74	0.74	0.11	0.11	0.11		0.11	0.11
v/c Ratio	0.00	0.36		0.28	0.28	0.00	0.36	0.08	0.58		0.24	0.14
Control Delay	3.2	10.8		4.3	5.9	0.0	52.4	44.0	13.0		47.4	1.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	3.2	10.8		4.3	5.9	0.0	52.4	44.0	13.0		47.4	1.1
LOS	A	B		A	A	A	D	D	B		D	A
Approach Delay		10.8			5.6			21.8			25.9	
Approach LOS		B			A			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 10.7		Intersection LOS: B	
Intersection Capacity Utilization 52.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr



17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	5	774	154	720	5	49	16	209	44	38
v/c Ratio	0.00	0.36	0.28	0.28	0.00	0.36	0.08	0.58	0.24	0.14
Control Delay	3.2	10.8	4.3	5.9	0.0	52.4	44.0	13.0	47.4	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.2	10.8	4.3	5.9	0.0	52.4	44.0	13.0	47.4	1.1
Queue Length 50th (m)	0.1	38.6	6.3	20.4	0.0	10.5	3.3	0.0	9.3	0.0
Queue Length 95th (m)	0.5	60.2	13.1	50.6	0.0	22.4	10.0	21.7	19.9	0.0
Internal Link Dist (m)		208.7		203.3			1140.2		129.5	
Turn Bay Length (m)	125.0		145.0		55.0	15.0		40.0		
Base Capacity (vph)	1371	2121	611	2579	1216	209	314	438	283	356
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.36	0.25	0.28	0.00	0.23	0.05	0.48	0.16	0.11

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	680	25	140	655	5	45	15	190	0	40	35
Future Volume (vph)	5	680	25	140	655	5	45	15	190	0	40	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8		6.8	6.8
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	3502	3386		1752	3505	1615	1656	1900	1599		1712	1579
Flt Permitted	0.38	1.00		0.31	1.00	1.00	0.73	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1393	3386		575	3505	1615	1270	1900	1599		1712	1579
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	5	747	27	154	720	5	49	16	209	0	44	38
RTOR Reduction (vph)	0	2	0	0	0	2	0	0	186	0	0	34
Lane Group Flow (vph)	5	772	0	154	720	3	49	16	23	0	44	4
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	0%	6%	8%	3%	3%	0%	9%	0%	1%	0%	11%	0%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	69.4	67.8		82.7	75.1	75.1	11.1	11.1	11.1		11.1	11.1
Effective Green, g (s)	71.4	68.8		83.7	76.1	76.1	12.1	12.1	12.1		12.1	12.1
Actuated g/C Ratio	0.65	0.63		0.76	0.69	0.69	0.11	0.11	0.11		0.11	0.11
Clearance Time (s)	6.0	8.4		6.0	8.4	8.4	7.8	7.8	7.8		7.8	7.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	954	2117		543	2424	1117	139	209	175		188	173
v/s Ratio Prot	0.00	c0.23		c0.03	0.21			0.01			0.03	
v/s Ratio Perm	0.00			0.19		0.00	c0.04		0.01			0.00
v/c Ratio	0.01	0.36		0.28	0.30	0.00	0.35	0.08	0.13		0.23	0.02
Uniform Delay, d1	6.8	10.0		4.0	6.6	5.2	45.3	43.9	44.2		44.7	43.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.5		0.3	0.3	0.0	1.5	0.2	0.3		0.6	0.1
Delay (s)	6.8	10.5		4.3	6.9	5.2	46.9	44.1	44.5		45.4	43.7
Level of Service	A	B		A	A	A	D	D	D		D	D
Approach Delay (s)		10.5			6.4			44.9			44.6	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	60	0	85	120	0
Future Volume (vph)	50	60	0	85	120	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.926					
Flt Protected					0.950	
Satd. Flow (prot)	1725	0	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1725	0	0	1863	1770	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	64.3			219.4	105.4	
Travel Time (s)	4.6			15.8	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	65	0	92	130	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	119	0	0	92	130	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	50	60	0	85	120	0
Future Volume (Veh/h)	50	60	0	85	120	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	65	0	92	130	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			119		178	86
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			119		178	86
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		84	100
cM capacity (veh/h)			1469		811	972

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	119	92	130
Volume Left	0	0	130
Volume Right	65	0	0
cSH	1700	1469	811
Volume to Capacity	0.07	0.00	0.16
Queue Length 95th (m)	0.0	0.0	4.6
Control Delay (s)	0.0	0.0	10.3
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.3
Approach LOS			B

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	0	120	85	0	60
Future Volume (vph)	50	0	120	85	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.972		
Satd. Flow (prot)	1863	0	0	1811	1611	0
Flt Permitted				0.972		
Satd. Flow (perm)	1863	0	0	1811	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	53.7			64.3	43.5	
Travel Time (s)	3.9			4.6	3.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	0	130	92	0	65
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	0	222	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

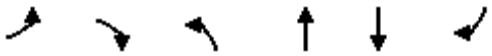
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	50	0	120	85	0	60
Future Volume (Veh/h)	50	0	120	85	0	60
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	0	130	92	0	65
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			54		406	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			54		406	54
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		100	94
cM capacity (veh/h)			1551		551	1013

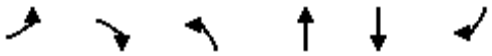
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	54	222	65
Volume Left	0	130	0
Volume Right	0	0	65
cSH	1700	1551	1013
Volume to Capacity	0.03	0.08	0.06
Queue Length 95th (m)	0.0	2.2	1.6
Control Delay (s)	0.0	4.7	8.8
Lane LOS		A	A
Approach Delay (s)	0.0	4.7	8.8
Approach LOS			A

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	28.2%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	70	130	120	60	0
Future Volume (vph)	0	70	130	120	60	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.975		
Satd. Flow (prot)	1611	0	0	1816	1863	0
Flt Permitted				0.975		
Satd. Flow (perm)	1611	0	0	1816	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	49.0			201.6	105.4	
Travel Time (s)	3.5			14.5	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	76	141	130	65	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	76	0	0	271	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.2%		ICU Level of Service A	
Analysis Period (min) 15			

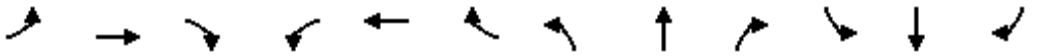


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	70	130	120	60	0
Future Volume (Veh/h)	0	70	130	120	60	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	76	141	130	65	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				201		
pX, platoon unblocked						
vC, conflicting volume	477	65	65			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	477	65	65			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	92	91			
cM capacity (veh/h)	497	999	1537			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	76	271	65
Volume Left	0	141	0
Volume Right	76	0	0
cSH	999	1537	1700
Volume to Capacity	0.08	0.09	0.04
Queue Length 95th (m)	2.0	2.4	0.0
Control Delay (s)	8.9	4.3	0.0
Lane LOS	A	A	
Approach Delay (s)	8.9	4.3	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	31.2%	ICU Level of Service	A
Analysis Period (min)	15		

3) 2031 Future Background Traffic Conditions (With Corridor Growth)

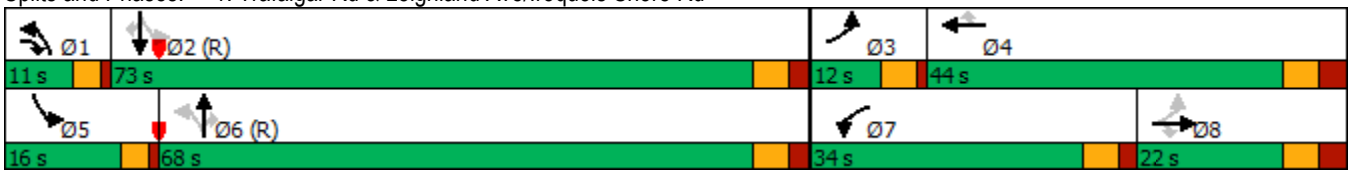


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	115	335	685	65	120	145	1320	775	195	2390	50
Future Volume (vph)	35	115	335	685	65	120	145	1320	775	195	2390	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.96					0.95			0.97	1.00		0.93
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1863	1568	3367	1827	1553	1719	4988	1568	1787	5085	1524
Flt Permitted	0.714			0.950			0.062			0.119		
Satd. Flow (perm)	1267	1863	1568	3367	1827	1470	112	4988	1525	224	5085	1424
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136			123			681			142
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			521.8			275.4			339.2	
Travel Time (s)		27.7			37.6			19.8			24.4	
Confl. Peds. (#/hr)	35					35	35		10	10		35
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Adj. Flow (vph)	35	116	338	692	66	121	146	1333	783	197	2414	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	116	338	692	66	121	146	1333	783	197	2414	51
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

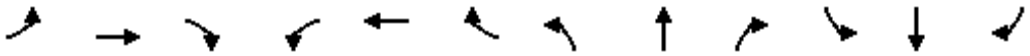
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	11.0	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	12.0	22.0	11.0	34.0	44.0	44.0	11.0	68.0	68.0	16.0	73.0	73.0
Total Split (%)	8.6%	15.7%	7.9%	24.3%	31.4%	31.4%	7.9%	48.6%	48.6%	11.4%	52.1%	52.1%
Maximum Green (s)	7.3	15.2	7.0	28.3	37.2	37.2	7.0	61.9	61.9	12.0	66.9	66.9
Yellow Time (s)	3.7	3.7	3.0	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	1.0	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					20	20		25	25		25	25
Act Effct Green (s)	24.5	14.3	30.0	29.3	38.7	38.7	77.4	65.3	65.3	81.3	67.9	67.9
Actuated g/C Ratio	0.18	0.10	0.21	0.21	0.28	0.28	0.55	0.47	0.47	0.58	0.48	0.48
v/c Ratio	0.14	0.61	0.76	0.98	0.13	0.24	0.83	0.57	0.73	0.73	0.98	0.07
Control Delay	32.3	74.1	42.8	84.7	39.6	7.4	64.8	19.6	12.3	33.4	49.2	0.2
Queue Delay	0.0	0.0	60.4	38.3	0.0	0.0	0.0	0.0	0.6	0.0	6.8	0.0
Total Delay	32.3	74.1	103.2	123.0	39.6	7.4	64.8	19.6	12.8	33.4	56.0	0.2
LOS	C	E	F	F	D	A	E	B	B	C	E	A
Approach Delay		91.2			100.8			20.2			53.3	
Approach LOS		F			F			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 51.0		Intersection LOS: D	
Intersection Capacity Utilization 98.0%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



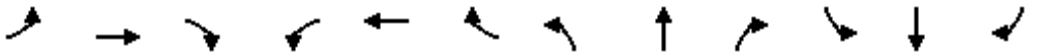
1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	35	116	338	692	66	121	146	1333	783	197	2414	51
v/c Ratio	0.14	0.61	0.76	0.98	0.13	0.24	0.83	0.57	0.73	0.73	0.98	0.07
Control Delay	32.3	74.1	42.8	84.7	39.6	7.4	64.8	19.6	12.3	33.4	49.2	0.2
Queue Delay	0.0	0.0	60.4	38.3	0.0	0.0	0.0	0.0	0.6	0.0	6.8	0.0
Total Delay	32.3	74.1	103.2	123.0	39.6	7.4	64.8	19.6	12.8	33.4	56.0	0.2
Queue Length 50th (m)	6.6	32.7	57.2	104.5	14.8	0.0	28.1	98.7	53.3	25.5	247.5	0.0
Queue Length 95th (m)	14.4	53.8	96.0	#145.7	27.6	15.4	#71.8	109.1	224.2	#54.3	#289.8	0.0
Internal Link Dist (m)		361.1			497.8			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	251	215	442	704	516	503	176	2328	1075	278	2466	763
Starvation Cap Reductn	0	0	0	0	0	0	0	0	73	0	0	0
Spillback Cap Reductn	0	0	226	94	0	0	0	0	0	0	79	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.54	1.56	1.13	0.13	0.24	0.83	0.57	0.78	0.71	1.01	0.07

Intersection Summary

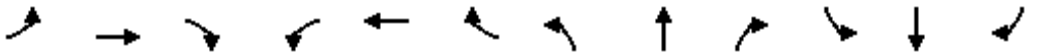
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	115	335	685	65	120	145	1320	775	195	2390	50
Future Volume (vph)	35	115	335	685	65	120	145	1320	775	195	2390	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.97	1.00	1.00	0.93
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1705	1863	1568	3367	1827	1470	1719	4988	1525	1787	5085	1424
Flt Permitted	0.71	1.00	1.00	0.95	1.00	1.00	0.06	1.00	1.00	0.12	1.00	1.00
Satd. Flow (perm)	1282	1863	1568	3367	1827	1470	112	4988	1525	225	5085	1424
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	35	116	338	692	66	121	146	1333	783	197	2414	51
RTOR Reduction (vph)	0	0	112	0	0	88	0	0	368	0	0	27
Lane Group Flow (vph)	35	116	226	692	66	33	146	1333	415	197	2414	24
Confl. Peds. (#/hr)	35					35	35		10	10		35
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	20.0	14.2	23.1	28.3	37.7	37.7	72.3	63.4	63.4	77.5	66.0	66.0
Effective Green, g (s)	22.0	15.2	25.1	29.3	38.7	38.7	74.3	64.4	64.4	79.5	67.0	67.0
Actuated g/C Ratio	0.16	0.11	0.18	0.21	0.28	0.28	0.53	0.46	0.46	0.57	0.48	0.48
Clearance Time (s)	4.7	6.8	4.0	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	222	202	281	704	505	406	173	2294	701	267	2433	681
v/s Ratio Prot	0.01	0.06	c0.06	c0.21	0.04		c0.06	0.27		c0.07	c0.47	
v/s Ratio Perm	0.02		0.09			0.02	0.39		0.27	0.35		0.02
v/c Ratio	0.16	0.57	0.81	0.98	0.13	0.08	0.84	0.58	0.59	0.74	0.99	0.04
Uniform Delay, d1	50.8	59.3	55.1	55.1	38.0	37.5	38.6	27.9	28.1	19.8	36.2	19.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.19	0.68	2.06	1.00	1.00	1.00
Incremental Delay, d2	0.3	3.9	15.4	29.5	0.1	0.1	24.4	0.9	2.9	10.2	16.5	0.1
Delay (s)	51.1	63.2	70.5	84.6	38.1	37.6	70.2	19.7	60.6	30.0	52.7	19.5
Level of Service	D	E	E	F	D	D	E	B	E	C	D	B
Approach Delay (s)		67.4			74.6			37.1			50.4	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	50.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	98.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

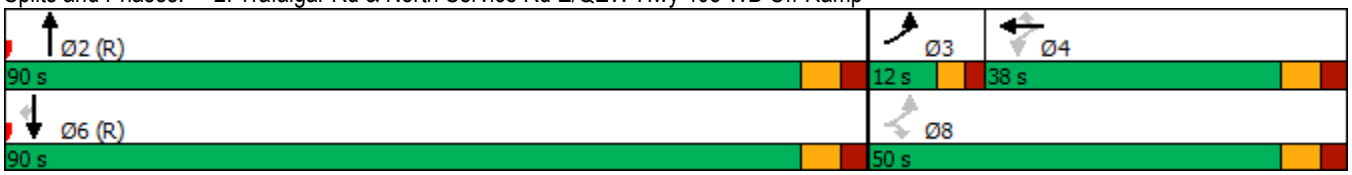


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	435	0	235	0	2165	0	0	3620	5
Future Volume (vph)	5	0	225	435	0	235	0	2165	0	0	3620	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.96
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.950							
Satd. Flow (prot)	1805	0	1599	1649	1649	1568	0	4988	0	0	5036	1615
Flt Permitted	0.293			0.950	0.950							
Satd. Flow (perm)	557	0	1599	1649	1649	1568	0	4988	0	0	5036	1543
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			87						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							10		5	5		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Adj. Flow (vph)	5	0	232	448	0	242	0	2232	0	0	3732	5
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	5	0	232	224	224	242	0	2232	0	0	3732	5
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

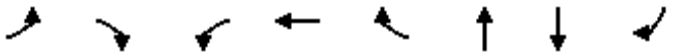
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	12.0		50.0	38.0	38.0	38.0		90.0			90.0	90.0
Total Split (%)	8.6%		35.7%	27.1%	27.1%	27.1%		64.3%			64.3%	64.3%
Maximum Green (s)	7.0		43.0	31.0	31.0	31.0		83.0			83.0	83.0
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		10			10	10
Act Effct Green (s)	29.7		27.7	25.3	25.3	25.3		100.3			100.3	100.3
Actuated g/C Ratio	0.21		0.20	0.18	0.18	0.18		0.72			0.72	0.72
v/c Ratio	0.03		0.68	0.75	0.75	0.68		0.62			1.03	0.00
Control Delay	37.2		53.8	69.8	69.8	43.3		9.4			48.4	0.0
Queue Delay	0.0		0.0	0.0	0.0	0.0		0.0			19.9	0.0
Total Delay	37.2		53.8	69.8	69.8	43.3		9.4			68.3	0.0
LOS	D		D	E	E	D		A			E	A
Approach Delay		53.4			60.5			9.4			68.2	
Approach LOS		D			E			A			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay: 47.9		Intersection LOS: D	
Intersection Capacity Utilization 110.9%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp



2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp



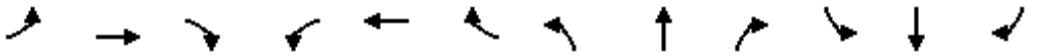
Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	5	232	224	224	242	2232	3732	5
v/c Ratio	0.03	0.68	0.75	0.75	0.68	0.62	1.03	0.00
Control Delay	37.2	53.8	69.8	69.8	43.3	9.4	48.4	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	19.9	0.0
Total Delay	37.2	53.8	69.8	69.8	43.3	9.4	68.3	0.0
Queue Length 50th (m)	1.2	55.9	65.4	65.4	42.6	87.4	~313.6	0.0
Queue Length 95th (m)	4.4	72.7	92.6	92.6	70.1	116.4	m#506.8	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	189	523	376	376	425	3574	3608	1125
Starvation Cap Reductn	0	0	0	0	0	0	160	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.44	0.60	0.60	0.57	0.62	1.08	0.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

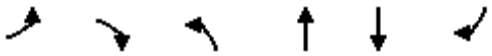
m Volume for 95th percentile queue is metered by upstream signal.



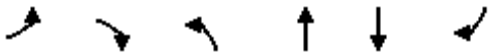
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	435	0	235	0	2165	0	0	3620	5
Future Volume (vph)	5	0	225	435	0	235	0	2165	0	0	3620	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.96
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1649	1649	1568		4988			5036	1543
Flt Permitted	0.29		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	556		1599	1649	1649	1568		4988			5036	1543
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	5	0	232	448	0	242	0	2232	0	0	3732	5
RTOR Reduction (vph)	0	0	24	0	0	71	0	0	0	0	0	2
Lane Group Flow (vph)	5	0	208	224	224	171	0	2232	0	0	3732	3
Confl. Peds. (#/hr)							10		5	5		10
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	30.7		30.7	24.3	24.3	24.3		95.3			95.3	95.3
Effective Green, g (s)	31.7		31.7	25.3	25.3	25.3		96.3			96.3	96.3
Actuated g/C Ratio	0.23		0.23	0.18	0.18	0.18		0.69			0.69	0.69
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	147		362	297	297	283		3431			3464	1061
v/s Ratio Prot	0.00							0.45			c0.74	
v/s Ratio Perm	0.01		c0.13	c0.14	0.14	0.11						0.00
v/c Ratio	0.03		0.57	0.75	0.75	0.60		0.65			1.08	0.00
Uniform Delay, d1	42.8		48.2	54.4	54.4	52.7		12.3			21.9	6.8
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.75			1.45	1.00
Incremental Delay, d2	0.2		2.4	10.4	10.4	3.6		0.7			37.8	0.0
Delay (s)	43.0		50.5	64.8	64.8	56.3		10.0			69.6	6.8
Level of Service	D		D	E	E	E		A			E	A
Approach Delay (s)		50.4			61.8			10.0			69.5	
Approach LOS		D			E			A			E	

Intersection Summary			
HCM 2000 Control Delay	48.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	110.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



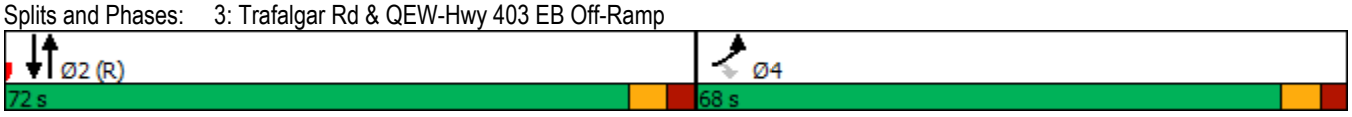
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1030	720	0	1650	2535	0
Future Volume (vph)	1030	720	0	1650	2535	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3433	1583	0	4940	5036	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	*1800	0	4940	5036	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			45.3	331.3	
Travel Time (s)	15.4			3.3	23.9	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Adj. Flow (vph)	1051	735	0	1684	2587	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1051	735	0	1684	2587	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	68.0	68.0		72.0	72.0	
Total Split (%)	48.6%	48.6%		51.4%	51.4%	
Maximum Green (s)	61.0	61.0		65.0	65.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		10	10	
Act Effct Green (s)	60.8	60.8		67.2	67.2	
Actuated g/C Ratio	0.43	0.43		0.48	0.48	
v/c Ratio	0.71	0.94		0.71	1.07	
Control Delay	35.3	58.7		25.2	67.8	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	35.3	58.7		25.2	67.8	
LOS	D	E		C	E	
Approach Delay	44.9			25.2	67.8	
Approach LOS	D			C	E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 49.2		Intersection LOS: D	
Intersection Capacity Utilization 103.6%		ICU Level of Service G	
Analysis Period (min) 15			
* User Entered Value			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



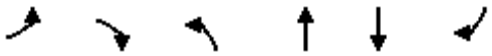
Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	1051	735	1684	2587
v/c Ratio	0.71	0.94	0.71	1.07
Control Delay	35.3	58.7	25.2	67.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	35.3	58.7	25.2	67.8
Queue Length 50th (m)	125.0	198.9	74.5	~309.7
Queue Length 95th (m)	150.1	#282.0	m83.4	m#296.1
Internal Link Dist (m)	190.2		21.3	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1520	797	2371	2418
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.69	0.92	0.71	1.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

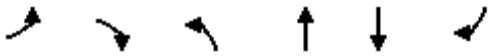
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1030	720	0	1650	2535	0
Future Volume (vph)	1030	720	0	1650	2535	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	1583		4940	5036	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	1800		4940	5036	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1051	735	0	1684	2587	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1051	735	0	1684	2587	0
Confl. Peds. (#/hr)			10			10
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	59.8	59.8		66.2	66.2	
Effective Green, g (s)	60.8	60.8		67.2	67.2	
Actuated g/C Ratio	0.43	0.43		0.48	0.48	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1490	781		2371	2417	
v/s Ratio Prot	0.31			0.34	c0.51	
v/s Ratio Perm		c0.41				
v/c Ratio	0.71	0.94		0.71	1.07	
Uniform Delay, d1	32.3	37.9		28.7	36.4	
Progression Factor	1.00	1.00		0.82	0.93	
Incremental Delay, d2	1.5	19.3		1.2	34.8	
Delay (s)	33.8	57.2		24.8	68.5	
Level of Service	C	E		C	E	
Approach Delay (s)	43.4			24.8	68.5	
Approach LOS	D			C	E	

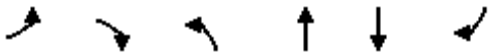
Intersection Summary			
HCM 2000 Control Delay	49.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	103.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	40	0	1810	2490	680
Future Volume (vph)	0	40	0	1810	2490	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.968	
Flt Protected						
Satd. Flow (prot)	0	1565	0	4940	4875	0
Flt Permitted						
Satd. Flow (perm)	0	1565	0	4940	4875	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	144.9			271.4	45.3	
Travel Time (s)	10.4			19.5	3.3	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	5%	0%	5%	3%	3%
Adj. Flow (vph)	0	43	0	1946	2677	731
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	43	0	1946	3408	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

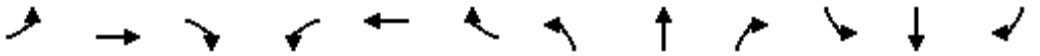
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 73.5%		ICU Level of Service D	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	40	0	1810	2490	680
Future Volume (Veh/h)	0	40	0	1810	2490	680
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	43	0	1946	2677	731
Pedestrians	10					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				271	45	
pX, platoon unblocked	0.63	0.52	0.52			
vC, conflicting volume	3701	1268	3418			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1030	0	2433			
tC, single (s)	6.8	7.0	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	92	100			
cM capacity (veh/h)	144	558	102			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	43	649	649	649	1071	1071	1266
Volume Left	0	0	0	0	0	0	0
Volume Right	43	0	0	0	0	0	731
cSH	558	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.08	0.38	0.38	0.38	0.63	0.63	0.74
Queue Length 95th (m)	2.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	12.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	12.0	0.0			0.0		
Approach LOS	B						

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		



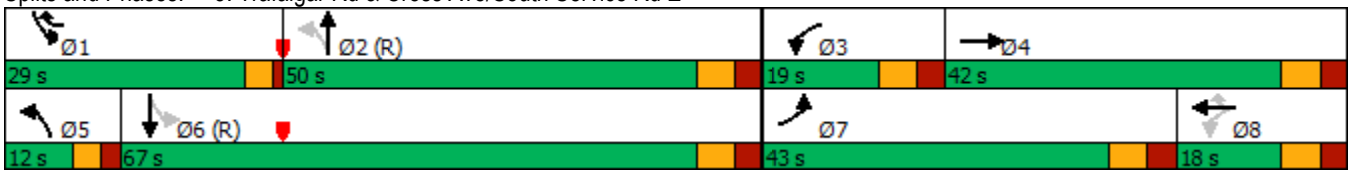
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	790	80	150	65	70	145	110	1355	35	190	1670	440
Future Volume (vph)	790	80	150	65	70	145	110	1355	35	190	1670	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		0.0	50.0		0.0	120.0		0.0	55.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.99		1.00				1.00			0.99	
Frt		0.902				0.850		0.996			0.969	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3273	1600	0	1736	1810	1553	1671	5013	0	1736	4872	0
Flt Permitted	0.950			0.611			0.071			0.081		
Satd. Flow (perm)	3273	1600	0	1111	1810	1553	125	5013	0	148	4872	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		65				140		3			60	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		217.0			420.1			277.9			271.4	
Travel Time (s)		15.6			30.2			20.0			19.5	
Confl. Peds. (#/hr)			5	5			15		5	5		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Adj. Flow (vph)	814	82	155	67	72	149	113	1397	36	196	1722	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	814	237	0	67	72	149	113	1433	0	196	2176	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		12.0	10.0	7.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0		19.0	17.0	11.0	12.0	34.0		11.0	34.0	
Total Split (s)	43.0	42.0		19.0	18.0	29.0	12.0	50.0		29.0	67.0	
Total Split (%)	30.7%	30.0%		13.6%	12.9%	20.7%	8.6%	35.7%		20.7%	47.9%	
Maximum Green (s)	36.0	35.0		12.0	11.0	25.0	7.0	43.0		25.0	60.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	1.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0						7.0			7.0	
Flash Dont Walk (s)		28.0						20.0			20.0	
Pedestrian Calls (#/hr)		5						10			10	
Act Effct Green (s)	36.6	35.7		22.4	11.6	30.7	67.9	57.6		79.5	64.9	
Actuated g/C Ratio	0.26	0.26		0.16	0.08	0.22	0.48	0.41		0.57	0.46	
v/c Ratio	0.95	0.52		0.28	0.48	0.33	0.75	0.69		0.72	0.95	
Control Delay	71.5	36.6		34.9	72.4	8.9	52.5	36.6		40.5	46.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.4	
Total Delay	71.5	36.6		34.9	72.4	8.9	52.5	36.6		40.5	46.5	
LOS	E	D		C	E	A	D	D		D	D	
Approach Delay		63.6			30.8			37.8			46.0	
Approach LOS		E			C			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 46.3 Intersection LOS: D
Intersection Capacity Utilization 97.7% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 5: Trafalgar Rd & Cross Ave/South Service Rd E



5: Trafalgar Rd & Cross Ave/South Service Rd E



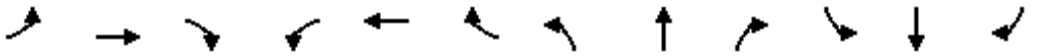
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	814	237	67	72	149	113	1433	196	2176
v/c Ratio	0.95	0.52	0.28	0.48	0.33	0.75	0.69	0.72	0.95
Control Delay	71.5	36.6	34.9	72.4	8.9	52.5	36.6	40.5	46.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Total Delay	71.5	36.6	34.9	72.4	8.9	52.5	36.6	40.5	46.5
Queue Length 50th (m)	120.3	43.0	12.2	20.3	2.0	23.4	104.8	44.2	~196.1
Queue Length 95th (m)	#160.3	71.4	23.1	37.7	18.6	m#32.8	m126.8	m43.0	m176.8
Internal Link Dist (m)		193.0		396.1			253.9		247.4
Turn Bay Length (m)	130.0		50.0			120.0		55.0	
Base Capacity (vph)	865	459	236	155	546	151	2064	379	2289
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	13
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.52	0.28	0.46	0.27	0.75	0.69	0.52	0.96

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

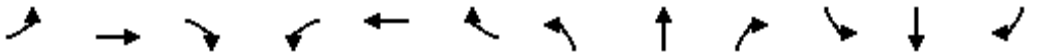
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	790	80	150	65	70	145	110	1355	35	190	1670	440
Future Volume (vph)	790	80	150	65	70	145	110	1355	35	190	1670	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.90		1.00	1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3273	1599		1731	1810	1553	1671	5014		1736	4870	
Flt Permitted	0.95	1.00		0.61	1.00	1.00	0.07	1.00		0.08	1.00	
Satd. Flow (perm)	3273	1599		1114	1810	1553	125	5014		149	4870	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	814	82	155	67	72	149	113	1397	36	196	1722	454
RTOR Reduction (vph)	0	48	0	0	0	114	0	2	0	0	33	0
Lane Group Flow (vph)	814	189	0	67	72	35	113	1431	0	196	2143	0
Confl. Peds. (#/hr)			5	5			15		5	5		15
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Actuated Green, G (s)	35.6	34.7		18.3	8.7	24.2	62.5	55.2		74.7	62.4	
Effective Green, g (s)	36.6	35.7		20.3	9.7	26.2	64.5	56.2		75.7	63.4	
Actuated g/C Ratio	0.26	0.26		0.15	0.07	0.19	0.46	0.40		0.54	0.45	
Clearance Time (s)	7.0	7.0		7.0	7.0	4.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	855	407		208	125	290	149	2012		267	2205	
v/s Ratio Prot	c0.25	c0.12		0.02	0.04	0.01	0.04	0.29		c0.09	c0.44	
v/s Ratio Perm				0.02		0.01	0.30			0.31		
v/c Ratio	0.95	0.46		0.32	0.58	0.12	0.76	0.71		0.73	0.97	
Uniform Delay, d1	50.8	44.1		53.2	63.2	47.3	31.2	35.1		32.2	37.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.13	0.98		1.33	1.22	
Incremental Delay, d2	20.0	1.1		1.1	7.5	0.2	13.3	1.4		2.5	4.8	
Delay (s)	70.8	45.2		54.3	70.6	47.5	48.6	35.7		45.2	50.3	
Level of Service	E	D		D	E	D	D	D		D	D	
Approach Delay (s)		65.0			54.9			36.7			49.9	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	49.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	97.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	490	70	30	410	640	50	465	55	670	740	385
Future Volume (vph)	300	490	70	30	410	640	50	465	55	670	740	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.98	0.99		0.99		0.95	0.99	1.00		0.99		0.96
Frt		0.981				0.850		0.984				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3367	3331	0	1736	3438	1553	1770	3460	0	3400	1881	1553
Flt Permitted	0.950			0.374			0.172			0.950		
Satd. Flow (perm)	3304	3331	0	675	3438	1483	319	3460	0	3368	1881	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				466		9				283
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			277.9	
Travel Time (s)		41.4			45.2			10.0			20.0	
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Adj. Flow (vph)	313	510	73	31	427	667	52	484	57	698	771	401
Shared Lane Traffic (%)												
Lane Group Flow (vph)	313	583	0	31	427	667	52	541	0	698	771	401
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	18.0	44.0		12.0	38.0	38.0	11.0	47.0		37.0	73.0	73.0
Total Split (%)	12.9%	31.4%		8.6%	27.1%	27.1%	7.9%	33.6%		26.4%	52.1%	52.1%
Maximum Green (s)	12.3	37.6		7.0	31.6	31.6	7.0	40.1		32.0	66.1	66.1
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		20			20	20		15			15	15
Act Effct Green (s)	14.8	42.6		39.7	30.3	30.3	53.6	42.7		32.3	70.1	70.1
Actuated g/C Ratio	0.11	0.30		0.28	0.22	0.22	0.38	0.30		0.23	0.50	0.50
v/c Ratio	0.88	0.57		0.12	0.57	0.97	0.25	0.51		0.89	0.82	0.45
Control Delay	87.1	49.3		29.7	52.0	44.5	19.9	41.9		82.2	30.5	10.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.3	0.0
Total Delay	87.1	49.3		29.7	52.0	44.5	19.9	41.9		82.2	30.7	10.2
LOS	F	D		C	D	D	B	D		F	C	B
Approach Delay		62.5			47.0			40.0			45.6	
Approach LOS		E			D			D			D	

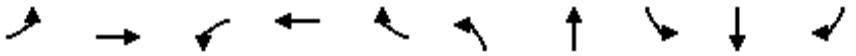
Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 48.6 Intersection LOS: D
Intersection Capacity Utilization 93.0% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd



6: Trafalgar Rd & Cornwall Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	313	583	31	427	667	52	541	698	771	401
v/c Ratio	0.88	0.57	0.12	0.57	0.97	0.25	0.51	0.89	0.82	0.45
Control Delay	87.1	49.3	29.7	52.0	44.5	19.9	41.9	82.2	30.5	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Total Delay	87.1	49.3	29.7	52.0	44.5	19.9	41.9	82.2	30.7	10.2
Queue Length 50th (m)	48.1	80.0	5.8	57.8	71.2	6.3	68.4	111.5	107.3	27.0
Queue Length 95th (m)	#80.2	103.8	13.1	75.8	#157.2	12.6	87.6	m119.1	m115.0	m30.2
Internal Link Dist (m)		551.4		604.3			115.4		253.9	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	355	1020	252	800	702	204	1073	801	948	896
Starvation Cap Reductn	0	0	0	0	0	0	0	0	15	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.57	0.12	0.53	0.95	0.25	0.50	0.87	0.83	0.45

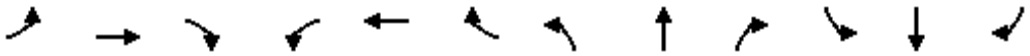
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	490	70	30	410	640	50	465	55	670	740	385
Future Volume (vph)	300	490	70	30	410	640	50	465	55	670	740	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.95	1.00	1.00		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3367	3331		1727	3438	1483	1768	3460		3400	1881	1498
Flt Permitted	0.95	1.00		0.37	1.00	1.00	0.17	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3367	3331		681	3438	1483	321	3460		3400	1881	1498
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	312	510	73	31	427	667	52	484	57	698	771	401
RTOR Reduction (vph)	0	8	0	0	0	358	0	6	0	0	0	147
Lane Group Flow (vph)	313	575	0	31	427	309	52	535	0	698	771	254
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	13.8	41.6		35.5	31.3	31.3	45.2	39.6		31.3	66.3	66.3
Effective Green, g (s)	14.8	42.6		37.5	32.3	32.3	47.2	40.6		32.3	67.3	67.3
Actuated g/C Ratio	0.11	0.30		0.27	0.23	0.23	0.34	0.29		0.23	0.48	0.48
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Lane Grp Cap (vph)	355	1013		221	793	342	176	1003		784	904	720
v/s Ratio Prot	c0.09	0.17		0.01	0.12		0.01	0.15		c0.21	c0.41	
v/s Ratio Perm				0.03		c0.21	0.09					0.17
v/c Ratio	0.88	0.57		0.14	0.54	0.90	0.30	0.53		0.89	0.85	0.35
Uniform Delay, d1	61.7	41.0		38.3	47.3	52.3	33.5	41.7		52.1	32.0	22.7
Progression Factor	1.02	1.14		1.00	1.00	1.00	1.00	1.00		1.45	0.85	1.40
Incremental Delay, d2	21.0	0.7		0.4	0.7	25.7	0.9	2.0		6.0	4.6	0.6
Delay (s)	83.8	47.4		38.7	48.0	78.0	34.5	43.8		81.7	31.8	32.4
Level of Service	F	D		D	D	E	C	D		F	C	C
Approach Delay (s)		60.1			65.6			43.0			50.5	
Approach LOS		E			E			D			D	

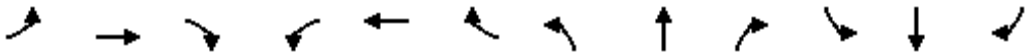
Intersection Summary			
HCM 2000 Control Delay	55.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	93.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	15	0	5	615	140	0	5	0	20	5	100
Future Volume (vph)	0	15	0	5	615	140	0	5	0	20	5	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.975						0.892	
Flt Protected											0.992	
Satd. Flow (prot)	0	1792	0	0	1813	0	0	1900	0	0	1480	0
Flt Permitted											0.992	
Satd. Flow (perm)	0	1792	0	0	1813	0	0	1900	0	0	1480	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		175.8			144.9			44.8			92.1	
Travel Time (s)		12.7			10.4			3.2			6.6	
Confl. Peds. (#/hr)			5	5					10	10		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	6%	0%	0%	2%	3%	0%	0%	0%	0%	0%	17%
Adj. Flow (vph)	0	17	0	6	691	157	0	6	0	22	6	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	17	0	0	854	0	0	6	0	0	140	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

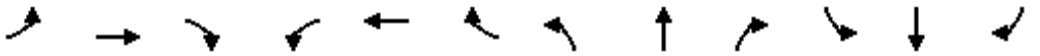
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	15	0	5	615	140	0	5	0	20	5	100
Future Volume (Veh/h)	0	15	0	5	615	140	0	5	0	20	5	100
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	17	0	6	691	157	0	6	0	22	6	112
Pedestrians					10			5				
Lane Width (m)					3.6			3.6				
Walking Speed (m/s)					1.2			1.2				
Percent Blockage					1			0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		355										
pX, platoon unblocked												
vC, conflicting volume	848			22			918	882	32	812	804	770
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	848			22			918	882	32	812	804	770
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.4
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.5
p0 queue free %	100			100			100	98	100	92	98	70
cM capacity (veh/h)	798			1600			174	285	1035	291	316	378

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	17	854	6	140
Volume Left	0	6	0	22
Volume Right	0	157	0	112
cSH	798	1600	285	358
Volume to Capacity	0.00	0.00	0.02	0.39
Queue Length 95th (m)	0.0	0.1	0.5	14.5
Control Delay (s)	0.0	0.1	17.9	21.4
Lane LOS		A	C	C
Approach Delay (s)	0.0	0.1	17.9	21.4
Approach LOS			C	C

Intersection Summary				
Average Delay	3.1			
Intersection Capacity Utilization	65.8%	ICU Level of Service	C	
Analysis Period (min)	15			

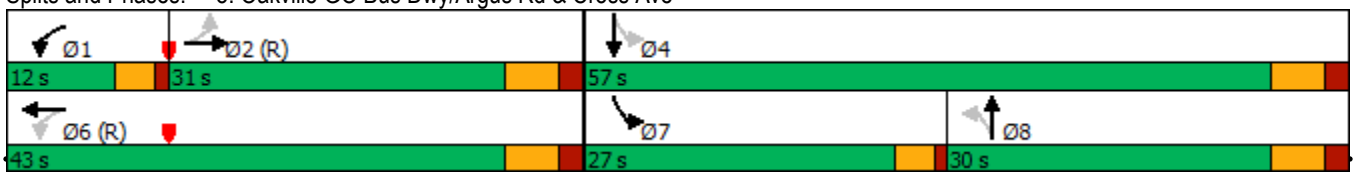


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	850	15	20	640	25	15	0	30	175	10	440
Future Volume (vph)	20	850	15	20	640	25	15	0	30	175	10	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	30.0			15.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00			1.00			0.97		0.98	0.96	
Frt		0.997			0.994			0.909			0.853	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1719	3503	0	950	3539	0	0	845	0	1719	1528	0
Flt Permitted	0.391			0.215				0.788		0.727		
Satd. Flow (perm)	702	3503	0	215	3539	0	0	674	0	1285	1528	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			5			120			101	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		107.3			217.0			71.0			179.3	
Travel Time (s)		7.7			15.6			5.1			12.9	
Confl. Peds. (#/hr)	10		10	10		10	20		20	20		20
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	1%	100%	90%	1%	7%	100%	100%	94%	5%	100%	0%
Adj. Flow (vph)	21	876	15	21	660	26	15	0	31	180	10	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	891	0	21	686	0	0	46	0	180	464	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

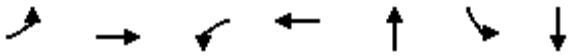
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	22.0	22.0		8.0	22.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	29.0	29.0		12.0	29.0		29.0	29.0		9.0	29.0	
Total Split (s)	31.0	31.0		12.0	43.0		30.0	30.0		27.0	57.0	
Total Split (%)	31.0%	31.0%		12.0%	43.0%		30.0%	30.0%		27.0%	57.0%	
Maximum Green (s)	25.0	25.0		8.0	37.0		24.0	24.0		23.0	51.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	5.0	5.0		2.5	5.0		4.0	4.0		3.0	4.0	
Recall Mode	C-Min	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	16.0	16.0			16.0		16.0	16.0			16.0	
Pedestrian Calls (#/hr)	10	10			10		20	20			20	
Act Effct Green (s)	51.1	51.1		57.9	55.9			17.8		36.1	34.1	
Actuated g/C Ratio	0.51	0.51		0.58	0.56			0.18		0.36	0.34	
v/c Ratio	0.06	0.50		0.11	0.35			0.21		0.34	0.79	
Control Delay	20.2	20.7		13.8	14.1			2.2		22.8	32.2	
Queue Delay	0.0	2.2		0.0	0.0			0.0		0.0	0.0	
Total Delay	20.2	22.9		13.8	14.1			2.2		22.8	32.2	
LOS	C	C		B	B			A		C	C	
Approach Delay		22.9			14.1			2.2			29.6	
Approach LOS		C			B			A			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 21.6		Intersection LOS: C	
Intersection Capacity Utilization 62.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: Oakville GO Bus Dwy/Argus Rd & Cross Ave

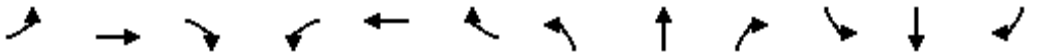


8: Oakville GO Bus Dwy/Argus Rd & Cross Ave



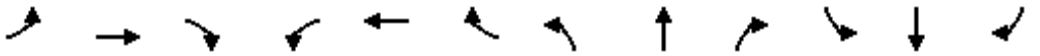
Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	21	891	21	686	46	180	464
v/c Ratio	0.06	0.50	0.11	0.35	0.21	0.34	0.79
Control Delay	20.2	20.7	13.8	14.1	2.2	22.8	32.2
Queue Delay	0.0	2.2	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	22.9	13.8	14.1	2.2	22.8	32.2
Queue Length 50th (m)	1.8	52.4	1.7	37.1	0.0	26.1	68.1
Queue Length 95th (m)	8.6	108.0	6.5	62.6	0.0	35.8	91.5
Internal Link Dist (m)		83.3		193.0	47.0		155.3
Turn Bay Length (m)	20.0		20.0			15.0	
Base Capacity (vph)	358	1790	191	1982	258	569	843
Starvation Cap Reductn	0	727	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.84	0.11	0.35	0.18	0.32	0.55

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	850	15	20	640	25	15	0	30	175	10	440
Future Volume (vph)	20	850	15	20	640	25	15	0	30	175	10	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.97		1.00	0.96	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00		0.98	1.00	
Frt	1.00	1.00		1.00	0.99			0.91		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1705	3505		949	3540			842		1691	1529	
Flt Permitted	0.39	1.00		0.22	1.00			0.79		0.73	1.00	
Satd. Flow (perm)	701	3505		215	3540			674		1295	1529	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	21	876	15	21	660	26	15	0	31	180	10	454
RTOR Reduction (vph)	0	1	0	0	2	0	0	39	0	0	65	0
Lane Group Flow (vph)	21	890	0	21	684	0	0	7	0	180	399	0
Confl. Peds. (#/hr)	10		10	10		10	20		20	20		20
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	5%	1%	100%	90%	1%	7%	100%	100%	94%	5%	100%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	46.5	46.5		53.7	53.7			14.8		34.3	34.3	
Effective Green, g (s)	47.5	47.5		54.7	54.7			15.8		35.3	35.3	
Actuated g/C Ratio	0.48	0.48		0.55	0.55			0.16		0.35	0.35	
Clearance Time (s)	6.0	6.0		4.0	6.0			6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0		2.5	5.0			4.0		3.0	4.0	
Lane Grp Cap (vph)	332	1664		148	1936			106		522	539	
v/s Ratio Prot		c0.25		0.01	c0.19					0.06	c0.26	
v/s Ratio Perm	0.03			0.07				0.01		0.06		
v/c Ratio	0.06	0.53		0.14	0.35			0.07		0.34	0.74	
Uniform Delay, d1	14.2	18.5		11.9	12.7			35.8		23.5	28.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.4	1.2		0.3	0.5			0.4		0.4	5.6	
Delay (s)	14.6	19.7		12.3	13.2			36.2		23.9	34.0	
Level of Service	B	B		B	B			D		C	C	
Approach Delay (s)		19.6			13.2			36.2			31.1	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	21.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	325	90	650	485	15	60	0	235	275	0	75
Future Volume (vph)	25	325	90	650	485	15	60	0	235	275	0	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00		1.00		0.97		0.99	
Frt		0.969			0.998				0.850		0.971	
Flt Protected		0.997			0.972		0.950				0.962	
Satd. Flow (prot)	0	3270	0	0	3414	0	1805	0	1615	0	1769	0
Flt Permitted		0.818			0.554		0.536				0.962	
Satd. Flow (perm)	0	2682	0	0	1946	0	1013	0	1570	0	1759	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			2				255		51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		139.5			107.3			62.6			201.6	
Travel Time (s)		10.0			7.7			4.5			14.5	
Confl. Peds. (#/hr)	15					15	5		10	10		5
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	27	353	98	707	527	16	65	0	255	299	0	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	478	0	0	1250	0	65	0	255	0	381	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	100		100
Number of Detectors	1	2		1	2		1		1	1	2	
Detector Template	Left	Thru		Left	Thru		Left		Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0		2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0		2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4						9.4	
Detector 2 Size(m)		0.6			0.6						0.6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type	Perm	NA		custom	NA		Perm		Perm	custom	NA	
Protected Phases		2		1	1 6					7	7 4	

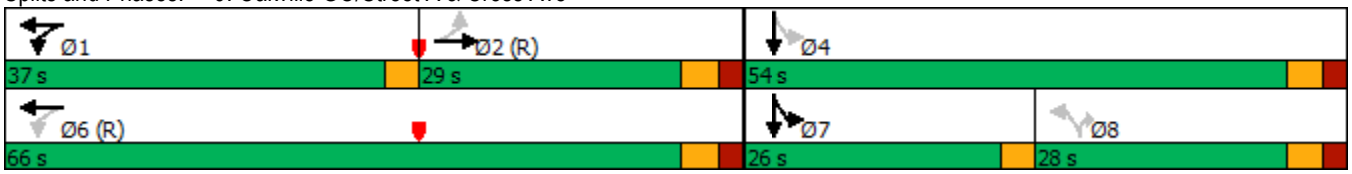
Lane Group	Ø4	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	4	6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			8		8	4		
Detector Phase	2	2		1	1 6		8		8	7	7 4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		8.0			10.0		10.0	8.0		
Minimum Split (s)	27.6	27.6		11.0			27.6		27.6	11.0		
Total Split (s)	29.0	29.0		37.0			28.0		28.0	26.0		
Total Split (%)	24.2%	24.2%		30.8%			23.3%		23.3%	21.7%		
Maximum Green (s)	23.4	23.4		34.0			22.4		22.4	23.0		
Yellow Time (s)	3.3	3.3		3.0			3.3		3.3	3.0		
All-Red Time (s)	2.3	2.3		0.0			2.3		2.3	0.0		
Lost Time Adjust (s)		-1.0					-1.0		-1.0			
Total Lost Time (s)		4.6					4.6		4.6			
Lead/Lag	Lag	Lag		Lead			Lag		Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes		
Vehicle Extension (s)	5.0	5.0		2.5			3.5		3.5	3.0		
Recall Mode	C-Min	C-Min		None			None		None	None		
Walk Time (s)	7.0	7.0					7.0		7.0			
Flash Dont Walk (s)	15.0	15.0					15.0		15.0			
Pedestrian Calls (#/hr)	10	10					10		10			
Act Effct Green (s)		35.1			72.9		15.5		15.5		43.1	
Actuated g/C Ratio		0.29			0.61		0.13		0.13		0.36	
v/c Ratio		0.60			1.00dl		0.50		0.60		0.57	
Control Delay		40.9			20.0		60.5		11.6		29.4	
Queue Delay		0.0			25.9		0.0		0.0		0.0	
Total Delay		40.9			45.9		60.5		11.6		29.4	
LOS		D			D		E		B		C	
Approach Delay		40.9			45.9			21.5			29.4	
Approach LOS		D			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 39.1		Intersection LOS: D	
Intersection Capacity Utilization 89.8%		ICU Level of Service E	
Analysis Period (min) 15			

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 9: Oakville GO/Street A & Cross Ave



Lane Group	Ø4	Ø6
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	10.0	20.0
Minimum Split (s)	27.6	27.6
Total Split (s)	54.0	66.0
Total Split (%)	45%	55%
Maximum Green (s)	48.4	60.4
Yellow Time (s)	3.3	3.3
All-Red Time (s)	2.3	2.3
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	5.0
Recall Mode	None	C-Min
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	15.0	15.0
Pedestrian Calls (#/hr)	10	10
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

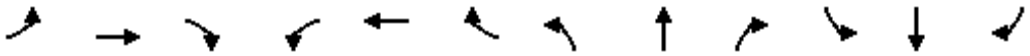
Intersection Summary



Lane Group	EBT	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	478	1250	65	255	381
v/c Ratio	0.60	1.00dl	0.50	0.60	0.57
Control Delay	40.9	20.0	60.5	11.6	29.4
Queue Delay	0.0	25.9	0.0	0.0	0.0
Total Delay	40.9	45.9	60.5	11.6	29.4
Queue Length 50th (m)	52.2	94.5	15.4	0.0	65.4
Queue Length 95th (m)	#85.9	139.6	28.6	22.9	86.2
Internal Link Dist (m)	115.5	83.3			177.6
Turn Bay Length (m)					
Base Capacity (vph)	801	1628	197	511	793
Starvation Cap Reductn	0	429	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.60	1.04	0.33	0.50	0.48

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

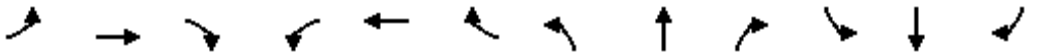


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	325	90	650	485	15	60	0	235	275	0	75
Future Volume (vph)	25	325	90	650	485	15	60	0	235	275	0	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6			2.0		4.6		4.6		2.0	
Lane Util. Factor		0.95			0.95		1.00		1.00		1.00	
Frpb, ped/bikes		1.00			1.00		1.00		0.97		1.00	
Flpb, ped/bikes		1.00			1.00		1.00		1.00		0.99	
Frt		0.97			1.00		1.00		0.85		0.97	
Flt Protected		1.00			0.97		0.95		1.00		0.96	
Satd. Flow (prot)		3270			3416		1796		1570		1757	
Flt Permitted		0.82			0.55		0.54		1.00		0.96	
Satd. Flow (perm)		2684			1948		1013		1570		1757	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	353	98	707	527	16	65	0	255	299	0	82
RTOR Reduction (vph)	0	17	0	0	1	0	0	0	222	0	34	0
Lane Group Flow (vph)	0	461	0	0	1249	0	65	0	33	0	347	0
Confl. Peds. (#/hr)	15					15	5		10	10		5
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	0%	9%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		custom	NA		Perm		Perm	custom	NA	
Protected Phases		2		1	1 6					7	7 4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)		34.1			69.3		14.5		14.5		39.5	
Effective Green, g (s)		35.1			70.3		15.5		15.5		40.5	
Actuated g/C Ratio		0.29			0.59		0.13		0.13		0.34	
Clearance Time (s)		5.6					5.6		5.6			
Vehicle Extension (s)		5.0					3.5		3.5			
Lane Grp Cap (vph)		785			1547		130		202		592	
v/s Ratio Prot					c0.22						c0.11	
v/s Ratio Perm		c0.17			0.25		0.06		0.02		0.09	
v/c Ratio		0.59			1.00dl		0.50		0.16		0.59	
Uniform Delay, d1		36.3			19.5		48.6		46.5		32.8	
Progression Factor		1.00			1.00		1.00		1.00		1.00	
Incremental Delay, d2		3.2			3.1		3.5		0.5		1.5	
Delay (s)		39.5			22.6		52.2		46.9		34.3	
Level of Service		D			C		D		D		C	
Approach Delay (s)		39.5			22.6			48.0			34.3	
Approach LOS		D			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	31.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		

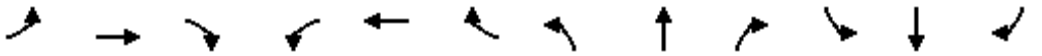
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	285	0	5	460	155	0	0	0	155	0	25
Future Volume (vph)	25	285	0	5	460	155	0	0	0	155	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (m)	25.0			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.963							0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1805	3312	0	0	3274	0	0	1900	0	1787	0	1509
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1805	3312	0	0	3274	0	0	1900	0	1787	0	1509
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		132.8			139.5			48.2			88.5	
Travel Time (s)		9.6			10.0			3.5			6.4	
Confl. Peds. (#/hr)	20		10	10		20						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	0%	0%	8%	1%	0%	0%	0%	1%	0%	7%
Adj. Flow (vph)	27	310	0	5	500	168	0	0	0	168	0	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	310	0	0	673	0	0	0	0	168	0	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

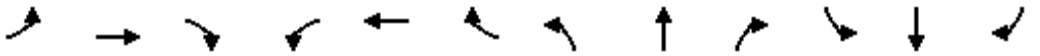
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	285	0	5	460	155	0	0	0	155	0	25
Future Volume (Veh/h)	25	285	0	5	460	155	0	0	0	155	0	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	310	0	5	500	168	0	0	0	168	0	27
Pedestrians								10			20	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			2	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		133			140							
pX, platoon unblocked												
vC, conflicting volume	688			320			661	1072	165	823	988	354
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	688			320			661	1072	165	823	988	354
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	7.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.4
p0 queue free %	97			100			100	100	100	33	100	96
cM capacity (veh/h)	900			1241			319	209	850	251	235	618

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	27	155	155	255	418	0	168	27
Volume Left	27	0	0	5	0	0	168	0
Volume Right	0	0	0	0	168	0	0	27
cSH	900	1700	1700	1241	1700	1700	251	618
Volume to Capacity	0.03	0.09	0.09	0.00	0.25	0.12	0.67	0.04
Queue Length 95th (m)	0.7	0.0	0.0	0.1	0.0	0.0	34.3	1.1
Control Delay (s)	9.1	0.0	0.0	0.2	0.0	0.0	44.1	11.1
Lane LOS	A			A		A	E	B
Approach Delay (s)	0.7			0.1		0.0	39.6	
Approach LOS						A	E	

Intersection Summary				
Average Delay	6.6			
Intersection Capacity Utilization	37.0%	ICU Level of Service	A	
Analysis Period (min)	15			



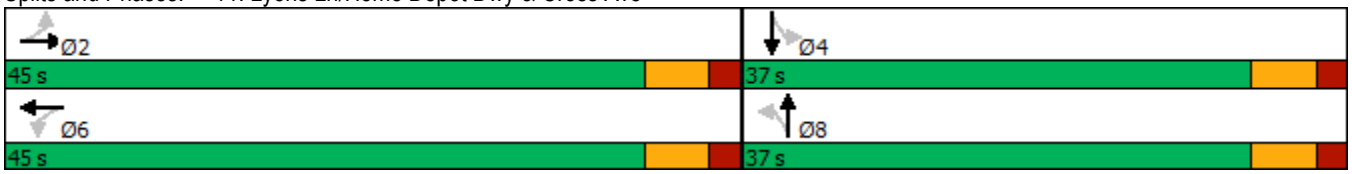
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	275	130	180	285	5	15	5	20	20	10	45
Future Volume (vph)	55	275	130	180	285	5	15	5	20	20	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	25.0		0.0	35.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99				1.00		0.99	0.99		0.99	0.99	
Frt		0.952			0.997			0.881			0.878	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3239	0	1787	3095	0	1805	1588	0	1703	1580	0
Flt Permitted	0.549			0.482			0.715			0.738		
Satd. Flow (perm)	1037	3239	0	907	3095	0	1352	1588	0	1316	1580	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		133			3			23			52	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		47.5			132.8			150.8			63.6	
Travel Time (s)		3.4			9.6			10.9			4.6	
Confl. Peds. (#/hr)	5					5	5		5	5		5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	9%	0%	1%	16%	29%	0%	0%	5%	6%	0%	5%
Adj. Flow (vph)	64	320	151	209	331	6	17	6	23	23	12	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	471	0	209	337	0	17	29	0	23	64	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		35.0	35.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	41.0	41.0		41.0	41.0		28.0	28.0		28.0	28.0	
Total Split (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Total Split (%)	54.9%	54.9%		54.9%	54.9%		45.1%	45.1%		45.1%	45.1%	
Maximum Green (s)	39.0	39.0		39.0	39.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	5	5		5	5		5	5		5	5	
Act Effct Green (s)	43.8	43.8		43.8	43.8		13.1	13.1		13.1	13.1	
Actuated g/C Ratio	0.76	0.76		0.76	0.76		0.23	0.23		0.23	0.23	
v/c Ratio	0.08	0.19		0.30	0.14		0.06	0.08		0.08	0.16	
Control Delay	6.1	3.8		7.8	5.0		17.7	9.7		18.1	8.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	6.1	3.8		7.8	5.0		17.7	9.7		18.1	8.4	
LOS	A	A		A	A		B	A		B	A	
Approach Delay		4.1			6.1			12.7			11.0	
Approach LOS		A			A			B			B	

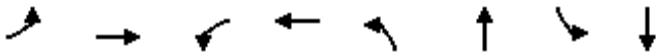
Intersection Summary

Area Type: Other
Cycle Length: 82
Actuated Cycle Length: 57.9
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.30
Intersection Signal Delay: 5.8 Intersection LOS: A
Intersection Capacity Utilization 80.7% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 11: Lyons Ln/Home Depot Dwy & Cross Ave

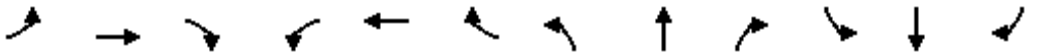


11: Lyons Ln/Home Depot Dwy & Cross Ave



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	471	209	337	17	29	23	64
v/c Ratio	0.08	0.19	0.30	0.14	0.06	0.08	0.08	0.16
Control Delay	6.1	3.8	7.8	5.0	17.7	9.7	18.1	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.1	3.8	7.8	5.0	17.7	9.7	18.1	8.4
Queue Length 50th (m)	2.3	6.6	9.1	6.5	1.5	0.6	2.1	1.1
Queue Length 95th (m)	9.5	18.4	30.8	17.6	5.3	5.3	6.5	8.0
Internal Link Dist (m)		23.5		108.8		126.8		39.6
Turn Bay Length (m)			25.0		35.0			
Base Capacity (vph)	826	2607	722	2466	755	896	734	905
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.18	0.29	0.14	0.02	0.03	0.03	0.07

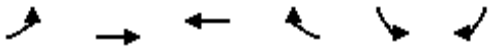
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	275	130	180	285	5	15	5	20	20	10	45
Future Volume (vph)	55	275	130	180	285	5	15	5	20	20	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	1.00		1.00	0.88		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1797	3238		1787	3096		1798	1590		1696	1582	
Flt Permitted	0.55	1.00		0.48	1.00		0.72	1.00		0.74	1.00	
Satd. Flow (perm)	1038	3238		907	3096		1354	1590		1318	1582	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	64	320	151	209	331	6	17	6	23	23	12	52
RTOR Reduction (vph)	0	41	0	0	1	0	0	20	0	0	44	0
Lane Group Flow (vph)	64	430	0	209	336	0	17	9	0	23	20	0
Confl. Peds. (#/hr)	5					5	5		5	5		5
Heavy Vehicles (%)	0%	9%	0%	1%	16%	29%	0%	0%	5%	6%	0%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	40.6	40.6		40.6	40.6		7.8	7.8		7.8	7.8	
Effective Green, g (s)	41.6	41.6		41.6	41.6		8.8	8.8		8.8	8.8	
Actuated g/C Ratio	0.69	0.69		0.69	0.69		0.15	0.15		0.15	0.15	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	714	2230		624	2132		197	231		192	230	
v/s Ratio Prot		0.13			0.11			0.01			0.01	
v/s Ratio Perm	0.06			c0.23			0.01			c0.02		
v/c Ratio	0.09	0.19		0.33	0.16		0.09	0.04		0.12	0.09	
Uniform Delay, d1	3.1	3.4		3.8	3.3		22.3	22.2		22.4	22.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.1		0.7	0.1		0.3	0.1		0.4	0.2	
Delay (s)	3.2	3.5		4.5	3.4		22.6	22.3		22.8	22.5	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		3.4			3.8			22.4			22.6	
Approach LOS		A			A			C			C	

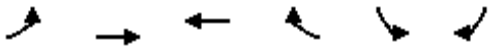
Intersection Summary			
HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	60.4	Sum of lost time (s)	10.0
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	440	345	5	50	30
Future Volume (vph)	10	440	345	5	50	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.998		0.950	
Flt Protected	0.950				0.970	
Satd. Flow (prot)	1805	3471	3251	0	1751	0
Flt Permitted	0.950				0.970	
Satd. Flow (perm)	1805	3471	3251	0	1751	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		443.3	47.5		121.4	
Travel Time (s)		31.9	3.4		8.7	
Confl. Peds. (#/hr)	5			5		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	4%	11%	0%	0%	0%
Adj. Flow (vph)	11	506	397	6	57	34
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	506	403	0	91	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

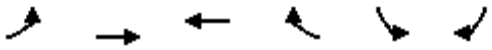
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.4%		ICU Level of Service A	
Analysis Period (min) 15			



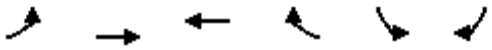
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	440	345	5	50	30
Future Volume (Veh/h)	10	440	345	5	50	30
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	11	506	397	6	57	34
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			48			
pX, platoon unblocked	0.98				0.98	0.98
vC, conflicting volume	408				680	206
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	354				632	148
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				86	96
cM capacity (veh/h)	1186				403	857

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	11	253	253	265	138	91
Volume Left	11	0	0	0	0	57
Volume Right	0	0	0	0	6	34
cSH	1186	1700	1700	1700	1700	503
Volume to Capacity	0.01	0.15	0.15	0.16	0.08	0.18
Queue Length 95th (m)	0.2	0.0	0.0	0.0	0.0	5.2
Control Delay (s)	8.1	0.0	0.0	0.0	0.0	13.7
Lane LOS	A					B
Approach Delay (s)	0.2			0.0		13.7
Approach LOS						B

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	23.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	370	875	700	40	105	315
Future Volume (vph)	370	875	700	40	105	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0			0.0	60.0	0.0
Storage Lanes	1			0	1	2
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.88
Ped Bike Factor	1.00		1.00			
Frt			0.992			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1703	3438	3414	0	1805	2561
Flt Permitted	0.309				0.950	
Satd. Flow (perm)	552	3438	3414	0	1805	2561
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			6			332
Link Speed (k/h)		50	50		50	
Link Distance (m)		209.5	575.4		443.3	
Travel Time (s)		15.1	41.4		31.9	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	5%	5%	0%	0%	11%
Adj. Flow (vph)	389	921	737	42	111	332
Shared Lane Traffic (%)						
Lane Group Flow (vph)	389	921	779	0	111	332
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		7.2	7.2		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			



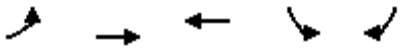
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	6.0	38.0	38.0		10.0	10.0
Minimum Split (s)	12.0	47.6	47.6		33.8	33.8
Total Split (s)	35.0	109.2	74.2		30.8	30.8
Total Split (%)	25.0%	78.0%	53.0%		22.0%	22.0%
Maximum Green (s)	29.0	102.6	67.6		25.0	25.0
Yellow Time (s)	4.0	3.7	3.7		3.3	3.3
All-Red Time (s)	2.0	2.9	2.9		2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.6	5.6		4.8	4.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Recall Mode	None	C-Min	C-Min		None	None
Walk Time (s)		10.0	10.0		10.0	10.0
Flash Dont Walk (s)		31.0	31.0		18.0	18.0
Pedestrian Calls (#/hr)		10	10		0	0
Act Effct Green (s)	115.0	114.4	93.7		15.2	15.2
Actuated g/C Ratio	0.82	0.82	0.67		0.11	0.11
v/c Ratio	0.67	0.33	0.34		0.57	0.58
Control Delay	9.2	3.7	9.8		70.1	9.7
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	9.2	3.7	9.8		70.1	9.7
LOS	A	A	A		E	A
Approach Delay		5.4	9.8		24.8	
Approach LOS		A	A		C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 10.1		Intersection LOS: B	
Intersection Capacity Utilization 75.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 13: Speers Rd/Cornwall Rd & Cross Ave

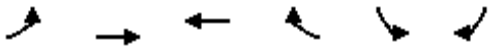


13: Speers Rd/Cornwall Rd & Cross Ave



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	389	921	779	111	332
v/c Ratio	0.67	0.33	0.34	0.57	0.58
Control Delay	9.2	3.7	9.8	70.1	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	9.2	3.7	9.8	70.1	9.7
Queue Length 50th (m)	21.0	28.3	37.3	31.3	0.0
Queue Length 95th (m)	37.4	43.8	88.7	50.3	15.6
Internal Link Dist (m)		185.5	551.4	419.3	
Turn Bay Length (m)	70.0			60.0	
Base Capacity (vph)	700	2809	2287	335	745
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.56	0.33	0.34	0.33	0.45

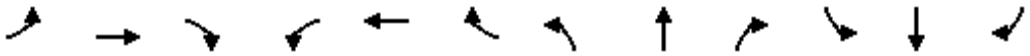
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	370	875	700	40	105	315
Future Volume (vph)	370	875	700	40	105	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		4.8	4.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1701	3438	3414		1805	2561
Flt Permitted	0.31	1.00	1.00		0.95	1.00
Satd. Flow (perm)	554	3438	3414		1805	2561
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	389	921	737	42	111	332
RTOR Reduction (vph)	0	0	2	0	0	296
Lane Group Flow (vph)	389	921	777	0	111	36
Confl. Peds. (#/hr)	15			15		
Heavy Vehicles (%)	6%	5%	5%	0%	0%	11%
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Actuated Green, G (s)	113.4	113.4	92.7		14.2	14.2
Effective Green, g (s)	114.4	114.4	93.7		15.2	15.2
Actuated g/C Ratio	0.82	0.82	0.67		0.11	0.11
Clearance Time (s)	6.0	6.6	6.6		5.8	5.8
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Lane Grp Cap (vph)	581	2809	2284		195	278
v/s Ratio Prot	c0.08	0.27	0.23			
v/s Ratio Perm	c0.47				c0.06	0.01
v/c Ratio	0.67	0.33	0.34		0.57	0.13
Uniform Delay, d1	4.6	3.2	9.9		59.3	56.4
Progression Factor	1.00	1.00	0.87		1.00	1.00
Incremental Delay, d2	3.1	0.3	0.4		3.8	0.2
Delay (s)	7.6	3.5	9.0		63.1	56.6
Level of Service	A	A	A		E	E
Approach Delay (s)		4.7	9.0		58.2	
Approach LOS		A	A		E	

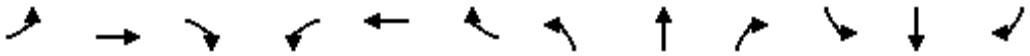
Intersection Summary			
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	80	0	5	0	200	60	10	215	0
Future Volume (vph)	0	0	0	80	0	5	0	200	60	10	215	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.992			0.965				
Flt Protected					0.955						0.998	
Satd. Flow (prot)	0	1900	0	0	1632	0	0	3382	0	0	3502	0
Flt Permitted					0.955						0.998	
Satd. Flow (perm)	0	1900	0	0	1632	0	0	3382	0	0	3502	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		33.6			124.9			420.1			134.0	
Travel Time (s)		2.4			9.0			30.2			9.6	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	11%	0%	0%	50%	3%	3%	0%	3%	0%
Adj. Flow (vph)	0	0	0	92	0	6	0	230	69	11	247	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	98	0	0	299	0	0	258	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	80	0	5	0	200	60	10	215	0
Future Volume (Veh/h)	0	0	0	80	0	5	0	200	60	10	215	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	0	0	92	0	6	0	230	69	11	247	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	390	568	124	410	534	150	247			299		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	390	568	124	410	534	150	247			299		
tC, single (s)	7.5	6.5	6.9	7.7	6.5	6.9	5.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.7			2.2		
p0 queue free %	100	100	100	82	100	99	100			99		
cM capacity (veh/h)	541	431	911	502	451	877	1029			1274		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	98	115	184	134	124
Volume Left	0	92	0	0	11	0
Volume Right	0	6	0	69	0	0
cSH	1700	515	1029	1700	1274	1700
Volume to Capacity	0.00	0.19	0.00	0.11	0.01	0.07
Queue Length 95th (m)	0.0	5.6	0.0	0.0	0.2	0.0
Control Delay (s)	0.0	13.6	0.0	0.0	0.7	0.0
Lane LOS	A	B			A	
Approach Delay (s)	0.0	13.6	0.0		0.4	
Approach LOS	A	B				

Intersection Summary				
Average Delay	2.2			
Intersection Capacity Utilization	24.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	75	70	110	175	80	25
Future Volume (vph)	75	70	110	175	80	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.935				0.968	
Flt Protected				0.981	0.963	
Satd. Flow (prot)	1714	0	0	1816	1737	0
Flt Permitted				0.981	0.963	
Satd. Flow (perm)	1714	0	0	1816	1737	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	632.0			1164.2	455.7	
Travel Time (s)	45.5			83.8	32.8	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	7%	0%	2%	3%	1%	5%
Adj. Flow (vph)	91	85	134	213	98	30
Shared Lane Traffic (%)						
Lane Group Flow (vph)	176	0	0	347	128	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

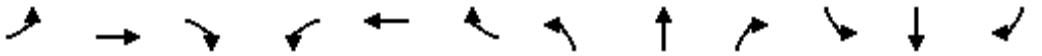
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.5%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	75	70	110	175	80	25
Future Volume (Veh/h)	75	70	110	175	80	25
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	91	85	134	213	98	30
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			176		614	134
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			176		614	134
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			90		76	97
cM capacity (veh/h)			1400		413	908

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	176	347	128
Volume Left	0	134	98
Volume Right	85	0	30
cSH	1700	1400	473
Volume to Capacity	0.10	0.10	0.27
Queue Length 95th (m)	0.0	2.5	8.7
Control Delay (s)	0.0	3.6	15.4
Lane LOS		A	C
Approach Delay (s)	0.0	3.6	15.4
Approach LOS			C

Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	39.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	740	205	40	610	35	230	75	60	35	85	25
Future Volume (vph)	25	740	205	40	610	35	230	75	60	35	85	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00		1.00	0.99		1.00		0.98
Frt		0.967			0.992			0.934				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	3350	0	1752	3440	0	1736	1745	0	1703	1881	1553
Flt Permitted	0.355			0.217			0.697			0.663		
Satd. Flow (perm)	617	3350	0	400	3440	0	1267	1745	0	1183	1881	1526
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		62			10			42				32
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			455.7	
Travel Time (s)		43.9			11.1			15.4			32.8	
Confl. Peds. (#/hr)	5					5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Adj. Flow (vph)	27	804	223	43	663	38	250	82	65	38	92	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	1027	0	43	701	0	250	147	0	38	92	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	34.5	34.5		34.5	34.5		20.0	20.0		20.0	20.0	20.0
Actuated g/C Ratio	0.54	0.54		0.54	0.54		0.31	0.31		0.31	0.31	0.31
v/c Ratio	0.08	0.56		0.20	0.38		0.64	0.26		0.10	0.16	0.05
Control Delay	9.5	11.2		12.1	9.8		28.7	14.7		18.5	18.4	6.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	9.5	11.2		12.1	9.8		28.7	14.7		18.5	18.4	6.7
LOS	A	B		B	A		C	B		B	B	A
Approach Delay		11.2			10.0			23.5			16.4	
Approach LOS		B			A			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 64.4			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 13.2		Intersection LOS: B	
Intersection Capacity Utilization 68.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 16: Chartwell Rd & Cornwall Rd



16: Chartwell Rd & Cornwall Rd



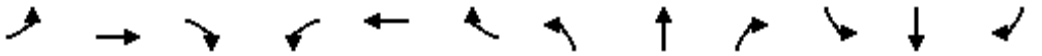
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	27	1027	43	701	250	147	38	92	27
v/c Ratio	0.08	0.56	0.20	0.38	0.64	0.26	0.10	0.16	0.05
Control Delay	9.5	11.2	12.1	9.8	28.7	14.7	18.5	18.4	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.5	11.2	12.1	9.8	28.7	14.7	18.5	18.4	6.7
Queue Length 50th (m)	1.4	36.4	2.4	23.0	25.0	9.0	3.2	7.8	0.0
Queue Length 95th (m)	6.4	74.2	10.4	47.5	61.7	27.0	11.6	22.2	4.9
Internal Link Dist (m)		585.1		130.4		189.6		431.7	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	547	2976	354	3050	654	922	611	972	804
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.35	0.12	0.23	0.38	0.16	0.06	0.09	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	740	205	40	610	35	230	75	60	35	85	25
Future Volume (vph)	25	740	205	40	610	35	230	75	60	35	85	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.99		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1652	3351		1752	3440		1730	1746		1698	1881	1529
Flt Permitted	0.36	1.00		0.22	1.00		0.70	1.00		0.66	1.00	1.00
Satd. Flow (perm)	618	3351		400	3440		1270	1746		1186	1881	1529
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	804	223	43	663	38	250	82	65	38	92	27
RTOR Reduction (vph)	0	28	0	0	5	0	0	29	0	0	0	19
Lane Group Flow (vph)	27	999	0	43	696	0	250	118	0	38	92	8
Confl. Peds. (#/hr)	5					5	5		5	5		5
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	33.5	33.5		33.5	33.5		18.9	18.9		18.9	18.9	18.9
Effective Green, g (s)	34.5	34.5		34.5	34.5		19.9	19.9		19.9	19.9	19.9
Actuated g/C Ratio	0.54	0.54		0.54	0.54		0.31	0.31		0.31	0.31	0.31
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	334	1812		216	1860		396	544		369	586	476
v/s Ratio Prot		c0.30			0.20			0.07			0.05	
v/s Ratio Perm	0.04			0.11			c0.20			0.03		0.01
v/c Ratio	0.08	0.55		0.20	0.37		0.63	0.22		0.10	0.16	0.02
Uniform Delay, d1	7.0	9.6		7.5	8.4		18.8	16.2		15.6	15.9	15.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.3	0.7		1.1	0.3		3.7	0.3		0.2	0.2	0.0
Delay (s)	7.3	10.3		8.7	8.7		22.5	16.5		15.8	16.1	15.2
Level of Service	A	B		A	A		C	B		B	B	B
Approach Delay (s)		10.2			8.7			20.3			15.8	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	63.8	Sum of lost time (s)	9.4
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

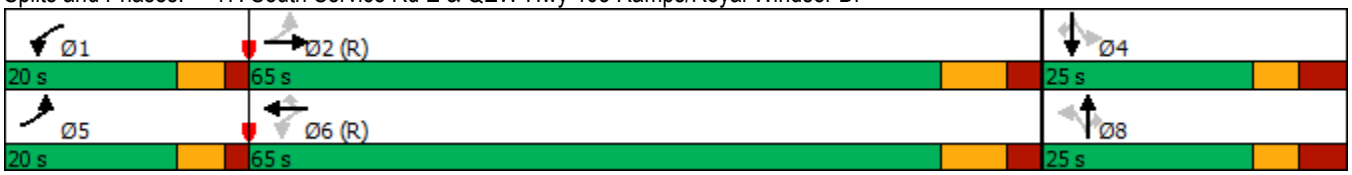


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	735	80	170	650	0	5	20	90	0	60	15
Future Volume (vph)	65	735	80	170	650	0	5	20	90	0	60	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	125.0		0.0	145.0		55.0	15.0		40.0	35.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985							0.850			0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3213	3364	0	1787	3312	1900	1805	1900	1455	1900	1863	1122
Flt Permitted	0.389			0.278			0.715					
Satd. Flow (perm)	1315	3364	0	523	3312	1900	1358	1900	1455	1900	1863	1122
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16							113			113
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		232.7			227.3			1164.2			153.5	
Travel Time (s)		16.8			16.4			83.8			11.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	9%	6%	3%	1%	9%	0%	0%	0%	11%	0%	2%	44%
Adj. Flow (vph)	69	782	85	181	691	0	5	21	96	0	64	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	69	867	0	181	691	0	5	21	96	0	64	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	8.0	20.0		8.0	20.0	20.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	14.0	28.4		14.0	28.4	28.4	17.8	17.8	17.8	17.8	17.8	17.8
Total Split (s)	20.0	65.0		20.0	65.0	65.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	18.2%	59.1%		18.2%	59.1%	59.1%	22.7%	22.7%	22.7%	22.7%	22.7%	22.7%
Maximum Green (s)	14.0	56.6		14.0	56.6	56.6	17.2	17.2	17.2	17.2	17.2	17.2
Yellow Time (s)	4.0	5.4		4.0	5.4	5.4	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.0	3.0		2.0	3.0	3.0	4.1	4.1	4.1	4.1	4.1	4.1
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	79.4	68.0		84.6	73.0		11.6	11.6	11.6		11.6	11.6
Actuated g/C Ratio	0.72	0.62		0.77	0.66		0.11	0.11	0.11		0.11	0.11
v/c Ratio	0.06	0.42		0.34	0.31		0.04	0.10	0.38		0.33	0.07
Control Delay	3.2	11.8		4.7	9.0		44.2	45.4	10.4		50.1	0.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	3.2	11.8		4.7	9.0		44.2	45.4	10.4		50.1	0.7
LOS	A	B		A	A		D	D	B		D	A
Approach Delay		11.1			8.1			17.8			40.2	
Approach LOS		B			A			B			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.42			
Intersection Signal Delay: 11.4		Intersection LOS: B	
Intersection Capacity Utilization 56.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr

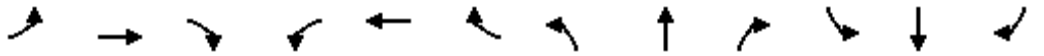


17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	69	867	181	691	5	21	96	64	16
v/c Ratio	0.06	0.42	0.34	0.31	0.04	0.10	0.38	0.33	0.07
Control Delay	3.2	11.8	4.7	9.0	44.2	45.4	10.4	50.1	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.2	11.8	4.7	9.0	44.2	45.4	10.4	50.1	0.7
Queue Length 50th (m)	1.3	46.5	7.5	33.8	1.1	4.4	0.0	13.7	0.0
Queue Length 95th (m)	3.0	71.5	14.1	47.3	4.7	12.0	11.7	27.0	0.0
Internal Link Dist (m)		208.7		203.3		1140.2		129.5	
Turn Bay Length (m)	125.0		145.0		15.0		40.0		
Base Capacity (vph)	1274	2085	584	2197	224	314	335	308	279
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.42	0.31	0.31	0.02	0.07	0.29	0.21	0.06

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	735	80	170	650	0	5	20	90	0	60	15
Future Volume (vph)	65	735	80	170	650	0	5	20	90	0	60	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.4		5.0	7.4		6.8	6.8	6.8		6.8	6.8
Lane Util. Factor	0.97	0.95		1.00	0.95		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	3213	3365		1787	3312		1805	1900	1455		1863	1122
Flt Permitted	0.39	1.00		0.28	1.00		0.72	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1315	3365		524	3312		1359	1900	1455		1863	1122
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	69	782	85	181	691	0	5	21	96	0	64	16
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	86	0	0	14
Lane Group Flow (vph)	69	861	0	181	691	0	5	21	10	0	64	2
Heavy Vehicles (%)	9%	6%	3%	1%	9%	0%	0%	0%	11%	0%	2%	44%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	73.4	67.0		81.0	70.8		10.6	10.6	10.6		10.6	10.6
Effective Green, g (s)	75.4	68.0		83.0	71.8		11.6	11.6	11.6		11.6	11.6
Actuated g/C Ratio	0.69	0.62		0.75	0.65		0.11	0.11	0.11		0.11	0.11
Clearance Time (s)	6.0	8.4		6.0	8.4		7.8	7.8	7.8		7.8	7.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	1029	2080		523	2161		143	200	153		196	118
v/s Ratio Prot	0.00	c0.26		c0.04	0.21			0.01			c0.03	
v/s Ratio Perm	0.04			0.23			0.00		0.01			0.00
v/c Ratio	0.07	0.41		0.35	0.32		0.03	0.10	0.07		0.33	0.01
Uniform Delay, d1	5.6	10.8		4.4	8.4		44.2	44.5	44.3		45.6	44.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.6		0.4	0.4		0.1	0.2	0.2		1.0	0.0
Delay (s)	5.6	11.4		4.8	8.8		44.3	44.7	44.5		46.6	44.1
Level of Service	A	B		A	A		D	D	D		D	D
Approach Delay (s)		11.0			8.0			44.5			46.1	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	115	175	0	25	35	0
Future Volume (vph)	115	175	0	25	35	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.919					
Flt Protected					0.950	
Satd. Flow (prot)	1712	0	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1712	0	0	1863	1770	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	64.3			219.4	105.4	
Travel Time (s)	4.6			15.8	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	190	0	27	38	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	315	0	0	27	38	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	115	175	0	25	35	0
Future Volume (Veh/h)	115	175	0	25	35	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	125	190	0	27	38	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			315		247	220
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			315		247	220
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		95	100
cM capacity (veh/h)			1245		741	820

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	315	27	38
Volume Left	0	0	38
Volume Right	190	0	0
cSH	1700	1245	741
Volume to Capacity	0.19	0.00	0.05
Queue Length 95th (m)	0.0	0.0	1.3
Control Delay (s)	0.0	0.0	10.1
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.1
Approach LOS			B

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	26.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	115	0	35	25	0	175
Future Volume (vph)	115	0	35	25	0	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.972		
Satd. Flow (prot)	1863	0	0	1811	1611	0
Flt Permitted				0.972		
Satd. Flow (perm)	1863	0	0	1811	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	53.7			64.3	43.5	
Travel Time (s)	3.9			4.6	3.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	0	38	27	0	190
Shared Lane Traffic (%)						
Lane Group Flow (vph)	125	0	0	65	190	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

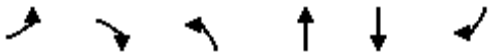
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	115	0	35	25	0	175
Future Volume (Veh/h)	115	0	35	25	0	175
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	125	0	38	27	0	190
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			125		228	125
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			125		228	125
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	79
cM capacity (veh/h)			1462		740	926

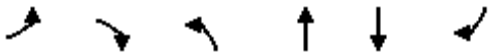
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	125	65	190
Volume Left	0	38	0
Volume Right	0	0	190
cSH	1700	1462	926
Volume to Capacity	0.07	0.03	0.21
Queue Length 95th (m)	0.0	0.6	6.1
Control Delay (s)	0.0	4.5	9.9
Lane LOS		A	A
Approach Delay (s)	0.0	4.5	9.9
Approach LOS			A

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	27.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	175	35	35	175	0
Future Volume (vph)	0	175	35	35	175	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.976		
Satd. Flow (prot)	1611	0	0	1818	1863	0
Flt Permitted				0.976		
Satd. Flow (perm)	1611	0	0	1818	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	49.0			201.6	105.4	
Travel Time (s)	3.5			14.5	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	190	38	38	190	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	190	0	0	76	190	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	175	35	35	175	0
Future Volume (Veh/h)	0	175	35	35	175	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	190	38	38	190	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				201		
pX, platoon unblocked						
vC, conflicting volume	304	190	190			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	304	190	190			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	78	97			
cM capacity (veh/h)	669	852	1384			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	190	76	190
Volume Left	0	38	0
Volume Right	190	0	0
cSH	852	1384	1700
Volume to Capacity	0.22	0.03	0.11
Queue Length 95th (m)	6.8	0.7	0.0
Control Delay (s)	10.4	3.9	0.0
Lane LOS	B	A	
Approach Delay (s)	10.4	3.9	0.0
Approach LOS	B		

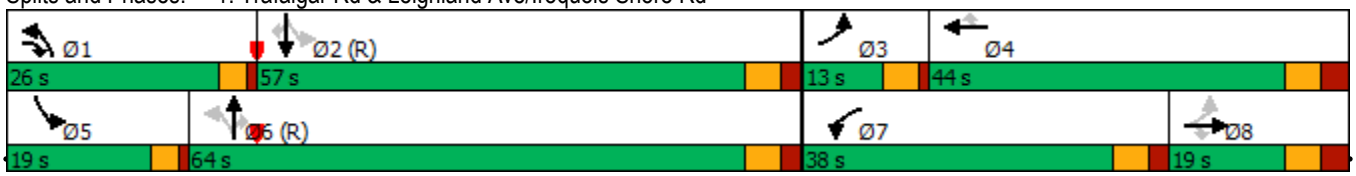
Intersection Summary			
Average Delay	5.0		
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	135	280	765	175	285	295	2115	875	130	1490	115
Future Volume (vph)	100	135	280	765	175	285	295	2115	875	130	1490	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.95					0.92			0.97			0.87
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1881	1599	3467	1881	1615	1787	5136	1599	1805	5085	1615
Flt Permitted	0.644			0.950			0.071			0.075		
Satd. Flow (perm)	1161	1881	1599	3467	1881	1485	134	5136	1543	142	5085	1399
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			166			551			173
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			521.8			275.4			339.2	
Travel Time (s)		27.7			37.6			19.8			24.4	
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Adj. Flow (vph)	103	139	289	789	180	294	304	2180	902	134	1536	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	139	289	789	180	294	304	2180	902	134	1536	119
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

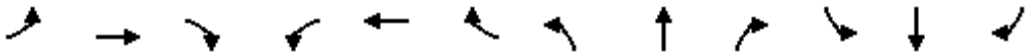
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	11.0	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	13.0	19.0	26.0	38.0	44.0	44.0	26.0	64.0	64.0	19.0	57.0	57.0
Total Split (%)	9.3%	13.6%	18.6%	27.1%	31.4%	31.4%	18.6%	45.7%	45.7%	13.6%	40.7%	40.7%
Maximum Green (s)	8.3	12.2	22.0	32.3	37.2	37.2	22.0	57.9	57.9	15.0	50.9	50.9
Yellow Time (s)	3.7	3.7	3.0	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	1.0	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					30	30		50	50		50	50
Act Effct Green (s)	24.1	12.9	40.8	33.3	38.1	38.1	80.3	62.9	62.9	67.5	53.1	53.1
Actuated g/C Ratio	0.17	0.09	0.29	0.24	0.27	0.27	0.57	0.45	0.45	0.48	0.38	0.38
v/c Ratio	0.43	0.80	0.54	0.96	0.35	0.56	0.90	0.94	0.91	0.63	0.80	0.19
Control Delay	37.6	93.5	29.6	75.1	43.4	22.9	52.5	20.8	9.9	40.1	42.7	1.5
Queue Delay	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	19.0	0.0	0.1	0.0
Total Delay	37.6	93.5	30.2	75.1	43.4	22.9	52.5	20.8	28.9	40.1	42.8	1.5
LOS	D	F	C	E	D	C	D	C	C	D	D	A
Approach Delay		48.2			58.4			25.8			39.9	
Approach LOS		D			E			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 37.0		Intersection LOS: D	
Intersection Capacity Utilization 95.6%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd

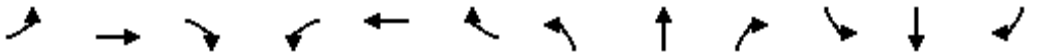


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	103	139	289	789	180	294	304	2180	902	134	1536	119
v/c Ratio	0.43	0.80	0.54	0.96	0.35	0.56	0.90	0.94	0.91	0.63	0.80	0.19
Control Delay	37.6	93.5	29.6	75.1	43.4	22.9	52.5	20.8	9.9	40.1	42.7	1.5
Queue Delay	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	19.0	0.0	0.1	0.0
Total Delay	37.6	93.5	30.2	75.1	43.4	22.9	52.5	20.8	28.9	40.1	42.8	1.5
Queue Length 50th (m)	19.6	40.3	44.2	117.8	42.4	31.2	64.1	175.0	56.5	20.4	147.1	0.0
Queue Length 95th (m)	33.5	#75.2	74.6	#158.5	65.1	62.7	m61.5	m190.3	m103.4	42.4	167.2	3.0
Internal Link Dist (m)		361.1			497.8			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	244	177	550	824	513	525	348	2307	996	262	1929	638
Starvation Cap Reductn	0	0	0	0	0	0	0	0	117	0	0	0
Spillback Cap Reductn	0	0	70	0	0	0	0	0	0	0	33	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.79	0.60	0.96	0.35	0.56	0.87	0.94	1.03	0.51	0.81	0.19

Intersection Summary

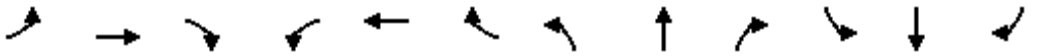
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	135	280	765	175	285	295	2115	875	130	1490	115
Future Volume (vph)	100	135	280	765	175	285	295	2115	875	130	1490	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.92	1.00	1.00	0.97	1.00	1.00	0.87
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1747	1881	1599	3467	1881	1485	1787	5136	1543	1805	5085	1399
Flt Permitted	0.64	1.00	1.00	0.95	1.00	1.00	0.07	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	1184	1881	1599	3467	1881	1485	134	5136	1543	143	5085	1399
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	103	139	289	789	180	294	304	2180	902	134	1536	119
RTOR Reduction (vph)	0	0	79	0	0	121	0	0	303	0	0	74
Lane Group Flow (vph)	103	139	210	789	180	173	304	2180	599	134	1536	45
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	20.0	11.9	33.0	32.3	37.1	37.1	77.2	61.9	61.9	63.4	52.1	52.1
Effective Green, g (s)	22.0	12.9	35.0	33.3	38.1	38.1	78.2	62.9	62.9	65.4	53.1	53.1
Actuated g/C Ratio	0.16	0.09	0.25	0.24	0.27	0.27	0.56	0.45	0.45	0.47	0.38	0.38
Clearance Time (s)	4.7	6.8	4.0	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	222	173	399	824	511	404	335	2307	693	212	1928	530
v/s Ratio Prot	0.03	c0.07	0.08	c0.23	0.10		c0.14	c0.42		0.06	0.30	
v/s Ratio Perm	0.04		0.05			0.12	0.36		0.39	0.24		0.03
v/c Ratio	0.46	0.80	0.53	0.96	0.35	0.43	0.91	0.94	0.86	0.63	0.80	0.09
Uniform Delay, d1	52.8	62.3	45.3	52.7	41.0	42.0	43.4	36.9	34.7	30.2	38.6	27.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.24	0.50	0.53	1.00	1.00	1.00
Incremental Delay, d2	1.5	23.0	1.3	21.4	0.4	0.7	3.7	1.2	1.4	6.0	3.5	0.3
Delay (s)	54.4	85.3	46.6	74.0	41.4	42.7	57.6	19.5	19.8	36.2	42.2	28.2
Level of Service	D	F	D	E	D	D	E	B	B	D	D	C
Approach Delay (s)		58.2			62.1			23.0			40.8	
Approach LOS		E			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	37.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

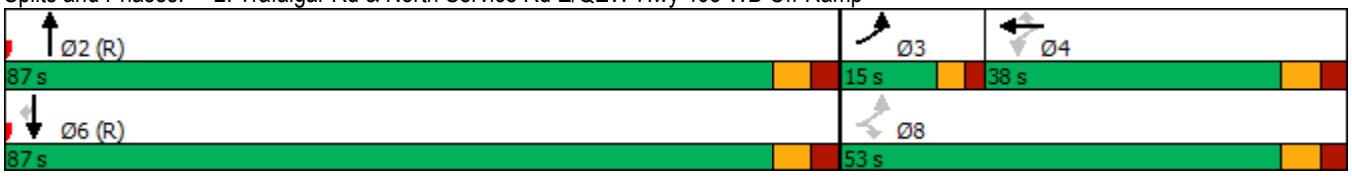


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	270	610	5	395	0	3065	0	0	2715	15
Future Volume (vph)	25	0	270	610	5	395	0	3065	0	0	2715	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.94
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.953							
Satd. Flow (prot)	1805	0	1599	1681	1687	1583	0	5136	0	0	5036	1524
Flt Permitted	0.212			0.950	0.953							
Satd. Flow (perm)	403	0	1599	1681	1687	1583	0	5136	0	0	5036	1437
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			95						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							15		10	10		15
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Adj. Flow (vph)	27	0	287	649	5	420	0	3261	0	0	2888	16
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	27	0	287	324	330	420	0	3261	0	0	2888	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

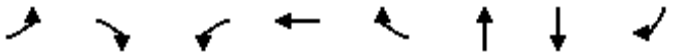
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	15.0		53.0	38.0	38.0	38.0		87.0			87.0	87.0
Total Split (%)	10.7%		37.9%	27.1%	27.1%	27.1%		62.1%			62.1%	62.1%
Maximum Green (s)	10.0		46.0	31.0	31.0	31.0		80.0			80.0	80.0
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		15			15	15
Act Effct Green (s)	44.4		42.4	33.9	33.9	33.9		85.6			85.6	85.6
Actuated g/C Ratio	0.32		0.30	0.24	0.24	0.24		0.61			0.61	0.61
v/c Ratio	0.12		0.57	0.80	0.81	0.92		1.04			0.94	0.02
Control Delay	32.0		40.3	65.4	66.3	66.7		42.3			38.8	0.0
Queue Delay	0.0		0.0	0.0	0.0	0.0		3.2			0.0	0.0
Total Delay	32.0		40.3	65.4	66.3	66.7		45.5			38.8	0.0
LOS	C		D	E	E	E		D			D	A
Approach Delay		39.6			66.2			45.5			38.6	
Approach LOS		D			E			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay: 45.5		Intersection LOS: D	
Intersection Capacity Utilization 101.2%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp



2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp



Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	27	287	324	330	420	3261	2888	16
v/c Ratio	0.12	0.57	0.80	0.81	0.92	1.04	0.94	0.02
Control Delay	32.0	40.3	65.4	66.3	66.7	42.3	38.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0
Total Delay	32.0	40.3	65.4	66.3	66.7	45.5	38.8	0.0
Queue Length 50th (m)	5.2	59.8	94.2	96.2	97.0	~389.7	251.6	0.0
Queue Length 95th (m)	12.3	89.6	#149.4	#153.5	#168.2	#414.2	#337.2	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	238	557	407	408	455	3140	3079	905
Starvation Cap Reductn	0	0	0	0	0	4	0	0
Spillback Cap Reductn	0	0	0	0	0	24	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.52	0.80	0.81	0.92	1.05	0.94	0.02

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

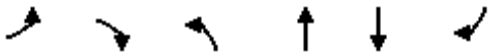
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

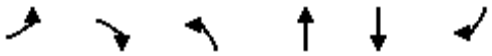
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	270	610	5	395	0	3065	0	0	2715	15
Future Volume (vph)	25	0	270	610	5	395	0	3065	0	0	2715	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.94
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1681	1687	1583		5136			5036	1437
Flt Permitted	0.21		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	402		1599	1681	1687	1583		5136			5036	1437
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	27	0	287	649	5	420	0	3261	0	0	2888	16
RTOR Reduction (vph)	0	0	21	0	0	72	0	0	0	0	0	6
Lane Group Flow (vph)	27	0	266	324	330	348	0	3261	0	0	2888	10
Confl. Peds. (#/hr)							15		10	10		15
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	43.4		43.4	32.9	32.9	32.9		82.6			82.6	82.6
Effective Green, g (s)	44.4		44.4	33.9	33.9	33.9		83.6			83.6	83.6
Actuated g/C Ratio	0.32		0.32	0.24	0.24	0.24		0.60			0.60	0.60
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	192		507	407	408	383		3066			3007	858
v/s Ratio Prot	0.01							c0.63			0.57	
v/s Ratio Perm	0.04		c0.17	0.19	0.20	c0.22						0.01
v/c Ratio	0.14		0.52	0.80	0.81	0.91		1.06			0.96	0.01
Uniform Delay, d1	35.1		39.2	49.8	50.0	51.5		28.2			26.6	11.4
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.65			1.33	1.00
Incremental Delay, d2	0.6		1.1	10.3	11.2	24.6		32.5			6.9	0.0
Delay (s)	35.7		40.3	60.1	61.2	76.1		50.9			42.4	11.5
Level of Service	D		D	E	E	E		D			D	B
Approach Delay (s)		39.9			66.7			50.9			42.2	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	49.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	101.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



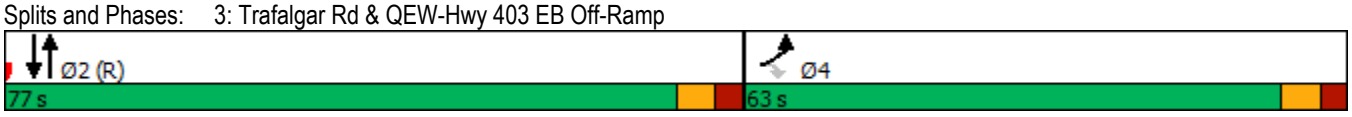
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1170	530	0	2210	2220	0
Future Volume (vph)	1170	530	0	2210	2220	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3467	1583	0	5085	5085	0
Flt Permitted	0.950					
Satd. Flow (perm)	3467	*1800	0	5085	5085	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		1				
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			45.3	331.3	
Travel Time (s)	15.4			3.3	23.9	
Confl. Peds. (#/hr)			25			25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Adj. Flow (vph)	1232	558	0	2326	2337	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1232	558	0	2326	2337	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	63.0	63.0		77.0	77.0	
Total Split (%)	45.0%	45.0%		55.0%	55.0%	
Maximum Green (s)	56.0	56.0		70.0	70.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		15	15	
Act Effct Green (s)	55.3	55.3		72.7	72.7	
Actuated g/C Ratio	0.40	0.40		0.52	0.52	
v/c Ratio	0.90	0.78		0.88	0.88	
Control Delay	49.6	46.0		33.6	29.8	
Queue Delay	0.0	0.0		30.6	0.0	
Total Delay	49.6	46.0		64.2	29.8	
LOS	D	D		E	C	
Approach Delay	48.5			64.2	29.8	
Approach LOS	D			E	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 47.4		Intersection LOS: D	
Intersection Capacity Utilization 86.3%		ICU Level of Service E	
Analysis Period (min) 15			
* User Entered Value			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



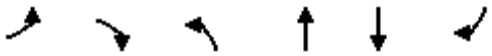
3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	1232	558	2326	2337
v/c Ratio	0.90	0.78	0.88	0.88
Control Delay	49.6	46.0	33.6	29.8
Queue Delay	0.0	0.0	30.6	0.0
Total Delay	49.6	46.0	64.2	29.8
Queue Length 50th (m)	168.5	138.2	229.7	185.3
Queue Length 95th (m)	200.6	186.8	m179.1	216.0
Internal Link Dist (m)	190.2		21.3	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1411	733	2641	2641
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	453	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.87	0.76	1.06	0.88

Intersection Summary

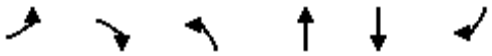
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1170	530	0	2210	2220	0
Future Volume (vph)	1170	530	0	2210	2220	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3467	1583		5085	5085	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3467	1800		5085	5085	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1232	558	0	2326	2337	0
RTOR Reduction (vph)	0	1	0	0	0	0
Lane Group Flow (vph)	1232	557	0	2326	2337	0
Confl. Peds. (#/hr)			25			25
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	54.3	54.3		71.7	71.7	
Effective Green, g (s)	55.3	55.3		72.7	72.7	
Actuated g/C Ratio	0.39	0.39		0.52	0.52	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1369	711		2640	2640	
v/s Ratio Prot	c0.36			0.46	c0.46	
v/s Ratio Perm		0.31				
v/c Ratio	0.90	0.78		0.88	0.89	
Uniform Delay, d1	39.8	37.1		29.8	29.9	
Progression Factor	1.00	1.00		1.01	0.90	
Incremental Delay, d2	8.2	5.7		2.7	2.2	
Delay (s)	48.0	42.8		32.9	29.2	
Level of Service	D	D		C	C	
Approach Delay (s)	46.4			32.9	29.2	
Approach LOS	D			C	C	

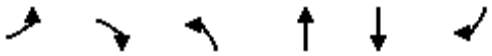
Intersection Summary			
HCM 2000 Control Delay	35.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	60	0	2275	2055	680
Future Volume (vph)	0	60	0	2275	2055	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.963	
Flt Protected						
Satd. Flow (prot)	0	1522	0	5085	4897	0
Flt Permitted						
Satd. Flow (perm)	0	1522	0	5085	4897	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	144.9			271.4	45.3	
Travel Time (s)	10.4			19.5	3.3	
Confl. Peds. (#/hr)			20			20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	8%	0%	2%	1%	5%
Adj. Flow (vph)	0	64	0	2420	2186	723
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	64	0	2420	2909	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

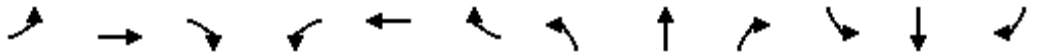
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 65.8%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	60	0	2275	2055	680
Future Volume (Veh/h)	0	60	0	2275	2055	680
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	64	0	2420	2186	723
Pedestrians	20					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	2					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				271	45	
pX, platoon unblocked	0.70	0.59	0.59			
vC, conflicting volume	3374	1110	2929			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	768	0	1820			
tC, single (s)	6.8	7.1	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	100	90	100			
cM capacity (veh/h)	234	614	197			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	64	807	807	807	874	874	1160
Volume Left	0	0	0	0	0	0	0
Volume Right	64	0	0	0	0	0	723
cSH	614	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.10	0.47	0.47	0.47	0.51	0.51	0.68
Queue Length 95th (m)	2.8	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	11.5	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	11.5	0.0			0.0		
Approach LOS	B						

Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	65.8%	ICU Level of Service	C	
Analysis Period (min)	15			

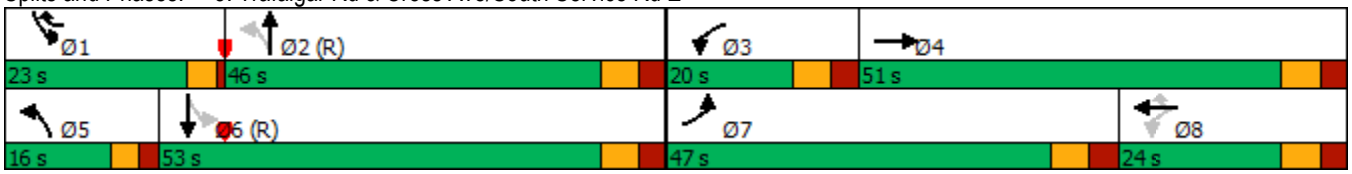


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	950	80	120	65	110	275	140	1250	30	150	1490	390
Future Volume (vph)	950	80	120	65	110	275	140	1250	30	150	1490	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		0.0	50.0		0.0	120.0		0.0	55.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.98		0.98				1.00			0.99	
Frt		0.910				0.850		0.996			0.969	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	1633	0	1805	1900	1599	1719	5112	0	1752	4949	0
Flt Permitted	0.950			0.629			0.085			0.082		
Satd. Flow (perm)	3400	1633	0	1174	1900	1599	154	5112	0	151	4949	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		57				140		2			51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		217.0			420.1			277.9			271.4	
Travel Time (s)		15.6			30.2			20.0			19.5	
Confl. Peds. (#/hr)			20	20			15		15	15		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Adj. Flow (vph)	979	82	124	67	113	284	144	1289	31	155	1536	402
Shared Lane Traffic (%)												
Lane Group Flow (vph)	979	206	0	67	113	284	144	1320	0	155	1938	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		12.0	10.0	7.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0		19.0	17.0	11.0	12.0	34.0		11.0	34.0	
Total Split (s)	47.0	51.0		20.0	24.0	23.0	16.0	46.0		23.0	53.0	
Total Split (%)	33.6%	36.4%		14.3%	17.1%	16.4%	11.4%	32.9%		16.4%	37.9%	
Maximum Green (s)	40.0	44.0		13.0	17.0	19.0	11.0	39.0		19.0	46.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	1.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0						7.0			7.0	
Flash Dont Walk (s)		28.0						20.0			20.0	
Pedestrian Calls (#/hr)		10						15			15	
Act Effct Green (s)	41.0	46.9		28.1	15.1	35.4	62.5	48.6		66.4	50.0	
Actuated g/C Ratio	0.29	0.34		0.20	0.11	0.25	0.45	0.35		0.47	0.36	
v/c Ratio	0.98	0.35		0.23	0.55	0.56	0.72	0.74		0.66	1.08	
Control Delay	73.8	27.6		28.2	69.1	25.7	50.2	44.1		47.5	89.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	73.8	27.6		28.2	69.1	25.7	50.2	44.1		47.5	89.9	
LOS	E	C		C	E	C	D	D		D	F	
Approach Delay		65.8			36.6			44.7			86.7	
Approach LOS		E			D			D			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 65.7		Intersection LOS: E	
Intersection Capacity Utilization 99.3%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 5: Trafalgar Rd & Cross Ave/South Service Rd E



5: Trafalgar Rd & Cross Ave/South Service Rd E



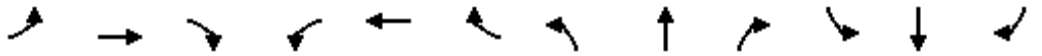
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	979	206	67	113	284	144	1320	155	1938
v/c Ratio	0.98	0.35	0.23	0.55	0.56	0.72	0.74	0.66	1.08
Control Delay	73.8	27.6	28.2	69.1	25.7	50.2	44.1	47.5	89.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.8	27.6	28.2	69.1	25.7	50.2	44.1	47.5	89.9
Queue Length 50th (m)	146.4	33.4	11.0	31.6	36.1	32.9	101.2	35.6	~230.8
Queue Length 95th (m)	#192.6	55.3	20.1	51.9	61.4	m43.2	m134.8	m43.3	#265.8
Internal Link Dist (m)		193.0		396.1			253.9		247.4
Turn Bay Length (m)	130.0		50.0			120.0		55.0	
Base Capacity (vph)	995	596	307	244	568	207	1777	302	1799
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.35	0.22	0.46	0.50	0.70	0.74	0.51	1.08

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

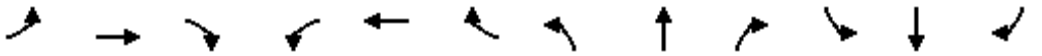
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	950	80	120	65	110	275	140	1250	30	150	1490	390
Future Volume (vph)	950	80	120	65	110	275	140	1250	30	150	1490	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.98		1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3400	1633		1785	1900	1599	1719	5115		1752	4948	
Flt Permitted	0.95	1.00		0.63	1.00	1.00	0.08	1.00		0.08	1.00	
Satd. Flow (perm)	3400	1633		1181	1900	1599	153	5115		152	4948	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	979	82	124	67	113	284	144	1289	31	155	1536	402
RTOR Reduction (vph)	0	38	0	0	0	109	0	1	0	0	33	0
Lane Group Flow (vph)	979	168	0	67	113	175	144	1319	0	155	1905	0
Confl. Peds. (#/hr)			20	20			15		15	15		15
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Actuated Green, G (s)	40.0	45.9		25.1	15.5	28.7	57.2	46.3		60.8	47.6	
Effective Green, g (s)	41.0	46.9		27.1	16.5	30.7	59.2	47.3		62.8	48.6	
Actuated g/C Ratio	0.29	0.33		0.19	0.12	0.22	0.42	0.34		0.45	0.35	
Clearance Time (s)	7.0	7.0		7.0	7.0	4.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	995	547		274	223	350	197	1728		230	1717	
v/s Ratio Prot	c0.29	0.10		0.02	c0.06	0.05	0.06	0.26		c0.07	c0.38	
v/s Ratio Perm				0.03		0.06	0.25			0.23		
v/c Ratio	0.98	0.31		0.24	0.51	0.50	0.73	0.76		0.67	1.11	
Uniform Delay, d1	49.2	34.5		47.3	57.9	47.9	32.7	41.4		29.1	45.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.34	1.03		1.45	1.21	
Incremental Delay, d2	24.5	0.4		0.6	2.5	1.1	7.1	1.7		4.1	54.3	
Delay (s)	73.6	34.9		47.8	60.4	49.0	51.1	44.4		46.4	109.7	
Level of Service	E	C		D	E	D	D	D		D	F	
Approach Delay (s)		66.9			51.6			45.0			105.0	
Approach LOS		E			D			D			F	

Intersection Summary			
HCM 2000 Control Delay	74.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	99.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

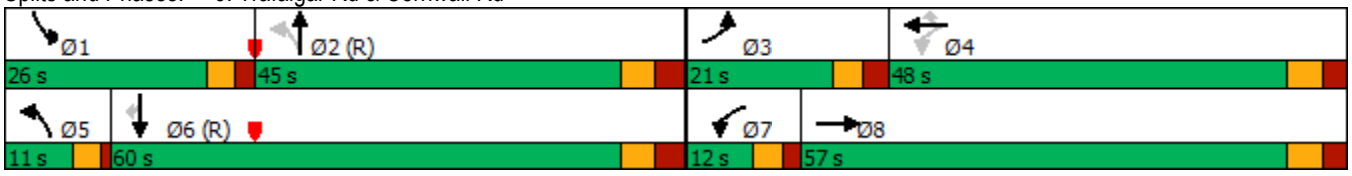


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	480	45	55	605	615	60	595	60	495	645	300
Future Volume (vph)	360	480	45	55	605	615	60	595	60	495	645	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.97	1.00		0.99		0.93	1.00	1.00		0.98		0.98
Frt		0.987				0.850		0.986				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	3487	0	1805	3539	1583	1770	3548	0	3433	1881	1553
Flt Permitted	0.950			0.448			0.123			0.950		
Satd. Flow (perm)	3378	3487	0	842	3539	1470	228	3548	0	3379	1881	1516
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				313		8				214
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			277.9	
Travel Time (s)		41.4			45.2			10.0			20.0	
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Adj. Flow (vph)	371	495	46	57	624	634	62	613	62	510	665	309
Shared Lane Traffic (%)												
Lane Group Flow (vph)	371	541	0	57	624	634	62	675	0	510	665	309
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

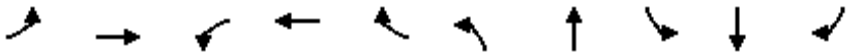
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	21.0	57.0		12.0	48.0	48.0	11.0	45.0		26.0	60.0	60.0
Total Split (%)	15.0%	40.7%		8.6%	34.3%	34.3%	7.9%	32.1%		18.6%	42.9%	42.9%
Maximum Green (s)	15.3	50.6		7.0	41.6	41.6	7.0	38.1		21.0	53.1	53.1
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		30			30	30		15			15	15
Act Effct Green (s)	16.6	53.3		51.0	41.6	41.6	50.3	39.4		22.4	57.0	57.0
Actuated g/C Ratio	0.12	0.38		0.36	0.30	0.30	0.36	0.28		0.16	0.41	0.41
v/c Ratio	0.90	0.41		0.16	0.59	0.97	0.37	0.67		0.93	0.87	0.42
Control Delay	85.6	36.3		22.6	44.6	52.1	27.2	48.1		87.5	42.2	15.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	85.6	36.3		22.6	44.6	52.1	27.2	48.1		87.5	42.2	15.4
LOS	F	D		C	D	D	C	D		F	D	B
Approach Delay		56.4			47.2			46.3			52.2	
Approach LOS		E			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 50.6		Intersection LOS: D	
Intersection Capacity Utilization 94.5%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd



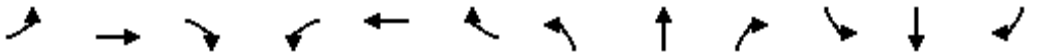
6: Trafalgar Rd & Cornwall Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	371	541	57	624	634	62	675	510	665	309
v/c Ratio	0.90	0.41	0.16	0.59	0.97	0.37	0.67	0.93	0.87	0.42
Control Delay	85.6	36.3	22.6	44.6	52.1	27.2	48.1	87.5	42.2	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.6	36.3	22.6	44.6	52.1	27.2	48.1	87.5	42.2	15.4
Queue Length 50th (m)	56.5	63.3	9.0	81.0	107.3	9.4	91.3	81.5	104.1	27.0
Queue Length 95th (m)	#87.1	82.3	17.6	101.5	#191.6	18.1	114.0	m78.2	m101.3	m26.5
Internal Link Dist (m)		551.4		604.3			115.4		253.9	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	410	1332	361	1076	665	169	1003	550	765	744
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.41	0.16	0.58	0.95	0.37	0.67	0.93	0.87	0.42

Intersection Summary

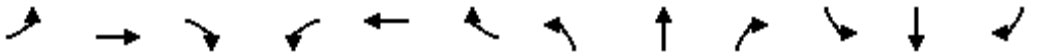
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	480	45	55	605	615	60	595	60	495	645	300
Future Volume (vph)	360	480	45	55	605	615	60	595	60	495	645	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.93	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3467	3487		1797	3539	1470	1769	3549		3433	1881	1516
Flt Permitted	0.95	1.00		0.45	1.00	1.00	0.12	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3467	3487		848	3539	1470	228	3549		3433	1881	1516
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	371	495	46	57	624	634	62	613	62	510	665	309
RTOR Reduction (vph)	0	5	0	0	0	218	0	6	0	0	0	130
Lane Group Flow (vph)	371	536	0	57	624	416	62	669	0	510	665	179
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	15.6	52.3		47.2	41.6	41.6	43.0	37.4		21.4	54.2	54.2
Effective Green, g (s)	16.6	53.3		49.2	42.6	42.6	45.0	38.4		22.4	55.2	55.2
Actuated g/C Ratio	0.12	0.38		0.35	0.30	0.30	0.32	0.27		0.16	0.39	0.39
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Lane Grp Cap (vph)	411	1327		342	1076	447	145	973		549	741	597
v/s Ratio Prot	c0.11	0.15		0.01	0.18		0.02	0.19		c0.15	c0.35	
v/s Ratio Perm				0.05		c0.28	0.12					0.12
v/c Ratio	0.90	0.40		0.17	0.58	0.93	0.43	0.69		0.93	0.90	0.30
Uniform Delay, d1	60.9	31.7		30.4	41.1	47.3	36.2	45.4		58.0	39.7	29.1
Progression Factor	0.99	1.11		1.00	1.00	1.00	1.00	1.00		1.40	0.98	1.56
Incremental Delay, d2	22.0	0.2		0.3	0.8	26.2	2.0	4.0		7.5	4.7	0.3
Delay (s)	82.5	35.4		30.7	41.9	73.5	38.3	49.4		88.5	43.4	45.9
Level of Service	F	D		C	D	E	D	D		F	D	D
Approach Delay (s)		54.6			56.6			48.5			59.4	
Approach LOS		D			E			D			E	

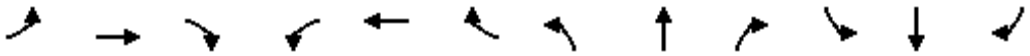
Intersection Summary			
HCM 2000 Control Delay	55.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	94.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	25	0	0	520	170	0	0	0	30	5	65
Future Volume (vph)	10	25	0	0	520	170	0	0	0	30	5	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.967						0.912	
Flt Protected		0.986									0.985	
Satd. Flow (prot)	0	1822	0	0	1745	0	0	1900	0	0	1707	0
Flt Permitted		0.986									0.985	
Satd. Flow (perm)	0	1822	0	0	1745	0	0	1900	0	0	1707	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		175.8			144.9			44.8			92.1	
Travel Time (s)		12.7			10.4			3.2			6.6	
Confl. Peds. (#/hr)			10	10					10	10		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	4%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	11	27	0	0	559	183	0	0	0	32	5	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	0	0	742	0	0	0	0	0	107	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

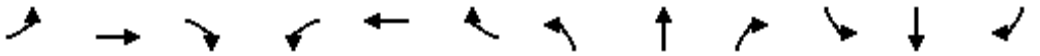
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 50.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	25	0	0	520	170	0	0	0	30	5	65
Future Volume (Veh/h)	10	25	0	0	520	170	0	0	0	30	5	65
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	11	27	0	0	559	183	0	0	0	32	5	70
Pedestrians					10			10				
Lane Width (m)					3.6			3.6				
Walking Speed (m/s)					1.2			1.2				
Percent Blockage					1			1				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		355										
pX, platoon unblocked												
vC, conflicting volume	742			37			782	801	47	710	710	650
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	742			37			782	801	47	710	710	650
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	91	99	85
cM capacity (veh/h)	874			1573			258	313	1011	343	354	472

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	38	742	0	107
Volume Left	11	0	0	32
Volume Right	0	183	0	70
cSH	874	1573	1700	419
Volume to Capacity	0.01	0.00	0.02	0.26
Queue Length 95th (m)	0.3	0.0	0.0	8.0
Control Delay (s)	2.7	0.0	0.0	16.5
Lane LOS	A		A	C
Approach Delay (s)	2.7	0.0	0.0	16.5
Approach LOS			A	C

Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	50.9%	ICU Level of Service	A	
Analysis Period (min)	15			

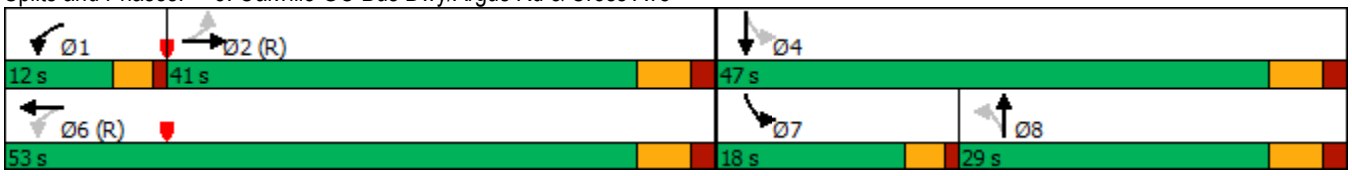


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	920	15	15	585	75	15	0	30	220	15	205
Future Volume (vph)	25	920	15	15	585	75	15	0	30	220	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	30.0			15.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00			0.99			0.94		0.95	0.94	
Frt		0.998			0.983			0.910			0.860	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1805	3544	0	902	3497	0	0	831	0	1787	1437	0
Flt Permitted	0.382			0.176				0.851		0.725		
Satd. Flow (perm)	717	3544	0	167	3497	0	0	708	0	1294	1437	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			19			120			180	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		107.3			217.0			71.0			179.3	
Travel Time (s)		7.7			15.6			5.1			12.9	
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Adj. Flow (vph)	27	989	16	16	629	81	16	0	32	237	16	220
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	1005	0	16	710	0	0	48	0	237	236	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

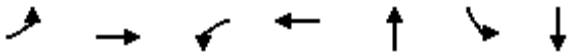
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	22.0	22.0		8.0	22.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	29.0	29.0		12.0	29.0		29.0	29.0		9.0	29.0	
Total Split (s)	41.0	41.0		12.0	53.0		29.0	29.0		18.0	47.0	
Total Split (%)	41.0%	41.0%		12.0%	53.0%		29.0%	29.0%		18.0%	47.0%	
Maximum Green (s)	35.0	35.0		8.0	47.0		23.0	23.0		14.0	41.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	5.0	5.0		2.5	5.0		4.0	4.0		3.0	4.0	
Recall Mode	C-Min	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	16.0	16.0			16.0		16.0	16.0			16.0	
Pedestrian Calls (#/hr)	15	15			15		45	45			45	
Act Effct Green (s)	51.7	51.7		58.5	56.5			18.8		35.5	33.5	
Actuated g/C Ratio	0.52	0.52		0.58	0.56			0.19		0.36	0.34	
v/c Ratio	0.07	0.55		0.10	0.36			0.21		0.44	0.39	
Control Delay	20.1	21.7		14.1	14.2			2.0		24.7	7.4	
Queue Delay	0.0	1.4		0.0	0.0			0.0		0.0	0.0	
Total Delay	20.1	23.2		14.1	14.2			2.0		24.7	7.4	
LOS	C	C		B	B			A		C	A	
Approach Delay		23.1			14.2			2.0			16.1	
Approach LOS		C			B			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 18.4		Intersection LOS: B	
Intersection Capacity Utilization 53.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: Oakville GO Bus Dwy/Argus Rd & Cross Ave

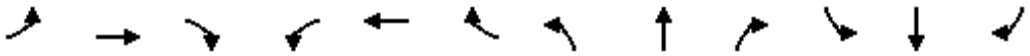


8: Oakville GO Bus Dwy/Argus Rd & Cross Ave



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	27	1005	16	710	48	237	236
v/c Ratio	0.07	0.55	0.10	0.36	0.21	0.44	0.39
Control Delay	20.1	21.7	14.1	14.2	2.0	24.7	7.4
Queue Delay	0.0	1.4	0.0	0.0	0.0	0.0	0.0
Total Delay	20.1	23.2	14.1	14.2	2.0	24.7	7.4
Queue Length 50th (m)	2.9	75.4	1.6	46.4	0.0	30.4	6.7
Queue Length 95th (m)	10.0	120.7	5.2	61.4	0.0	48.4	22.7
Internal Link Dist (m)		83.3		193.0	47.0		155.3
Turn Bay Length (m)	20.0		20.0			15.0	
Base Capacity (vph)	370	1832	163	1982	261	540	707
Starvation Cap Reductn	0	588	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.81	0.10	0.36	0.18	0.44	0.33

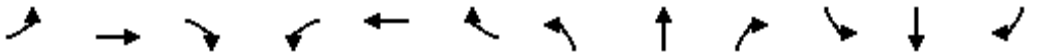
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	920	15	15	585	75	15	0	30	220	15	205
Future Volume (vph)	25	920	15	15	585	75	15	0	30	220	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99			0.95		1.00	0.94	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			0.99		0.96	1.00	
Frt	1.00	1.00		1.00	0.98			0.91		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1783	3543		902	3496			819		1722	1437	
Flt Permitted	0.38	1.00		0.18	1.00			0.85		0.72	1.00	
Satd. Flow (perm)	716	3543		167	3496			708		1314	1437	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	27	989	16	16	629	81	16	0	32	237	16	220
RTOR Reduction (vph)	0	1	0	0	8	0	0	40	0	0	118	0
Lane Group Flow (vph)	27	1004	0	16	702	0	0	8	0	237	118	0
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	47.1	47.1		54.3	54.3			15.8		33.7	33.7	
Effective Green, g (s)	48.1	48.1		55.3	55.3			16.8		34.7	34.7	
Actuated g/C Ratio	0.48	0.48		0.55	0.55			0.17		0.35	0.35	
Clearance Time (s)	6.0	6.0		4.0	6.0			6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0		2.5	5.0			4.0		3.0	4.0	
Lane Grp Cap (vph)	344	1704		123	1933			118		516	498	
v/s Ratio Prot		c0.28		0.01	c0.20					c0.07	0.08	
v/s Ratio Perm	0.04			0.07				0.01		c0.09		
v/c Ratio	0.08	0.59		0.13	0.36			0.07		0.46	0.24	
Uniform Delay, d1	14.0	18.8		12.2	12.5			35.0		24.8	23.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.4	1.5		0.3	0.5			0.3		0.7	0.3	
Delay (s)	14.4	20.3		12.6	13.0			35.3		25.4	23.6	
Level of Service	B	C		B	B			D		C	C	
Approach Delay (s)		20.1			13.0			35.3			24.5	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



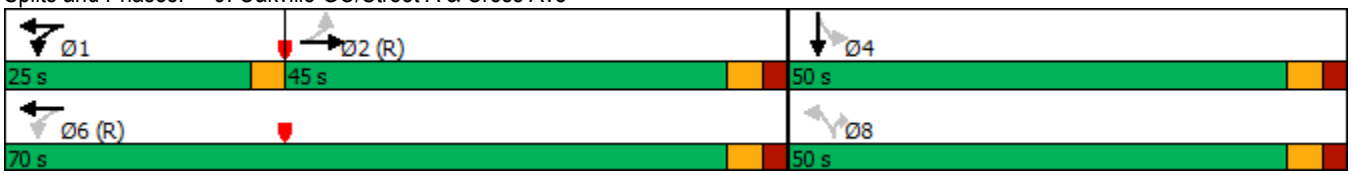
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	515	80	360	465	10	130	0	310	95	0	45
Future Volume (vph)	50	515	80	360	465	10	130	0	310	95	0	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00		0.99		0.97		0.98	
Frt		0.981			0.998				0.850		0.956	
Flt Protected		0.996			0.979		0.950				0.967	
Satd. Flow (prot)	0	3398	0	0	3430	0	1805	0	1615	0	1741	0
Flt Permitted		0.801			0.559		0.670				0.967	
Satd. Flow (perm)	0	2728	0	0	1953	0	1258	0	1570	0	1721	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			2				337		51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		139.5			107.3			62.6			201.6	
Travel Time (s)		10.0			7.7			4.5			14.5	
Confl. Peds. (#/hr)	30		10	10		30	10		10	10		10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	54	560	87	391	505	11	141	0	337	103	0	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	701	0	0	907	0	141	0	337	0	152	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	100		100
Number of Detectors	1	2		1	2		1		1	1	2	
Detector Template	Left	Thru		Left	Thru		Left		Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0		2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0		2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4						9.4	
Detector 2 Size(m)		0.6			0.6						0.6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type	Perm	NA		custom	NA		Perm		Perm	Perm	NA	
Protected Phases		2		1	1 6						4	
Permitted Phases	2			6			8		8	4		

Lane Group	Ø6
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (k/h)	
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(m)	
Detector 2 Size(m)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	6
Permitted Phases	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		1	1 6		8		8	4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		8.0			10.0		10.0	10.0	10.0	
Minimum Split (s)	40.6	40.6		11.0			27.6		27.6	27.6	27.6	
Total Split (s)	45.0	45.0		25.0			50.0		50.0	50.0	50.0	
Total Split (%)	37.5%	37.5%		20.8%			41.7%		41.7%	41.7%	41.7%	
Maximum Green (s)	39.4	39.4		22.0			44.4		44.4	44.4	44.4	
Yellow Time (s)	3.3	3.3		3.0			3.3		3.3	3.3	3.3	
All-Red Time (s)	2.3	2.3		0.0			2.3		2.3	2.3	2.3	
Lost Time Adjust (s)		-1.0					-1.0		-1.0		-1.0	
Total Lost Time (s)		4.6					4.6		4.6		4.6	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	5.0	5.0		2.5			3.5		3.5	3.0	3.0	
Recall Mode	C-Min	C-Min		None			None		None	None	None	
Walk Time (s)	7.0	7.0					7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	15.0	15.0					15.0		15.0	15.0	15.0	
Pedestrian Calls (#/hr)	20	20					10		10	10	10	
Act Effct Green (s)		70.8			92.7		20.7		20.7		20.7	
Actuated g/C Ratio		0.59			0.77		0.17		0.17		0.17	
v/c Ratio		0.43			0.53		0.65		0.61		0.45	
Control Delay		16.4			6.0		59.4		9.3		32.0	
Queue Delay		0.0			1.0		0.0		0.0		0.0	
Total Delay		16.4			7.0		59.4		9.3		32.0	
LOS		B			A		E		A		C	
Approach Delay		16.4			7.0			24.1			32.0	
Approach LOS		B			A			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 15.3		Intersection LOS: B	
Intersection Capacity Utilization 79.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 9: Oakville GO/Street A & Cross Ave



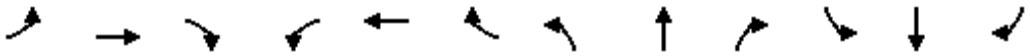
Lane Group	Ø6
Detector Phase	
Switch Phase	
Minimum Initial (s)	35.0
Minimum Split (s)	40.6
Total Split (s)	70.0
Total Split (%)	58%
Maximum Green (s)	64.4
Yellow Time (s)	3.3
All-Red Time (s)	2.3
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	5.0
Recall Mode	C-Min
Walk Time (s)	7.0
Flash Dont Walk (s)	15.0
Pedestrian Calls (#/hr)	20
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary



Lane Group	EBT	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	701	907	141	337	152
v/c Ratio	0.43	0.53	0.65	0.61	0.45
Control Delay	16.4	6.0	59.4	9.3	32.0
Queue Delay	0.0	1.0	0.0	0.0	0.0
Total Delay	16.4	7.0	59.4	9.3	32.0
Queue Length 50th (m)	45.7	30.4	33.0	0.0	22.3
Queue Length 95th (m)	84.3	53.7	51.0	24.1	39.8
Internal Link Dist (m)	115.5	83.3			177.6
Turn Bay Length (m)					
Base Capacity (vph)	1616	1798	475	803	682
Starvation Cap Reductn	0	581	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.43	0.75	0.30	0.42	0.22

Intersection Summary



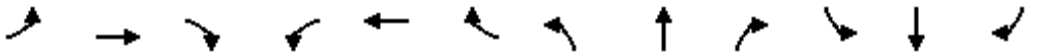
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	515	80	360	465	10	130	0	310	95	0	45
Future Volume (vph)	50	515	80	360	465	10	130	0	310	95	0	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6			2.0		4.6		4.6		4.6	
Lane Util. Factor		0.95			0.95		1.00		1.00		1.00	
Frpb, ped/bikes		0.99			1.00		1.00		0.97		0.99	
Flpb, ped/bikes		1.00			1.00		0.99		1.00		0.99	
Frt		0.98			1.00		1.00		0.85		0.96	
Flt Protected		1.00			0.98		0.95		1.00		0.97	
Satd. Flow (prot)		3394			3424		1786		1570		1723	
Flt Permitted		0.80			0.56		0.67		1.00		0.97	
Satd. Flow (perm)		2731			1956		1259		1570		1723	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	560	87	391	505	11	141	0	337	103	0	49
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	279	0	42	0
Lane Group Flow (vph)	0	695	0	0	907	0	141	0	58	0	110	0
Confl. Peds. (#/hr)	30		10	10		30	10		10	10		10
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		custom	NA		Perm		Perm	Perm	NA	
Protected Phases		2		1	1 6						4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)		69.8			89.1		19.7		19.7		19.7	
Effective Green, g (s)		70.8			90.1		20.7		20.7		20.7	
Actuated g/C Ratio		0.59			0.75		0.17		0.17		0.17	
Clearance Time (s)		5.6					5.6		5.6		5.6	
Vehicle Extension (s)		5.0					3.5		3.5		3.0	
Lane Grp Cap (vph)		1611			1680		217		270		297	
v/s Ratio Prot					c0.08							
v/s Ratio Perm		c0.25			0.33		c0.11		0.04		0.06	
v/c Ratio		0.43			0.54		0.65		0.22		0.37	
Uniform Delay, d1		13.5			6.3		46.3		42.7		43.9	
Progression Factor		1.00			1.00		1.00		1.00		1.00	
Incremental Delay, d2		0.8			0.3		6.8		0.5		0.8	
Delay (s)		14.4			6.5		53.1		43.1		44.7	
Level of Service		B			A		D		D		D	
Approach Delay (s)		14.4			6.5			46.1			44.7	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	420	0	0	515	130	0	0	80	120	0	95
Future Volume (vph)	40	420	0	0	515	130	0	0	80	120	0	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (m)	25.0			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.970			0.865				0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1805	3438	0	0	3387	0	0	1644	0	1805	0	1615
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1805	3438	0	0	3387	0	0	1644	0	1805	0	1615
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		132.8			139.5			48.2			88.5	
Travel Time (s)		9.6			10.0			3.5			6.4	
Confl. Peds. (#/hr)	15		10	10		15	5		5	5		5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	5%	0%	0%	4%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	45	477	0	0	585	148	0	0	91	136	0	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	477	0	0	733	0	0	91	0	136	0	108
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

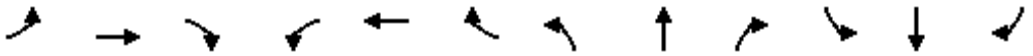
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	420	0	0	515	130	0	0	80	120	0	95
Future Volume (Veh/h)	40	420	0	0	515	130	0	0	80	120	0	95
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	45	477	0	0	585	148	0	0	91	136	0	108
Pedestrians		5			5			10			15	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		133			140							
pX, platoon unblocked				1.00			1.00	1.00	1.00	1.00	1.00	
vC, conflicting volume	748			487			982	1325	254	1098	1251	386
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	748			485			981	1324	252	1097	1250	386
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			100			100	100	88	2	100	82
cM capacity (veh/h)	859			1078			158	146	744	139	162	607

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	45	238	238	390	343	91	136	108
Volume Left	45	0	0	0	0	0	136	0
Volume Right	0	0	0	0	148	91	0	108
cSH	859	1700	1700	1700	1700	744	139	607
Volume to Capacity	0.05	0.14	0.14	0.23	0.20	0.12	0.98	0.18
Queue Length 95th (m)	1.3	0.0	0.0	0.0	0.0	3.3	55.8	5.1
Control Delay (s)	9.4	0.0	0.0	0.0	0.0	10.5	133.9	12.2
Lane LOS	A					B	F	B
Approach Delay (s)	0.8			0.0		10.5	80.0	
Approach LOS						B	F	

Intersection Summary				
Average Delay	13.1			
Intersection Capacity Utilization	45.3%	ICU Level of Service		A
Analysis Period (min)	15			

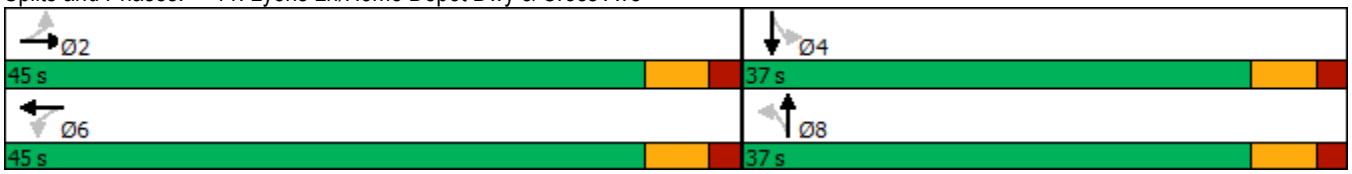


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	345	30	20	575	15	140	5	85	25	5	95
Future Volume (vph)	70	345	30	20	575	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	25.0		0.0	35.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		1.00	1.00		1.00	0.98		0.99	0.98	
Frt		0.988			0.996			0.858			0.858	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3372	0	1805	3456	0	1805	1595	0	1805	1588	0
Flt Permitted	0.372			0.496			0.681			0.689		
Satd. Flow (perm)	698	3372	0	938	3456	0	1288	1595	0	1296	1588	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			4			100			112	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		47.5			132.8			150.8			63.6	
Travel Time (s)		3.4			9.6			10.9			4.6	
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	82	406	35	24	676	18	165	6	100	29	6	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	441	0	24	694	0	165	106	0	29	118	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

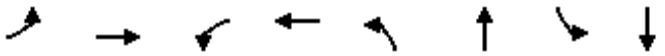
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		35.0	35.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	41.0	41.0		41.0	41.0		28.0	28.0		28.0	28.0	
Total Split (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Total Split (%)	54.9%	54.9%		54.9%	54.9%		45.1%	45.1%		45.1%	45.1%	
Maximum Green (s)	39.0	39.0		39.0	39.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	15	15		15	15		10	10		10	10	
Act Effct Green (s)	36.2	36.2		36.2	36.2		15.5	15.5		15.5	15.5	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
v/c Ratio	0.20	0.22		0.04	0.34		0.51	0.22		0.09	0.25	
Control Delay	8.9	6.9		7.2	7.8		25.5	6.1		17.5	5.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	8.9	6.9		7.2	7.8		25.5	6.1		17.5	5.9	
LOS	A	A		A	A		C	A		B	A	
Approach Delay		7.2			7.8			17.9			8.2	
Approach LOS		A			A			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 61.7			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 9.3		Intersection LOS: A	
Intersection Capacity Utilization 82.0%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 11: Lyons Ln/Home Depot Dwy & Cross Ave

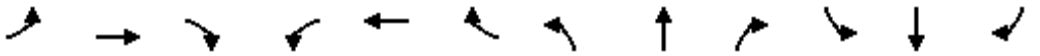


11: Lyons Ln/Home Depot Dwy & Cross Ave



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	82	441	24	694	165	106	29	118
v/c Ratio	0.20	0.22	0.04	0.34	0.51	0.22	0.09	0.25
Control Delay	8.9	6.9	7.2	7.8	25.5	6.1	17.5	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.9	6.9	7.2	7.8	25.5	6.1	17.5	5.9
Queue Length 50th (m)	3.9	10.6	1.0	18.8	16.8	0.5	2.7	0.5
Queue Length 95th (m)	12.7	21.7	4.5	35.7	30.4	8.9	7.5	9.3
Internal Link Dist (m)		23.5		108.8		126.8		39.6
Turn Bay Length (m)			25.0		35.0			
Base Capacity (vph)	454	2202	611	2253	671	879	675	881
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.20	0.04	0.31	0.25	0.12	0.04	0.13

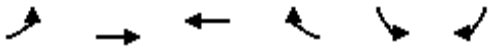
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	345	30	20	575	15	140	5	85	25	5	95
Future Volume (vph)	70	345	30	20	575	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1786	3373		1798	3457		1799	1600		1792	1589	
Flt Permitted	0.37	1.00		0.50	1.00		0.68	1.00		0.69	1.00	
Satd. Flow (perm)	700	3373		939	3457		1290	1600		1299	1589	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	82	406	35	24	676	18	165	6	100	29	6	112
RTOR Reduction (vph)	0	6	0	0	2	0	0	75	0	0	84	0
Lane Group Flow (vph)	82	435	0	24	692	0	165	31	0	29	34	0
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.2	35.2		35.2	35.2		14.4	14.4		14.4	14.4	
Effective Green, g (s)	36.2	36.2		36.2	36.2		15.4	15.4		15.4	15.4	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	411	1982		551	2031		322	400		324	397	
v/s Ratio Prot		0.13			c0.20			0.02			0.02	
v/s Ratio Perm	0.12			0.03			c0.13			0.02		
v/c Ratio	0.20	0.22		0.04	0.34		0.51	0.08		0.09	0.09	
Uniform Delay, d1	5.9	6.0		5.4	6.5		19.9	17.7		17.7	17.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.1		0.1	0.2		1.8	0.1		0.2	0.1	
Delay (s)	6.4	6.1		5.4	6.8		21.7	17.8		17.9	17.8	
Level of Service	A	A		A	A		C	B		B	B	
Approach Delay (s)		6.2			6.7			20.2			17.8	
Approach LOS		A			A			C			B	

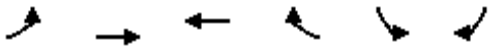
Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	61.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	455	815	30	20	25
Future Volume (vph)	25	455	815	30	20	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.995		0.926	
Flt Protected	0.950				0.978	
Satd. Flow (prot)	1805	3471	3491	0	1721	0
Flt Permitted	0.950				0.978	
Satd. Flow (perm)	1805	3471	3491	0	1721	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		443.3	47.5		121.4	
Travel Time (s)		31.9	3.4		8.7	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	4%	3%	0%	0%	0%
Adj. Flow (vph)	27	500	896	33	22	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	500	929	0	49	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

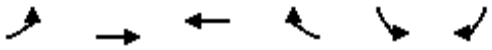
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.5%		ICU Level of Service A	
Analysis Period (min) 15			



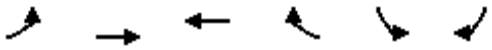
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	455	815	30	20	25
Future Volume (Veh/h)	25	455	815	30	20	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	27	500	896	33	22	27
Pedestrians					15	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			48			
pX, platoon unblocked	0.90				0.90	0.90
vC, conflicting volume	944				1232	480
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	722				1040	207
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				89	96
cM capacity (veh/h)	793				197	718

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	27	250	250	597	332	49
Volume Left	27	0	0	0	0	22
Volume Right	0	0	0	0	33	27
cSH	793	1700	1700	1700	1700	329
Volume to Capacity	0.03	0.15	0.15	0.35	0.20	0.15
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0	4.1
Control Delay (s)	9.7	0.0	0.0	0.0	0.0	17.9
Lane LOS	A					C
Approach Delay (s)	0.5			0.0		17.9
Approach LOS						C

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	33.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	365	785	1035	110	115	715
Future Volume (vph)	365	785	1035	110	115	715
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0			0.0	60.0	0.0
Storage Lanes	1			0	1	2
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.88
Ped Bike Factor	1.00		1.00			
Frt			0.986			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1719	3574	3518	0	1805	2760
Flt Permitted	0.144				0.950	
Satd. Flow (perm)	260	3574	3518	0	1805	2760
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			11			637
Link Speed (k/h)		50	50		50	
Link Distance (m)		209.5	575.4		443.3	
Travel Time (s)		15.1	41.4		31.9	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Adj. Flow (vph)	388	835	1101	117	122	761
Shared Lane Traffic (%)						
Lane Group Flow (vph)	388	835	1218	0	122	761
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		7.2	7.2		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			

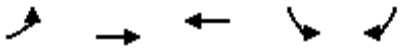


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	6.0	38.0	38.0		10.0	10.0
Minimum Split (s)	12.0	47.6	47.6		33.8	33.8
Total Split (s)	35.0	109.2	74.2		30.8	30.8
Total Split (%)	25.0%	78.0%	53.0%		22.0%	22.0%
Maximum Green (s)	29.0	102.6	67.6		25.0	25.0
Yellow Time (s)	4.0	3.7	3.7		3.3	3.3
All-Red Time (s)	2.0	2.9	2.9		2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.6	5.6		4.8	4.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Recall Mode	None	C-Min	C-Min		None	None
Walk Time (s)		10.0	10.0		10.0	10.0
Flash Dont Walk (s)		31.0	31.0		18.0	18.0
Pedestrian Calls (#/hr)		10	10		0	0
Act Effct Green (s)	112.7	112.1	80.6		17.5	17.5
Actuated g/C Ratio	0.80	0.80	0.58		0.12	0.12
v/c Ratio	0.80	0.29	0.60		0.54	0.84
Control Delay	33.1	4.3	23.3		65.3	19.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	33.1	4.3	23.3		65.3	19.4
LOS	C	A	C		E	B
Approach Delay		13.5	23.3		25.8	
Approach LOS		B	C		C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 20.3		Intersection LOS: C	
Intersection Capacity Utilization 75.6%		ICU Level of Service D	
Analysis Period (min) 15			

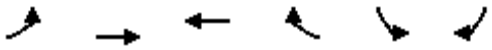
Splits and Phases: 13: Speers Rd/Cornwall Rd & Cross Ave





Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	388	835	1218	122	761
v/c Ratio	0.80	0.29	0.60	0.54	0.84
Control Delay	33.1	4.3	23.3	65.3	19.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	33.1	4.3	23.3	65.3	19.4
Queue Length 50th (m)	54.0	26.8	166.8	34.1	19.2
Queue Length 95th (m)	101.3	47.2	195.0	51.9	44.3
Internal Link Dist (m)		185.5	551.4	419.3	
Turn Bay Length (m)	70.0			60.0	
Base Capacity (vph)	529	2862	2030	335	1031
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.73	0.29	0.60	0.36	0.74

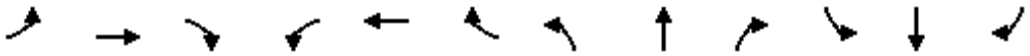
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	365	785	1035	110	115	715
Future Volume (vph)	365	785	1035	110	115	715
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		4.8	4.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1719	3574	3517		1805	2760
Flt Permitted	0.14	1.00	1.00		0.95	1.00
Satd. Flow (perm)	260	3574	3517		1805	2760
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	388	835	1101	117	122	761
RTOR Reduction (vph)	0	0	5	0	0	557
Lane Group Flow (vph)	388	835	1213	0	122	204
Confl. Peds. (#/hr)	15			15		
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Actuated Green, G (s)	111.1	111.1	79.6		16.5	16.5
Effective Green, g (s)	112.1	112.1	80.6		17.5	17.5
Actuated g/C Ratio	0.80	0.80	0.58		0.12	0.12
Clearance Time (s)	6.0	6.6	6.6		5.8	5.8
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Lane Grp Cap (vph)	484	2861	2024		225	345
v/s Ratio Prot	c0.15	0.23	0.34			
v/s Ratio Perm	c0.49				0.07	c0.07
v/c Ratio	0.80	0.29	0.60		0.54	0.59
Uniform Delay, d1	26.9	3.6	19.2		57.5	57.9
Progression Factor	1.00	1.00	1.04		1.00	1.00
Incremental Delay, d2	9.5	0.3	1.2		2.7	2.7
Delay (s)	36.5	3.9	21.3		60.1	60.6
Level of Service	D	A	C		E	E
Approach Delay (s)		14.2	21.3		60.5	
Approach LOS		B	C		E	

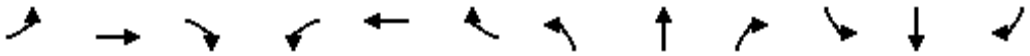
Intersection Summary			
HCM 2000 Control Delay	29.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	75.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	100	0	15	0	195	100	20	365	0
Future Volume (vph)	0	0	0	100	0	15	0	195	100	20	365	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.982			0.949				
Flt Protected					0.958						0.997	
Satd. Flow (prot)	0	1900	0	0	1757	0	0	3359	0	0	3599	0
Flt Permitted					0.958						0.997	
Satd. Flow (perm)	0	1900	0	0	1757	0	0	3359	0	0	3599	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		33.6			124.9			420.1			134.0	
Travel Time (s)		2.4			9.0			30.2			9.6	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	0%	3%	0%	0%	0%	0%
Adj. Flow (vph)	0	0	0	118	0	18	0	229	118	24	429	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	136	0	0	347	0	0	453	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	100	0	15	0	195	100	20	365	0
Future Volume (Veh/h)	0	0	0	100	0	15	0	195	100	20	365	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	118	0	18	0	229	118	24	429	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	610	824	214	550	765	174	429			347		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	610	824	214	550	765	174	429			347		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	71	100	98	100			98		
cM capacity (veh/h)	369	304	797	411	329	846	1141			1223		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	136	114	232	238	214
Volume Left	0	118	0	0	24	0
Volume Right	0	18	0	118	0	0
cSH	1700	441	1141	1700	1223	1700
Volume to Capacity	0.00	0.31	0.00	0.14	0.02	0.13
Queue Length 95th (m)	0.0	10.3	0.0	0.0	0.5	0.0
Control Delay (s)	0.0	16.8	0.0	0.0	1.0	0.0
Lane LOS	A	C			A	
Approach Delay (s)	0.0	16.8	0.0		0.5	
Approach LOS	A	C				

Intersection Summary				
Average Delay	2.7			
Intersection Capacity Utilization	35.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	115	80	85	145	175	135
Future Volume (vph)	115	80	85	145	175	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.945				0.941	
Flt Protected				0.982	0.973	
Satd. Flow (prot)	1763	0	0	1866	1722	0
Flt Permitted				0.982	0.973	
Satd. Flow (perm)	1763	0	0	1866	1722	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	632.0			1164.2	455.7	
Travel Time (s)	45.5			83.8	32.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	3%	0%	0%	1%	1%
Adj. Flow (vph)	129	90	96	163	197	152
Shared Lane Traffic (%)						
Lane Group Flow (vph)	219	0	0	259	349	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

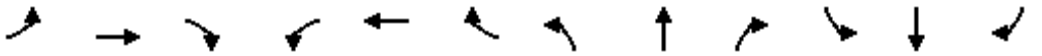
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 51.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	115	80	85	145	175	135
Future Volume (Veh/h)	115	80	85	145	175	135
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	129	90	96	163	197	152
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			219		529	174
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			219		529	174
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		59	83
cM capacity (veh/h)			1362		476	872

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	219	259	349
Volume Left	0	96	197
Volume Right	90	0	152
cSH	1700	1362	593
Volume to Capacity	0.13	0.07	0.59
Queue Length 95th (m)	0.0	1.8	30.5
Control Delay (s)	0.0	3.3	19.4
Lane LOS		A	C
Approach Delay (s)	0.0	3.3	19.4
Approach LOS			C

Intersection Summary			
Average Delay	9.2		
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	640	100	60	805	85	155	95	45	65	60	50
Future Volume (vph)	45	640	100	60	805	85	155	95	45	65	60	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		0.99					0.98
Frt		0.980			0.986			0.952				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3459	0	1805	3483	0	1770	1797	0	1805	1827	1553
Flt Permitted	0.259			0.327			0.715			0.662		
Satd. Flow (perm)	481	3459	0	620	3483	0	1325	1797	0	1258	1827	1520
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			19			25				53
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			455.7	
Travel Time (s)		43.9			11.1			15.4			32.8	
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Adj. Flow (vph)	48	681	106	64	856	90	165	101	48	69	64	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	787	0	64	946	0	165	149	0	69	64	53
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	30.0	30.0		30.0	30.0		14.8	14.8		14.8	14.8	14.8
Actuated g/C Ratio	0.55	0.55		0.55	0.55		0.27	0.27		0.27	0.27	0.27
v/c Ratio	0.18	0.41		0.19	0.49		0.46	0.30		0.20	0.13	0.12
Control Delay	8.9	7.8		8.5	8.6		22.4	16.0		18.4	17.1	6.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	8.9	7.8		8.5	8.6		22.4	16.0		18.4	17.1	6.7
LOS	A	A		A	A		C	B		B	B	A
Approach Delay		7.9			8.6			19.4			14.6	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 54.4			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay: 10.3		Intersection LOS: B	
Intersection Capacity Utilization 79.8%		ICU Level of Service D	
Analysis Period (min) 15			

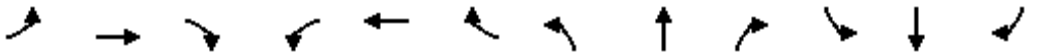
Splits and Phases: 16: Chartwell Rd & Cornwall Rd





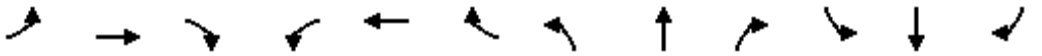
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	48	787	64	946	165	149	69	64	53
v/c Ratio	0.18	0.41	0.19	0.49	0.46	0.30	0.20	0.13	0.12
Control Delay	8.9	7.8	8.5	8.6	22.4	16.0	18.4	17.1	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.9	7.8	8.5	8.6	22.4	16.0	18.4	17.1	6.7
Queue Length 50th (m)	2.1	19.6	2.7	25.6	12.8	9.0	5.0	4.5	0.0
Queue Length 95th (m)	8.4	39.8	10.2	50.9	35.8	27.2	16.8	15.2	7.3
Internal Link Dist (m)		585.1		130.4		189.6		431.7	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	463	3333	597	3356	790	1081	750	1089	927
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.24	0.11	0.28	0.21	0.14	0.09	0.06	0.06

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	640	100	60	805	85	155	95	45	65	60	50
Future Volume (vph)	45	640	100	60	805	85	155	95	45	65	60	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1767	3460		1802	3484		1765	1796		1805	1827	1523
Flt Permitted	0.26	1.00		0.33	1.00		0.72	1.00		0.66	1.00	1.00
Satd. Flow (perm)	482	3460		620	3484		1329	1796		1258	1827	1523
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	48	681	106	64	856	90	165	101	48	69	64	53
RTOR Reduction (vph)	0	13	0	0	8	0	0	18	0	0	0	39
Lane Group Flow (vph)	48	774	0	64	938	0	165	131	0	69	64	14
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	29.0	29.0		29.0	29.0		13.7	13.7		13.7	13.7	13.7
Effective Green, g (s)	30.0	30.0		30.0	30.0		14.7	14.7		14.7	14.7	14.7
Actuated g/C Ratio	0.55	0.55		0.55	0.55		0.27	0.27		0.27	0.27	0.27
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	267	1918		343	1931		361	488		341	496	413
v/s Ratio Prot		0.22			c0.27			0.07			0.04	
v/s Ratio Perm	0.10			0.10			c0.12			0.05		0.01
v/c Ratio	0.18	0.40		0.19	0.49		0.46	0.27		0.20	0.13	0.03
Uniform Delay, d1	6.0	6.9		6.0	7.3		16.4	15.5		15.2	14.9	14.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.8	0.3		0.6	0.5		1.3	0.4		0.4	0.2	0.0
Delay (s)	6.8	7.3		6.6	7.8		17.6	15.9		15.6	15.0	14.5
Level of Service	A	A		A	A		B	B		B	B	B
Approach Delay (s)		7.2			7.7			16.8			15.1	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	9.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	54.1	Sum of lost time (s)	9.4
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

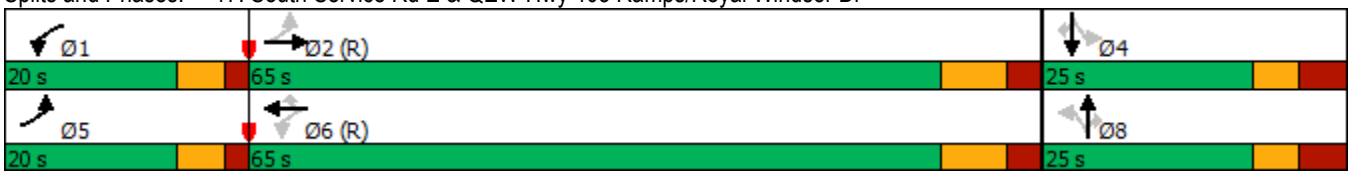


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	790	30	160	765	5	50	15	220	0	45	40
Future Volume (vph)	5	790	30	160	765	5	50	15	220	0	45	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	125.0		0.0	145.0		55.0	15.0		40.0	35.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												0.98
Frt		0.995				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3502	3386	0	1752	3505	1615	1656	1900	1599	1900	1712	1615
Flt Permitted	0.336			0.260			0.725					
Satd. Flow (perm)	1238	3386	0	480	3505	1615	1264	1900	1599	1900	1712	1585
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				107			242			113
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		232.7			227.3			1164.2			153.5	
Travel Time (s)		16.8			16.4			83.8			11.1	
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	6%	8%	3%	3%	0%	9%	0%	1%	0%	11%	0%
Adj. Flow (vph)	5	868	33	176	841	5	55	16	242	0	49	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	901	0	176	841	5	55	16	242	0	49	44
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

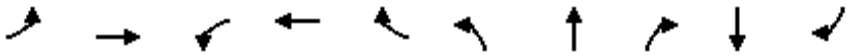
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	8.0	20.0		8.0	20.0	20.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	14.0	28.4		14.0	28.4	28.4	17.8	17.8	17.8	17.8	17.8	17.8
Total Split (s)	20.0	65.0		20.0	65.0	65.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	18.2%	59.1%		18.2%	59.1%	59.1%	22.7%	22.7%	22.7%	22.7%	22.7%	22.7%
Maximum Green (s)	14.0	56.6		14.0	56.6	56.6	17.2	17.2	17.2	17.2	17.2	17.2
Yellow Time (s)	4.0	5.4		4.0	5.4	5.4	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.0	3.0		2.0	3.0	3.0	4.1	4.1	4.1	4.1	4.1	4.1
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	78.7	67.3		85.8	80.6	80.6	12.4	12.4	12.4		12.4	12.4
Actuated g/C Ratio	0.72	0.61		0.78	0.73	0.73	0.11	0.11	0.11		0.11	0.11
v/c Ratio	0.00	0.43		0.35	0.33	0.00	0.39	0.08	0.61		0.26	0.16
Control Delay	3.6	12.6		5.1	6.4	0.0	53.0	43.4	12.9		47.4	1.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	3.6	12.6		5.1	6.4	0.0	53.0	43.4	12.9		47.4	1.2
LOS	A	B		A	A	A	D	D	B		D	A
Approach Delay		12.6			6.2			21.5			25.6	
Approach LOS		B			A			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 11.5		Intersection LOS: B	
Intersection Capacity Utilization 57.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr

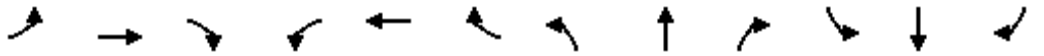


17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	5	901	176	841	5	55	16	242	49	44
v/c Ratio	0.00	0.43	0.35	0.33	0.00	0.39	0.08	0.61	0.26	0.16
Control Delay	3.6	12.6	5.1	6.4	0.0	53.0	43.4	12.9	47.4	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.6	12.6	5.1	6.4	0.0	53.0	43.4	12.9	47.4	1.2
Queue Length 50th (m)	0.1	49.7	7.4	24.9	0.0	11.9	3.3	0.0	10.4	0.0
Queue Length 95th (m)	0.5	79.2	15.3	62.2	0.0	24.3	9.9	22.8	21.7	0.0
Internal Link Dist (m)		208.7		203.3			1140.2		129.5	
Turn Bay Length (m)	125.0		145.0		55.0	15.0		40.0		
Base Capacity (vph)	1257	2073	547	2569	1212	209	314	466	283	356
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.43	0.32	0.33	0.00	0.26	0.05	0.52	0.17	0.12

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	790	30	160	765	5	50	15	220	0	45	40
Future Volume (vph)	5	790	30	160	765	5	50	15	220	0	45	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8		6.8	6.8
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	3502	3385		1752	3505	1615	1656	1900	1599		1712	1580
Flt Permitted	0.34	1.00		0.26	1.00	1.00	0.73	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1237	3385		479	3505	1615	1264	1900	1599		1712	1580
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	5	868	33	176	841	5	55	16	242	0	49	44
RTOR Reduction (vph)	0	2	0	0	0	2	0	0	215	0	0	39
Lane Group Flow (vph)	5	899	0	176	841	3	55	16	27	0	49	5
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	0%	6%	8%	3%	3%	0%	9%	0%	1%	0%	11%	0%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	67.8	66.2		82.4	74.8	74.8	11.4	11.4	11.4		11.4	11.4
Effective Green, g (s)	69.8	67.2		83.4	75.8	75.8	12.4	12.4	12.4		12.4	12.4
Actuated g/C Ratio	0.63	0.61		0.76	0.69	0.69	0.11	0.11	0.11		0.11	0.11
Clearance Time (s)	6.0	8.4		6.0	8.4	8.4	7.8	7.8	7.8		7.8	7.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	838	2067		492	2415	1112	142	214	180		192	178
v/s Ratio Prot	0.00	c0.27		c0.04	0.24			0.01			0.03	
v/s Ratio Perm	0.00			0.23		0.00	c0.04		0.02			0.00
v/c Ratio	0.01	0.43		0.36	0.35	0.00	0.39	0.07	0.15		0.26	0.03
Uniform Delay, d1	7.4	11.3		4.7	7.0	5.3	45.3	43.7	44.1		44.6	43.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.7		0.4	0.4	0.0	1.8	0.1	0.4		0.7	0.1
Delay (s)	7.4	12.0		5.1	7.4	5.3	47.0	43.8	44.4		45.3	43.5
Level of Service	A	B		A	A	A	D	D	D		D	D
Approach Delay (s)		12.0			7.0			44.9			44.4	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	15.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	60	0	85	120	0
Future Volume (vph)	50	60	0	85	120	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.926					
Flt Protected					0.950	
Satd. Flow (prot)	1725	0	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1725	0	0	1863	1770	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	64.3			219.4	105.4	
Travel Time (s)	4.6			15.8	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	65	0	92	130	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	119	0	0	92	130	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 19.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	50	60	0	85	120	0
Future Volume (Veh/h)	50	60	0	85	120	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	65	0	92	130	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			119		178	86
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			119		178	86
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		84	100
cM capacity (veh/h)			1469		811	972

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	119	92	130
Volume Left	0	0	130
Volume Right	65	0	0
cSH	1700	1469	811
Volume to Capacity	0.07	0.00	0.16
Queue Length 95th (m)	0.0	0.0	4.6
Control Delay (s)	0.0	0.0	10.3
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.3
Approach LOS			B

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	0	120	85	0	60
Future Volume (vph)	50	0	120	85	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.972		
Satd. Flow (prot)	1863	0	0	1811	1611	0
Flt Permitted				0.972		
Satd. Flow (perm)	1863	0	0	1811	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	53.7			64.3	43.5	
Travel Time (s)	3.9			4.6	3.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	0	130	92	0	65
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	0	222	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

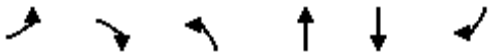
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	50	0	120	85	0	60
Future Volume (Veh/h)	50	0	120	85	0	60
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	0	130	92	0	65
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			54		406	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			54		406	54
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		100	94
cM capacity (veh/h)			1551		551	1013

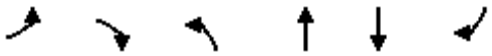
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	54	222	65
Volume Left	0	130	0
Volume Right	0	0	65
cSH	1700	1551	1013
Volume to Capacity	0.03	0.08	0.06
Queue Length 95th (m)	0.0	2.2	1.6
Control Delay (s)	0.0	4.7	8.8
Lane LOS		A	A
Approach Delay (s)	0.0	4.7	8.8
Approach LOS			A

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	28.2%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	70	130	120	60	0
Future Volume (vph)	0	70	130	120	60	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.975		
Satd. Flow (prot)	1611	0	0	1816	1863	0
Flt Permitted				0.975		
Satd. Flow (perm)	1611	0	0	1816	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	49.0			201.6	105.4	
Travel Time (s)	3.5			14.5	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	76	141	130	65	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	76	0	0	271	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.2%		ICU Level of Service A	
Analysis Period (min) 15			

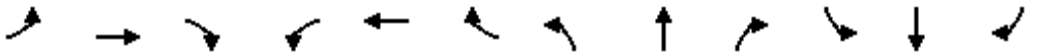


Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	70	130	120	60	0
Future Volume (Veh/h)	0	70	130	120	60	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	76	141	130	65	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				201		
pX, platoon unblocked						
vC, conflicting volume	477	65	65			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	477	65	65			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	92	91			
cM capacity (veh/h)	497	999	1537			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	76	271	65
Volume Left	0	141	0
Volume Right	76	0	0
cSH	999	1537	1700
Volume to Capacity	0.08	0.09	0.04
Queue Length 95th (m)	2.0	2.4	0.0
Control Delay (s)	8.9	4.3	0.0
Lane LOS	A	A	
Approach Delay (s)	8.9	4.3	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	31.2%	ICU Level of Service	A
Analysis Period (min)	15		

4) 2031 Future Total Traffic Conditions (Without Corridor Growth)



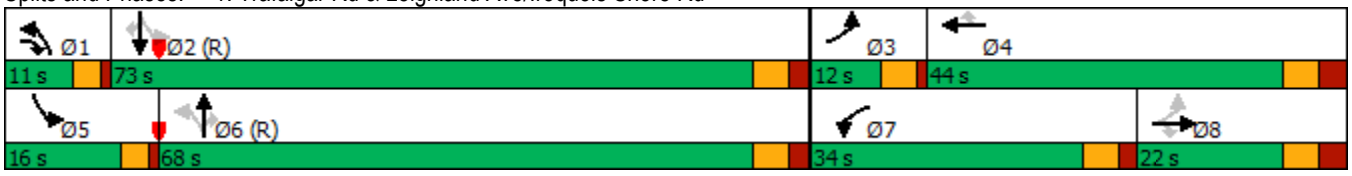
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	100	335	685	55	120	145	1265	775	195	2085	50
Future Volume (vph)	35	100	335	685	55	120	145	1265	775	195	2085	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.96					0.95			0.97	1.00		0.93
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1863	1568	3367	1827	1553	1719	4988	1568	1787	5085	1524
Flt Permitted	0.720			0.950			0.062			0.134		
Satd. Flow (perm)	1277	1863	1568	3367	1827	1470	112	4988	1525	252	5085	1424
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136			123			702			142
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			521.8			275.4			339.2	
Travel Time (s)		27.7			37.6			19.8			24.4	
Confl. Peds. (#/hr)	35					35	35		10	10		35
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Adj. Flow (vph)	35	101	338	692	56	121	146	1278	783	197	2106	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	101	338	692	56	121	146	1278	783	197	2106	51
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	11.0	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	12.0	22.0	11.0	34.0	44.0	44.0	11.0	68.0	68.0	16.0	73.0	73.0
Total Split (%)	8.6%	15.7%	7.9%	24.3%	31.4%	31.4%	7.9%	48.6%	48.6%	11.4%	52.1%	52.1%
Maximum Green (s)	7.3	15.2	7.0	28.3	37.2	37.2	7.0	61.9	61.9	12.0	66.9	66.9
Yellow Time (s)	3.7	3.7	3.0	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	1.0	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					20	20		25	25		25	25
Act Effct Green (s)	24.1	13.8	30.0	29.3	38.3	38.3	78.4	65.9	65.9	81.5	67.9	67.9
Actuated g/C Ratio	0.17	0.10	0.21	0.21	0.27	0.27	0.56	0.47	0.47	0.58	0.48	0.48
v/c Ratio	0.14	0.55	0.76	0.98	0.11	0.25	0.80	0.54	0.72	0.70	0.85	0.07
Control Delay	32.6	71.4	42.8	84.7	39.7	7.4	63.8	19.1	12.6	28.7	36.1	0.2
Queue Delay	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.4	0.0
Total Delay	32.6	71.4	49.8	84.7	39.7	7.4	63.8	19.1	13.1	28.7	36.4	0.2
LOS	C	E	D	F	D	A	E	B	B	C	D	A
Approach Delay		53.1			71.1			19.9			35.0	
Approach LOS		D			E			B			D	

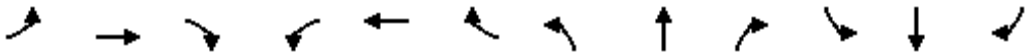
Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 36.1 Intersection LOS: D
Intersection Capacity Utilization 92.1% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



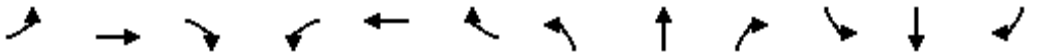
1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	35	101	338	692	56	121	146	1278	783	197	2106	51
v/c Ratio	0.14	0.55	0.76	0.98	0.11	0.25	0.80	0.54	0.72	0.70	0.85	0.07
Control Delay	32.6	71.4	42.8	84.7	39.7	7.4	63.8	19.1	12.6	28.7	36.1	0.2
Queue Delay	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.4	0.0
Total Delay	32.6	71.4	49.8	84.7	39.7	7.4	63.8	19.1	13.1	28.7	36.4	0.2
Queue Length 50th (m)	6.7	28.5	57.2	104.5	12.6	0.0	27.8	92.4	59.6	25.0	193.4	0.0
Queue Length 95th (m)	14.4	48.0	96.0	#145.7	23.9	15.4	#70.5	104.0	226.9	45.2	215.4	0.0
Internal Link Dist (m)		361.1			497.8			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	248	215	442	704	516	503	182	2348	1089	292	2466	763
Starvation Cap Reductn	0	0	0	0	0	0	0	0	72	0	0	0
Spillback Cap Reductn	0	0	68	0	0	0	0	0	0	0	79	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.47	0.90	0.98	0.11	0.24	0.80	0.54	0.77	0.67	0.88	0.07

Intersection Summary

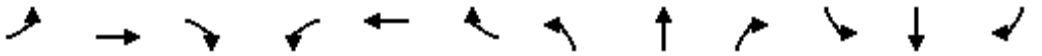
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	100	335	685	55	120	145	1265	775	195	2085	50
Future Volume (vph)	35	100	335	685	55	120	145	1265	775	195	2085	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.97	1.00	1.00	0.93
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1704	1863	1568	3367	1827	1470	1719	4988	1525	1787	5085	1424
Flt Permitted	0.72	1.00	1.00	0.95	1.00	1.00	0.06	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)	1293	1863	1568	3367	1827	1470	112	4988	1525	251	5085	1424
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	35	101	338	692	56	121	146	1278	783	197	2106	51
RTOR Reduction (vph)	0	0	112	0	0	88	0	0	377	0	0	27
Lane Group Flow (vph)	35	101	226	692	56	33	146	1278	406	197	2106	24
Confl. Peds. (#/hr)	35					35	35		10	10		35
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	19.6	13.8	23.2	28.3	37.3	37.3	73.3	63.9	63.9	77.3	65.9	65.9
Effective Green, g (s)	21.6	14.8	25.2	29.3	38.3	38.3	75.3	64.9	64.9	79.3	66.9	66.9
Actuated g/C Ratio	0.15	0.11	0.18	0.21	0.27	0.27	0.54	0.46	0.46	0.57	0.48	0.48
Clearance Time (s)	4.7	6.8	4.0	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	219	196	282	704	499	402	179	2312	706	278	2429	680
v/s Ratio Prot	0.01	0.05	c0.06	c0.21	0.03		c0.06	0.26		c0.06	c0.41	
v/s Ratio Perm	0.02		0.08			0.02	0.38		0.27	0.34		0.02
v/c Ratio	0.16	0.52	0.80	0.98	0.11	0.08	0.82	0.55	0.58	0.71	0.87	0.04
Uniform Delay, d1	51.1	59.2	55.0	55.1	38.1	37.8	36.2	27.1	27.5	18.8	32.6	19.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.28	0.68	2.53	1.00	1.00	1.00
Incremental Delay, d2	0.3	2.3	15.1	29.5	0.1	0.1	20.7	0.8	2.8	8.0	4.5	0.1
Delay (s)	51.5	61.5	70.1	84.6	38.2	37.9	67.1	19.3	72.4	26.8	37.1	19.5
Level of Service	D	E	E	F	D	D	E	B	E	C	D	B
Approach Delay (s)		66.9			75.1			41.3			35.8	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	46.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

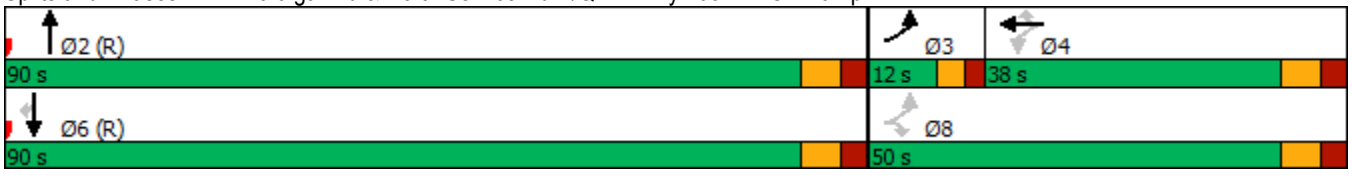


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	395	0	200	0	1995	0	0	3145	5
Future Volume (vph)	5	0	225	395	0	200	0	1995	0	0	3145	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.96
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.950							
Satd. Flow (prot)	1805	0	1599	1649	1649	1568	0	4988	0	0	5036	1615
Flt Permitted	0.324			0.950	0.950							
Satd. Flow (perm)	616	0	1599	1649	1649	1568	0	4988	0	0	5036	1543
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			90						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							10		5	5		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Adj. Flow (vph)	5	0	232	407	0	206	0	2057	0	0	3242	5
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	5	0	232	203	204	206	0	2057	0	0	3242	5
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

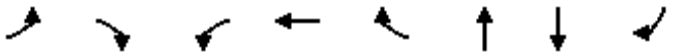
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	12.0		50.0	38.0	38.0	38.0		90.0			90.0	90.0
Total Split (%)	8.6%		35.7%	27.1%	27.1%	27.1%		64.3%			64.3%	64.3%
Maximum Green (s)	7.0		43.0	31.0	31.0	31.0		83.0			83.0	83.0
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		10			10	10
Act Effct Green (s)	28.8		26.8	24.4	24.4	24.4		101.2			101.2	101.2
Actuated g/C Ratio	0.21		0.19	0.17	0.17	0.17		0.72			0.72	0.72
v/c Ratio	0.03		0.70	0.71	0.71	0.59		0.57			0.89	0.00
Control Delay	37.6		55.6	67.2	67.4	35.6		8.0			25.2	0.0
Queue Delay	0.0		0.0	0.0	0.0	0.0		0.0			1.1	0.0
Total Delay	37.6		55.6	67.2	67.4	35.6		8.0			26.2	0.0
LOS	D		E	E	E	D		A			C	A
Approach Delay		55.2			56.7			8.0			26.2	
Approach LOS		E			E			A			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 24.3		Intersection LOS: C	
Intersection Capacity Utilization 100.6%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp



2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp

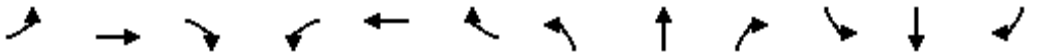


Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	5	232	203	204	206	2057	3242	5
v/c Ratio	0.03	0.70	0.71	0.71	0.59	0.57	0.89	0.00
Control Delay	37.6	55.6	67.2	67.4	35.6	8.0	25.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Total Delay	37.6	55.6	67.2	67.4	35.6	8.0	26.2	0.0
Queue Length 50th (m)	1.2	56.6	59.1	59.4	31.0	72.8	246.4	0.0
Queue Length 95th (m)	4.4	72.7	84.0	84.3	55.1	97.4	m#400.9	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	194	523	376	376	427	3604	3639	1134
Starvation Cap Reductn	0	0	0	0	0	0	188	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.44	0.54	0.54	0.48	0.57	0.94	0.00

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

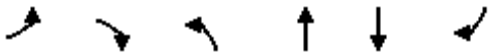
m Volume for 95th percentile queue is metered by upstream signal.



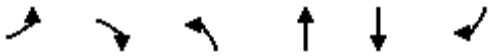
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	395	0	200	0	1995	0	0	3145	5
Future Volume (vph)	5	0	225	395	0	200	0	1995	0	0	3145	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.96
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1649	1649	1568		4988			5036	1543
Flt Permitted	0.32		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	615		1599	1649	1649	1568		4988			5036	1543
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	5	0	232	407	0	206	0	2057	0	0	3242	5
RTOR Reduction (vph)	0	0	24	0	0	74	0	0	0	0	0	2
Lane Group Flow (vph)	5	0	208	203	204	132	0	2057	0	0	3242	3
Confl. Peds. (#/hr)							10		5	5		10
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	29.8		29.8	23.4	23.4	23.4		96.2			96.2	96.2
Effective Green, g (s)	30.8		30.8	24.4	24.4	24.4		97.2			97.2	97.2
Actuated g/C Ratio	0.22		0.22	0.17	0.17	0.17		0.69			0.69	0.69
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	155		351	287	287	273		3463			3496	1071
v/s Ratio Prot	0.00							0.41			c0.64	
v/s Ratio Perm	0.01		c0.13	0.12	0.12	0.08						0.00
v/c Ratio	0.03		0.59	0.71	0.71	0.48		0.59			0.93	0.00
Uniform Delay, d1	43.4		49.0	54.4	54.5	52.1		11.1			18.4	6.6
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.71			1.43	1.00
Incremental Delay, d2	0.1		2.8	7.7	8.0	1.3		0.6			3.1	0.0
Delay (s)	43.5		51.8	62.2	62.5	53.5		8.5			29.3	6.6
Level of Service	D		D	E	E	D		A			C	A
Approach Delay (s)		51.6			59.4			8.5			29.2	
Approach LOS		D			E			A			C	

Intersection Summary			
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	100.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



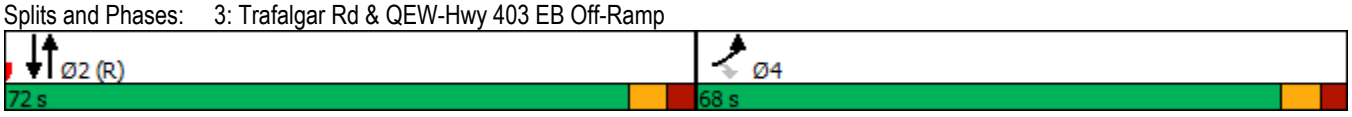
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	885	630	0	1595	2230	0
Future Volume (vph)	885	630	0	1595	2230	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3433	1583	0	4940	5036	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	*1800	0	4940	5036	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		1				
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			45.3	331.3	
Travel Time (s)	15.4			3.3	23.9	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Adj. Flow (vph)	903	643	0	1628	2276	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	903	643	0	1628	2276	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	68.0	68.0		72.0	72.0	
Total Split (%)	48.6%	48.6%		51.4%	51.4%	
Maximum Green (s)	61.0	61.0		65.0	65.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		10	10	
Act Effct Green (s)	56.8	56.8		71.2	71.2	
Actuated g/C Ratio	0.41	0.41		0.51	0.51	
v/c Ratio	0.65	0.88		0.65	0.89	
Control Delay	35.5	52.4		23.4	30.7	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	35.5	52.4		23.4	30.7	
LOS	D	D		C	C	
Approach Delay	42.5			23.4	30.7	
Approach LOS	D			C	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 31.9		Intersection LOS: C	
Intersection Capacity Utilization 92.1%		ICU Level of Service F	
Analysis Period (min) 15			
* User Entered Value			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



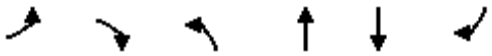
3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	903	643	1628	2276
v/c Ratio	0.65	0.88	0.65	0.89
Control Delay	35.5	52.4	23.4	30.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	35.5	52.4	23.4	30.7
Queue Length 50th (m)	105.4	166.8	88.9	190.2
Queue Length 95th (m)	122.8	215.2	m96.8	#245.5
Internal Link Dist (m)	190.2		21.3	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1520	797	2510	2559
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.59	0.81	0.65	0.89

Intersection Summary

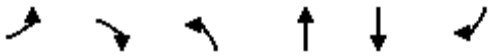
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	885	630	0	1595	2230	0
Future Volume (vph)	885	630	0	1595	2230	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	1583		4940	5036	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	1800		4940	5036	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	903	643	0	1628	2276	0
RTOR Reduction (vph)	0	1	0	0	0	0
Lane Group Flow (vph)	903	642	0	1628	2276	0
Confl. Peds. (#/hr)			10			10
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	55.8	55.8		70.2	70.2	
Effective Green, g (s)	56.8	56.8		71.2	71.2	
Actuated g/C Ratio	0.41	0.41		0.51	0.51	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1392	730		2512	2561	
v/s Ratio Prot	0.26			0.33	c0.45	
v/s Ratio Perm		c0.36				
v/c Ratio	0.65	0.88		0.65	0.89	
Uniform Delay, d1	33.6	38.5		25.2	30.8	
Progression Factor	1.00	1.00		0.86	0.87	
Incremental Delay, d2	1.1	12.0		0.8	2.8	
Delay (s)	34.6	50.4		22.5	29.5	
Level of Service	C	D		C	C	
Approach Delay (s)	41.2			22.5	29.5	
Approach LOS	D			C	C	

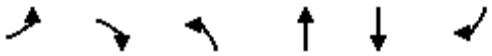
Intersection Summary			
HCM 2000 Control Delay	30.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	40	0	1865	2190	680
Future Volume (vph)	0	40	0	1865	2190	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.964	
Flt Protected						
Satd. Flow (prot)	0	1565	0	4940	4855	0
Flt Permitted						
Satd. Flow (perm)	0	1565	0	4940	4855	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	144.9			271.4	45.3	
Travel Time (s)	10.4			19.5	3.3	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	5%	0%	5%	3%	3%
Adj. Flow (vph)	0	43	0	2005	2355	731
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	43	0	2005	3086	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 67.7%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	40	0	1865	2190	680
Future Volume (Veh/h)	0	40	0	1865	2190	680
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	43	0	2005	2355	731
Pedestrians	10					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				271	45	
pX, platoon unblocked	0.68	0.59	0.59			
vC, conflicting volume	3399	1160	3096			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1146	0	2123			
tC, single (s)	6.8	7.0	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	93	100			
cM capacity (veh/h)	132	630	152			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	43	668	668	668	942	942	1202
Volume Left	0	0	0	0	0	0	0
Volume Right	43	0	0	0	0	0	731
cSH	630	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.07	0.39	0.39	0.39	0.55	0.55	0.71
Queue Length 95th (m)	1.8	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	11.1	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	11.1	0.0			0.0		
Approach LOS	B						

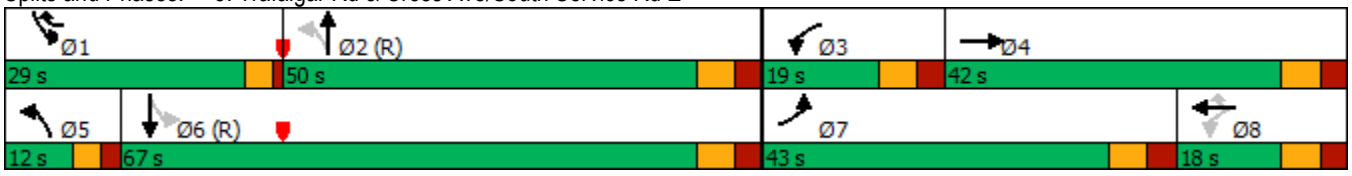
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	67.7%	ICU Level of Service		C
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	790	80	150	100	95	380	110	1180	40	225	1450	440
Future Volume (vph)	790	80	150	100	95	380	110	1180	40	225	1450	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		0.0	50.0		0.0	120.0		0.0	55.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.99		1.00				1.00			0.99	
Frt		0.902				0.850		0.995			0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3273	1600	0	1736	1810	1553	1671	5008	0	1736	4845	0
Flt Permitted	0.950			0.611			0.078			0.104		
Satd. Flow (perm)	3273	1600	0	1111	1810	1553	137	5008	0	190	4845	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		65				140		4			69	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		217.0			420.1			277.9			271.4	
Travel Time (s)		15.6			30.2			20.0			19.5	
Confl. Peds. (#/hr)			5	5			15		5	5		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Adj. Flow (vph)	814	82	155	103	98	392	113	1216	41	232	1495	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	814	237	0	103	98	392	113	1257	0	232	1949	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		12.0	10.0	7.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0		19.0	17.0	11.0	12.0	34.0		11.0	34.0	
Total Split (s)	43.0	42.0		19.0	18.0	29.0	12.0	50.0		29.0	67.0	
Total Split (%)	30.7%	30.0%		13.6%	12.9%	20.7%	8.6%	35.7%		20.7%	47.9%	
Maximum Green (s)	36.0	35.0		12.0	11.0	25.0	7.0	43.0		25.0	60.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	1.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0						7.0			7.0	
Flash Dont Walk (s)		28.0						20.0			20.0	
Pedestrian Calls (#/hr)		5						10			10	
Act Effct Green (s)	36.6	35.4		24.8	11.8	37.0	61.6	51.4		76.3	61.4	
Actuated g/C Ratio	0.26	0.25		0.18	0.08	0.26	0.44	0.37		0.54	0.44	
v/c Ratio	0.95	0.52		0.41	0.64	0.76	0.76	0.68		0.74	0.90	
Control Delay	71.5	36.7		36.2	81.5	39.8	52.3	40.4		46.0	42.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	71.5	36.7		36.2	81.5	39.8	52.3	40.4		46.0	42.7	
LOS	E	D		D	F	D	D	D		D	D	
Approach Delay		63.7			46.1			41.4			43.0	
Approach LOS		E			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 47.1		Intersection LOS: D	
Intersection Capacity Utilization 93.5%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 5: Trafalgar Rd & Cross Ave/South Service Rd E



5: Trafalgar Rd & Cross Ave/South Service Rd E

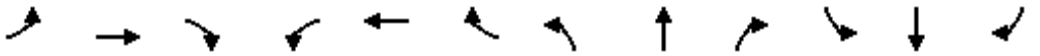


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	814	237	103	98	392	113	1257	232	1949
v/c Ratio	0.95	0.52	0.41	0.64	0.76	0.76	0.68	0.74	0.90
Control Delay	71.5	36.7	36.2	81.5	39.8	52.3	40.4	46.0	42.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.5	36.7	36.2	81.5	39.8	52.3	40.4	46.0	42.7
Queue Length 50th (m)	120.3	43.0	19.2	28.1	69.9	22.8	92.8	51.2	152.7
Queue Length 95th (m)	#160.3	71.4	32.9	#51.7	103.9	m#32.5	m108.4	m62.3	175.2
Internal Link Dist (m)		193.0		396.1			253.9		247.4
Turn Bay Length (m)	130.0		50.0			120.0		55.0	
Base Capacity (vph)	865	459	254	155	582	149	1841	391	2162
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.52	0.41	0.63	0.67	0.76	0.68	0.59	0.90

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

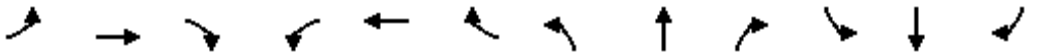
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	790	80	150	100	95	380	110	1180	40	225	1450	440
Future Volume (vph)	790	80	150	100	95	380	110	1180	40	225	1450	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.90		1.00	1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3273	1599		1731	1810	1553	1671	5008		1736	4846	
Flt Permitted	0.95	1.00		0.61	1.00	1.00	0.08	1.00		0.10	1.00	
Satd. Flow (perm)	3273	1599		1114	1810	1553	137	5008		190	4846	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	814	82	155	103	98	392	113	1216	41	232	1495	454
RTOR Reduction (vph)	0	49	0	0	0	109	0	3	0	0	39	0
Lane Group Flow (vph)	814	188	0	103	98	283	113	1254	0	232	1910	0
Confl. Peds. (#/hr)			5	5			15		5	5		15
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Actuated Green, G (s)	35.6	34.4		22.8	10.8	29.0	57.6	50.4		72.6	60.4	
Effective Green, g (s)	36.6	35.4		24.8	11.8	31.0	59.6	51.4		73.6	61.4	
Actuated g/C Ratio	0.26	0.25		0.18	0.08	0.22	0.43	0.37		0.53	0.44	
Clearance Time (s)	7.0	7.0		7.0	7.0	4.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	855	404		254	152	343	148	1838		311	2125	
v/s Ratio Prot	c0.25	0.12		0.04	0.05	c0.11	0.04	0.25		0.10	c0.39	
v/s Ratio Perm				0.03		0.07	0.28			0.29		
v/c Ratio	0.95	0.47		0.41	0.64	0.83	0.76	0.68		0.75	0.90	
Uniform Delay, d1	50.8	44.3		50.4	62.1	51.9	30.8	37.4		29.9	36.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.09	1.01		1.45	1.09	
Incremental Delay, d2	20.0	1.2		1.3	10.0	14.8	13.7	1.3		5.4	3.9	
Delay (s)	70.8	45.5		51.6	72.1	66.7	47.3	39.3		48.8	43.7	
Level of Service	E	D		D	E	E	D	D		D	D	
Approach Delay (s)		65.1			65.0			39.9			44.2	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	49.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	430	70	30	355	640	50	410	55	670	680	385
Future Volume (vph)	300	430	70	30	355	640	50	410	55	670	680	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.98	0.99		0.99		0.95	0.99	1.00		0.99		0.96
Frt		0.979				0.850		0.982				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3367	3322	0	1736	3438	1553	1770	3450	0	3400	1881	1553
Flt Permitted	0.950			0.448			0.256			0.950		
Satd. Flow (perm)	3299	3322	0	806	3438	1483	474	3450	0	3365	1881	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				484		10				308
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			277.9	
Travel Time (s)		41.4			45.2			10.0			20.0	
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Adj. Flow (vph)	313	448	73	31	370	667	52	427	57	698	708	401
Shared Lane Traffic (%)												
Lane Group Flow (vph)	313	521	0	31	370	667	52	484	0	698	708	401
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

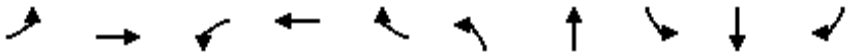
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	18.0	44.0		12.0	38.0	38.0	11.0	47.0		37.0	73.0	73.0
Total Split (%)	12.9%	31.4%		8.6%	27.1%	27.1%	7.9%	33.6%		26.4%	52.1%	52.1%
Maximum Green (s)	12.3	37.6		7.0	31.6	31.6	7.0	40.1		32.0	66.1	66.1
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		20			20	20		15			15	15
Act Effct Green (s)	16.1	42.3		38.5	28.9	28.9	53.4	42.5		32.5	70.2	70.2
Actuated g/C Ratio	0.12	0.30		0.28	0.21	0.21	0.38	0.30		0.23	0.50	0.50
v/c Ratio	0.81	0.51		0.11	0.52	0.97	0.20	0.46		0.89	0.75	0.44
Control Delay	77.9	47.4		29.2	51.5	41.8	18.6	41.1		78.8	31.5	9.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.1	0.0
Total Delay	77.9	47.4		29.2	51.5	41.8	18.6	41.1		78.8	31.6	9.5
LOS	E	D		C	D	D	B	D		E	C	A
Approach Delay		58.8			44.8			38.9			44.9	
Approach LOS		E			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 125			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 46.9		Intersection LOS: D	
Intersection Capacity Utilization 93.0%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd



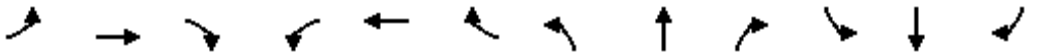
6: Trafalgar Rd & Cornwall Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	313	521	31	370	667	52	484	698	708	401
v/c Ratio	0.81	0.51	0.11	0.52	0.97	0.20	0.46	0.89	0.75	0.44
Control Delay	77.9	47.4	29.2	51.5	41.8	18.6	41.1	78.8	31.5	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total Delay	77.9	47.4	29.2	51.5	41.8	18.6	41.1	78.8	31.6	9.5
Queue Length 50th (m)	47.4	67.7	5.6	49.1	63.3	6.6	61.2	111.2	99.8	19.2
Queue Length 95th (m)	#80.3	90.6	13.1	65.6	#148.6	12.6	77.7	m125.2	m118.0	m29.0
Internal Link Dist (m)		551.4		604.3			115.4		253.9	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	387	1013	276	800	716	254	1088	806	959	914
Starvation Cap Reductn	0	0	0	0	0	0	0	0	15	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.51	0.11	0.46	0.93	0.20	0.44	0.87	0.75	0.44

Intersection Summary

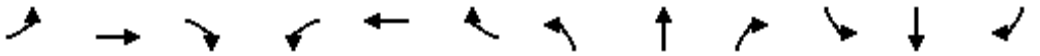
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	430	70	30	355	640	50	410	55	670	680	385
Future Volume (vph)	300	430	70	30	355	640	50	410	55	670	680	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.95	1.00	1.00		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3367	3322		1724	3438	1483	1767	3451		3400	1881	1498
Flt Permitted	0.95	1.00		0.45	1.00	1.00	0.26	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3367	3322		813	3438	1483	477	3451		3400	1881	1498
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	312	448	73	31	370	667	52	427	57	698	708	401
RTOR Reduction (vph)	0	9	0	0	0	377	0	7	0	0	0	160
Lane Group Flow (vph)	313	512	0	31	370	290	52	477	0	698	708	241
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	15.1	41.3		34.3	29.9	29.9	45.1	39.5		31.5	66.4	66.4
Effective Green, g (s)	16.1	42.3		36.3	30.9	30.9	47.1	40.5		32.5	67.4	67.4
Actuated g/C Ratio	0.12	0.30		0.26	0.22	0.22	0.34	0.29		0.23	0.48	0.48
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Lane Grp Cap (vph)	387	1003		245	758	327	221	998		789	905	721
v/s Ratio Prot	c0.09	0.15		0.00	0.11		0.01	0.14		c0.21	c0.38	
v/s Ratio Perm				0.03		c0.20	0.07					0.16
v/c Ratio	0.81	0.51		0.13	0.49	0.89	0.24	0.48		0.88	0.78	0.33
Uniform Delay, d1	60.4	40.3		39.1	47.6	52.8	32.5	41.0		51.9	30.2	22.4
Progression Factor	1.03	1.13		1.00	1.00	1.00	1.00	1.00		1.36	0.94	1.53
Incremental Delay, d2	11.5	0.4		0.3	0.5	23.7	0.6	1.6		7.1	3.8	0.7
Delay (s)	73.5	46.2		39.4	48.1	76.5	33.1	42.7		77.8	32.2	35.0
Level of Service	E	D		D	D	E	C	D		E	C	C
Approach Delay (s)		56.4			65.6			41.7			50.4	
Approach LOS		E			E			D			D	

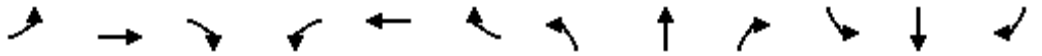
Intersection Summary			
HCM 2000 Control Delay	54.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	93.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	15	0	5	615	140	0	5	0	20	5	100
Future Volume (vph)	0	15	0	5	615	140	0	5	0	20	5	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.975						0.892	
Flt Protected											0.992	
Satd. Flow (prot)	0	1792	0	0	1813	0	0	1900	0	0	1480	0
Flt Permitted											0.992	
Satd. Flow (perm)	0	1792	0	0	1813	0	0	1900	0	0	1480	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		175.8			144.9			44.8			92.1	
Travel Time (s)		12.7			10.4			3.2			6.6	
Confl. Peds. (#/hr)			5	5					10	10		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	6%	0%	0%	2%	3%	0%	0%	0%	0%	0%	17%
Adj. Flow (vph)	0	17	0	6	691	157	0	6	0	22	6	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	17	0	0	854	0	0	6	0	0	140	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

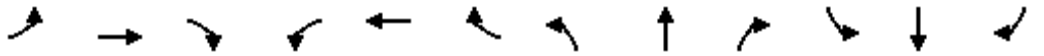
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	15	0	5	615	140	0	5	0	20	5	100
Future Volume (Veh/h)	0	15	0	5	615	140	0	5	0	20	5	100
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	17	0	6	691	157	0	6	0	22	6	112
Pedestrians					10			5				
Lane Width (m)					3.6			3.6				
Walking Speed (m/s)					1.2			1.2				
Percent Blockage					1			0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		355										
pX, platoon unblocked												
vC, conflicting volume	848			22			918	882	32	812	804	770
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	848			22			918	882	32	812	804	770
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.4
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.5
p0 queue free %	100			100			100	98	100	92	98	70
cM capacity (veh/h)	798			1600			174	285	1035	291	316	378

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	17	854	6	140
Volume Left	0	6	0	22
Volume Right	0	157	0	112
cSH	798	1600	285	358
Volume to Capacity	0.00	0.00	0.02	0.39
Queue Length 95th (m)	0.0	0.1	0.5	14.5
Control Delay (s)	0.0	0.1	17.9	21.4
Lane LOS		A	C	C
Approach Delay (s)	0.0	0.1	17.9	21.4
Approach LOS			C	C

Intersection Summary				
Average Delay	3.1			
Intersection Capacity Utilization	65.8%	ICU Level of Service	C	
Analysis Period (min)	15			

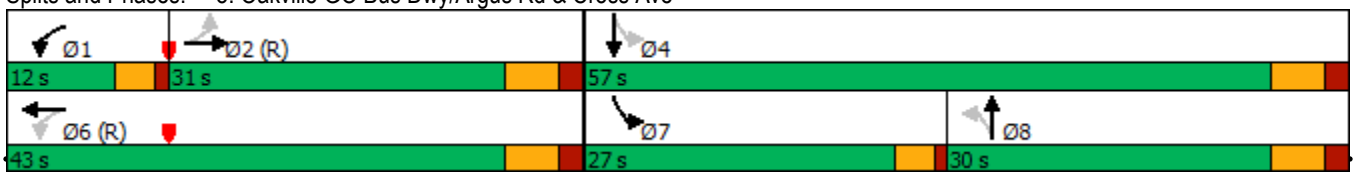


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	785	15	20	590	25	15	0	30	175	10	440
Future Volume (vph)	20	785	15	20	590	25	15	0	30	175	10	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	30.0			15.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		1.00	1.00			0.97		0.98	0.96	
Frt		0.997			0.994			0.909			0.853	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1719	3498	0	950	3537	0	0	845	0	1719	1528	0
Flt Permitted	0.411			0.245				0.783		0.727		
Satd. Flow (perm)	737	3498	0	244	3537	0	0	670	0	1285	1528	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			5			120			123	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		107.3			217.0			71.0			179.3	
Travel Time (s)		7.7			15.6			5.1			12.9	
Confl. Peds. (#/hr)	10		10	10		10	20		20	20		20
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	1%	100%	90%	1%	7%	100%	100%	94%	5%	100%	0%
Adj. Flow (vph)	21	809	15	21	608	26	15	0	31	180	10	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	824	0	21	634	0	0	46	0	180	464	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

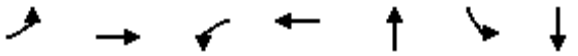
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	22.0	22.0		8.0	22.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	29.0	29.0		12.0	29.0		29.0	29.0		9.0	29.0	
Total Split (s)	31.0	31.0		12.0	43.0		30.0	30.0		27.0	57.0	
Total Split (%)	31.0%	31.0%		12.0%	43.0%		30.0%	30.0%		27.0%	57.0%	
Maximum Green (s)	25.0	25.0		8.0	37.0		24.0	24.0		23.0	51.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	5.0	5.0		2.5	5.0		4.0	4.0		3.0	4.0	
Recall Mode	C-Min	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	16.0	16.0			16.0		16.0	16.0			16.0	
Pedestrian Calls (#/hr)	10	10			10		20	20			20	
Act Effct Green (s)	51.9	51.9		58.8	56.8			17.1		35.2	33.2	
Actuated g/C Ratio	0.52	0.52		0.59	0.57			0.17		0.35	0.33	
v/c Ratio	0.05	0.45		0.10	0.32			0.22		0.34	0.79	
Control Delay	20.1	19.7		13.6	13.5			2.3		23.3	30.7	
Queue Delay	0.0	1.7		0.0	0.0			0.0		0.0	0.0	
Total Delay	20.1	21.4		13.6	13.5			2.3		23.3	30.7	
LOS	C	C		B	B			A		C	C	
Approach Delay		21.4			13.5			2.3			28.6	
Approach LOS		C			B			A			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 20.8		Intersection LOS: C	
Intersection Capacity Utilization 60.2%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: Oakville GO Bus Dwy/Argus Rd & Cross Ave

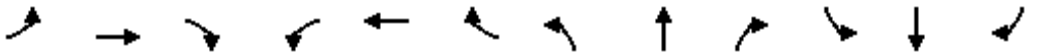


8: Oakville GO Bus Dwy/Argus Rd & Cross Ave



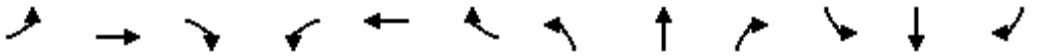
Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	21	824	21	634	46	180	464
v/c Ratio	0.05	0.45	0.10	0.32	0.22	0.34	0.79
Control Delay	20.1	19.7	13.6	13.5	2.3	23.3	30.7
Queue Delay	0.0	1.7	0.0	0.0	0.0	0.0	0.0
Total Delay	20.1	21.4	13.6	13.5	2.3	23.3	30.7
Queue Length 50th (m)	1.7	45.1	1.6	32.1	0.0	26.9	65.3
Queue Length 95th (m)	8.6	98.4	6.5	57.6	0.0	35.5	86.5
Internal Link Dist (m)		83.3		193.0	47.0		155.3
Turn Bay Length (m)	20.0		20.0			15.0	
Base Capacity (vph)	382	1817	207	2010	257	562	853
Starvation Cap Reductn	0	773	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.79	0.10	0.32	0.18	0.32	0.54

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	785	15	20	590	25	15	0	30	175	10	440
Future Volume (vph)	20	785	15	20	590	25	15	0	30	175	10	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.97		1.00	0.96	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00		0.98	1.00	
Frt	1.00	1.00		1.00	0.99			0.91		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1704	3499		949	3537			842		1691	1529	
Flt Permitted	0.41	1.00		0.25	1.00			0.78		0.73	1.00	
Satd. Flow (perm)	737	3499		245	3537			670		1295	1529	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	21	809	15	21	608	26	15	0	31	180	10	454
RTOR Reduction (vph)	0	1	0	0	2	0	0	39	0	0	81	0
Lane Group Flow (vph)	21	823	0	21	632	0	0	7	0	180	383	0
Confl. Peds. (#/hr)	10		10	10		10	20		20	20		20
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	5%	1%	100%	90%	1%	7%	100%	100%	94%	5%	100%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	47.3	47.3		54.5	54.5			14.1		33.5	33.5	
Effective Green, g (s)	48.3	48.3		55.5	55.5			15.1		34.5	34.5	
Actuated g/C Ratio	0.48	0.48		0.56	0.56			0.15		0.34	0.34	
Clearance Time (s)	6.0	6.0		4.0	6.0			6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0		2.5	5.0			4.0		3.0	4.0	
Lane Grp Cap (vph)	355	1690		165	1963			101		511	527	
v/s Ratio Prot		c0.24		0.01	c0.18					0.06	c0.25	
v/s Ratio Perm	0.03			0.07				0.01		0.06		
v/c Ratio	0.06	0.49		0.13	0.32			0.07		0.35	0.73	
Uniform Delay, d1	13.8	17.5		11.2	12.1			36.4		24.1	28.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.3	1.0		0.3	0.4			0.4		0.4	5.3	
Delay (s)	14.1	18.5		11.5	12.5			36.8		24.5	34.0	
Level of Service	B	B		B	B			D		C	C	
Approach Delay (s)		18.4			12.5			36.8			31.3	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	295	90	650	465	15	60	0	235	275	0	75
Future Volume (vph)	25	295	90	650	465	15	60	0	235	275	0	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00		1.00		0.97		0.99	
Frt		0.967			0.998				0.850		0.971	
Flt Protected		0.997			0.972		0.950				0.962	
Satd. Flow (prot)	0	3269	0	0	3416	0	1805	0	1615	0	1769	0
Flt Permitted		0.816			0.566		0.536				0.962	
Satd. Flow (perm)	0	2674	0	0	1989	0	1013	0	1570	0	1759	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27			2				255		51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		139.5			107.3			62.6			201.6	
Travel Time (s)		10.0			7.7			4.5			14.5	
Confl. Peds. (#/hr)	15					15	5		10	10		5
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	27	321	98	707	505	16	65	0	255	299	0	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	446	0	0	1228	0	65	0	255	0	381	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	100		100
Number of Detectors	1	2		1	2		1		1	1	2	
Detector Template	Left	Thru		Left	Thru		Left		Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0		2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0		2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4						9.4	
Detector 2 Size(m)		0.6			0.6						0.6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type	Perm	NA		custom	NA		Perm		Perm	custom	NA	
Protected Phases		2		1	1 6					7	7 4	

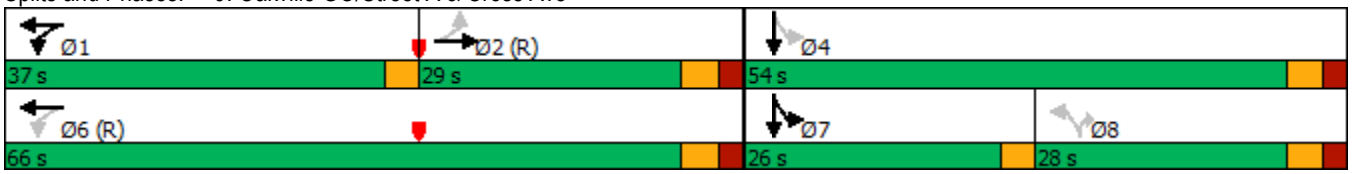
Lane Group	Ø4	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	4	6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			8		8	4		
Detector Phase	2	2		1	1 6		8		8	7	7 4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		8.0			10.0		10.0	8.0		
Minimum Split (s)	27.6	27.6		11.0			27.6		27.6	11.0		
Total Split (s)	29.0	29.0		37.0			28.0		28.0	26.0		
Total Split (%)	24.2%	24.2%		30.8%			23.3%		23.3%	21.7%		
Maximum Green (s)	23.4	23.4		34.0			22.4		22.4	23.0		
Yellow Time (s)	3.3	3.3		3.0			3.3		3.3	3.0		
All-Red Time (s)	2.3	2.3		0.0			2.3		2.3	0.0		
Lost Time Adjust (s)		-1.0					-1.0		-1.0			
Total Lost Time (s)		4.6					4.6		4.6			
Lead/Lag	Lag	Lag		Lead			Lag		Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes		
Vehicle Extension (s)	5.0	5.0		2.5			3.5		3.5	3.0		
Recall Mode	C-Min	C-Min		None			None		None	None		
Walk Time (s)	7.0	7.0					7.0		7.0			
Flash Dont Walk (s)	15.0	15.0					15.0		15.0			
Pedestrian Calls (#/hr)	10	10					10		10			
Act Effct Green (s)		35.9			72.9		15.5		15.5		43.1	
Actuated g/C Ratio		0.30			0.61		0.13		0.13		0.36	
v/c Ratio		0.54			0.98dl		0.50		0.60		0.57	
Control Delay		38.7			19.4		60.5		11.6		29.4	
Queue Delay		0.0			21.2		0.0		0.0		0.0	
Total Delay		38.7			40.7		60.5		11.6		29.4	
LOS		D			D		E		B		C	
Approach Delay		38.7			40.7			21.5			29.4	
Approach LOS		D			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 35.9		Intersection LOS: D	
Intersection Capacity Utilization 89.8%		ICU Level of Service E	
Analysis Period (min) 15			

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 9: Oakville GO/Street A & Cross Ave



Lane Group	Ø4	Ø6
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	10.0	20.0
Minimum Split (s)	27.6	27.6
Total Split (s)	54.0	66.0
Total Split (%)	45%	55%
Maximum Green (s)	48.4	60.4
Yellow Time (s)	3.3	3.3
All-Red Time (s)	2.3	2.3
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	5.0
Recall Mode	None	C-Min
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	15.0	15.0
Pedestrian Calls (#/hr)	10	10
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

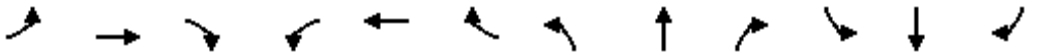
Intersection Summary



Lane Group	EBT	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	446	1228	65	255	381
v/c Ratio	0.54	0.98dl	0.50	0.60	0.57
Control Delay	38.7	19.4	60.5	11.6	29.4
Queue Delay	0.0	21.2	0.0	0.0	0.0
Total Delay	38.7	40.7	60.5	11.6	29.4
Queue Length 50th (m)	46.8	92.0	15.4	0.0	65.4
Queue Length 95th (m)	#73.6	135.8	28.6	22.9	86.2
Internal Link Dist (m)	115.5	83.3			177.6
Turn Bay Length (m)					
Base Capacity (vph)	819	1636	197	511	793
Starvation Cap Reductn	0	442	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.54	1.03	0.33	0.50	0.48

Intersection Summary

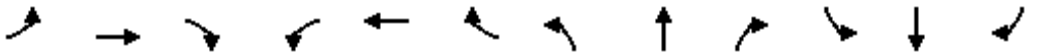
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	295	90	650	465	15	60	0	235	275	0	75
Future Volume (vph)	25	295	90	650	465	15	60	0	235	275	0	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6			2.0		4.6		4.6		2.0	
Lane Util. Factor		0.95			0.95		1.00		1.00		1.00	
Frpb, ped/bikes		1.00			1.00		1.00		0.97		1.00	
Flpb, ped/bikes		1.00			1.00		1.00		1.00		0.99	
Frt		0.97			1.00		1.00		0.85		0.97	
Flt Protected		1.00			0.97		0.95		1.00		0.96	
Satd. Flow (prot)		3267			3416		1796		1570		1757	
Flt Permitted		0.82			0.57		0.54		1.00		0.96	
Satd. Flow (perm)		2674			1990		1013		1570		1757	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	321	98	707	505	16	65	0	255	299	0	82
RTOR Reduction (vph)	0	19	0	0	1	0	0	0	222	0	34	0
Lane Group Flow (vph)	0	427	0	0	1227	0	65	0	33	0	347	0
Confl. Peds. (#/hr)	15					15	5		10	10		5
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	0%	9%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		custom	NA		Perm		Perm	custom	NA	
Protected Phases		2		1	1 6					7	7 4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)		35.0			69.3		14.5		14.5		39.5	
Effective Green, g (s)		36.0			70.3		15.5		15.5		40.5	
Actuated g/C Ratio		0.30			0.59		0.13		0.13		0.34	
Clearance Time (s)		5.6					5.6		5.6			
Vehicle Extension (s)		5.0					3.5		3.5			
Lane Grp Cap (vph)		802			1549		130		202		592	
v/s Ratio Prot					c0.21						c0.11	
v/s Ratio Perm		c0.16			0.25		0.06		0.02		0.09	
v/c Ratio		0.53			0.98dl		0.50		0.16		0.59	
Uniform Delay, d1		35.0			19.2		48.6		46.5		32.8	
Progression Factor		1.00			1.00		1.00		1.00		1.00	
Incremental Delay, d2		2.5			2.8		3.5		0.5		1.5	
Delay (s)		37.5			22.0		52.2		46.9		34.3	
Level of Service		D			C		D		D		C	
Approach Delay (s)		37.5			22.0			48.0			34.3	
Approach LOS		D			C			D			C	

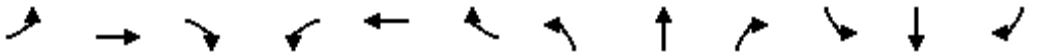
Intersection Summary			
HCM 2000 Control Delay	30.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	260	0	5	455	155	0	0	0	155	0	25
Future Volume (vph)	25	260	0	5	455	155	0	0	0	155	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (m)	25.0			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.962							0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1805	3312	0	0	3271	0	0	1900	0	1787	0	1509
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1805	3312	0	0	3271	0	0	1900	0	1787	0	1509
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		132.8			139.5			48.2			88.5	
Travel Time (s)		9.6			10.0			3.5			6.4	
Confl. Peds. (#/hr)	20		10	10		20						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	0%	0%	8%	1%	0%	0%	0%	1%	0%	7%
Adj. Flow (vph)	27	283	0	5	495	168	0	0	0	168	0	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	283	0	0	668	0	0	0	0	168	0	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

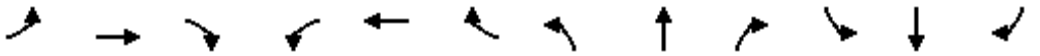
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	260	0	5	455	155	0	0	0	155	0	25
Future Volume (Veh/h)	25	260	0	5	455	155	0	0	0	155	0	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	283	0	5	495	168	0	0	0	168	0	27
Pedestrians								10			20	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			2	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		133			140							
pX, platoon unblocked												
vC, conflicting volume	683			293			632	1040	152	804	956	352
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	683			293			632	1040	152	804	956	352
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	7.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.4
p0 queue free %	97			100			100	100	100	35	100	96
cM capacity (veh/h)	904			1269			335	219	867	259	245	620

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	27	142	142	252	416	0	168	27
Volume Left	27	0	0	5	0	0	168	0
Volume Right	0	0	0	0	168	0	0	27
cSH	904	1700	1700	1269	1700	1700	259	620
Volume to Capacity	0.03	0.08	0.08	0.00	0.24	0.00	0.65	0.04
Queue Length 95th (m)	0.7	0.0	0.0	0.1	0.0	0.0	32.6	1.1
Control Delay (s)	9.1	0.0	0.0	0.2	0.0	0.0	41.3	11.1
Lane LOS	A			A		A	E	B
Approach Delay (s)	0.8			0.1		0.0	37.1	
Approach LOS						A	E	

Intersection Summary				
Average Delay	6.4			
Intersection Capacity Utilization	36.9%	ICU Level of Service	A	
Analysis Period (min)	15			

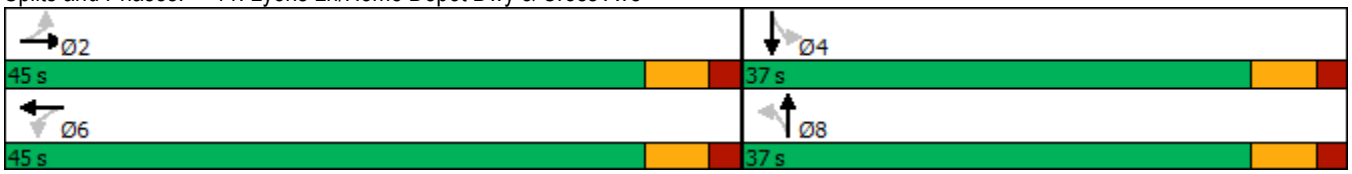


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	250	130	180	300	5	15	5	20	20	10	45
Future Volume (vph)	55	250	130	180	300	5	15	5	20	20	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	25.0		0.0	35.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99				1.00		0.99	0.99		0.99	0.99	
Frt		0.949			0.997			0.881			0.878	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3234	0	1787	3095	0	1805	1588	0	1703	1580	0
Flt Permitted	0.539			0.496			0.715			0.738		
Satd. Flow (perm)	1018	3234	0	933	3095	0	1352	1588	0	1316	1580	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		151			3			23			52	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		47.5			132.8			150.8			63.6	
Travel Time (s)		3.4			9.6			10.9			4.6	
Confl. Peds. (#/hr)	5					5	5		5	5		5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	9%	0%	1%	16%	29%	0%	0%	5%	6%	0%	5%
Adj. Flow (vph)	64	291	151	209	349	6	17	6	23	23	12	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	442	0	209	355	0	17	29	0	23	64	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

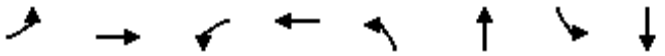
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		35.0	35.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	41.0	41.0		41.0	41.0		28.0	28.0		28.0	28.0	
Total Split (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Total Split (%)	54.9%	54.9%		54.9%	54.9%		45.1%	45.1%		45.1%	45.1%	
Maximum Green (s)	39.0	39.0		39.0	39.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	5	5		5	5		5	5		5	5	
Act Effct Green (s)	43.8	43.8		43.8	43.8		13.1	13.1		13.1	13.1	
Actuated g/C Ratio	0.76	0.76		0.76	0.76		0.23	0.23		0.23	0.23	
v/c Ratio	0.08	0.18		0.30	0.15		0.06	0.08		0.08	0.16	
Control Delay	6.1	3.6		7.7	5.0		17.7	9.7		18.1	8.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	6.1	3.6		7.7	5.0		17.7	9.7		18.1	8.4	
LOS	A	A		A	A		B	A		B	A	
Approach Delay		3.9			6.0			12.7			11.0	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 57.9			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.30			
Intersection Signal Delay: 5.7		Intersection LOS: A	
Intersection Capacity Utilization 80.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 11: Lyons Ln/Home Depot Dwy & Cross Ave

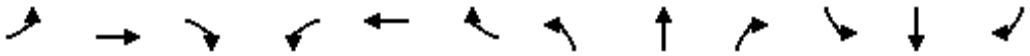


11: Lyons Ln/Home Depot Dwy & Cross Ave



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	442	209	355	17	29	23	64
v/c Ratio	0.08	0.18	0.30	0.15	0.06	0.08	0.08	0.16
Control Delay	6.1	3.6	7.7	5.0	17.7	9.7	18.1	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.1	3.6	7.7	5.0	17.7	9.7	18.1	8.4
Queue Length 50th (m)	2.3	5.5	9.0	7.0	1.5	0.6	2.1	1.1
Queue Length 95th (m)	9.5	16.2	30.4	18.6	5.3	5.3	6.5	8.0
Internal Link Dist (m)		23.5		108.8		126.8		39.6
Turn Bay Length (m)			25.0		35.0			
Base Capacity (vph)	811	2607	743	2466	755	896	734	905
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.17	0.28	0.14	0.02	0.03	0.03	0.07

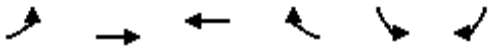
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	250	130	180	300	5	15	5	20	20	10	45
Future Volume (vph)	55	250	130	180	300	5	15	5	20	20	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	1.00		1.00	0.88		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1797	3233		1787	3097		1798	1590		1696	1582	
Flt Permitted	0.54	1.00		0.50	1.00		0.72	1.00		0.74	1.00	
Satd. Flow (perm)	1020	3233		933	3097		1354	1590		1318	1582	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	64	291	151	209	349	6	17	6	23	23	12	52
RTOR Reduction (vph)	0	47	0	0	1	0	0	20	0	0	44	0
Lane Group Flow (vph)	64	395	0	209	354	0	17	9	0	23	20	0
Confl. Peds. (#/hr)	5					5	5		5	5		5
Heavy Vehicles (%)	0%	9%	0%	1%	16%	29%	0%	0%	5%	6%	0%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	40.6	40.6		40.6	40.6		7.8	7.8		7.8	7.8	
Effective Green, g (s)	41.6	41.6		41.6	41.6		8.8	8.8		8.8	8.8	
Actuated g/C Ratio	0.69	0.69		0.69	0.69		0.15	0.15		0.15	0.15	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	702	2226		642	2133		197	231		192	230	
v/s Ratio Prot		0.12			0.11			0.01			0.01	
v/s Ratio Perm	0.06			c0.22			0.01			c0.02		
v/c Ratio	0.09	0.18		0.33	0.17		0.09	0.04		0.12	0.09	
Uniform Delay, d1	3.1	3.3		3.8	3.3		22.3	22.2		22.4	22.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.1		0.6	0.1		0.3	0.1		0.4	0.2	
Delay (s)	3.2	3.4		4.4	3.4		22.6	22.3		22.8	22.5	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		3.4			3.8			22.4			22.6	
Approach LOS		A			A			C			C	

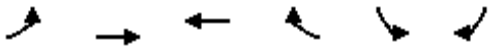
Intersection Summary					
HCM 2000 Control Delay	5.7	HCM 2000 Level of Service		A	
HCM 2000 Volume to Capacity ratio	0.29				
Actuated Cycle Length (s)	60.4	Sum of lost time (s)		10.0	
Intersection Capacity Utilization	80.7%	ICU Level of Service		D	
Analysis Period (min)	15				

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	390	355	5	50	30
Future Volume (vph)	10	390	355	5	50	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.998		0.950	
Flt Protected	0.950				0.970	
Satd. Flow (prot)	1805	3471	3250	0	1751	0
Flt Permitted	0.950				0.970	
Satd. Flow (perm)	1805	3471	3250	0	1751	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		443.3	47.5		121.4	
Travel Time (s)		31.9	3.4		8.7	
Confl. Peds. (#/hr)	5			5		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	4%	11%	0%	0%	0%
Adj. Flow (vph)	11	448	408	6	57	34
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	448	414	0	91	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

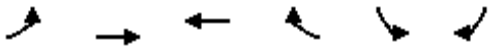
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.1%		ICU Level of Service A	
Analysis Period (min) 15			



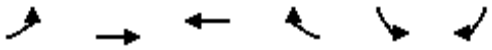
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	390	355	5	50	30
Future Volume (Veh/h)	10	390	355	5	50	30
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	11	448	408	6	57	34
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			48			
pX, platoon unblocked	0.98				0.98	0.98
vC, conflicting volume	419				662	212
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	359				608	147
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				86	96
cM capacity (veh/h)	1178				417	856

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	11	224	224	272	142	91
Volume Left	11	0	0	0	0	57
Volume Right	0	0	0	0	6	34
cSH	1178	1700	1700	1700	1700	516
Volume to Capacity	0.01	0.13	0.13	0.16	0.08	0.18
Queue Length 95th (m)	0.2	0.0	0.0	0.0	0.0	5.1
Control Delay (s)	8.1	0.0	0.0	0.0	0.0	13.5
Lane LOS	A					B
Approach Delay (s)	0.2			0.0		13.5
Approach LOS						B

Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	22.1%	ICU Level of Service		A
Analysis Period (min)	15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	325	755	605	35	105	315
Future Volume (vph)	325	755	605	35	105	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0			0.0	60.0	0.0
Storage Lanes	1			0	1	2
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.88
Ped Bike Factor	1.00		1.00			
Frt			0.992			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1703	3438	3414	0	1805	2561
Flt Permitted	0.355				0.950	
Satd. Flow (perm)	633	3438	3414	0	1805	2561
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			6			332
Link Speed (k/h)		50	50		50	
Link Distance (m)		209.5	575.4		443.3	
Travel Time (s)		15.1	41.4		31.9	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	5%	5%	0%	0%	11%
Adj. Flow (vph)	342	795	637	37	111	332
Shared Lane Traffic (%)						
Lane Group Flow (vph)	342	795	674	0	111	332
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		7.2	7.2		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			

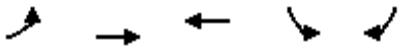


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	6.0	38.0	38.0		10.0	10.0
Minimum Split (s)	12.0	47.6	47.6		33.8	33.8
Total Split (s)	35.0	109.2	74.2		30.8	30.8
Total Split (%)	25.0%	78.0%	53.0%		22.0%	22.0%
Maximum Green (s)	29.0	102.6	67.6		25.0	25.0
Yellow Time (s)	4.0	3.7	3.7		3.3	3.3
All-Red Time (s)	2.0	2.9	2.9		2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.6	5.6		4.8	4.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Recall Mode	None	C-Min	C-Min		None	None
Walk Time (s)		10.0	10.0		10.0	10.0
Flash Dont Walk (s)		31.0	31.0		18.0	18.0
Pedestrian Calls (#/hr)		10	10		0	0
Act Effct Green (s)	115.0	114.4	95.8		15.2	15.2
Actuated g/C Ratio	0.82	0.82	0.68		0.11	0.11
v/c Ratio	0.55	0.28	0.29		0.57	0.58
Control Delay	6.5	3.5	8.3		70.1	9.7
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	6.5	3.5	8.3		70.1	9.7
LOS	A	A	A		E	A
Approach Delay		4.4	8.3		24.8	
Approach LOS		A	A		C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 9.6		Intersection LOS: A	
Intersection Capacity Utilization 73.3%		ICU Level of Service D	
Analysis Period (min) 15			

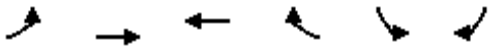
Splits and Phases: 13: Speers Rd/Cornwall Rd & Cross Ave





Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	342	795	674	111	332
v/c Ratio	0.55	0.28	0.29	0.57	0.58
Control Delay	6.5	3.5	8.3	70.1	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	6.5	3.5	8.3	70.1	9.7
Queue Length 50th (m)	17.8	23.3	33.8	31.3	0.0
Queue Length 95th (m)	32.2	36.3	42.0	50.3	15.6
Internal Link Dist (m)		185.5	551.4	419.3	
Turn Bay Length (m)	70.0			60.0	
Base Capacity (vph)	749	2809	2338	335	745
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.46	0.28	0.29	0.33	0.45

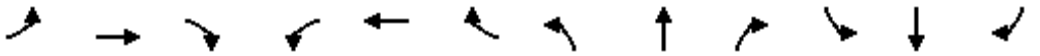
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	325	755	605	35	105	315
Future Volume (vph)	325	755	605	35	105	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		4.8	4.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1700	3438	3414		1805	2561
Flt Permitted	0.36	1.00	1.00		0.95	1.00
Satd. Flow (perm)	636	3438	3414		1805	2561
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	342	795	637	37	111	332
RTOR Reduction (vph)	0	0	2	0	0	296
Lane Group Flow (vph)	342	795	672	0	111	36
Confl. Peds. (#/hr)	15			15		
Heavy Vehicles (%)	6%	5%	5%	0%	0%	11%
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Actuated Green, G (s)	113.4	113.4	94.8		14.2	14.2
Effective Green, g (s)	114.4	114.4	95.8		15.2	15.2
Actuated g/C Ratio	0.82	0.82	0.68		0.11	0.11
Clearance Time (s)	6.0	6.6	6.6		5.8	5.8
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Lane Grp Cap (vph)	623	2809	2336		195	278
v/s Ratio Prot	c0.05	0.23	0.20			
v/s Ratio Perm	c0.40				c0.06	0.01
v/c Ratio	0.55	0.28	0.29		0.57	0.13
Uniform Delay, d1	3.7	3.0	8.7		59.3	56.4
Progression Factor	1.00	1.00	0.86		1.00	1.00
Incremental Delay, d2	1.1	0.3	0.3		3.8	0.2
Delay (s)	4.8	3.3	7.8		63.1	56.6
Level of Service	A	A	A		E	E
Approach Delay (s)		3.7	7.8		58.2	
Approach LOS		A	A		E	

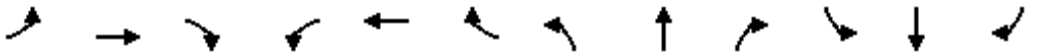
Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	140	0	5	0	175	110	10	430	0
Future Volume (vph)	0	0	0	140	0	5	0	175	110	10	430	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.995			0.942				
Flt Protected					0.954						0.999	
Satd. Flow (prot)	0	1900	0	0	1631	0	0	3302	0	0	3504	0
Flt Permitted					0.954						0.999	
Satd. Flow (perm)	0	1900	0	0	1631	0	0	3302	0	0	3504	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		33.6			249.8			420.1			134.0	
Travel Time (s)		2.4			18.0			30.2			9.6	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	11%	0%	0%	50%	3%	3%	0%	3%	0%
Adj. Flow (vph)	0	0	0	161	0	6	0	201	126	11	494	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	167	0	0	327	0	0	505	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	140	0	5	0	175	110	10	430	0
Future Volume (Veh/h)	0	0	0	140	0	5	0	175	110	10	430	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	0	0	161	0	6	0	201	126	11	494	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	622	843	247	533	780	164	494			327		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	622	843	247	533	780	164	494			327		
tC, single (s)	7.5	6.5	6.9	7.7	6.5	6.9	5.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.7			2.2		
p0 queue free %	100	100	100	61	100	99	100			99		
cM capacity (veh/h)	370	300	759	408	326	859	792			1244		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	167	100	226	258	247
Volume Left	0	161	0	0	11	0
Volume Right	0	6	0	126	0	0
cSH	1700	416	792	1700	1244	1700
Volume to Capacity	0.00	0.40	0.00	0.13	0.01	0.15
Queue Length 95th (m)	0.0	15.2	0.0	0.0	0.2	0.0
Control Delay (s)	0.0	19.4	0.0	0.0	0.4	0.0
Lane LOS	A	C			A	
Approach Delay (s)	0.0	19.4	0.0		0.2	
Approach LOS	A	C				

Intersection Summary				
Average Delay	3.3			
Intersection Capacity Utilization	33.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	95	95	95	150	75	20
Future Volume (vph)	95	95	95	150	75	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.932				0.972	
Flt Protected				0.981	0.962	
Satd. Flow (prot)	1711	0	0	1816	1745	0
Flt Permitted				0.981	0.962	
Satd. Flow (perm)	1711	0	0	1816	1745	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	632.0			1164.2	455.7	
Travel Time (s)	45.5			83.8	32.8	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	7%	0%	2%	3%	1%	5%
Adj. Flow (vph)	116	116	116	183	91	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	232	0	0	299	115	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

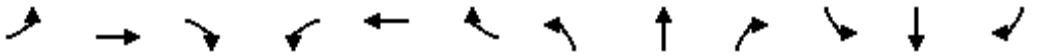
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	95	95	95	150	75	20
Future Volume (Veh/h)	95	95	95	150	75	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	116	116	116	183	91	24
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			232		589	174
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			232		589	174
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			91		79	97
cM capacity (veh/h)			1336		431	862

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	232	299	115
Volume Left	0	116	91
Volume Right	116	0	24
cSH	1700	1336	482
Volume to Capacity	0.14	0.09	0.24
Queue Length 95th (m)	0.0	2.3	7.4
Control Delay (s)	0.0	3.6	14.8
Lane LOS		A	B
Approach Delay (s)	0.0	3.6	14.8
Approach LOS			B

Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	39.3%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	645	205	40	525	35	230	65	60	55	95	25
Future Volume (vph)	25	645	205	40	525	35	230	65	60	55	95	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00		1.00	0.99		1.00		0.98
Frt		0.964			0.991			0.928				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	3338	0	1752	3436	0	1736	1732	0	1703	1881	1553
Flt Permitted	0.404			0.252			0.690			0.670		
Satd. Flow (perm)	701	3338	0	465	3436	0	1255	1732	0	1196	1881	1526
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		75			12			48				32
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			455.7	
Travel Time (s)		43.9			11.1			15.4			32.8	
Confl. Peds. (#/hr)	5					5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Adj. Flow (vph)	27	701	223	43	571	38	250	71	65	60	103	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	924	0	43	609	0	250	136	0	60	103	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	31.1	31.1		31.1	31.1		19.3	19.3		19.3	19.3	19.3
Actuated g/C Ratio	0.52	0.52		0.52	0.52		0.32	0.32		0.32	0.32	0.32
v/c Ratio	0.07	0.53		0.18	0.34		0.62	0.23		0.16	0.17	0.05
Control Delay	9.8	10.8		11.8	9.7		25.7	12.0		16.7	16.2	6.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	9.8	10.8		11.8	9.7		25.7	12.0		16.7	16.2	6.0
LOS	A	B		B	A		C	B		B	B	A
Approach Delay		10.7			9.9			20.9			14.9	
Approach LOS		B			A			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 60.2			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 12.6		Intersection LOS: B	
Intersection Capacity Utilization 68.1%		ICU Level of Service C	
Analysis Period (min) 15			

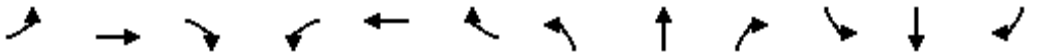
Splits and Phases: 16: Chartwell Rd & Cornwall Rd





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	27	924	43	609	250	136	60	103	27
v/c Ratio	0.07	0.53	0.18	0.34	0.62	0.23	0.16	0.17	0.05
Control Delay	9.8	10.8	11.8	9.7	25.7	12.0	16.7	16.2	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.8	10.8	11.8	9.7	25.7	12.0	16.7	16.2	6.0
Queue Length 50th (m)	1.4	29.0	2.3	18.3	22.1	6.6	4.5	7.7	0.0
Queue Length 95th (m)	6.5	64.2	10.3	41.1	54.8	21.3	14.7	21.6	4.5
Internal Link Dist (m)		585.1		130.4		189.6		431.7	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	645	3079	428	3164	686	969	654	1029	849
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.30	0.10	0.19	0.36	0.14	0.09	0.10	0.03

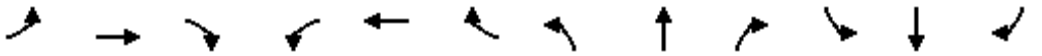
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	645	205	40	525	35	230	65	60	55	95	25
Future Volume (vph)	25	645	205	40	525	35	230	65	60	55	95	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.99		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1652	3338		1752	3435		1731	1734		1698	1881	1529
Flt Permitted	0.40	1.00		0.25	1.00		0.69	1.00		0.67	1.00	1.00
Satd. Flow (perm)	702	3338		466	3435		1258	1734		1198	1881	1529
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	701	223	43	571	38	250	71	65	60	103	27
RTOR Reduction (vph)	0	36	0	0	6	0	0	33	0	0	0	18
Lane Group Flow (vph)	27	888	0	43	603	0	250	103	0	60	103	9
Confl. Peds. (#/hr)	5					5	5		5	5		5
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	30.0	30.0		30.0	30.0		18.2	18.2		18.2	18.2	18.2
Effective Green, g (s)	31.0	31.0		31.0	31.0		19.2	19.2		19.2	19.2	19.2
Actuated g/C Ratio	0.52	0.52		0.52	0.52		0.32	0.32		0.32	0.32	0.32
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	365	1736		242	1786		405	558		385	605	492
v/s Ratio Prot		c0.27			0.18			0.06			0.05	
v/s Ratio Perm	0.04			0.09			c0.20			0.05		0.01
v/c Ratio	0.07	0.51		0.18	0.34		0.62	0.19		0.16	0.17	0.02
Uniform Delay, d1	7.1	9.3		7.6	8.3		17.1	14.6		14.4	14.5	13.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.6		0.9	0.3		3.2	0.2		0.3	0.2	0.0
Delay (s)	7.3	9.9		8.4	8.6		20.3	14.8		14.7	14.7	13.8
Level of Service	A	A		A	A		C	B		B	B	B
Approach Delay (s)		9.9			8.6			18.3			14.5	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	59.6	Sum of lost time (s)	9.4
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

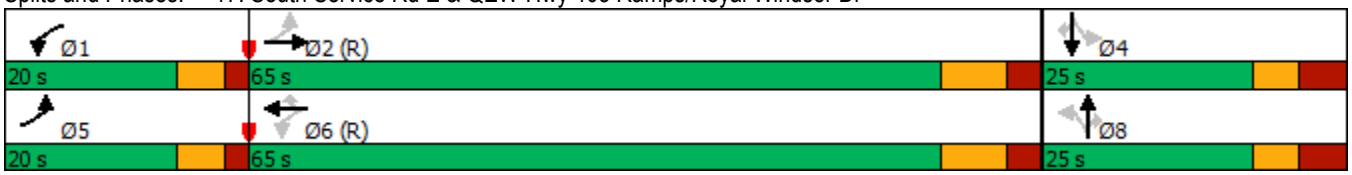


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	630	70	145	560	0	5	20	100	0	50	15
Future Volume (vph)	55	630	70	145	560	0	5	20	100	0	50	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	125.0		0.0	145.0		55.0	15.0		40.0	35.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985							0.850			0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3213	3364	0	1787	3312	1900	1805	1900	1455	1900	1863	1122
Flt Permitted	0.427			0.337			0.722					
Satd. Flow (perm)	1444	3364	0	634	3312	1900	1372	1900	1455	1900	1863	1122
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16							113			113
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		232.7			227.3			1164.2			153.5	
Travel Time (s)		16.8			16.4			83.8			11.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	9%	6%	3%	1%	9%	0%	0%	0%	11%	0%	2%	44%
Adj. Flow (vph)	59	670	74	154	596	0	5	21	106	0	53	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	744	0	154	596	0	5	21	106	0	53	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	8.0	20.0		8.0	20.0	20.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	14.0	28.4		14.0	28.4	28.4	17.8	17.8	17.8	17.8	17.8	17.8
Total Split (s)	20.0	65.0		20.0	65.0	65.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	18.2%	59.1%		18.2%	59.1%	59.1%	22.7%	22.7%	22.7%	22.7%	22.7%	22.7%
Maximum Green (s)	14.0	56.6		14.0	56.6	56.6	17.2	17.2	17.2	17.2	17.2	17.2
Yellow Time (s)	4.0	5.4		4.0	5.4	5.4	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.0	3.0		2.0	3.0	3.0	4.1	4.1	4.1	4.1	4.1	4.1
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	81.1	69.7		83.7	73.3		11.3	11.3	11.3		11.3	11.3
Actuated g/C Ratio	0.74	0.63		0.76	0.67		0.10	0.10	0.10		0.10	0.10
v/c Ratio	0.05	0.35		0.26	0.27		0.04	0.11	0.42		0.28	0.07
Control Delay	2.9	10.0		3.9	8.4		44.8	46.0	13.1		49.4	0.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	2.9	10.0		3.9	8.4		44.8	46.0	13.1		49.4	0.7
LOS	A	A		A	A		D	D	B		D	A
Approach Delay		9.5			7.5			19.5			38.1	
Approach LOS		A			A			B			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.42			
Intersection Signal Delay: 10.5		Intersection LOS: B	
Intersection Capacity Utilization 52.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr

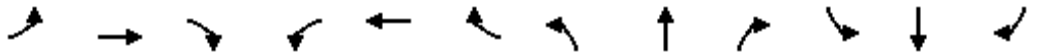


17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	59	744	154	596	5	21	106	53	16
v/c Ratio	0.05	0.35	0.26	0.27	0.04	0.11	0.42	0.28	0.07
Control Delay	2.9	10.0	3.9	8.4	44.8	46.0	13.1	49.4	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.9	10.0	3.9	8.4	44.8	46.0	13.1	49.4	0.7
Queue Length 50th (m)	1.1	36.1	6.3	28.2	1.1	4.4	0.0	11.3	0.0
Queue Length 95th (m)	2.5	53.4	11.6	39.0	4.8	12.2	14.9	23.8	0.0
Internal Link Dist (m)		208.7		203.3		1140.2		129.5	
Turn Bay Length (m)	125.0		145.0		15.0		40.0		
Base Capacity (vph)	1375	2135	657	2206	227	314	335	308	279
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.35	0.23	0.27	0.02	0.07	0.32	0.17	0.06

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	630	70	145	560	0	5	20	100	0	50	15
Future Volume (vph)	55	630	70	145	560	0	5	20	100	0	50	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.4		5.0	7.4		6.8	6.8	6.8		6.8	6.8
Lane Util. Factor	0.97	0.95		1.00	0.95		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	3213	3364		1787	3312		1805	1900	1455		1863	1122
Flt Permitted	0.43	1.00		0.34	1.00		0.72	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1443	3364		635	3312		1373	1900	1455		1863	1122
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	59	670	74	154	596	0	5	21	106	0	53	16
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	95	0	0	14
Lane Group Flow (vph)	59	738	0	154	596	0	5	21	11	0	53	2
Heavy Vehicles (%)	9%	6%	3%	1%	9%	0%	0%	0%	11%	0%	2%	44%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	75.1	68.7		79.9	71.1		10.3	10.3	10.3		10.3	10.3
Effective Green, g (s)	77.1	69.7		81.9	72.1		11.3	11.3	11.3		11.3	11.3
Actuated g/C Ratio	0.70	0.63		0.74	0.66		0.10	0.10	0.10		0.10	0.10
Clearance Time (s)	6.0	8.4		6.0	8.4		7.8	7.8	7.8		7.8	7.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	1130	2131		575	2170		141	195	149		191	115
v/s Ratio Prot	0.00	c0.22		c0.02	0.18			0.01			c0.03	
v/s Ratio Perm	0.03			0.18			0.00		0.01			0.00
v/c Ratio	0.05	0.35		0.27	0.27		0.04	0.11	0.07		0.28	0.01
Uniform Delay, d1	5.0	9.5		4.2	8.0		44.4	44.8	44.6		45.6	44.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.4		0.3	0.3		0.1	0.2	0.2		0.8	0.0
Delay (s)	5.0	9.9		4.4	8.3		44.5	45.0	44.8		46.4	44.4
Level of Service	A	A		A	A		D	D	D		D	D
Approach Delay (s)		9.5			7.5			44.8			45.9	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	115	175	0	25	35	0
Future Volume (vph)	115	175	0	25	35	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.919					
Flt Protected					0.950	
Satd. Flow (prot)	1712	0	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1712	0	0	1863	1770	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	64.3			219.4	105.4	
Travel Time (s)	4.6			15.8	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	190	0	27	38	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	315	0	0	27	38	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	115	175	0	25	35	0
Future Volume (Veh/h)	115	175	0	25	35	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	125	190	0	27	38	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			315		247	220
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			315		247	220
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		95	100
cM capacity (veh/h)			1245		741	820

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	315	27	38
Volume Left	0	0	38
Volume Right	190	0	0
cSH	1700	1245	741
Volume to Capacity	0.19	0.00	0.05
Queue Length 95th (m)	0.0	0.0	1.3
Control Delay (s)	0.0	0.0	10.1
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.1
Approach LOS			B

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	26.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	115	0	35	25	0	175
Future Volume (vph)	115	0	35	25	0	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.972		
Satd. Flow (prot)	1863	0	0	1811	1611	0
Flt Permitted				0.972		
Satd. Flow (perm)	1863	0	0	1811	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	53.7			64.3	43.5	
Travel Time (s)	3.9			4.6	3.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	0	38	27	0	190
Shared Lane Traffic (%)						
Lane Group Flow (vph)	125	0	0	65	190	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	115	0	35	25	0	175
Future Volume (Veh/h)	115	0	35	25	0	175
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	125	0	38	27	0	190
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			125		228	125
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			125		228	125
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	79
cM capacity (veh/h)			1462		740	926

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	125	65	190
Volume Left	0	38	0
Volume Right	0	0	190
cSH	1700	1462	926
Volume to Capacity	0.07	0.03	0.21
Queue Length 95th (m)	0.0	0.6	6.1
Control Delay (s)	0.0	4.5	9.9
Lane LOS		A	A
Approach Delay (s)	0.0	4.5	9.9
Approach LOS			A

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	27.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	180	0	5	195	245	55
Future Volume (vph)	180	0	5	195	245	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.975	
Flt Protected				0.999	0.961	
Satd. Flow (prot)	1863	0	0	1861	1745	0
Flt Permitted				0.999	0.961	
Satd. Flow (perm)	1863	0	0	1861	1745	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	216.0			632.0	87.0	
Travel Time (s)	15.6			45.5	6.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	0	5	212	266	60
Shared Lane Traffic (%)						
Lane Group Flow (vph)	196	0	0	217	326	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

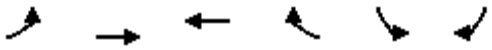
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	180	0	5	195	245	55
Future Volume (Veh/h)	180	0	5	195	245	55
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	196	0	5	212	266	60
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			196		418	196
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			196		418	196
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		55	93
cM capacity (veh/h)			1377		589	845

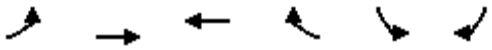
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	196	217	326
Volume Left	0	5	266
Volume Right	0	0	60
cSH	1700	1377	624
Volume to Capacity	0.12	0.00	0.52
Queue Length 95th (m)	0.0	0.1	24.3
Control Delay (s)	0.0	0.2	16.9
Lane LOS		A	C
Approach Delay (s)	0.0	0.2	16.9
Approach LOS			C

Intersection Summary			
Average Delay	7.5		
Intersection Capacity Utilization	37.9%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	25	30	150	5	30
Future Volume (vph)	25	25	30	150	5	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.888		0.883	
Flt Protected		0.976			0.993	
Satd. Flow (prot)	0	1818	1654	0	1633	0
Flt Permitted		0.976			0.993	
Satd. Flow (perm)	0	1818	1654	0	1633	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		249.8	119.8		103.6	
Travel Time (s)		18.0	8.6		7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	27	33	163	5	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	54	196	0	38	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.5%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	25	30	150	5	30
Future Volume (Veh/h)	25	25	30	150	5	30
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	27	33	163	5	33
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	196				196	114
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	196				196	114
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	96
cM capacity (veh/h)	1377				778	938

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	54	196	38
Volume Left	27	0	5
Volume Right	0	163	33
cSH	1377	1700	913
Volume to Capacity	0.02	0.12	0.04
Queue Length 95th (m)	0.5	0.0	1.0
Control Delay (s)	3.9	0.0	9.1
Lane LOS	A		A
Approach Delay (s)	3.9	0.0	9.1
Approach LOS			A

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	30	150	150	25	5	5
Future Volume (vph)	30	150	150	25	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.888		0.981			
Flt Protected	0.992					0.976
Satd. Flow (prot)	1641	0	1827	0	0	1818
Flt Permitted	0.992					0.976
Satd. Flow (perm)	1641	0	1827	0	0	1818
Link Speed (k/h)	50		50			50
Link Distance (m)	41.9		103.6			87.0
Travel Time (s)	3.0		7.5			6.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	163	163	27	5	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	196	0	190	0	0	10
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

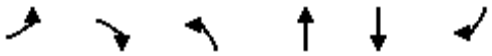
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	30	150	150	25	5	5
Future Volume (Veh/h)	30	150	150	25	5	5
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	163	163	27	5	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	192	176			190	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	192	176			190	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	81			100	
cM capacity (veh/h)	795	867			1384	

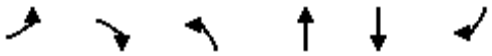
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	196	190	10
Volume Left	33	0	5
Volume Right	163	27	0
cSH	854	1700	1384
Volume to Capacity	0.23	0.11	0.00
Queue Length 95th (m)	7.1	0.0	0.1
Control Delay (s)	10.5	0.0	3.8
Lane LOS	B		A
Approach Delay (s)	10.5	0.0	3.8
Approach LOS	B		

Intersection Summary			
Average Delay	5.3		
Intersection Capacity Utilization	27.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	175	35	35	175	0
Future Volume (vph)	0	175	35	35	175	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.976		
Satd. Flow (prot)	1611	0	0	1818	1863	0
Flt Permitted				0.976		
Satd. Flow (perm)	1611	0	0	1818	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	49.0			201.6	105.4	
Travel Time (s)	3.5			14.5	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	190	38	38	190	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	190	0	0	76	190	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

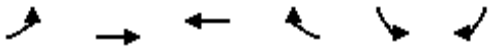
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	175	35	35	175	0
Future Volume (Veh/h)	0	175	35	35	175	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	190	38	38	190	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				201		
pX, platoon unblocked						
vC, conflicting volume	304	190	190			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	304	190	190			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	78	97			
cM capacity (veh/h)	669	852	1384			

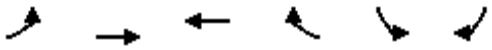
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	190	76	190
Volume Left	0	38	0
Volume Right	190	0	0
cSH	852	1384	1700
Volume to Capacity	0.22	0.03	0.11
Queue Length 95th (m)	6.8	0.7	0.0
Control Delay (s)	10.4	3.9	0.0
Lane LOS	B	A	
Approach Delay (s)	10.4	3.9	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	5.0		
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	30	0	0	0	0	180
Future Volume (vph)	30	0	0	0	0	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected		0.950				
Satd. Flow (prot)	0	1770	1863	0	1611	0
Flt Permitted		0.950				
Satd. Flow (perm)	0	1770	1863	0	1611	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		119.8	134.5		44.9	
Travel Time (s)		8.6	9.7		3.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	0	0	0	0	196
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	33	0	0	196	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

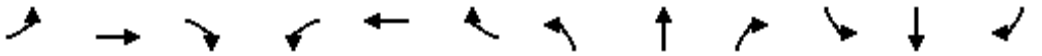
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	0	0	0	0	180
Future Volume (Veh/h)	30	0	0	0	0	180
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	0	0	0	0	196
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0				66	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				66	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	82
cM capacity (veh/h)	1623				920	1085

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	33	0	196
Volume Left	33	0	0
Volume Right	0	0	196
cSH	1623	1700	1085
Volume to Capacity	0.02	0.00	0.18
Queue Length 95th (m)	0.5	0.0	5.3
Control Delay (s)	7.3	0.0	9.0
Lane LOS	A		A
Approach Delay (s)	7.3	0.0	9.0
Approach LOS			A

Intersection Summary			
Average Delay	8.8		
Intersection Capacity Utilization	21.1%	ICU Level of Service	A
Analysis Period (min)	15		

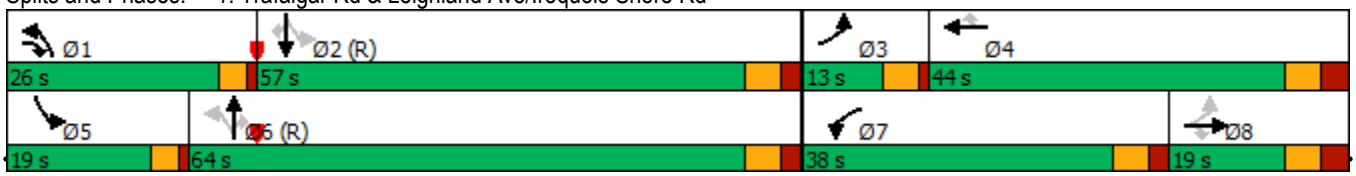


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	115	280	765	150	285	295	1870	875	130	1360	115
Future Volume (vph)	100	115	280	765	150	285	295	1870	875	130	1360	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.95					0.92			0.97			0.87
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1881	1599	3467	1881	1615	1787	5136	1599	1805	5085	1615
Flt Permitted	0.659			0.950			0.076			0.075		
Satd. Flow (perm)	1185	1881	1599	3467	1881	1485	143	5136	1543	142	5085	1399
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			193			624			173
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			521.8			275.4			339.2	
Travel Time (s)		27.7			37.6			19.8			24.4	
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Adj. Flow (vph)	103	119	289	789	155	294	304	1928	902	134	1402	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	119	289	789	155	294	304	1928	902	134	1402	119
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

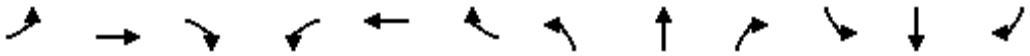
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	11.0	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	13.0	19.0	26.0	38.0	44.0	44.0	26.0	64.0	64.0	19.0	57.0	57.0
Total Split (%)	9.3%	13.6%	18.6%	27.1%	31.4%	31.4%	18.6%	45.7%	45.7%	13.6%	40.7%	40.7%
Maximum Green (s)	8.3	12.2	22.0	32.3	37.2	37.2	22.0	57.9	57.9	15.0	50.9	50.9
Yellow Time (s)	3.7	3.7	3.0	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	1.0	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					30	30		50	50		50	50
Act Effct Green (s)	24.0	12.8	40.6	33.3	38.0	38.0	80.4	63.1	63.1	67.7	53.3	53.3
Actuated g/C Ratio	0.17	0.09	0.29	0.24	0.27	0.27	0.57	0.45	0.45	0.48	0.38	0.38
v/c Ratio	0.42	0.70	0.54	0.96	0.30	0.54	0.89	0.83	0.87	0.63	0.72	0.19
Control Delay	37.6	82.8	29.6	75.1	42.5	18.6	61.3	19.7	13.8	40.0	40.1	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.3	0.0	0.0	0.0
Total Delay	37.6	82.8	29.6	75.1	42.5	18.6	61.3	19.7	26.1	40.0	40.1	1.4
LOS	D	F	C	E	D	B	E	B	C	D	D	A
Approach Delay		43.6			57.6			25.6			37.3	
Approach LOS		D			E			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 36.0		Intersection LOS: D	
Intersection Capacity Utilization 90.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd

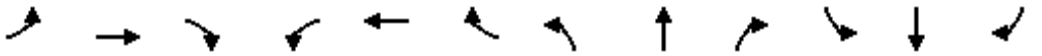


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	103	119	289	789	155	294	304	1928	902	134	1402	119
v/c Ratio	0.42	0.70	0.54	0.96	0.30	0.54	0.89	0.83	0.87	0.63	0.72	0.19
Control Delay	37.6	82.8	29.6	75.1	42.5	18.6	61.3	19.7	13.8	40.0	40.1	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.3	0.0	0.0	0.0
Total Delay	37.6	82.8	29.6	75.1	42.5	18.6	61.3	19.7	26.1	40.0	40.1	1.4
Queue Length 50th (m)	19.6	34.1	44.2	117.8	36.0	23.6	62.1	116.6	71.2	20.4	129.4	0.0
Queue Length 95th (m)	33.5	#60.7	74.6	#158.5	56.6	54.4	m78.7	175.8	m#267.0	42.4	148.0	3.0
Internal Link Dist (m)		361.1			497.8			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	245	177	548	824	513	545	352	2313	1037	262	1935	639
Starvation Cap Reductn	0	0	0	0	0	0	0	0	132	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.67	0.53	0.96	0.30	0.54	0.86	0.83	1.00	0.51	0.72	0.19

Intersection Summary

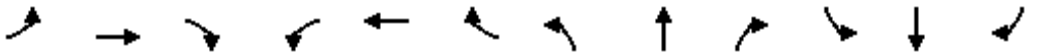
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	115	280	765	150	285	295	1870	875	130	1360	115
Future Volume (vph)	100	115	280	765	150	285	295	1870	875	130	1360	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.92	1.00	1.00	0.97	1.00	1.00	0.87
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1743	1881	1599	3467	1881	1485	1787	5136	1543	1805	5085	1399
Flt Permitted	0.66	1.00	1.00	0.95	1.00	1.00	0.08	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	1209	1881	1599	3467	1881	1485	142	5136	1543	143	5085	1399
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	103	119	289	789	155	294	304	1928	902	134	1402	119
RTOR Reduction (vph)	0	0	79	0	0	141	0	0	343	0	0	74
Lane Group Flow (vph)	103	119	210	789	155	153	304	1928	559	134	1402	45
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	19.9	11.8	32.9	32.3	37.0	37.0	77.3	62.0	62.0	63.5	52.2	52.2
Effective Green, g (s)	21.9	12.8	34.9	33.3	38.0	38.0	78.3	63.0	63.0	65.5	53.2	53.2
Actuated g/C Ratio	0.16	0.09	0.25	0.24	0.27	0.27	0.56	0.45	0.45	0.47	0.38	0.38
Clearance Time (s)	4.7	6.8	4.0	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	223	171	398	824	510	403	339	2311	694	212	1932	531
v/s Ratio Prot	0.03	c0.06	0.08	c0.23	0.08		c0.14	0.38		0.06	0.28	
v/s Ratio Perm	0.04		0.05			0.10	c0.36		0.36	0.24		0.03
v/c Ratio	0.46	0.70	0.53	0.96	0.30	0.38	0.90	0.83	0.81	0.63	0.73	0.09
Uniform Delay, d1	52.9	61.7	45.4	52.7	40.5	41.4	42.0	33.9	33.2	27.8	37.2	27.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.21	0.51	0.79	1.00	1.00	1.00
Incremental Delay, d2	1.5	11.6	1.3	21.4	0.3	0.6	13.6	1.8	4.7	6.0	2.4	0.3
Delay (s)	54.5	73.3	46.7	74.0	40.8	42.0	64.6	19.2	30.8	33.8	39.6	28.1
Level of Service	D	E	D	E	D	D	E	B	C	C	D	C
Approach Delay (s)		54.5			62.3			26.9			38.3	
Approach LOS		D			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	38.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

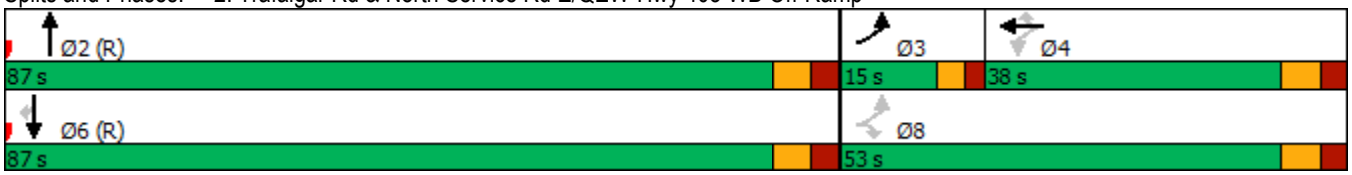


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	270	620	5	340	0	2690	0	0	2415	15
Future Volume (vph)	25	0	270	620	5	340	0	2690	0	0	2415	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.94
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.953							
Satd. Flow (prot)	1805	0	1599	1681	1687	1583	0	5136	0	0	5036	1524
Flt Permitted	0.170			0.950	0.953							
Satd. Flow (perm)	323	0	1599	1681	1687	1583	0	5136	0	0	5036	1437
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			93						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							15		10	10		15
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Adj. Flow (vph)	27	0	287	660	5	362	0	2862	0	0	2569	16
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	27	0	287	330	335	362	0	2862	0	0	2569	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

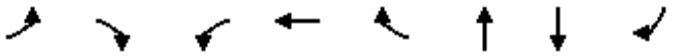
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	15.0		53.0	38.0	38.0	38.0		87.0			87.0	87.0
Total Split (%)	10.7%		37.9%	27.1%	27.1%	27.1%		62.1%			62.1%	62.1%
Maximum Green (s)	10.0		46.0	31.0	31.0	31.0		80.0			80.0	80.0
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		15			15	15
Act Effct Green (s)	41.9		39.9	31.4	31.4	31.4		88.1			88.1	88.1
Actuated g/C Ratio	0.30		0.28	0.22	0.22	0.22		0.63			0.63	0.63
v/c Ratio	0.14		0.60	0.88	0.89	0.85		0.89			0.81	0.02
Control Delay	32.7		42.6	76.0	77.4	57.0		17.7			29.5	0.1
Queue Delay	0.0		0.0	0.0	0.0	0.0		0.1			0.0	0.0
Total Delay	32.7		42.6	76.0	77.4	57.0		17.8			29.5	0.1
LOS	C		D	E	E	E		B			C	A
Approach Delay		41.8			69.7			17.8			29.4	
Approach LOS		D			E			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 31.2		Intersection LOS: C	
Intersection Capacity Utilization 95.7%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp



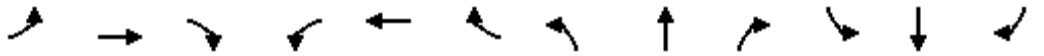
2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp



Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	27	287	330	335	362	2862	2569	16
v/c Ratio	0.14	0.60	0.88	0.89	0.85	0.89	0.81	0.02
Control Delay	32.7	42.6	76.0	77.4	57.0	17.7	29.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	32.7	42.6	76.0	77.4	57.0	17.8	29.5	0.1
Queue Length 50th (m)	5.2	59.8	96.3	98.1	76.1	276.4	213.3	0.0
Queue Length 95th (m)	12.3	89.6	#154.0	#156.7	#130.5	#231.0	m233.7	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	213	557	391	392	439	3232	3169	930
Starvation Cap Reductn	0	0	0	0	0	4	0	0
Spillback Cap Reductn	0	0	0	0	0	23	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.52	0.84	0.85	0.82	0.89	0.81	0.02

Intersection Summary

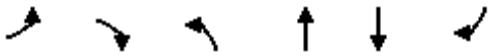
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



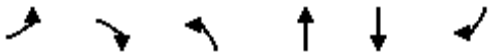
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	270	620	5	340	0	2690	0	0	2415	15
Future Volume (vph)	25	0	270	620	5	340	0	2690	0	0	2415	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.94
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1681	1687	1583		5136			5036	1437
Flt Permitted	0.17		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	323		1599	1681	1687	1583		5136			5036	1437
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	27	0	287	660	5	362	0	2862	0	0	2569	16
RTOR Reduction (vph)	0	0	22	0	0	72	0	0	0	0	0	6
Lane Group Flow (vph)	27	0	265	330	335	290	0	2862	0	0	2569	10
Confl. Peds. (#/hr)							15		10	10		15
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	40.9		40.9	30.4	30.4	30.4		85.1			85.1	85.1
Effective Green, g (s)	41.9		41.9	31.4	31.4	31.4		86.1			86.1	86.1
Actuated g/C Ratio	0.30		0.30	0.22	0.22	0.22		0.61			0.61	0.61
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	165		478	377	378	355		3158			3097	883
v/s Ratio Prot	0.01							c0.56			0.51	
v/s Ratio Perm	0.04		c0.17	0.20	0.20	0.18						0.01
v/c Ratio	0.16		0.55	0.88	0.89	0.82		0.91			0.83	0.01
Uniform Delay, d1	37.1		41.2	52.4	52.6	51.6		23.4			21.2	10.4
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.62			1.30	1.00
Incremental Delay, d2	0.8		1.5	19.7	21.2	13.5		3.3			1.8	0.0
Delay (s)	37.9		42.8	72.1	73.8	65.1		17.8			29.3	10.5
Level of Service	D		D	E	E	E		B			C	B
Approach Delay (s)		42.3			70.2			17.8			29.2	
Approach LOS		D			E			B			C	

Intersection Summary			
HCM 2000 Control Delay	31.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	95.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



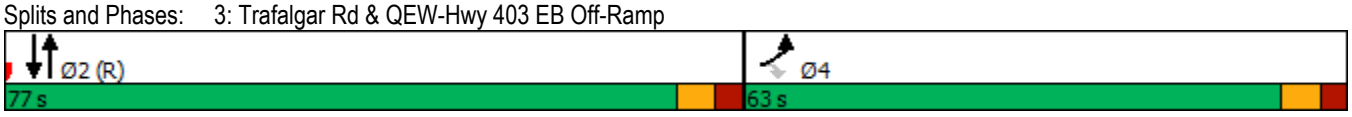
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1005	510	0	1970	2090	0
Future Volume (vph)	1005	510	0	1970	2090	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3467	1583	0	5085	5085	0
Flt Permitted	0.950					
Satd. Flow (perm)	3467	*1800	0	5085	5085	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		2				
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			45.3	331.3	
Travel Time (s)	15.4			3.3	23.9	
Confl. Peds. (#/hr)			25			25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Adj. Flow (vph)	1058	537	0	2074	2200	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1058	537	0	2074	2200	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	63.0	63.0		77.0	77.0	
Total Split (%)	45.0%	45.0%		55.0%	55.0%	
Maximum Green (s)	56.0	56.0		70.0	70.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		15	15	
Act Effct Green (s)	51.1	51.1		76.9	76.9	
Actuated g/C Ratio	0.36	0.36		0.55	0.55	
v/c Ratio	0.84	0.82		0.74	0.79	
Control Delay	47.0	50.6		27.4	24.6	
Queue Delay	0.0	0.0		0.1	0.0	
Total Delay	47.0	50.6		27.5	24.6	
LOS	D	D		C	C	
Approach Delay	48.2			27.5	24.6	
Approach LOS	D			C	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 32.1		Intersection LOS: C	
Intersection Capacity Utilization 82.0%		ICU Level of Service D	
Analysis Period (min) 15			
* User Entered Value			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



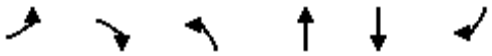
3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	1058	537	2074	2200
v/c Ratio	0.84	0.82	0.74	0.79
Control Delay	47.0	50.6	27.4	24.6
Queue Delay	0.0	0.0	0.1	0.0
Total Delay	47.0	50.6	27.5	24.6
Queue Length 50th (m)	143.5	139.5	118.7	129.1
Queue Length 95th (m)	161.1	176.5	m146.0	191.9
Internal Link Dist (m)	190.2		21.3	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1411	734	2793	2793
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	90	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.75	0.73	0.77	0.79

Intersection Summary

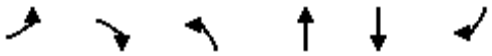
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1005	510	0	1970	2090	0
Future Volume (vph)	1005	510	0	1970	2090	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3467	1583		5085	5085	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3467	1800		5085	5085	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1058	537	0	2074	2200	0
RTOR Reduction (vph)	0	1	0	0	0	0
Lane Group Flow (vph)	1058	536	0	2074	2200	0
Confl. Peds. (#/hr)			25			25
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	50.1	50.1		75.9	75.9	
Effective Green, g (s)	51.1	51.1		76.9	76.9	
Actuated g/C Ratio	0.37	0.37		0.55	0.55	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1265	657		2793	2793	
v/s Ratio Prot	c0.31			0.41	c0.43	
v/s Ratio Perm		0.30				
v/c Ratio	0.84	0.82		0.74	0.79	
Uniform Delay, d1	40.6	40.2		24.0	25.1	
Progression Factor	1.00	1.00		1.06	0.89	
Incremental Delay, d2	5.0	7.7		0.9	1.4	
Delay (s)	45.6	47.9		26.4	23.7	
Level of Service	D	D		C	C	
Approach Delay (s)	46.4			26.4	23.7	
Approach LOS	D			C	C	

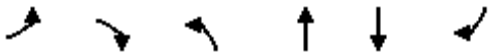
Intersection Summary			
HCM 2000 Control Delay	30.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	60	0	2070	1955	680
Future Volume (vph)	0	60	0	2070	1955	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.961	
Flt Protected						
Satd. Flow (prot)	0	1522	0	5085	4885	0
Flt Permitted						
Satd. Flow (perm)	0	1522	0	5085	4885	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	144.9			271.4	45.3	
Travel Time (s)	10.4			19.5	3.3	
Confl. Peds. (#/hr)			20			20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	8%	0%	2%	1%	5%
Adj. Flow (vph)	0	64	0	2202	2080	723
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	64	0	2202	2803	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.8%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	60	0	2070	1955	680
Future Volume (Veh/h)	0	60	0	2070	1955	680
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	64	0	2202	2080	723
Pedestrians	20					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	2					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				271	45	
pX, platoon unblocked	0.75	0.65	0.65			
vC, conflicting volume	3196	1075	2823			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1056	0	1931			
tC, single (s)	6.8	7.1	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	100	91	100			
cM capacity (veh/h)	164	684	198			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	64	734	734	734	832	832	1139
Volume Left	0	0	0	0	0	0	0
Volume Right	64	0	0	0	0	0	723
cSH	684	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.09	0.43	0.43	0.43	0.49	0.49	0.67
Queue Length 95th (m)	2.5	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	10.8	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.8	0.0			0.0		
Approach LOS	B						

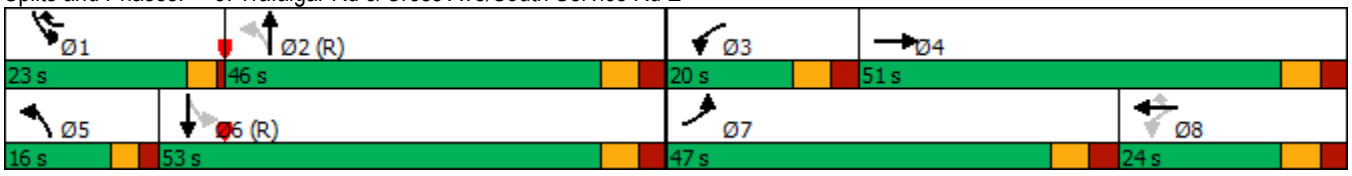
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	950	95	120	75	110	355	140	1085	55	320	1295	390
Future Volume (vph)	950	95	120	75	110	355	140	1085	55	320	1295	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		0.0	50.0		0.0	120.0		0.0	55.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.98		0.98				1.00			0.99	
Frt		0.916				0.850		0.993			0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	1651	0	1805	1900	1599	1719	5094	0	1752	4920	0
Flt Permitted	0.950			0.620			0.100			0.093		
Satd. Flow (perm)	3400	1651	0	1157	1900	1599	181	5094	0	172	4920	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		48				140		5			58	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		217.0			420.1			277.9			271.4	
Travel Time (s)		15.6			30.2			20.0			19.5	
Confl. Peds. (#/hr)			20	20			15		15	15		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Adj. Flow (vph)	979	98	124	77	113	366	144	1119	57	330	1335	402
Shared Lane Traffic (%)												
Lane Group Flow (vph)	979	222	0	77	113	366	144	1176	0	330	1737	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		12.0	10.0	7.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0		19.0	17.0	11.0	12.0	34.0		11.0	34.0	
Total Split (s)	47.0	51.0		20.0	24.0	23.0	16.0	46.0		23.0	53.0	
Total Split (%)	33.6%	36.4%		14.3%	17.1%	16.4%	11.4%	32.9%		16.4%	37.9%	
Maximum Green (s)	40.0	44.0		13.0	17.0	19.0	11.0	39.0		19.0	46.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	1.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0						7.0			7.0	
Flash Dont Walk (s)		28.0						20.0			20.0	
Pedestrian Calls (#/hr)		10						15			15	
Act Effct Green (s)	41.0	43.1		28.1	15.1	44.0	53.9	40.0		68.9	49.9	
Actuated g/C Ratio	0.29	0.31		0.20	0.11	0.31	0.38	0.29		0.49	0.36	
v/c Ratio	0.98	0.41		0.26	0.55	0.61	0.72	0.81		0.96	0.97	
Control Delay	73.8	31.7		28.8	69.1	29.4	49.0	49.3		83.3	58.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	73.8	31.7		28.8	69.1	29.4	49.0	49.3		83.3	58.1	
LOS	E	C		C	E	C	D	D		F	E	
Approach Delay		66.1			37.4			49.3			62.1	
Approach LOS		E			D			D			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 57.1		Intersection LOS: E	
Intersection Capacity Utilization 95.6%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 5: Trafalgar Rd & Cross Ave/South Service Rd E



5: Trafalgar Rd & Cross Ave/South Service Rd E



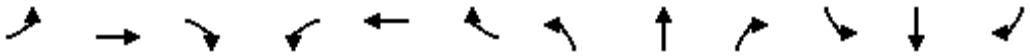
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	979	222	77	113	366	144	1176	330	1737
v/c Ratio	0.98	0.41	0.26	0.55	0.61	0.72	0.81	0.96	0.97
Control Delay	73.8	31.7	28.8	69.1	29.4	49.0	49.3	83.3	58.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.8	31.7	28.8	69.1	29.4	49.0	49.3	83.3	58.1
Queue Length 50th (m)	146.4	39.7	12.8	31.6	56.2	31.5	89.8	87.0	~167.3
Queue Length 95th (m)	#192.6	62.6	22.4	51.9	91.9	m42.8	m109.1	m#148.1	#221.3
Internal Link Dist (m)		193.0		396.1			253.9		247.4
Turn Bay Length (m)	130.0		50.0			120.0		55.0	
Base Capacity (vph)	995	567	305	244	598	207	1459	342	1791
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.39	0.25	0.46	0.61	0.70	0.81	0.96	0.97

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

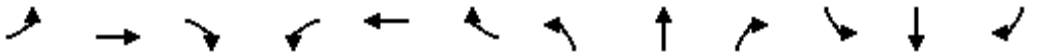
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	950	95	120	75	110	355	140	1085	55	320	1295	390
Future Volume (vph)	950	95	120	75	110	355	140	1085	55	320	1295	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.98		1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	1.00	0.85	1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3400	1651		1786	1900	1599	1719	5092		1752	4921	
Flt Permitted	0.95	1.00		0.62	1.00	1.00	0.10	1.00		0.09	1.00	
Satd. Flow (perm)	3400	1651		1165	1900	1599	181	5092		172	4921	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	979	98	124	77	113	366	144	1119	57	330	1335	402
RTOR Reduction (vph)	0	33	0	0	0	102	0	4	0	0	37	0
Lane Group Flow (vph)	979	189	0	77	113	264	144	1172	0	330	1700	0
Confl. Peds. (#/hr)			20	20			15		15	15		15
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Actuated Green, G (s)	40.0	42.1		26.1	14.1	36.0	49.9	39.0		64.9	49.0	
Effective Green, g (s)	41.0	43.1		28.1	15.1	38.0	51.9	40.0		65.9	50.0	
Actuated g/C Ratio	0.29	0.31		0.20	0.11	0.27	0.37	0.29		0.47	0.36	
Clearance Time (s)	7.0	7.0		7.0	7.0	4.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	995	508		291	204	434	197	1454		339	1757	
v/s Ratio Prot	c0.29	0.11		0.02	0.06	c0.10	0.06	0.23		c0.16	0.35	
v/s Ratio Perm				0.03		0.07	0.21			c0.30		
v/c Ratio	0.98	0.37		0.26	0.55	0.61	0.73	0.81		0.97	0.97	
Uniform Delay, d1	49.2	37.9		46.7	59.3	44.5	34.8	46.4		43.4	44.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.28	1.00		1.37	1.10	
Incremental Delay, d2	24.5	0.6		0.6	4.0	2.4	7.7	2.8		32.7	11.3	
Delay (s)	73.6	38.5		47.3	63.2	46.9	52.2	49.2		92.0	59.7	
Level of Service	E	D		D	E	D	D	D		F	E	
Approach Delay (s)		67.1			50.3			49.6			64.9	
Approach LOS		E			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	59.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



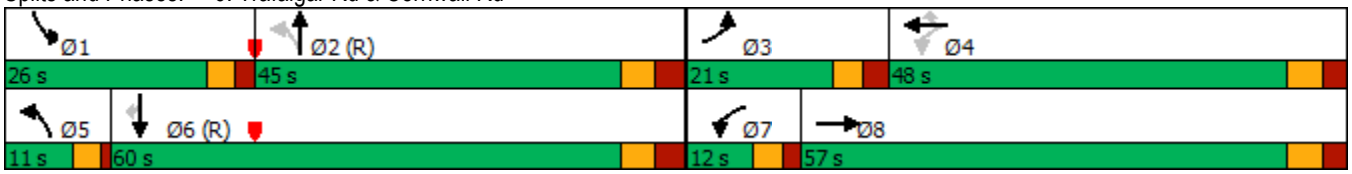
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	420	45	55	530	615	60	545	60	495	570	300
Future Volume (vph)	360	420	45	55	530	615	60	545	60	495	570	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.97	1.00		0.99		0.93	1.00	1.00		0.98		0.98
Frt		0.986				0.850		0.985				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	3482	0	1805	3539	1583	1770	3543	0	3433	1881	1553
Flt Permitted	0.950			0.478			0.227			0.950		
Satd. Flow (perm)	3368	3482	0	898	3539	1470	421	3543	0	3375	1881	1516
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9				321		8				242
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			277.9	
Travel Time (s)		41.4			45.2			10.0			20.0	
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Adj. Flow (vph)	371	433	46	57	546	634	62	562	62	510	588	309
Shared Lane Traffic (%)												
Lane Group Flow (vph)	371	479	0	57	546	634	62	624	0	510	588	309
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	21.0	57.0		12.0	48.0	48.0	11.0	45.0		26.0	60.0	60.0
Total Split (%)	15.0%	40.7%		8.6%	34.3%	34.3%	7.9%	32.1%		18.6%	42.9%	42.9%
Maximum Green (s)	15.3	50.6		7.0	41.6	41.6	7.0	38.1		21.0	53.1	53.1
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		30			30	30		15			15	15
Act Effct Green (s)	17.5	53.4		50.7	41.0	41.0	49.9	39.0		22.4	56.6	56.6
Actuated g/C Ratio	0.12	0.38		0.36	0.29	0.29	0.36	0.28		0.16	0.40	0.40
v/c Ratio	0.86	0.36		0.15	0.53	0.96	0.27	0.63		0.93	0.77	0.41
Control Delay	80.4	36.9		22.3	43.2	51.2	24.1	47.1		90.7	41.2	13.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	80.4	36.9		22.3	43.2	51.2	24.1	47.1		90.7	41.2	13.5
LOS	F	D		C	D	D	C	D		F	D	B
Approach Delay		55.9			46.3			45.0			53.1	
Approach LOS		E			D			D			D	

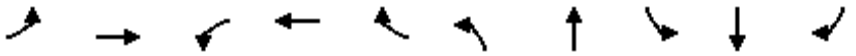
Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 50.3 Intersection LOS: D
Intersection Capacity Utilization 94.5% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd



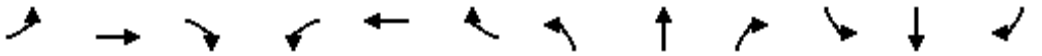
6: Trafalgar Rd & Cornwall Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	371	479	57	546	634	62	624	510	588	309
v/c Ratio	0.86	0.36	0.15	0.53	0.96	0.27	0.63	0.93	0.77	0.41
Control Delay	80.4	36.9	22.3	43.2	51.2	24.1	47.1	90.7	41.2	13.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.4	36.9	22.3	43.2	51.2	24.1	47.1	90.7	41.2	13.5
Queue Length 50th (m)	56.4	53.0	9.0	69.0	104.3	9.5	83.1	81.5	95.2	25.2
Queue Length 95th (m)	#87.2	75.6	17.6	87.8	#188.1	18.1	104.2	m#86.3	m101.0	m27.9
Internal Link Dist (m)		551.4		604.3			115.4		253.9	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	433	1335	378	1078	671	227	1017	550	773	766
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.36	0.15	0.51	0.94	0.27	0.61	0.93	0.76	0.40

Intersection Summary

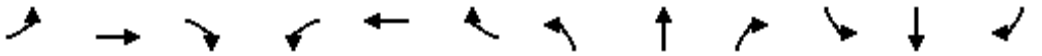
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	420	45	55	530	615	60	545	60	495	570	300
Future Volume (vph)	360	420	45	55	530	615	60	545	60	495	570	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.93	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3467	3481		1796	3539	1470	1768	3544		3433	1881	1516
Flt Permitted	0.95	1.00		0.48	1.00	1.00	0.23	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3467	3481		904	3539	1470	422	3544		3433	1881	1516
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	371	433	46	57	546	634	62	562	62	510	588	309
RTOR Reduction (vph)	0	6	0	0	0	225	0	6	0	0	0	147
Lane Group Flow (vph)	371	473	0	57	546	409	62	618	0	510	588	162
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	16.5	52.4		46.8	41.0	41.0	42.7	37.1		21.4	53.9	53.9
Effective Green, g (s)	17.5	53.4		48.8	42.0	42.0	44.7	38.1		22.4	54.9	54.9
Actuated g/C Ratio	0.12	0.38		0.35	0.30	0.30	0.32	0.27		0.16	0.39	0.39
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Lane Grp Cap (vph)	433	1327		358	1061	441	198	964		549	737	594
v/s Ratio Prot	c0.11	0.14		0.01	0.15		0.01	0.17		c0.15	c0.31	
v/s Ratio Perm				0.05		c0.28	0.09					0.11
v/c Ratio	0.86	0.36		0.16	0.51	0.93	0.31	0.64		0.93	0.80	0.27
Uniform Delay, d1	60.0	31.0		30.7	40.6	47.5	34.9	44.9		58.0	37.6	29.0
Progression Factor	1.03	1.17		1.00	1.00	1.00	1.00	1.00		1.37	0.99	1.75
Incremental Delay, d2	15.0	0.2		0.3	0.4	25.6	0.9	3.3		12.1	4.0	0.5
Delay (s)	76.8	36.4		31.0	41.0	73.2	35.9	48.2		91.3	41.4	51.1
Level of Service	E	D		C	D	E	D	D		F	D	D
Approach Delay (s)		54.0			57.0			47.1			61.6	
Approach LOS		D			E			D			E	

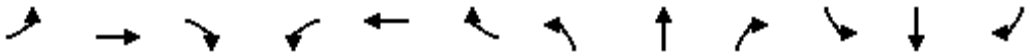
Intersection Summary					
HCM 2000 Control Delay	56.3	HCM 2000 Level of Service		E	
HCM 2000 Volume to Capacity ratio	0.89				
Actuated Cycle Length (s)	140.0	Sum of lost time (s)		20.0	
Intersection Capacity Utilization	94.5%	ICU Level of Service		F	
Analysis Period (min)	15				

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	25	0	0	520	170	0	0	0	30	5	65
Future Volume (vph)	10	25	0	0	520	170	0	0	0	30	5	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.967						0.912	
Flt Protected		0.986									0.985	
Satd. Flow (prot)	0	1822	0	0	1745	0	0	1900	0	0	1707	0
Flt Permitted		0.986									0.985	
Satd. Flow (perm)	0	1822	0	0	1745	0	0	1900	0	0	1707	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		175.8			144.9			44.8			92.1	
Travel Time (s)		12.7			10.4			3.2			6.6	
Confl. Peds. (#/hr)			10	10					10	10		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	4%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	11	27	0	0	559	183	0	0	0	32	5	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	0	0	742	0	0	0	0	0	107	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

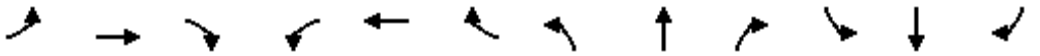
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 50.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	25	0	0	520	170	0	0	0	30	5	65
Future Volume (Veh/h)	10	25	0	0	520	170	0	0	0	30	5	65
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	11	27	0	0	559	183	0	0	0	32	5	70
Pedestrians					10			10				
Lane Width (m)					3.6			3.6				
Walking Speed (m/s)					1.2			1.2				
Percent Blockage					1			1				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		355										
pX, platoon unblocked												
vC, conflicting volume	742			37			782	801	47	710	710	650
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	742			37			782	801	47	710	710	650
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	91	99	85
cM capacity (veh/h)	874			1573			258	313	1011	343	354	472

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	38	742	0	107
Volume Left	11	0	0	32
Volume Right	0	183	0	70
cSH	874	1573	1700	419
Volume to Capacity	0.01	0.00	0.02	0.26
Queue Length 95th (m)	0.3	0.0	0.0	8.0
Control Delay (s)	2.7	0.0	0.0	16.5
Lane LOS	A		A	C
Approach Delay (s)	2.7	0.0	0.0	16.5
Approach LOS			A	C

Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	50.9%	ICU Level of Service	A	
Analysis Period (min)	15			

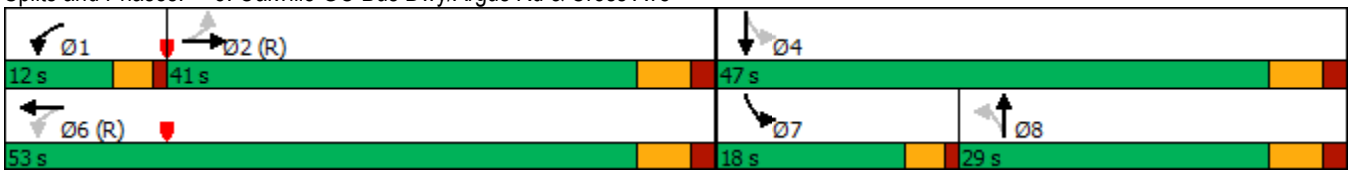


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	835	15	15	520	75	15	0	30	220	15	205
Future Volume (vph)	25	835	15	15	520	75	15	0	30	220	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	30.0			15.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		1.00	0.99			0.94		0.95	0.94	
Frt		0.997			0.981			0.910			0.860	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1805	3535	0	902	3488	0	0	831	0	1787	1437	0
Flt Permitted	0.409			0.206				0.851		0.725		
Satd. Flow (perm)	767	3535	0	195	3488	0	0	708	0	1294	1437	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			22			120			219	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		107.3			217.0			71.0			179.3	
Travel Time (s)		7.7			15.6			5.1			12.9	
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Adj. Flow (vph)	27	898	16	16	559	81	16	0	32	237	16	220
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	914	0	16	640	0	0	48	0	237	236	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

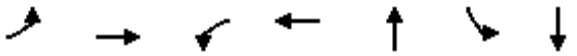
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	22.0	22.0		8.0	22.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	29.0	29.0		12.0	29.0		29.0	29.0		9.0	29.0	
Total Split (s)	41.0	41.0		12.0	53.0		29.0	29.0		18.0	47.0	
Total Split (%)	41.0%	41.0%		12.0%	53.0%		29.0%	29.0%		18.0%	47.0%	
Maximum Green (s)	35.0	35.0		8.0	47.0		23.0	23.0		14.0	41.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	5.0	5.0		2.5	5.0		4.0	4.0		3.0	4.0	
Recall Mode	C-Min	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	16.0	16.0			16.0		16.0	16.0			16.0	
Pedestrian Calls (#/hr)	15	15			15		45	45			45	
Act Effct Green (s)	51.1	51.1		57.9	55.9			18.8		36.1	34.1	
Actuated g/C Ratio	0.51	0.51		0.58	0.56			0.19		0.36	0.34	
v/c Ratio	0.07	0.51		0.09	0.33			0.21		0.44	0.37	
Control Delay	20.2	21.3		14.1	14.1			2.0		24.2	5.0	
Queue Delay	0.0	0.9		0.0	0.0			0.0		0.0	0.0	
Total Delay	20.2	22.1		14.1	14.1			2.0		24.2	5.0	
LOS	C	C		B	B			A		C	A	
Approach Delay		22.1			14.1			2.0			14.7	
Approach LOS		C			B			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 17.5		Intersection LOS: B	
Intersection Capacity Utilization 51.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: Oakville GO Bus Dwy/Argus Rd & Cross Ave

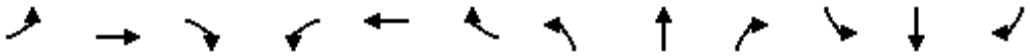


8: Oakville GO Bus Dwy/Argus Rd & Cross Ave



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	27	914	16	640	48	237	236
v/c Ratio	0.07	0.51	0.09	0.33	0.21	0.44	0.37
Control Delay	20.2	21.3	14.1	14.1	2.0	24.2	5.0
Queue Delay	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	22.1	14.1	14.1	2.0	24.2	5.0
Queue Length 50th (m)	3.0	70.1	1.7	43.0	0.0	28.7	1.9
Queue Length 95th (m)	10.0	106.8	5.2	54.1	0.0	48.4	16.6
Internal Link Dist (m)		83.3		193.0	47.0		155.3
Turn Bay Length (m)	20.0		20.0			15.0	
Base Capacity (vph)	391	1807	176	1978	261	550	737
Starvation Cap Reductn	0	557	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.73	0.09	0.32	0.18	0.43	0.32

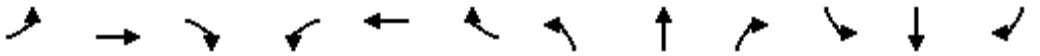
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	835	15	15	520	75	15	0	30	220	15	205
Future Volume (vph)	25	835	15	15	520	75	15	0	30	220	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99			0.95		1.00	0.94	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			0.99		0.96	1.00	
Frt	1.00	1.00		1.00	0.98			0.91		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1781	3536		902	3488			819		1722	1437	
Flt Permitted	0.41	1.00		0.21	1.00			0.85		0.72	1.00	
Satd. Flow (perm)	766	3536		196	3488			708		1314	1437	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	27	898	16	16	559	81	16	0	32	237	16	220
RTOR Reduction (vph)	0	1	0	0	10	0	0	40	0	0	142	0
Lane Group Flow (vph)	27	913	0	16	630	0	0	8	0	237	94	0
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	46.5	46.5		53.7	53.7			15.8		34.3	34.3	
Effective Green, g (s)	47.5	47.5		54.7	54.7			16.8		35.3	35.3	
Actuated g/C Ratio	0.48	0.48		0.55	0.55			0.17		0.35	0.35	
Clearance Time (s)	6.0	6.0		4.0	6.0			6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0		2.5	5.0			4.0		3.0	4.0	
Lane Grp Cap (vph)	363	1679		136	1907			118		527	507	
v/s Ratio Prot		c0.26		0.00	c0.18					c0.07	0.07	
v/s Ratio Perm	0.04			0.06				0.01		c0.09		
v/c Ratio	0.07	0.54		0.12	0.33			0.07		0.45	0.19	
Uniform Delay, d1	14.3	18.6		12.0	12.5			35.0		24.3	22.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.4	1.3		0.3	0.5			0.3		0.6	0.2	
Delay (s)	14.7	19.8		12.3	13.0			35.3		24.9	22.6	
Level of Service	B	B		B	B			D		C	C	
Approach Delay (s)		19.7			13.0			35.3			23.8	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	51.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



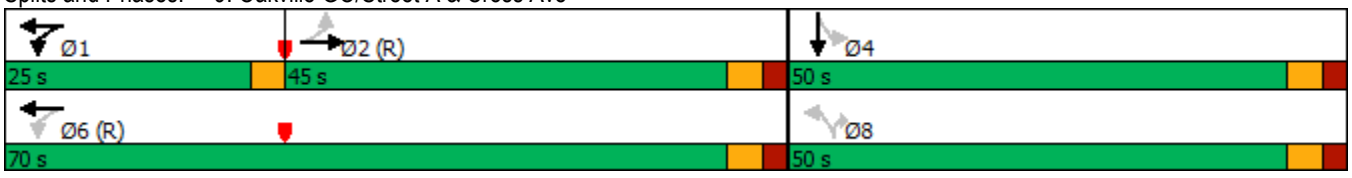
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	475	80	360	425	10	130	0	310	95	0	45
Future Volume (vph)	50	475	80	360	425	10	130	0	310	95	0	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00		0.99		0.97		0.98	
Frt		0.980			0.998				0.850		0.956	
Flt Protected		0.996			0.978		0.950				0.967	
Satd. Flow (prot)	0	3395	0	0	3430	0	1805	0	1615	0	1741	0
Flt Permitted		0.803			0.566		0.670				0.967	
Satd. Flow (perm)	0	2732	0	0	1979	0	1258	0	1570	0	1721	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			2				337		51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		139.5			107.3			62.6			201.6	
Travel Time (s)		10.0			7.7			4.5			14.5	
Confl. Peds. (#/hr)	30		10	10		30	10		10	10		10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	54	516	87	391	462	11	141	0	337	103	0	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	657	0	0	864	0	141	0	337	0	152	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	100		100
Number of Detectors	1	2		1	2		1		1	1	2	
Detector Template	Left	Thru		Left	Thru		Left		Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0		2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0		2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4						9.4	
Detector 2 Size(m)		0.6			0.6						0.6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type	Perm	NA		custom	NA		Perm		Perm	Perm	NA	
Protected Phases		2		1	1 6						4	
Permitted Phases	2			6			8		8	4		

Lane Group	Ø6
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (k/h)	
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(m)	
Detector 2 Size(m)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	6
Permitted Phases	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		1	1 6		8		8	4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		8.0			10.0		10.0	10.0	10.0	
Minimum Split (s)	40.6	40.6		11.0			27.6		27.6	27.6	27.6	
Total Split (s)	45.0	45.0		25.0			50.0		50.0	50.0	50.0	
Total Split (%)	37.5%	37.5%		20.8%			41.7%		41.7%	41.7%	41.7%	
Maximum Green (s)	39.4	39.4		22.0			44.4		44.4	44.4	44.4	
Yellow Time (s)	3.3	3.3		3.0			3.3		3.3	3.3	3.3	
All-Red Time (s)	2.3	2.3		0.0			2.3		2.3	2.3	2.3	
Lost Time Adjust (s)		-1.0					-1.0		-1.0		-1.0	
Total Lost Time (s)		4.6					4.6		4.6		4.6	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	5.0	5.0		2.5			3.5		3.5	3.0	3.0	
Recall Mode	C-Min	C-Min		None			None		None	None	None	
Walk Time (s)	7.0	7.0					7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	15.0	15.0					15.0		15.0	15.0	15.0	
Pedestrian Calls (#/hr)	20	20					10		10	10	10	
Act Effct Green (s)		71.7			92.7		20.7		20.7		20.7	
Actuated g/C Ratio		0.60			0.77		0.17		0.17		0.17	
v/c Ratio		0.40			0.50		0.65		0.61		0.45	
Control Delay		15.2			5.8		59.4		9.3		32.0	
Queue Delay		0.0			0.9		0.0		0.0		0.0	
Total Delay		15.2			6.7		59.4		9.3		32.0	
LOS		B			A		E		A		C	
Approach Delay		15.2			6.7			24.1			32.0	
Approach LOS		B			A			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 14.9		Intersection LOS: B	
Intersection Capacity Utilization 78.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 9: Oakville GO/Street A & Cross Ave



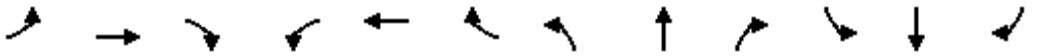
Lane Group	Ø6
Detector Phase	
Switch Phase	
Minimum Initial (s)	35.0
Minimum Split (s)	40.6
Total Split (s)	70.0
Total Split (%)	58%
Maximum Green (s)	64.4
Yellow Time (s)	3.3
All-Red Time (s)	2.3
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	5.0
Recall Mode	C-Min
Walk Time (s)	7.0
Flash Dont Walk (s)	15.0
Pedestrian Calls (#/hr)	20
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary



Lane Group	EBT	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	657	864	141	337	152
v/c Ratio	0.40	0.50	0.65	0.61	0.45
Control Delay	15.2	5.8	59.4	9.3	32.0
Queue Delay	0.0	0.9	0.0	0.0	0.0
Total Delay	15.2	6.7	59.4	9.3	32.0
Queue Length 50th (m)	41.1	28.4	33.0	0.0	22.3
Queue Length 95th (m)	74.7	50.5	51.0	24.1	39.8
Internal Link Dist (m)	115.5	83.3			177.6
Turn Bay Length (m)					
Base Capacity (vph)	1638	1808	475	803	682
Starvation Cap Reductn	0	613	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.40	0.72	0.30	0.42	0.22

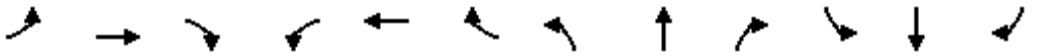
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	475	80	360	425	10	130	0	310	95	0	45
Future Volume (vph)	50	475	80	360	425	10	130	0	310	95	0	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6			2.0		4.6		4.6		4.6	
Lane Util. Factor		0.95			0.95		1.00		1.00		1.00	
Frpb, ped/bikes		0.99			1.00		1.00		0.97		0.99	
Flpb, ped/bikes		1.00			1.00		0.99		1.00		0.99	
Frt		0.98			1.00		1.00		0.85		0.96	
Flt Protected		1.00			0.98		0.95		1.00		0.97	
Satd. Flow (prot)		3388			3423		1786		1570		1723	
Flt Permitted		0.80			0.57		0.67		1.00		0.97	
Satd. Flow (perm)		2731			1982		1259		1570		1723	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	516	87	391	462	11	141	0	337	103	0	49
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	279	0	42	0
Lane Group Flow (vph)	0	651	0	0	864	0	141	0	58	0	110	0
Confl. Peds. (#/hr)	30		10	10		30	10		10	10		10
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		custom	NA		Perm		Perm	Perm	NA	
Protected Phases		2		1	1 6						4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)		70.7			89.1		19.7		19.7		19.7	
Effective Green, g (s)		71.7			90.1		20.7		20.7		20.7	
Actuated g/C Ratio		0.60			0.75		0.17		0.17		0.17	
Clearance Time (s)		5.6					5.6		5.6		5.6	
Vehicle Extension (s)		5.0					3.5		3.5		3.0	
Lane Grp Cap (vph)		1631			1685		217		270		297	
v/s Ratio Prot					c0.07							
v/s Ratio Perm		c0.24			0.31		c0.11		0.04		0.06	
v/c Ratio		0.40			0.51		0.65		0.22		0.37	
Uniform Delay, d1		12.8			6.1		46.3		42.7		43.9	
Progression Factor		1.00			1.00		1.00		1.00		1.00	
Incremental Delay, d2		0.7			0.2		6.8		0.5		0.8	
Delay (s)		13.5			6.3		53.1		43.1		44.7	
Level of Service		B			A		D		D		D	
Approach Delay (s)		13.5			6.3			46.1			44.7	
Approach LOS		B			A			D			D	

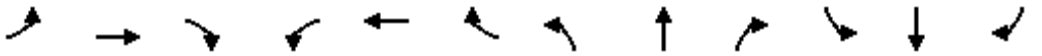
Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	400	0	0	470	130	0	0	80	120	0	95
Future Volume (vph)	40	400	0	0	470	130	0	0	80	120	0	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (m)	25.0			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.967			0.865				0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1805	3438	0	0	3378	0	0	1644	0	1805	0	1615
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1805	3438	0	0	3378	0	0	1644	0	1805	0	1615
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		132.8			139.5			48.2			88.5	
Travel Time (s)		9.6			10.0			3.5			6.4	
Confl. Peds. (#/hr)	15		10	10		15	5		5	5		5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	5%	0%	0%	4%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	45	455	0	0	534	148	0	0	91	136	0	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	455	0	0	682	0	0	91	0	136	0	108
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

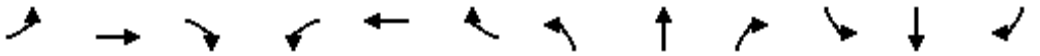
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	400	0	0	470	130	0	0	80	120	0	95
Future Volume (Veh/h)	40	400	0	0	470	130	0	0	80	120	0	95
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	45	455	0	0	534	148	0	0	91	136	0	108
Pedestrians		5			5			10			15	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		133			140							
pX, platoon unblocked												
vC, conflicting volume	697			465			935	1252	242	1036	1178	361
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	697			465			935	1252	242	1036	1178	361
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			100			100	100	88	12	100	83
cM capacity (veh/h)	897			1098			173	162	755	154	179	631

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	45	228	228	356	326	91	136	108
Volume Left	45	0	0	0	0	0	136	0
Volume Right	0	0	0	0	148	91	0	108
cSH	897	1700	1700	1700	1700	755	154	631
Volume to Capacity	0.05	0.13	0.13	0.21	0.19	0.12	0.88	0.17
Queue Length 95th (m)	1.3	0.0	0.0	0.0	0.0	3.3	48.7	4.9
Control Delay (s)	9.2	0.0	0.0	0.0	0.0	10.4	101.6	11.9
Lane LOS	A					B	F	B
Approach Delay (s)	0.8			0.0		10.4	61.9	
Approach LOS						B	F	

Intersection Summary				
Average Delay	10.9			
Intersection Capacity Utilization	44.1%	ICU Level of Service		A
Analysis Period (min)	15			

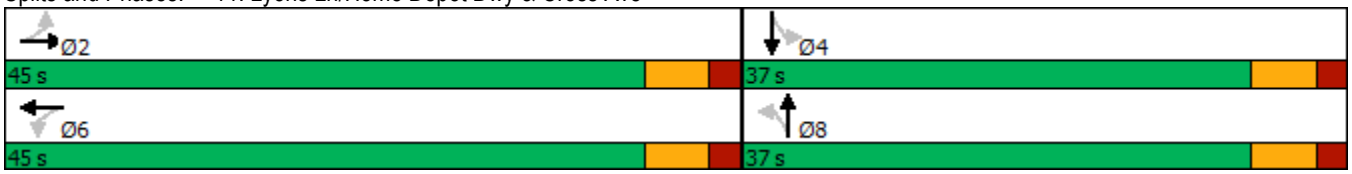


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	335	30	20	520	15	140	5	85	25	5	95
Future Volume (vph)	70	335	30	20	520	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	25.0		0.0	35.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		0.99	1.00		1.00	0.98		0.99	0.98	
Frt		0.988			0.996			0.858			0.858	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3372	0	1805	3455	0	1805	1595	0	1805	1588	0
Flt Permitted	0.404			0.502			0.681			0.689		
Satd. Flow (perm)	757	3372	0	949	3455	0	1288	1595	0	1296	1588	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			5			100			112	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		47.5			132.8			150.8			63.6	
Travel Time (s)		3.4			9.6			10.9			4.6	
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	82	394	35	24	612	18	165	6	100	29	6	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	429	0	24	630	0	165	106	0	29	118	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

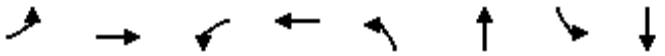
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		35.0	35.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	41.0	41.0		41.0	41.0		28.0	28.0		28.0	28.0	
Total Split (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Total Split (%)	54.9%	54.9%		54.9%	54.9%		45.1%	45.1%		45.1%	45.1%	
Maximum Green (s)	39.0	39.0		39.0	39.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	15	15		15	15		10	10		10	10	
Act Effct Green (s)	36.2	36.2		36.2	36.2		15.5	15.5		15.5	15.5	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
v/c Ratio	0.19	0.22		0.04	0.31		0.51	0.22		0.09	0.25	
Control Delay	8.6	6.8		7.2	7.6		25.5	6.1		17.5	5.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	8.6	6.8		7.2	7.6		25.5	6.1		17.5	5.9	
LOS	A	A		A	A		C	A		B	A	
Approach Delay		7.1			7.6			17.9			8.2	
Approach LOS		A			A			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 61.7			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 9.2		Intersection LOS: A	
Intersection Capacity Utilization 82.0%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 11: Lyons Ln/Home Depot Dwy & Cross Ave

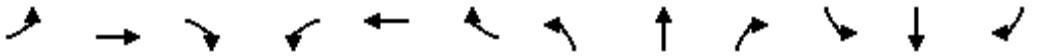


11: Lyons Ln/Home Depot Dwy & Cross Ave



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	82	429	24	630	165	106	29	118
v/c Ratio	0.19	0.22	0.04	0.31	0.51	0.22	0.09	0.25
Control Delay	8.6	6.8	7.2	7.6	25.5	6.1	17.5	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.6	6.8	7.2	7.6	25.5	6.1	17.5	5.9
Queue Length 50th (m)	3.8	10.3	1.0	16.7	16.8	0.5	2.7	0.5
Queue Length 95th (m)	12.4	21.1	4.5	32.0	30.4	8.9	7.5	9.3
Internal Link Dist (m)		23.5		108.8		126.8		39.6
Turn Bay Length (m)			25.0		35.0			
Base Capacity (vph)	493	2202	618	2253	671	879	675	881
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.19	0.04	0.28	0.25	0.12	0.04	0.13

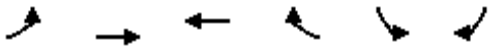
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	335	30	20	520	15	140	5	85	25	5	95
Future Volume (vph)	70	335	30	20	520	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1784	3372		1798	3455		1799	1600		1792	1589	
Flt Permitted	0.40	1.00		0.50	1.00		0.68	1.00		0.69	1.00	
Satd. Flow (perm)	760	3372		950	3455		1290	1600		1299	1589	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	82	394	35	24	612	18	165	6	100	29	6	112
RTOR Reduction (vph)	0	7	0	0	2	0	0	75	0	0	84	0
Lane Group Flow (vph)	82	422	0	24	628	0	165	31	0	29	34	0
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.2	35.2		35.2	35.2		14.4	14.4		14.4	14.4	
Effective Green, g (s)	36.2	36.2		36.2	36.2		15.4	15.4		15.4	15.4	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	446	1981		558	2030		322	400		324	397	
v/s Ratio Prot		0.13			c0.18			0.02			0.02	
v/s Ratio Perm	0.11			0.03			c0.13			0.02		
v/c Ratio	0.18	0.21		0.04	0.31		0.51	0.08		0.09	0.09	
Uniform Delay, d1	5.9	6.0		5.4	6.4		19.9	17.7		17.7	17.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.1		0.1	0.2		1.8	0.1		0.2	0.1	
Delay (s)	6.3	6.1		5.4	6.6		21.7	17.8		17.9	17.8	
Level of Service	A	A		A	A		C	B		B	B	
Approach Delay (s)		6.1			6.5			20.2			17.8	
Approach LOS		A			A			C			B	

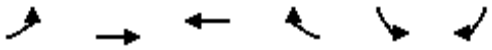
Intersection Summary			
HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	61.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	430	725	30	20	25
Future Volume (vph)	25	430	725	30	20	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.994		0.926	
Flt Protected	0.950				0.978	
Satd. Flow (prot)	1805	3471	3488	0	1721	0
Flt Permitted	0.950				0.978	
Satd. Flow (perm)	1805	3471	3488	0	1721	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		443.3	47.5		121.4	
Travel Time (s)		31.9	3.4		8.7	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	4%	3%	0%	0%	0%
Adj. Flow (vph)	27	473	797	33	22	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	473	830	0	49	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

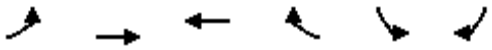
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.1%		ICU Level of Service A	
Analysis Period (min) 15			



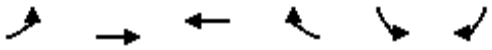
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	430	725	30	20	25
Future Volume (Veh/h)	25	430	725	30	20	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	27	473	797	33	22	27
Pedestrians					15	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			48			
pX, platoon unblocked	0.92				0.92	0.92
vC, conflicting volume	845				1119	430
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	652				950	199
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				90	96
cM capacity (veh/h)	856				230	738

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	27	236	236	531	299	49
Volume Left	27	0	0	0	0	22
Volume Right	0	0	0	0	33	27
cSH	856	1700	1700	1700	1700	370
Volume to Capacity	0.03	0.14	0.14	0.31	0.18	0.13
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0	3.6
Control Delay (s)	9.3	0.0	0.0	0.0	0.0	16.2
Lane LOS	A					C
Approach Delay (s)	0.5			0.0		16.2
Approach LOS						C

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	31.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	350	680	895	100	110	630
Future Volume (vph)	350	680	895	100	110	630
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0			0.0	60.0	0.0
Storage Lanes	1			0	1	2
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.88
Ped Bike Factor	1.00		1.00			
Frt			0.985			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1719	3574	3515	0	1805	2760
Flt Permitted	0.203				0.950	
Satd. Flow (perm)	367	3574	3515	0	1805	2760
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			12			669
Link Speed (k/h)		50	50		50	
Link Distance (m)		209.5	575.4		443.3	
Travel Time (s)		15.1	41.4		31.9	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Adj. Flow (vph)	372	723	952	106	117	670
Shared Lane Traffic (%)						
Lane Group Flow (vph)	372	723	1058	0	117	670
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		7.2	7.2		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			

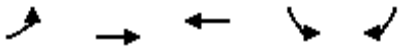


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	6.0	38.0	38.0		10.0	10.0
Minimum Split (s)	12.0	47.6	47.6		33.8	33.8
Total Split (s)	35.0	109.2	74.2		30.8	30.8
Total Split (%)	25.0%	78.0%	53.0%		22.0%	22.0%
Maximum Green (s)	29.0	102.6	67.6		25.0	25.0
Yellow Time (s)	4.0	3.7	3.7		3.3	3.3
All-Red Time (s)	2.0	2.9	2.9		2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.6	5.6		4.8	4.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Recall Mode	None	C-Min	C-Min		None	None
Walk Time (s)		10.0	10.0		10.0	10.0
Flash Dont Walk (s)		31.0	31.0		18.0	18.0
Pedestrian Calls (#/hr)		10	10		0	0
Act Effct Green (s)	114.3	113.7	87.2		15.9	15.9
Actuated g/C Ratio	0.82	0.81	0.62		0.11	0.11
v/c Ratio	0.74	0.25	0.48		0.57	0.74
Control Delay	17.4	3.6	14.9		69.0	9.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	17.4	3.6	14.9		69.0	9.3
LOS	B	A	B		E	A
Approach Delay		8.3	14.9		18.2	
Approach LOS		A	B		B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 13.3		Intersection LOS: B	
Intersection Capacity Utilization 74.7%		ICU Level of Service D	
Analysis Period (min) 15			

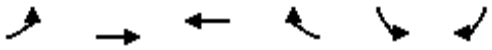
Splits and Phases: 13: Speers Rd/Cornwall Rd & Cross Ave





Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	372	723	1058	117	670
v/c Ratio	0.74	0.25	0.48	0.57	0.74
Control Delay	17.4	3.6	14.9	69.0	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.4	3.6	14.9	69.0	9.3
Queue Length 50th (m)	21.7	21.0	41.4	33.0	0.1
Queue Length 95th (m)	63.6	34.0	170.7	51.8	19.0
Internal Link Dist (m)		185.5	551.4	419.3	
Turn Bay Length (m)	70.0			60.0	
Base Capacity (vph)	596	2901	2194	335	1057
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.62	0.25	0.48	0.35	0.63

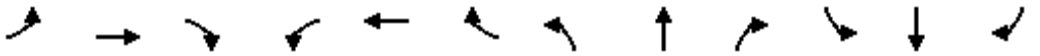
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	350	680	895	100	110	630
Future Volume (vph)	350	680	895	100	110	630
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		4.8	4.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1718	3574	3514		1805	2760
Flt Permitted	0.20	1.00	1.00		0.95	1.00
Satd. Flow (perm)	367	3574	3514		1805	2760
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	372	723	952	106	117	670
RTOR Reduction (vph)	0	0	5	0	0	593
Lane Group Flow (vph)	372	723	1053	0	117	77
Confl. Peds. (#/hr)	15			15		
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Actuated Green, G (s)	112.7	112.7	86.3		14.9	14.9
Effective Green, g (s)	113.7	113.7	87.3		15.9	15.9
Actuated g/C Ratio	0.81	0.81	0.62		0.11	0.11
Clearance Time (s)	6.0	6.6	6.6		5.8	5.8
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Lane Grp Cap (vph)	504	2902	2191		204	313
v/s Ratio Prot	c0.11	0.20	0.30			
v/s Ratio Perm	c0.49				c0.06	0.03
v/c Ratio	0.74	0.25	0.48		0.57	0.25
Uniform Delay, d1	11.3	3.1	14.2		58.8	56.6
Progression Factor	1.00	1.00	0.88		1.00	1.00
Incremental Delay, d2	5.8	0.2	0.7		3.9	0.4
Delay (s)	17.1	3.3	13.2		62.7	57.0
Level of Service	B	A	B		E	E
Approach Delay (s)		8.0	13.2		57.8	
Approach LOS		A	B		E	

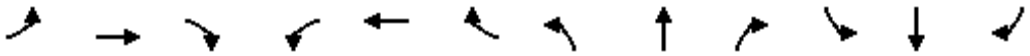
Intersection Summary			
HCM 2000 Control Delay	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	74.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	125	0	15	0	170	315	20	400	0
Future Volume (vph)	0	0	0	125	0	15	0	170	315	20	400	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.985			0.903				
Flt Protected					0.957						0.998	
Satd. Flow (prot)	0	1900	0	0	1760	0	0	3226	0	0	3603	0
Flt Permitted					0.957						0.998	
Satd. Flow (perm)	0	1900	0	0	1760	0	0	3226	0	0	3603	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		33.6			249.8			420.1			134.0	
Travel Time (s)		2.4			18.0			30.2			9.6	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	0%	3%	0%	0%	0%	0%
Adj. Flow (vph)	0	0	0	147	0	18	0	200	371	24	471	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	165	0	0	571	0	0	495	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	40.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	125	0	15	0	170	315	20	400	0
Future Volume (Veh/h)	0	0	0	125	0	15	0	170	315	20	400	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	147	0	18	0	200	371	24	471	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	637	1090	236	669	904	286	471			571		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	637	1090	236	669	904	286	471			571		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	56	100	97	100			98		
cM capacity (veh/h)	350	212	772	337	272	717	1101			1012		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	165	100	471	260	236
Volume Left	0	147	0	0	24	0
Volume Right	0	18	0	371	0	0
cSH	1700	358	1101	1700	1012	1700
Volume to Capacity	0.00	0.46	0.00	0.28	0.02	0.14
Queue Length 95th (m)	0.0	18.7	0.0	0.0	0.6	0.0
Control Delay (s)	0.0	23.4	0.0	0.0	1.0	0.0
Lane LOS	A	C			A	
Approach Delay (s)	0.0	23.4	0.0		0.5	
Approach LOS	A	C				

Intersection Summary				
Average Delay	3.4			
Intersection Capacity Utilization	40.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	120	80	75	140	175	115
Future Volume (vph)	120	80	75	140	175	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.946				0.947	
Flt Protected				0.983	0.971	
Satd. Flow (prot)	1766	0	0	1868	1730	0
Flt Permitted				0.983	0.971	
Satd. Flow (perm)	1766	0	0	1868	1730	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	632.0			1164.2	455.7	
Travel Time (s)	45.5			83.8	32.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	3%	0%	0%	1%	1%
Adj. Flow (vph)	135	90	84	157	197	129
Shared Lane Traffic (%)						
Lane Group Flow (vph)	225	0	0	241	326	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

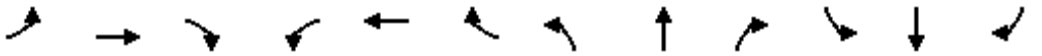
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	120	80	75	140	175	115
Future Volume (Veh/h)	120	80	75	140	175	115
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	135	90	84	157	197	129
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			225		505	180
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			225		505	180
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			94		60	85
cM capacity (veh/h)			1356		496	865

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	225	241	326
Volume Left	0	84	197
Volume Right	90	0	129
cSH	1700	1356	597
Volume to Capacity	0.13	0.06	0.55
Queue Length 95th (m)	0.0	1.6	26.3
Control Delay (s)	0.0	3.1	18.1
Lane LOS		A	C
Approach Delay (s)	0.0	3.1	18.1
Approach LOS			C

Intersection Summary			
Average Delay	8.4		
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	555	100	60	700	95	155	90	45	70	55	50
Future Volume (vph)	45	555	100	60	700	95	155	90	45	70	55	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		0.99					0.98
Frt		0.977			0.982			0.950				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3447	0	1805	3467	0	1770	1793	0	1805	1827	1553
Flt Permitted	0.300			0.372			0.719			0.665		
Satd. Flow (perm)	557	3447	0	704	3467	0	1332	1793	0	1264	1827	1520
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			26			26				53
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			455.7	
Travel Time (s)		43.9			11.1			15.4			32.8	
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Adj. Flow (vph)	48	590	106	64	745	101	165	96	48	74	59	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	696	0	64	846	0	165	144	0	74	59	53
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	27.7	27.7		27.7	27.7		14.1	14.1		14.1	14.1	14.1
Actuated g/C Ratio	0.54	0.54		0.54	0.54		0.27	0.27		0.27	0.27	0.27
v/c Ratio	0.16	0.37		0.17	0.45		0.45	0.28		0.21	0.12	0.12
Control Delay	8.4	7.4		8.1	8.2		20.6	14.4		16.9	15.3	6.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	8.4	7.4		8.1	8.2		20.6	14.4		16.9	15.3	6.1
LOS	A	A		A	A		C	B		B	B	A
Approach Delay		7.5			8.2			17.7			13.3	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 51.4			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.45			
Intersection Signal Delay: 9.7		Intersection LOS: A	
Intersection Capacity Utilization 77.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 16: Chartwell Rd & Cornwall Rd

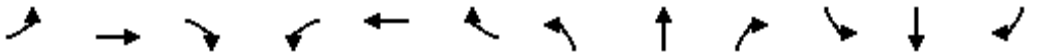


16: Chartwell Rd & Cornwall Rd



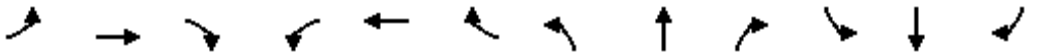
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	48	696	64	846	165	144	74	59	53
v/c Ratio	0.16	0.37	0.17	0.45	0.45	0.28	0.21	0.12	0.12
Control Delay	8.4	7.4	8.1	8.2	20.6	14.4	16.9	15.3	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.4	7.4	8.1	8.2	20.6	14.4	16.9	15.3	6.1
Queue Length 50th (m)	2.0	15.8	2.6	20.8	11.9	8.0	5.0	3.9	0.0
Queue Length 95th (m)	8.0	32.6	9.6	41.9	32.1	23.5	15.9	12.9	6.8
Internal Link Dist (m)		585.1		130.4		189.6		431.7	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	547	3385	691	3404	831	1129	789	1140	968
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.21	0.09	0.25	0.20	0.13	0.09	0.05	0.05

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	555	100	60	700	95	155	90	45	70	55	50
Future Volume (vph)	45	555	100	60	700	95	155	90	45	70	55	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.98		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1767	3450		1802	3470		1765	1793		1805	1827	1524
Flt Permitted	0.30	1.00		0.37	1.00		0.72	1.00		0.67	1.00	1.00
Satd. Flow (perm)	558	3450		705	3470		1335	1793		1264	1827	1524
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	48	590	106	64	745	101	165	96	48	74	59	53
RTOR Reduction (vph)	0	17	0	0	12	0	0	19	0	0	0	38
Lane Group Flow (vph)	48	679	0	64	834	0	165	125	0	74	59	15
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	26.7	26.7		26.7	26.7		13.1	13.1		13.1	13.1	13.1
Effective Green, g (s)	27.7	27.7		27.7	27.7		14.1	14.1		14.1	14.1	14.1
Actuated g/C Ratio	0.54	0.54		0.54	0.54		0.28	0.28		0.28	0.28	0.28
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	301	1866		381	1877		367	493		348	503	419
v/s Ratio Prot		0.20			c0.24			0.07			0.03	
v/s Ratio Perm	0.09			0.09			c0.12			0.06		0.01
v/c Ratio	0.16	0.36		0.17	0.44		0.45	0.25		0.21	0.12	0.03
Uniform Delay, d1	5.9	6.7		5.9	7.1		15.3	14.5		14.3	13.9	13.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.6	0.3		0.5	0.4		1.2	0.4		0.4	0.1	0.0
Delay (s)	6.5	7.0		6.4	7.5		16.5	14.8		14.7	14.0	13.6
Level of Service	A	A		A	A		B	B		B	B	B
Approach Delay (s)		7.0			7.4			15.7			14.2	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	51.2	Sum of lost time (s)	9.4
Intersection Capacity Utilization	77.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

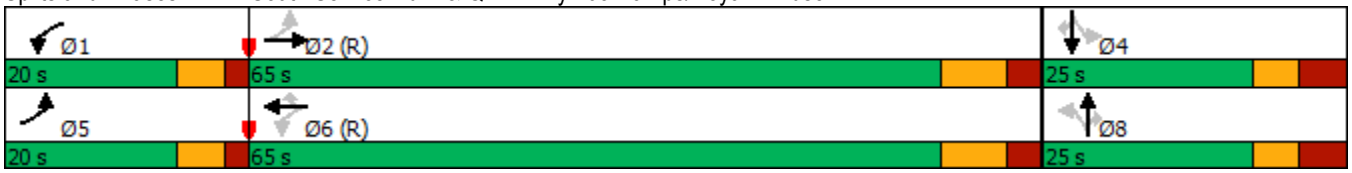


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	680	25	150	655	5	45	15	195	0	40	35
Future Volume (vph)	5	680	25	150	655	5	45	15	195	0	40	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	125.0		0.0	145.0		55.0	15.0		40.0	35.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												0.98
Frt		0.995				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3502	3386	0	1752	3505	1615	1656	1900	1599	1900	1712	1615
Flt Permitted	0.378			0.311			0.728					
Satd. Flow (perm)	1393	3386	0	574	3505	1615	1269	1900	1599	1900	1712	1585
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				107			214			113
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		232.7			227.3			1164.2			153.5	
Travel Time (s)		16.8			16.4			83.8			11.1	
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	6%	8%	3%	3%	0%	9%	0%	1%	0%	11%	0%
Adj. Flow (vph)	5	747	27	165	720	5	49	16	214	0	44	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	774	0	165	720	5	49	16	214	0	44	38
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

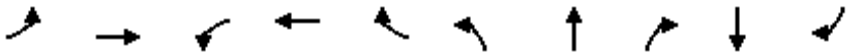
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	8.0	20.0		8.0	20.0	20.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	14.0	28.4		14.0	28.4	28.4	17.8	17.8	17.8	17.8	17.8	17.8
Total Split (s)	20.0	65.0		20.0	65.0	65.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	18.2%	59.1%		18.2%	59.1%	59.1%	22.7%	22.7%	22.7%	22.7%	22.7%	22.7%
Maximum Green (s)	14.0	56.6		14.0	56.6	56.6	17.2	17.2	17.2	17.2	17.2	17.2
Yellow Time (s)	4.0	5.4		4.0	5.4	5.4	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.0	3.0		2.0	3.0	3.0	4.1	4.1	4.1	4.1	4.1	4.1
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	79.8	68.4		86.0	80.9	80.9	12.1	12.1	12.1		12.1	12.1
Actuated g/C Ratio	0.73	0.62		0.78	0.74	0.74	0.11	0.11	0.11		0.11	0.11
v/c Ratio	0.00	0.37		0.30	0.28	0.00	0.36	0.08	0.59		0.24	0.14
Control Delay	3.2	11.1		4.4	5.9	0.0	52.4	44.0	13.0		47.4	1.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	3.2	11.1		4.4	5.9	0.0	52.4	44.0	13.0		47.4	1.1
LOS	A	B		A	A	A	D	D	B		D	A
Approach Delay		11.1			5.6			21.7			25.9	
Approach LOS		B			A			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 10.7		Intersection LOS: B	
Intersection Capacity Utilization 53.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr

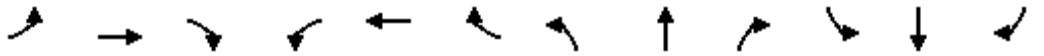


17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	5	774	165	720	5	49	16	214	44	38
v/c Ratio	0.00	0.37	0.30	0.28	0.00	0.36	0.08	0.59	0.24	0.14
Control Delay	3.2	11.1	4.4	5.9	0.0	52.4	44.0	13.0	47.4	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.2	11.1	4.4	5.9	0.0	52.4	44.0	13.0	47.4	1.1
Queue Length 50th (m)	0.1	38.6	6.8	20.4	0.0	10.5	3.3	0.0	9.3	0.0
Queue Length 95th (m)	0.5	62.0	13.9	50.6	0.0	22.4	10.0	21.9	19.9	0.0
Internal Link Dist (m)		208.7		203.3			1140.2		129.5	
Turn Bay Length (m)	125.0		145.0		55.0	15.0		40.0		
Base Capacity (vph)	1366	2108	610	2579	1216	209	314	443	283	356
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.37	0.27	0.28	0.00	0.23	0.05	0.48	0.16	0.11

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	680	25	150	655	5	45	15	195	0	40	35
Future Volume (vph)	5	680	25	150	655	5	45	15	195	0	40	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8		6.8	6.8
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	3502	3386		1752	3505	1615	1656	1900	1599		1712	1579
Flt Permitted	0.38	1.00		0.31	1.00	1.00	0.73	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1393	3386		573	3505	1615	1270	1900	1599		1712	1579
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	5	747	27	165	720	5	49	16	214	0	44	38
RTOR Reduction (vph)	0	2	0	0	0	2	0	0	190	0	0	34
Lane Group Flow (vph)	5	772	0	165	720	3	49	16	24	0	44	4
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	0%	6%	8%	3%	3%	0%	9%	0%	1%	0%	11%	0%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	69.0	67.4		82.7	75.1	75.1	11.1	11.1	11.1		11.1	11.1
Effective Green, g (s)	71.0	68.4		83.7	76.1	76.1	12.1	12.1	12.1		12.1	12.1
Actuated g/C Ratio	0.65	0.62		0.76	0.69	0.69	0.11	0.11	0.11		0.11	0.11
Clearance Time (s)	6.0	8.4		6.0	8.4	8.4	7.8	7.8	7.8		7.8	7.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	948	2105		546	2424	1117	139	209	175		188	173
v/s Ratio Prot	0.00	c0.23		c0.03	0.21			0.01			0.03	
v/s Ratio Perm	0.00			0.20		0.00	c0.04		0.01			0.00
v/c Ratio	0.01	0.37		0.30	0.30	0.00	0.35	0.08	0.13		0.23	0.02
Uniform Delay, d1	6.9	10.2		4.0	6.6	5.2	45.3	43.9	44.2		44.7	43.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.5		0.3	0.3	0.0	1.5	0.2	0.4		0.6	0.1
Delay (s)	6.9	10.7		4.4	6.9	5.2	46.9	44.1	44.6		45.4	43.7
Level of Service	A	B		A	A	A	D	D	D		D	D
Approach Delay (s)		10.7			6.4			44.9			44.6	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	60	0	85	120	0
Future Volume (vph)	50	60	0	85	120	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.926					
Flt Protected					0.950	
Satd. Flow (prot)	1725	0	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1725	0	0	1863	1770	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	64.3			219.4	105.4	
Travel Time (s)	4.6			15.8	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	65	0	92	130	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	119	0	0	92	130	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	50	60	0	85	120	0
Future Volume (Veh/h)	50	60	0	85	120	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	65	0	92	130	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			119		178	86
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			119		178	86
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		84	100
cM capacity (veh/h)			1469		811	972

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	119	92	130
Volume Left	0	0	130
Volume Right	65	0	0
cSH	1700	1469	811
Volume to Capacity	0.07	0.00	0.16
Queue Length 95th (m)	0.0	0.0	4.6
Control Delay (s)	0.0	0.0	10.3
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.3
Approach LOS			B

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	0	120	85	0	60
Future Volume (vph)	50	0	120	85	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.972		
Satd. Flow (prot)	1863	0	0	1811	1611	0
Flt Permitted				0.972		
Satd. Flow (perm)	1863	0	0	1811	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	53.7			64.3	43.5	
Travel Time (s)	3.9			4.6	3.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	0	130	92	0	65
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	0	222	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	50	0	120	85	0	60
Future Volume (Veh/h)	50	0	120	85	0	60
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	0	130	92	0	65
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			54		406	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			54		406	54
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		100	94
cM capacity (veh/h)			1551		551	1013

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	54	222	65
Volume Left	0	130	0
Volume Right	0	0	65
cSH	1700	1551	1013
Volume to Capacity	0.03	0.08	0.06
Queue Length 95th (m)	0.0	2.2	1.6
Control Delay (s)	0.0	4.7	8.8
Lane LOS		A	A
Approach Delay (s)	0.0	4.7	8.8
Approach LOS			A

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	28.2%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	170	0	40	340	80	15
Future Volume (vph)	170	0	40	340	80	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.979	
Flt Protected				0.995	0.959	
Satd. Flow (prot)	1863	0	0	1853	1749	0
Flt Permitted				0.995	0.959	
Satd. Flow (perm)	1863	0	0	1853	1749	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	216.0			632.0	87.0	
Travel Time (s)	15.6			45.5	6.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	0	43	370	87	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	185	0	0	413	103	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

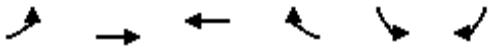
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	170	0	40	340	80	15
Future Volume (Veh/h)	170	0	40	340	80	15
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	185	0	43	370	87	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			185		641	185
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			185		641	185
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		80	98
cM capacity (veh/h)			1390		425	857

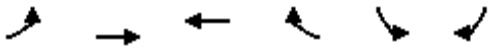
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	185	413	103
Volume Left	0	43	87
Volume Right	0	0	16
cSH	1700	1390	462
Volume to Capacity	0.11	0.03	0.22
Queue Length 95th (m)	0.0	0.8	6.8
Control Delay (s)	0.0	1.1	15.0
Lane LOS		A	C
Approach Delay (s)	0.0	1.1	15.0
Approach LOS			C

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	44.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	120	110	10	50	30	10
Future Volume (vph)	120	110	10	50	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.888		0.966	
Flt Protected		0.975			0.964	
Satd. Flow (prot)	0	1816	1654	0	1735	0
Flt Permitted		0.975			0.964	
Satd. Flow (perm)	0	1816	1654	0	1735	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		249.8	119.8		103.6	
Travel Time (s)		18.0	8.6		7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	120	11	54	33	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	250	65	0	44	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	120	110	10	50	30	10
Future Volume (Veh/h)	120	110	10	50	30	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	130	120	11	54	33	11
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	65				418	38
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	65				418	38
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				94	99
cM capacity (veh/h)	1537				541	1034

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	250	65	44
Volume Left	130	0	33
Volume Right	0	54	11
cSH	1537	1700	615
Volume to Capacity	0.08	0.04	0.07
Queue Length 95th (m)	2.2	0.0	1.8
Control Delay (s)	4.3	0.0	11.3
Lane LOS	A		B
Approach Delay (s)	4.3	0.0	11.3
Approach LOS			B

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	29.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	20	50	50	120	20	20
Future Volume (vph)	20	50	50	120	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.904		0.905			
Flt Protected	0.986					0.976
Satd. Flow (prot)	1660	0	1686	0	0	1818
Flt Permitted	0.986					0.976
Satd. Flow (perm)	1660	0	1686	0	0	1818
Link Speed (k/h)	50		50			50
Link Distance (m)	41.9		103.6			87.0
Travel Time (s)	3.0		7.5			6.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	54	54	130	22	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	76	0	184	0	0	44
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100		100	100	
Sign Control	Stop		Free			Free

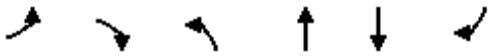
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.5%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	20	50	50	120	20	20
Future Volume (Veh/h)	20	50	50	120	20	20
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	54	54	130	22	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	185	119			184	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	185	119			184	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	94			98	
cM capacity (veh/h)	792	933			1391	

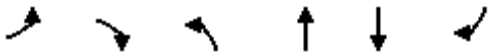
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	76	184	44
Volume Left	22	0	22
Volume Right	54	130	0
cSH	887	1700	1391
Volume to Capacity	0.09	0.11	0.02
Queue Length 95th (m)	2.2	0.0	0.4
Control Delay (s)	9.4	0.0	3.9
Lane LOS	A		A
Approach Delay (s)	9.4	0.0	3.9
Approach LOS	A		

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	70	130	120	60	0
Future Volume (vph)	0	70	130	120	60	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.975		
Satd. Flow (prot)	1611	0	0	1816	1863	0
Flt Permitted				0.975		
Satd. Flow (perm)	1611	0	0	1816	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	49.0			201.6	105.4	
Travel Time (s)	3.5			14.5	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	76	141	130	65	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	76	0	0	271	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

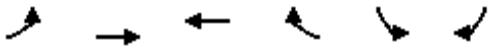
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	70	130	120	60	0
Future Volume (Veh/h)	0	70	130	120	60	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	76	141	130	65	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				201		
pX, platoon unblocked						
vC, conflicting volume	477	65	65			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	477	65	65			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	92	91			
cM capacity (veh/h)	497	999	1537			

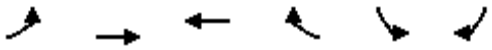
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	76	271	65
Volume Left	0	141	0
Volume Right	76	0	0
cSH	999	1537	1700
Volume to Capacity	0.08	0.09	0.04
Queue Length 95th (m)	2.0	2.4	0.0
Control Delay (s)	8.9	4.3	0.0
Lane LOS	A	A	
Approach Delay (s)	8.9	4.3	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	31.2%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	135	0	0	0	5	65
Future Volume (vph)	135	0	0	0	5	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.874	
Flt Protected		0.950			0.997	
Satd. Flow (prot)	0	1770	1863	0	1623	0
Flt Permitted		0.950			0.997	
Satd. Flow (perm)	0	1770	1863	0	1623	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		119.8	134.5		44.9	
Travel Time (s)		8.6	9.7		3.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	147	0	0	0	5	71
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	147	0	0	76	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.4%		ICU Level of Service A	
Analysis Period (min) 15			

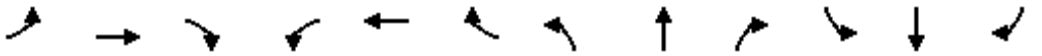


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	135	0	0	0	5	65
Future Volume (Veh/h)	135	0	0	0	5	65
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	147	0	0	0	5	71
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0				294	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				294	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				99	93
cM capacity (veh/h)	1623				634	1085

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	147	0	76
Volume Left	147	0	5
Volume Right	0	0	71
cSH	1623	1700	1036
Volume to Capacity	0.09	0.00	0.07
Queue Length 95th (m)	2.4	0.0	1.9
Control Delay (s)	7.4	0.0	8.7
Lane LOS	A		A
Approach Delay (s)	7.4	0.0	8.7
Approach LOS			A

Intersection Summary			
Average Delay	7.9		
Intersection Capacity Utilization	18.4%	ICU Level of Service	A
Analysis Period (min)	15		

5) 2031 Future Total Traffic Conditions (With Corridor Growth)

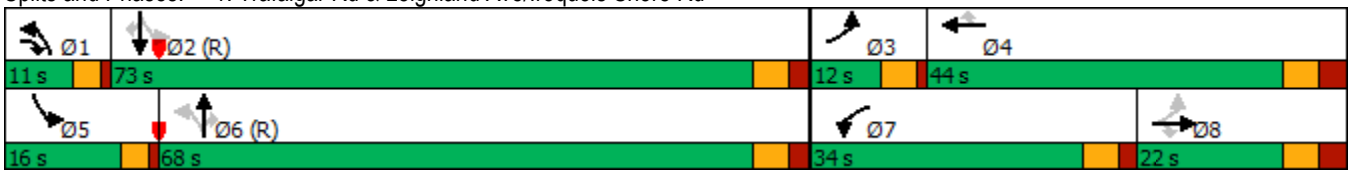


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	115	335	685	65	120	145	1415	775	195	2405	50
Future Volume (vph)	35	115	335	685	65	120	145	1415	775	195	2405	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.96					0.95			0.97			0.93
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1863	1568	3367	1827	1553	1719	4988	1568	1787	5085	1524
Flt Permitted	0.714			0.950			0.062			0.100		
Satd. Flow (perm)	1267	1863	1568	3367	1827	1470	112	4988	1525	188	5085	1424
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136			123			677			142
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			521.8			275.4			339.2	
Travel Time (s)		27.7			37.6			19.8			24.4	
Confl. Peds. (#/hr)	35					35	35		10	10		35
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Adj. Flow (vph)	35	116	338	692	66	121	146	1429	783	197	2429	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	116	338	692	66	121	146	1429	783	197	2429	51
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

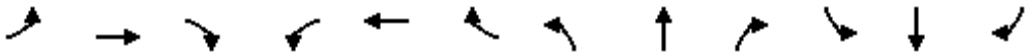
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	11.0	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	12.0	22.0	11.0	34.0	44.0	44.0	11.0	68.0	68.0	16.0	73.0	73.0
Total Split (%)	8.6%	15.7%	7.9%	24.3%	31.4%	31.4%	7.9%	48.6%	48.6%	11.4%	52.1%	52.1%
Maximum Green (s)	7.3	15.2	7.0	28.3	37.2	37.2	7.0	61.9	61.9	12.0	66.9	66.9
Yellow Time (s)	3.7	3.7	3.0	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	1.0	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					20	20		25	25		25	25
Act Effct Green (s)	24.5	14.3	30.0	29.3	38.7	38.7	77.2	65.1	65.1	81.5	67.9	67.9
Actuated g/C Ratio	0.18	0.10	0.21	0.21	0.28	0.28	0.55	0.46	0.46	0.58	0.48	0.48
v/c Ratio	0.14	0.61	0.76	0.98	0.13	0.24	0.83	0.62	0.73	0.78	0.98	0.07
Control Delay	32.3	74.1	42.8	84.7	39.6	7.4	64.6	19.3	11.5	41.6	50.4	0.2
Queue Delay	0.0	0.0	60.6	29.3	0.0	0.0	0.0	0.0	0.6	0.0	7.8	0.0
Total Delay	32.3	74.1	103.4	114.0	39.6	7.4	64.6	19.3	12.1	41.6	58.3	0.2
LOS	C	E	F	F	D	A	E	B	B	D	E	A
Approach Delay		91.3			93.8			19.7			55.9	
Approach LOS		F			F			B			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 50.5		Intersection LOS: D	
Intersection Capacity Utilization 98.3%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



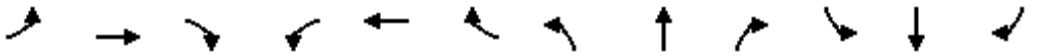
1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	35	116	338	692	66	121	146	1429	783	197	2429	51
v/c Ratio	0.14	0.61	0.76	0.98	0.13	0.24	0.83	0.62	0.73	0.78	0.98	0.07
Control Delay	32.3	74.1	42.8	84.7	39.6	7.4	64.6	19.3	11.5	41.6	50.4	0.2
Queue Delay	0.0	0.0	60.6	29.3	0.0	0.0	0.0	0.0	0.6	0.0	7.8	0.0
Total Delay	32.3	74.1	103.4	114.0	39.6	7.4	64.6	19.3	12.1	41.6	58.3	0.2
Queue Length 50th (m)	6.6	32.7	57.2	104.5	14.8	0.0	28.3	104.7	49.3	27.1	250.4	0.0
Queue Length 95th (m)	14.4	53.8	96.0	#145.7	27.6	15.4	#71.6	115.3	226.7	#65.2	#293.0	0.0
Internal Link Dist (m)		361.1			497.8			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	251	215	442	704	516	503	175	2321	1071	261	2466	763
Starvation Cap Reductn	0	0	0	0	0	0	0	0	76	0	0	0
Spillback Cap Reductn	0	0	228	62	0	0	0	0	0	0	79	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.54	1.58	1.08	0.13	0.24	0.83	0.62	0.79	0.75	1.02	0.07

Intersection Summary

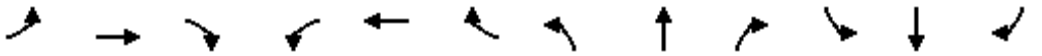
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	115	335	685	65	120	145	1415	775	195	2405	50
Future Volume (vph)	35	115	335	685	65	120	145	1415	775	195	2405	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.97	1.00	1.00	0.93
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1705	1863	1568	3367	1827	1470	1719	4988	1525	1787	5085	1424
Flt Permitted	0.71	1.00	1.00	0.95	1.00	1.00	0.06	1.00	1.00	0.10	1.00	1.00
Satd. Flow (perm)	1282	1863	1568	3367	1827	1470	113	4988	1525	188	5085	1424
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	35	116	338	692	66	121	146	1429	783	197	2429	51
RTOR Reduction (vph)	0	0	112	0	0	88	0	0	367	0	0	27
Lane Group Flow (vph)	35	116	226	692	66	33	146	1429	416	197	2429	24
Confl. Peds. (#/hr)	35					35	35		10	10		35
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	20.0	14.2	23.1	28.3	37.7	37.7	72.1	63.2	63.2	77.7	66.0	66.0
Effective Green, g (s)	22.0	15.2	25.1	29.3	38.7	38.7	74.1	64.2	64.2	79.7	67.0	67.0
Actuated g/C Ratio	0.16	0.11	0.18	0.21	0.28	0.28	0.53	0.46	0.46	0.57	0.48	0.48
Clearance Time (s)	4.7	6.8	4.0	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	222	202	281	704	505	406	173	2287	699	252	2433	681
v/s Ratio Prot	0.01	0.06	c0.06	c0.21	0.04		c0.06	0.29		c0.07	c0.48	
v/s Ratio Perm	0.02		0.09			0.02	0.39		0.27	0.37		0.02
v/c Ratio	0.16	0.57	0.81	0.98	0.13	0.08	0.84	0.62	0.60	0.78	1.00	0.04
Uniform Delay, d1	50.8	59.3	55.1	55.1	38.0	37.5	38.6	28.8	28.2	23.5	36.4	19.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.20	0.64	1.83	1.00	1.00	1.00
Incremental Delay, d2	0.3	3.9	15.4	29.5	0.1	0.1	23.8	1.0	2.8	14.5	17.9	0.1
Delay (s)	51.1	63.2	70.5	84.6	38.1	37.6	70.0	19.4	54.4	38.0	54.3	19.5
Level of Service	D	E	E	F	D	D	E	B	D	D	D	B
Approach Delay (s)		67.4			74.6			34.2			52.4	
Approach LOS		E			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	49.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	98.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

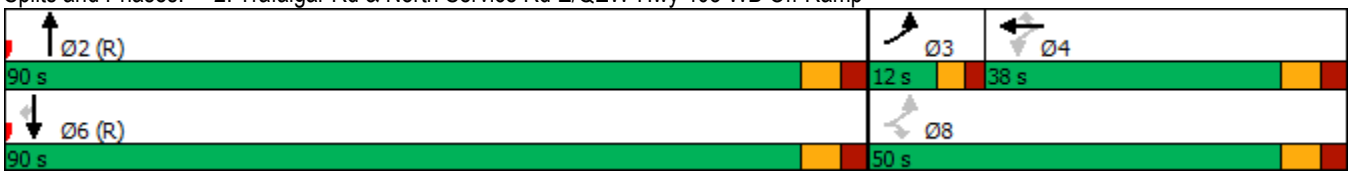


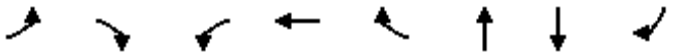
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	450	0	235	0	2260	0	0	3635	5
Future Volume (vph)	5	0	225	450	0	235	0	2260	0	0	3635	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.96
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.950							
Satd. Flow (prot)	1805	0	1599	1649	1649	1568	0	4988	0	0	5036	1615
Flt Permitted	0.283			0.950	0.950							
Satd. Flow (perm)	538	0	1599	1649	1649	1568	0	4988	0	0	5036	1543
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			86						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							10		5	5		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Adj. Flow (vph)	5	0	232	464	0	242	0	2330	0	0	3747	5
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	5	0	232	232	232	242	0	2330	0	0	3747	5
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	12.0		50.0	38.0	38.0	38.0		90.0			90.0	90.0
Total Split (%)	8.6%		35.7%	27.1%	27.1%	27.1%		64.3%			64.3%	64.3%
Maximum Green (s)	7.0		43.0	31.0	31.0	31.0		83.0			83.0	83.0
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		10			10	10
Act Effct Green (s)	30.2		28.2	25.8	25.8	25.8		99.8			99.8	99.8
Actuated g/C Ratio	0.22		0.20	0.18	0.18	0.18		0.71			0.71	0.71
v/c Ratio	0.03		0.67	0.77	0.77	0.68		0.66			1.04	0.00
Control Delay	37.0		52.8	70.3	70.3	42.8		9.2			51.9	0.0
Queue Delay	0.0		0.0	0.0	0.0	0.0		0.0			19.2	0.0
Total Delay	37.0		52.8	70.3	70.3	42.8		9.2			71.1	0.0
LOS	D		D	E	E	D		A			E	A
Approach Delay		52.5			60.9			9.2			71.0	
Approach LOS		D			E			A			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay: 48.9		Intersection LOS: D	
Intersection Capacity Utilization 111.6%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp





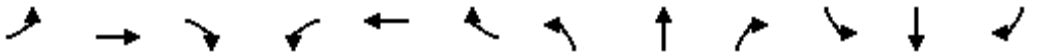
Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	5	232	232	232	242	2330	3747	5
v/c Ratio	0.03	0.67	0.77	0.77	0.68	0.66	1.04	0.00
Control Delay	37.0	52.8	70.3	70.3	42.8	9.2	51.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	19.2	0.0
Total Delay	37.0	52.8	70.3	70.3	42.8	9.2	71.1	0.0
Queue Length 50th (m)	1.2	55.6	67.7	67.7	42.6	87.7	~421.2	0.0
Queue Length 95th (m)	4.4	72.7	95.8	95.8	70.4	115.8	m#507.1	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	188	523	376	376	424	3557	3591	1120
Starvation Cap Reductn	0	0	0	0	0	0	150	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.44	0.62	0.62	0.57	0.66	1.09	0.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

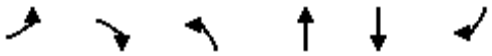
m Volume for 95th percentile queue is metered by upstream signal.



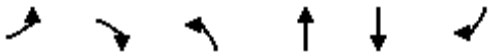
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	450	0	235	0	2260	0	0	3635	5
Future Volume (vph)	5	0	225	450	0	235	0	2260	0	0	3635	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.96
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1649	1649	1568		4988			5036	1543
Flt Permitted	0.28		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	537		1599	1649	1649	1568		4988			5036	1543
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	5	0	232	464	0	242	0	2330	0	0	3747	5
RTOR Reduction (vph)	0	0	24	0	0	70	0	0	0	0	0	2
Lane Group Flow (vph)	5	0	208	232	232	172	0	2330	0	0	3747	3
Confl. Peds. (#/hr)							10		5	5		10
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	31.2		31.2	24.8	24.8	24.8		94.8			94.8	94.8
Effective Green, g (s)	32.2		32.2	25.8	25.8	25.8		95.8			95.8	95.8
Actuated g/C Ratio	0.23		0.23	0.18	0.18	0.18		0.68			0.68	0.68
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	145		367	303	303	288		3413			3446	1055
v/s Ratio Prot	0.00							0.47			c0.74	
v/s Ratio Perm	0.01		c0.13	c0.14	0.14	0.11						0.00
v/c Ratio	0.03		0.57	0.77	0.77	0.60		0.68			1.09	0.00
Uniform Delay, d1	42.5		47.7	54.2	54.2	52.3		13.1			22.1	7.0
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.69			1.44	1.00
Incremental Delay, d2	0.2		2.2	11.0	11.0	3.3		0.7			42.0	0.0
Delay (s)	42.7		49.9	65.2	65.2	55.6		9.8			73.9	7.0
Level of Service	D		D	E	E	E		A			E	A
Approach Delay (s)		49.8			61.9			9.8			73.8	
Approach LOS		D			E			A			E	

Intersection Summary			
HCM 2000 Control Delay	50.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	111.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



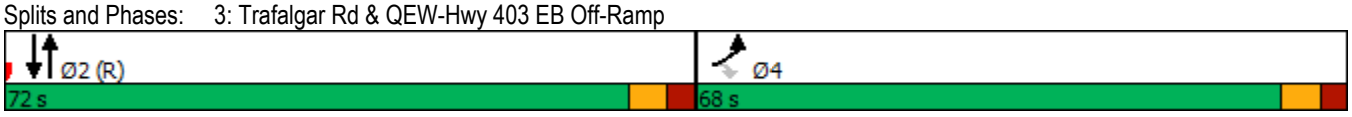
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1030	725	0	1780	2565	0
Future Volume (vph)	1030	725	0	1780	2565	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3433	1583	0	4940	5036	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	*1800	0	4940	5036	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			45.3	331.3	
Travel Time (s)	15.4			3.3	23.9	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Adj. Flow (vph)	1051	740	0	1816	2617	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1051	740	0	1816	2617	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	68.0	68.0		72.0	72.0	
Total Split (%)	48.6%	48.6%		51.4%	51.4%	
Maximum Green (s)	61.0	61.0		65.0	65.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		10	10	
Act Effct Green (s)	60.9	60.9		67.1	67.1	
Actuated g/C Ratio	0.44	0.44		0.48	0.48	
v/c Ratio	0.70	0.95		0.77	1.08	
Control Delay	35.2	59.5		25.3	73.5	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	35.2	59.5		25.3	73.5	
LOS	D	E		C	E	
Approach Delay	45.2			25.3	73.5	
Approach LOS	D			C	E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 51.3		Intersection LOS: D	
Intersection Capacity Utilization 104.5%		ICU Level of Service G	
Analysis Period (min) 15			
* User Entered Value			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



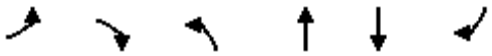
Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	1051	740	1816	2617
v/c Ratio	0.70	0.95	0.77	1.08
Control Delay	35.2	59.5	25.3	73.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	35.2	59.5	25.3	73.5
Queue Length 50th (m)	125.0	201.2	101.2	~316.1
Queue Length 95th (m)	150.1	#285.1	m101.9	m#297.9
Internal Link Dist (m)	190.2		21.3	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1520	797	2368	2414
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.69	0.93	0.77	1.08

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

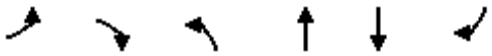
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1030	725	0	1780	2565	0
Future Volume (vph)	1030	725	0	1780	2565	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	1583		4940	5036	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	1800		4940	5036	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1051	740	0	1816	2617	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1051	740	0	1816	2617	0
Confl. Peds. (#/hr)			10			10
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	59.9	59.9		66.1	66.1	
Effective Green, g (s)	60.9	60.9		67.1	67.1	
Actuated g/C Ratio	0.43	0.43		0.48	0.48	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1493	783		2367	2413	
v/s Ratio Prot	0.31			0.37	c0.52	
v/s Ratio Perm		c0.41				
v/c Ratio	0.70	0.95		0.77	1.08	
Uniform Delay, d1	32.2	37.9		30.0	36.5	
Progression Factor	1.00	1.00		0.78	0.93	
Incremental Delay, d2	1.5	19.8		1.4	40.6	
Delay (s)	33.7	57.8		24.9	74.5	
Level of Service	C	E		C	E	
Approach Delay (s)	43.7			24.9	74.5	
Approach LOS	D			C	E	

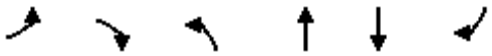
Intersection Summary			
HCM 2000 Control Delay	51.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	104.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	40	0	2045	2525	680
Future Volume (vph)	0	40	0	2045	2525	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.968	
Flt Protected						
Satd. Flow (prot)	0	1565	0	4940	4875	0
Flt Permitted						
Satd. Flow (perm)	0	1565	0	4940	4875	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	144.9			271.4	45.3	
Travel Time (s)	10.4			19.5	3.3	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	5%	0%	5%	3%	3%
Adj. Flow (vph)	0	43	0	2199	2715	731
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	43	0	2199	3446	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 74.2%		ICU Level of Service D	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	40	0	2045	2525	680
Future Volume (Veh/h)	0	40	0	2045	2525	680
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	43	0	2199	2715	731
Pedestrians	10					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				271	45	
pX, platoon unblocked	0.64	0.52	0.52			
vC, conflicting volume	3824	1280	3456			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1079	0	2509			
tC, single (s)	6.8	7.0	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	92	100			
cM capacity (veh/h)	136	559	96			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	43	733	733	733	1086	1086	1274
Volume Left	0	0	0	0	0	0	0
Volume Right	43	0	0	0	0	0	731
cSH	559	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.08	0.43	0.43	0.43	0.64	0.64	0.75
Queue Length 95th (m)	2.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	12.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	12.0	0.0			0.0		
Approach LOS	B						

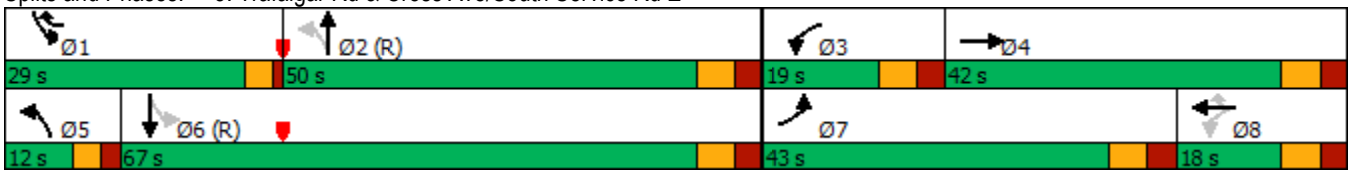
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	74.2%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	790	85	150	100	105	380	110	1355	40	225	1670	440
Future Volume (vph)	790	85	150	100	105	380	110	1355	40	225	1670	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		0.0	50.0		0.0	120.0		0.0	55.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.99		1.00				1.00			0.99	
Frt		0.904				0.850		0.996			0.969	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3273	1606	0	1736	1810	1553	1671	5013	0	1736	4872	0
Flt Permitted	0.950			0.608			0.078			0.074		
Satd. Flow (perm)	3273	1606	0	1106	1810	1553	137	5013	0	135	4872	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		61				140		3			60	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		217.0			420.1			277.9			271.4	
Travel Time (s)		15.6			30.2			20.0			19.5	
Confl. Peds. (#/hr)			5	5			15		5	5		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Adj. Flow (vph)	814	88	155	103	108	392	113	1397	41	232	1722	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	814	243	0	103	108	392	113	1438	0	232	2176	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		12.0	10.0	7.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0		19.0	17.0	11.0	12.0	34.0		11.0	34.0	
Total Split (s)	43.0	42.0		19.0	18.0	29.0	12.0	50.0		29.0	67.0	
Total Split (%)	30.7%	30.0%		13.6%	12.9%	20.7%	8.6%	35.7%		20.7%	47.9%	
Maximum Green (s)	36.0	35.0		12.0	11.0	25.0	7.0	43.0		25.0	60.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	1.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0						7.0			7.0	
Flash Dont Walk (s)		28.0						20.0			20.0	
Pedestrian Calls (#/hr)		5						10			10	
Act Effct Green (s)	36.6	35.4		24.8	11.8	37.0	61.6	51.4		76.3	61.4	
Actuated g/C Ratio	0.26	0.25		0.18	0.08	0.26	0.44	0.37		0.54	0.44	
v/c Ratio	0.95	0.54		0.41	0.71	0.76	0.76	0.78		0.79	1.00	
Control Delay	71.5	38.2		36.2	86.9	39.8	52.4	41.3		43.4	51.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	3.0	
Total Delay	71.5	38.2		36.2	86.9	39.8	52.4	41.3		43.4	54.4	
LOS	E	D		D	F	D	D	D		D	D	
Approach Delay		63.9			47.6			42.1			53.4	
Approach LOS		E			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 51.6		Intersection LOS: D	
Intersection Capacity Utilization 97.7%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 5: Trafalgar Rd & Cross Ave/South Service Rd E



5: Trafalgar Rd & Cross Ave/South Service Rd E



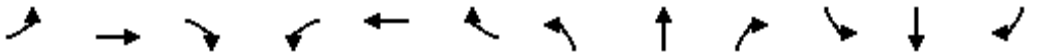
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	814	243	103	108	392	113	1438	232	2176
v/c Ratio	0.95	0.54	0.41	0.71	0.76	0.76	0.78	0.79	1.00
Control Delay	71.5	38.2	36.2	86.9	39.8	52.4	41.3	43.4	51.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
Total Delay	71.5	38.2	36.2	86.9	39.8	52.4	41.3	43.4	54.4
Queue Length 50th (m)	120.3	45.7	19.2	31.2	69.9	22.7	106.5	55.4	~195.7
Queue Length 95th (m)	#160.3	74.7	32.9	#59.5	103.9	m#32.2	m138.3	m53.0	m175.0
Internal Link Dist (m)		193.0		396.1			253.9		247.4
Turn Bay Length (m)	130.0		50.0			120.0		55.0	
Base Capacity (vph)	865	458	254	155	582	149	1842	371	2169
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	23
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.53	0.41	0.70	0.67	0.76	0.78	0.63	1.01

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

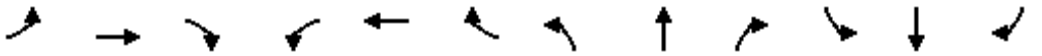
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	790	85	150	100	105	380	110	1355	40	225	1670	440
Future Volume (vph)	790	85	150	100	105	380	110	1355	40	225	1670	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.90		1.00	1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3273	1606		1731	1810	1553	1671	5012		1736	4870	
Flt Permitted	0.95	1.00		0.61	1.00	1.00	0.08	1.00		0.07	1.00	
Satd. Flow (perm)	3273	1606		1108	1810	1553	137	5012		134	4870	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	814	88	155	103	108	392	113	1397	41	232	1722	454
RTOR Reduction (vph)	0	46	0	0	0	109	0	2	0	0	34	0
Lane Group Flow (vph)	814	197	0	103	108	283	113	1436	0	232	2142	0
Confl. Peds. (#/hr)			5	5			15		5	5		15
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Actuated Green, G (s)	35.6	34.4		22.8	10.8	29.0	57.6	50.4		72.6	60.4	
Effective Green, g (s)	36.6	35.4		24.8	11.8	31.0	59.6	51.4		73.6	61.4	
Actuated g/C Ratio	0.26	0.25		0.18	0.08	0.22	0.43	0.37		0.53	0.44	
Clearance Time (s)	7.0	7.0		7.0	7.0	4.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	855	406		254	152	343	148	1840		290	2135	
v/s Ratio Prot	c0.25	0.12		0.04	0.06	c0.11	0.04	0.29		0.11	c0.44	
v/s Ratio Perm				0.03		0.07	0.28			0.31		
v/c Ratio	0.95	0.49		0.41	0.71	0.83	0.76	0.78		0.80	1.00	
Uniform Delay, d1	50.8	44.6		50.4	62.4	51.9	33.1	39.3		39.2	39.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.09	0.97		1.22	1.19	
Incremental Delay, d2	20.0	1.3		1.3	15.4	14.8	13.8	2.2		1.5	6.7	
Delay (s)	70.8	45.8		51.6	77.9	66.7	49.8	40.3		49.3	53.6	
Level of Service	E	D		D	E	E	D	D		D	D	
Approach Delay (s)		65.1			66.2			41.0			53.2	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	53.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	97.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	490	70	30	410	640	50	470	55	670	775	385
Future Volume (vph)	300	490	70	30	410	640	50	470	55	670	775	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.98	0.99		0.99		0.95	1.00	1.00		0.99		0.96
Frt		0.981				0.850		0.984				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3367	3331	0	1736	3438	1553	1770	3460	0	3400	1881	1553
Flt Permitted	0.950			0.368			0.131			0.950		
Satd. Flow (perm)	3304	3331	0	664	3438	1483	243	3460	0	3368	1881	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				464		9				270
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			277.9	
Travel Time (s)		41.4			45.2			10.0			20.0	
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Adj. Flow (vph)	313	510	73	31	427	667	52	490	57	698	807	401
Shared Lane Traffic (%)												
Lane Group Flow (vph)	313	583	0	31	427	667	52	547	0	698	807	401
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

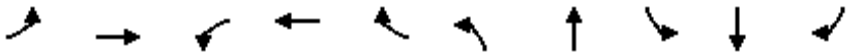
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	18.0	44.0		12.0	38.0	38.0	11.0	47.0		37.0	73.0	73.0
Total Split (%)	12.9%	31.4%		8.6%	27.1%	27.1%	7.9%	33.6%		26.4%	52.1%	52.1%
Maximum Green (s)	12.3	37.6		7.0	31.6	31.6	7.0	40.1		32.0	66.1	66.1
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		20			20	20		15			15	15
Act Effct Green (s)	14.4	42.2		39.8	30.4	30.4	53.9	43.0		32.3	70.5	70.5
Actuated g/C Ratio	0.10	0.30		0.28	0.22	0.22	0.38	0.31		0.23	0.50	0.50
v/c Ratio	0.91	0.58		0.12	0.57	0.97	0.29	0.51		0.89	0.85	0.45
Control Delay	91.6	49.6		29.8	51.9	44.9	21.3	41.8		79.0	33.3	11.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.3	0.0
Total Delay	91.6	49.6		29.8	51.9	44.9	21.3	41.8		79.0	33.6	11.4
LOS	F	D		C	D	D	C	D		E	C	B
Approach Delay		64.3			47.2			40.0			45.5	
Approach LOS		E			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 125			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 48.9		Intersection LOS: D	
Intersection Capacity Utilization 93.0%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd



6: Trafalgar Rd & Cornwall Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	313	583	31	427	667	52	547	698	807	401
v/c Ratio	0.91	0.58	0.12	0.57	0.97	0.29	0.51	0.89	0.85	0.45
Control Delay	91.6	49.6	29.8	51.9	44.9	21.3	41.8	79.0	33.3	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Total Delay	91.6	49.6	29.8	51.9	44.9	21.3	41.8	79.0	33.6	11.4
Queue Length 50th (m)	48.1	80.0	5.8	57.8	72.0	6.3	69.3	111.6	115.0	26.8
Queue Length 95th (m)	#80.2	103.8	13.1	75.8	#158.2	12.6	88.6	m114.0	m117.7	m28.2
Internal Link Dist (m)		551.4		604.3			115.4		253.9	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	345	1012	250	800	701	180	1071	801	947	888
Starvation Cap Reductn	0	0	0	0	0	0	0	0	13	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.58	0.12	0.53	0.95	0.29	0.51	0.87	0.86	0.45

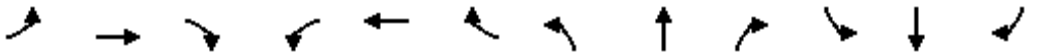
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	490	70	30	410	640	50	470	55	670	775	385
Future Volume (vph)	300	490	70	30	410	640	50	470	55	670	775	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.95	1.00	1.00		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3367	3331		1727	3438	1483	1769	3461		3400	1881	1498
Flt Permitted	0.95	1.00		0.37	1.00	1.00	0.13	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3367	3331		669	3438	1483	243	3461		3400	1881	1498
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	312	510	73	31	427	667	52	490	57	698	807	401
RTOR Reduction (vph)	0	8	0	0	0	357	0	6	0	0	0	139
Lane Group Flow (vph)	313	575	0	31	427	310	52	541	0	698	807	262
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	13.4	41.2		35.5	31.3	31.3	45.6	40.0		31.3	66.7	66.7
Effective Green, g (s)	14.4	42.2		37.5	32.3	32.3	47.6	41.0		32.3	67.7	67.7
Actuated g/C Ratio	0.10	0.30		0.27	0.23	0.23	0.34	0.29		0.23	0.48	0.48
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Lane Grp Cap (vph)	346	1004		218	793	342	154	1013		784	909	724
v/s Ratio Prot	c0.09	0.17		0.01	0.12		0.02	0.16		c0.21	c0.43	
v/s Ratio Perm				0.03		c0.21	0.10					0.17
v/c Ratio	0.90	0.57		0.14	0.54	0.91	0.34	0.53		0.89	0.89	0.36
Uniform Delay, d1	62.1	41.3		38.3	47.3	52.4	34.1	41.5		52.1	32.7	22.6
Progression Factor	1.02	1.14		1.00	1.00	1.00	1.00	1.00		1.41	0.92	1.46
Incremental Delay, d2	25.1	0.8		0.4	0.7	26.4	1.3	2.0		5.0	5.0	0.5
Delay (s)	88.3	47.8		38.7	48.0	78.7	35.4	43.5		78.5	35.0	33.6
Level of Service	F	D		D	D	E	D	D		E	C	C
Approach Delay (s)		61.9			66.0			42.8			50.6	
Approach LOS		E			E			D			D	

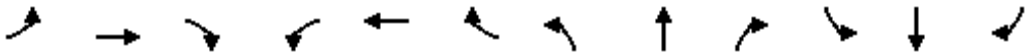
Intersection Summary			
HCM 2000 Control Delay	55.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	93.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	15	0	5	615	140	0	5	0	20	5	100
Future Volume (vph)	0	15	0	5	615	140	0	5	0	20	5	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.975						0.892	
Flt Protected											0.992	
Satd. Flow (prot)	0	1792	0	0	1813	0	0	1900	0	0	1480	0
Flt Permitted											0.992	
Satd. Flow (perm)	0	1792	0	0	1813	0	0	1900	0	0	1480	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		175.8			144.9			44.8			92.1	
Travel Time (s)		12.7			10.4			3.2			6.6	
Confl. Peds. (#/hr)			5	5					10	10		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	6%	0%	0%	2%	3%	0%	0%	0%	0%	0%	17%
Adj. Flow (vph)	0	17	0	6	691	157	0	6	0	22	6	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	17	0	0	854	0	0	6	0	0	140	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

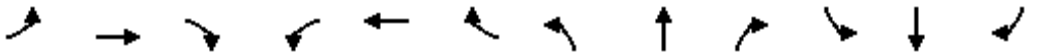
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	15	0	5	615	140	0	5	0	20	5	100
Future Volume (Veh/h)	0	15	0	5	615	140	0	5	0	20	5	100
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	17	0	6	691	157	0	6	0	22	6	112
Pedestrians					10			5				
Lane Width (m)					3.6			3.6				
Walking Speed (m/s)					1.2			1.2				
Percent Blockage					1			0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		355										
pX, platoon unblocked												
vC, conflicting volume	848			22			918	882	32	812	804	770
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	848			22			918	882	32	812	804	770
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.4
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.5
p0 queue free %	100			100			100	98	100	92	98	70
cM capacity (veh/h)	798			1600			174	285	1035	291	316	378

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	17	854	6	140
Volume Left	0	6	0	22
Volume Right	0	157	0	112
cSH	798	1600	285	358
Volume to Capacity	0.00	0.00	0.02	0.39
Queue Length 95th (m)	0.0	0.1	0.5	14.5
Control Delay (s)	0.0	0.1	17.9	21.4
Lane LOS		A	C	C
Approach Delay (s)	0.0	0.1	17.9	21.4
Approach LOS			C	C

Intersection Summary				
Average Delay	3.1			
Intersection Capacity Utilization	65.8%	ICU Level of Service	C	
Analysis Period (min)	15			

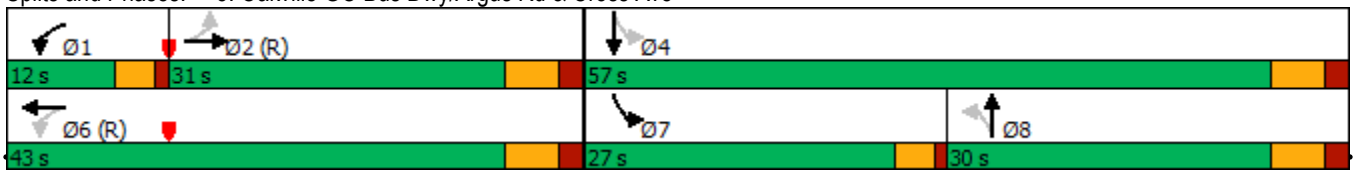


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	855	15	20	675	25	15	0	30	175	10	440
Future Volume (vph)	20	855	15	20	675	25	15	0	30	175	10	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	30.0			15.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00			1.00			0.97		0.98	0.96	
Frt		0.997			0.995			0.909			0.853	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1719	3504	0	950	3543	0	0	845	0	1719	1528	0
Flt Permitted	0.377			0.210				0.791		0.727		
Satd. Flow (perm)	677	3504	0	210	3543	0	0	676	0	1285	1528	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			4			120			89	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		107.3			217.0			71.0			179.3	
Travel Time (s)		7.7			15.6			5.1			12.9	
Confl. Peds. (#/hr)	10		10	10		10	20		20	20		20
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	1%	100%	90%	1%	7%	100%	100%	94%	5%	100%	0%
Adj. Flow (vph)	21	881	15	21	696	26	15	0	31	180	10	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	896	0	21	722	0	0	46	0	180	464	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

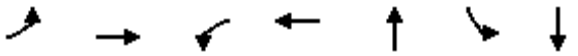
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	22.0	22.0		8.0	22.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	29.0	29.0		12.0	29.0		29.0	29.0		9.0	29.0	
Total Split (s)	31.0	31.0		12.0	43.0		30.0	30.0		27.0	57.0	
Total Split (%)	31.0%	31.0%		12.0%	43.0%		30.0%	30.0%		27.0%	57.0%	
Maximum Green (s)	25.0	25.0		8.0	37.0		24.0	24.0		23.0	51.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	5.0	5.0		2.5	5.0		4.0	4.0		3.0	4.0	
Recall Mode	C-Min	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	16.0	16.0			16.0		16.0	16.0			16.0	
Pedestrian Calls (#/hr)	10	10			10		20	20			20	
Act Effct Green (s)	50.4	50.4		57.3	55.3			18.3		36.7	34.7	
Actuated g/C Ratio	0.50	0.50		0.57	0.55			0.18		0.37	0.35	
v/c Ratio	0.06	0.51		0.11	0.37			0.21		0.33	0.79	
Control Delay	20.6	21.2		14.2	14.7			2.1		22.3	32.6	
Queue Delay	0.0	2.3		0.0	0.0			0.0		0.0	0.0	
Total Delay	20.6	23.5		14.2	14.7			2.1		22.3	32.6	
LOS	C	C		B	B			A		C	C	
Approach Delay		23.4			14.7			2.1			29.7	
Approach LOS		C			B			A			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 22.0		Intersection LOS: C	
Intersection Capacity Utilization 62.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: Oakville GO Bus Dwy/Argus Rd & Cross Ave



8: Oakville GO Bus Dwy/Argus Rd & Cross Ave

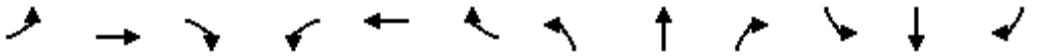


Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	21	896	21	722	46	180	464
v/c Ratio	0.06	0.51	0.11	0.37	0.21	0.33	0.79
Control Delay	20.6	21.2	14.2	14.7	2.1	22.3	32.6
Queue Delay	0.0	2.3	0.0	0.0	0.0	0.0	0.0
Total Delay	20.6	23.5	14.2	14.7	2.1	22.3	32.6
Queue Length 50th (m)	1.9	54.1	1.8	40.6	0.0	25.7	69.5
Queue Length 95th (m)	8.8	110.3	6.6	67.4	0.0	35.1	92.4
Internal Link Dist (m)		83.3		193.0	47.0		155.3
Turn Bay Length (m)	20.0		20.0			15.0	
Base Capacity (vph)	341	1768	187	1961	259	575	837
Starvation Cap Reductn	0	706	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.84	0.11	0.37	0.18	0.31	0.55

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	855	15	20	675	25	15	0	30	175	10	440
Future Volume (vph)	20	855	15	20	675	25	15	0	30	175	10	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.97		1.00	0.96	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00		0.98	1.00	
Frt	1.00	1.00		1.00	0.99			0.91		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1705	3505		949	3542			842		1691	1529	
Flt Permitted	0.38	1.00		0.21	1.00			0.79		0.73	1.00	
Satd. Flow (perm)	677	3505		210	3542			676		1295	1529	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	21	881	15	21	696	26	15	0	31	180	10	454
RTOR Reduction (vph)	0	1	0	0	2	0	0	39	0	0	57	0
Lane Group Flow (vph)	21	895	0	21	720	0	0	7	0	180	407	0
Confl. Peds. (#/hr)	10		10	10		10	20		20	20		20
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	5%	1%	100%	90%	1%	7%	100%	100%	94%	5%	100%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	45.8	45.8		53.1	53.1			15.3		34.9	34.9	
Effective Green, g (s)	46.8	46.8		54.1	54.1			16.3		35.9	35.9	
Actuated g/C Ratio	0.47	0.47		0.54	0.54			0.16		0.36	0.36	
Clearance Time (s)	6.0	6.0		4.0	6.0			6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0		2.5	5.0			4.0		3.0	4.0	
Lane Grp Cap (vph)	316	1640		145	1916			110		530	548	
v/s Ratio Prot		c0.26		0.01	c0.20					0.06	c0.27	
v/s Ratio Perm	0.03			0.07				0.01		0.07		
v/c Ratio	0.07	0.55		0.14	0.38			0.07		0.34	0.74	
Uniform Delay, d1	14.6	19.0		12.3	13.2			35.4		23.0	28.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.4	1.3		0.3	0.6			0.4		0.4	5.7	
Delay (s)	15.0	20.3		12.6	13.8			35.8		23.4	33.8	
Level of Service	B	C		B	B			D		C	C	
Approach Delay (s)		20.2			13.8			35.8			30.9	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	21.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	330	90	650	520	15	60	0	235	275	0	75
Future Volume (vph)	25	330	90	650	520	15	60	0	235	275	0	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00		1.00		0.97		0.99	
Frt		0.970			0.998				0.850		0.971	
Flt Protected		0.997			0.973		0.950				0.962	
Satd. Flow (prot)	0	3273	0	0	3414	0	1805	0	1615	0	1769	0
Flt Permitted		0.814			0.552		0.536				0.962	
Satd. Flow (perm)	0	2671	0	0	1937	0	1013	0	1570	0	1759	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			2				255		51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		139.5			107.3			62.6			201.6	
Travel Time (s)		10.0			7.7			4.5			14.5	
Confl. Peds. (#/hr)	15					15	5		10	10		5
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	27	359	98	707	565	16	65	0	255	299	0	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	484	0	0	1288	0	65	0	255	0	381	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	100		100
Number of Detectors	1	2		1	2		1		1	1	2	
Detector Template	Left	Thru		Left	Thru		Left		Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0		2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0		2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4						9.4	
Detector 2 Size(m)		0.6			0.6						0.6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type	Perm	NA		custom	NA		Perm		Perm	custom	NA	
Protected Phases		2		1	1 6					7	7 4	

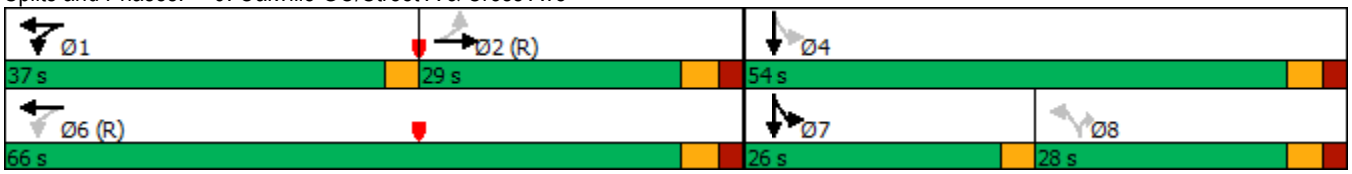
Lane Group	Ø4	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	4	6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			8		8	4		
Detector Phase	2	2		1	1 6		8		8	7	7 4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		8.0			10.0		10.0	8.0		
Minimum Split (s)	27.6	27.6		11.0			27.6		27.6	11.0		
Total Split (s)	29.0	29.0		37.0			28.0		28.0	26.0		
Total Split (%)	24.2%	24.2%		30.8%			23.3%		23.3%	21.7%		
Maximum Green (s)	23.4	23.4		34.0			22.4		22.4	23.0		
Yellow Time (s)	3.3	3.3		3.0			3.3		3.3	3.0		
All-Red Time (s)	2.3	2.3		0.0			2.3		2.3	0.0		
Lost Time Adjust (s)		-1.0					-1.0		-1.0			
Total Lost Time (s)		4.6					4.6		4.6			
Lead/Lag	Lag	Lag		Lead			Lag		Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes		
Vehicle Extension (s)	5.0	5.0		2.5			3.5		3.5	3.0		
Recall Mode	C-Min	C-Min		None			None		None	None		
Walk Time (s)	7.0	7.0					7.0		7.0			
Flash Dont Walk (s)	15.0	15.0					15.0		15.0			
Pedestrian Calls (#/hr)	10	10					10		10			
Act Effct Green (s)		34.1			72.9		15.5		15.5		43.1	
Actuated g/C Ratio		0.28			0.61		0.13		0.13		0.36	
v/c Ratio		0.62			0.99dl		0.50		0.60		0.57	
Control Delay		42.2			20.9		60.5		11.6		29.4	
Queue Delay		0.0			36.0		0.0		0.0		0.0	
Total Delay		42.2			56.9		60.5		11.6		29.4	
LOS		D			E		E		B		C	
Approach Delay		42.2			56.9			21.5			29.4	
Approach LOS		D			E			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 45.2		Intersection LOS: D	
Intersection Capacity Utilization 89.8%		ICU Level of Service E	
Analysis Period (min) 15			

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 9: Oakville GO/Street A & Cross Ave



Lane Group	Ø4	Ø6
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	10.0	20.0
Minimum Split (s)	27.6	27.6
Total Split (s)	54.0	66.0
Total Split (%)	45%	55%
Maximum Green (s)	48.4	60.4
Yellow Time (s)	3.3	3.3
All-Red Time (s)	2.3	2.3
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	5.0
Recall Mode	None	C-Min
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	15.0	15.0
Pedestrian Calls (#/hr)	10	10
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

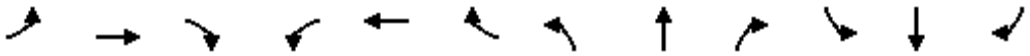
9: Oakville GO/Street A & Cross Ave



Lane Group	EBT	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	484	1288	65	255	381
v/c Ratio	0.62	0.99dl	0.50	0.60	0.57
Control Delay	42.2	20.9	60.5	11.6	29.4
Queue Delay	0.0	36.0	0.0	0.0	0.0
Total Delay	42.2	56.9	60.5	11.6	29.4
Queue Length 50th (m)	54.3	99.2	15.4	0.0	65.4
Queue Length 95th (m)	#87.9	146.0	28.6	22.9	86.2
Internal Link Dist (m)	115.5	83.3			177.6
Turn Bay Length (m)					
Base Capacity (vph)	776	1630	197	511	793
Starvation Cap Reductn	0	426	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.62	1.07	0.33	0.50	0.48

Intersection Summary

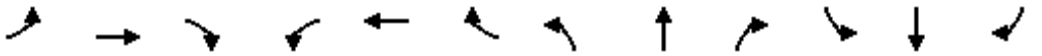
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	330	90	650	520	15	60	0	235	275	0	75
Future Volume (vph)	25	330	90	650	520	15	60	0	235	275	0	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6			2.0		4.6		4.6		2.0	
Lane Util. Factor		0.95			0.95		1.00		1.00		1.00	
Frpb, ped/bikes		1.00			1.00		1.00		0.97		1.00	
Flpb, ped/bikes		1.00			1.00		1.00		1.00		0.99	
Frt		0.97			1.00		1.00		0.85		0.97	
Flt Protected		1.00			0.97		0.95		1.00		0.96	
Satd. Flow (prot)		3271			3416		1796		1570		1757	
Flt Permitted		0.81			0.55		0.54		1.00		0.96	
Satd. Flow (perm)		2671			1938		1013		1570		1757	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	359	98	707	565	16	65	0	255	299	0	82
RTOR Reduction (vph)	0	17	0	0	1	0	0	0	222	0	34	0
Lane Group Flow (vph)	0	467	0	0	1287	0	65	0	33	0	347	0
Confl. Peds. (#/hr)	15					15	5		10	10		5
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	0%	9%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		custom	NA		Perm		Perm	custom	NA	
Protected Phases		2		1	1 6					7	7 4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)		33.1			69.3		14.5		14.5		39.5	
Effective Green, g (s)		34.1			70.3		15.5		15.5		40.5	
Actuated g/C Ratio		0.28			0.59		0.13		0.13		0.34	
Clearance Time (s)		5.6					5.6		5.6			
Vehicle Extension (s)		5.0					3.5		3.5			
Lane Grp Cap (vph)		759			1556		130		202		592	
v/s Ratio Prot					c0.24						c0.11	
v/s Ratio Perm		c0.17			0.25		0.06		0.02		0.09	
v/c Ratio		0.62			0.99dl		0.50		0.16		0.59	
Uniform Delay, d1		37.3			20.0		48.6		46.5		32.8	
Progression Factor		1.00			1.00		1.00		1.00		1.00	
Incremental Delay, d2		3.7			3.7		3.5		0.5		1.5	
Delay (s)		41.0			23.7		52.2		46.9		34.3	
Level of Service		D			C		D		D		C	
Approach Delay (s)		41.0			23.7			48.0			34.3	
Approach LOS		D			C			D			C	

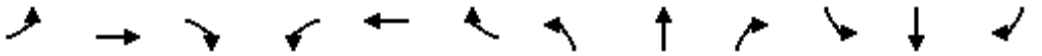
Intersection Summary			
HCM 2000 Control Delay	31.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	290	0	5	495	155	0	0	0	155	0	25
Future Volume (vph)	25	290	0	5	495	155	0	0	0	155	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (m)	25.0			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.965							0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1805	3312	0	0	3278	0	0	1900	0	1787	0	1509
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1805	3312	0	0	3278	0	0	1900	0	1787	0	1509
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		132.8			139.5			48.2			88.5	
Travel Time (s)		9.6			10.0			3.5			6.4	
Confl. Peds. (#/hr)	20		10	10		20						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	0%	0%	8%	1%	0%	0%	0%	1%	0%	7%
Adj. Flow (vph)	27	315	0	5	538	168	0	0	0	168	0	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	315	0	0	711	0	0	0	0	168	0	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

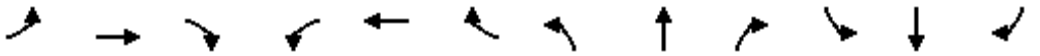
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	290	0	5	495	155	0	0	0	155	0	25
Future Volume (Veh/h)	25	290	0	5	495	155	0	0	0	155	0	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	315	0	5	538	168	0	0	0	168	0	27
Pedestrians								10			20	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			2	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		133			140							
pX, platoon unblocked												
vC, conflicting volume	726			325			685	1115	168	864	1031	373
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	726			325			685	1115	168	864	1031	373
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	7.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.4
p0 queue free %	97			100			100	100	100	28	100	96
cM capacity (veh/h)	872			1236			306	197	847	235	221	600

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	27	158	158	274	437	0	168	27
Volume Left	27	0	0	5	0	0	168	0
Volume Right	0	0	0	0	168	0	0	27
cSH	872	1700	1700	1236	1700	1700	235	600
Volume to Capacity	0.03	0.09	0.09	0.00	0.26	0.12	0.72	0.04
Queue Length 95th (m)	0.8	0.0	0.0	0.1	0.0	0.0	38.4	1.1
Control Delay (s)	9.3	0.0	0.0	0.2	0.0	0.0	51.5	11.3
Lane LOS	A			A		A	F	B
Approach Delay (s)	0.7			0.1		0.0	45.9	
Approach LOS						A	E	

Intersection Summary				
Average Delay	7.4			
Intersection Capacity Utilization	38.0%	ICU Level of Service		A
Analysis Period (min)	15			

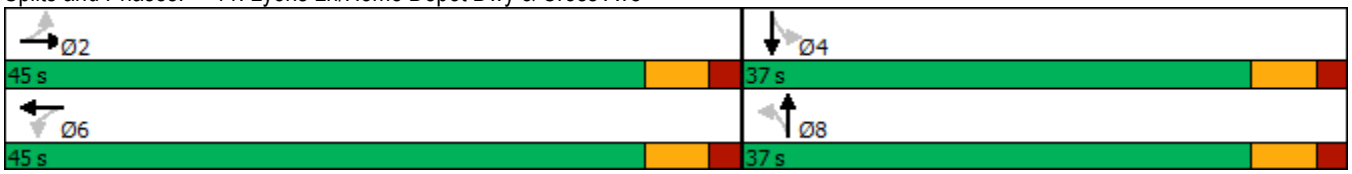


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	280	130	180	320	5	15	5	20	20	10	45
Future Volume (vph)	55	280	130	180	320	5	15	5	20	20	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	25.0		0.0	35.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99				1.00		0.99	0.99		0.99	0.99	
Frt		0.953			0.998			0.881			0.878	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3241	0	1787	3099	0	1805	1588	0	1703	1580	0
Flt Permitted	0.528			0.479			0.715			0.738		
Satd. Flow (perm)	998	3241	0	901	3099	0	1352	1588	0	1316	1580	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		129			3			23			52	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		47.5			132.8			150.8			63.6	
Travel Time (s)		3.4			9.6			10.9			4.6	
Confl. Peds. (#/hr)	5					5	5		5	5		5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	9%	0%	1%	16%	29%	0%	0%	5%	6%	0%	5%
Adj. Flow (vph)	64	326	151	209	372	6	17	6	23	23	12	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	477	0	209	378	0	17	29	0	23	64	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

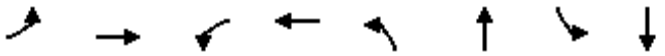
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		35.0	35.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	41.0	41.0		41.0	41.0		28.0	28.0		28.0	28.0	
Total Split (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Total Split (%)	54.9%	54.9%		54.9%	54.9%		45.1%	45.1%		45.1%	45.1%	
Maximum Green (s)	39.0	39.0		39.0	39.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	5	5		5	5		5	5		5	5	
Act Effct Green (s)	43.8	43.8		43.8	43.8		13.1	13.1		13.1	13.1	
Actuated g/C Ratio	0.76	0.76		0.76	0.76		0.23	0.23		0.23	0.23	
v/c Ratio	0.08	0.19		0.31	0.16		0.06	0.08		0.08	0.16	
Control Delay	6.1	3.9		7.9	5.0		17.7	9.7		18.1	8.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	6.1	3.9		7.9	5.0		17.7	9.7		18.1	8.4	
LOS	A	A		A	A		B	A		B	A	
Approach Delay		4.1			6.0			12.7			11.0	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 57.9			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.31			
Intersection Signal Delay: 5.8		Intersection LOS: A	
Intersection Capacity Utilization 80.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 11: Lyons Ln/Home Depot Dwy & Cross Ave

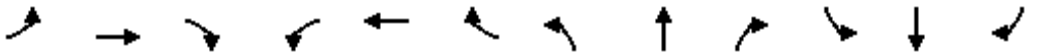


11: Lyons Ln/Home Depot Dwy & Cross Ave



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	477	209	378	17	29	23	64
v/c Ratio	0.08	0.19	0.31	0.16	0.06	0.08	0.08	0.16
Control Delay	6.1	3.9	7.9	5.0	17.7	9.7	18.1	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.1	3.9	7.9	5.0	17.7	9.7	18.1	8.4
Queue Length 50th (m)	2.3	6.8	9.1	7.4	1.5	0.6	2.1	1.1
Queue Length 95th (m)	9.6	18.8	31.0	19.7	5.3	5.3	6.5	8.0
Internal Link Dist (m)		23.5		108.8		126.8		39.6
Turn Bay Length (m)			25.0		35.0			
Base Capacity (vph)	795	2608	718	2469	755	896	734	905
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.18	0.29	0.15	0.02	0.03	0.03	0.07

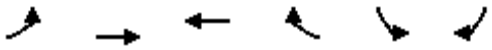
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	280	130	180	320	5	15	5	20	20	10	45
Future Volume (vph)	55	280	130	180	320	5	15	5	20	20	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	1.00		1.00	0.88		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1798	3239		1787	3098		1798	1590		1696	1582	
Flt Permitted	0.53	1.00		0.48	1.00		0.72	1.00		0.74	1.00	
Satd. Flow (perm)	998	3239		902	3098		1354	1590		1318	1582	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	64	326	151	209	372	6	17	6	23	23	12	52
RTOR Reduction (vph)	0	40	0	0	1	0	0	20	0	0	44	0
Lane Group Flow (vph)	64	437	0	209	377	0	17	9	0	23	20	0
Confl. Peds. (#/hr)	5					5	5		5	5		5
Heavy Vehicles (%)	0%	9%	0%	1%	16%	29%	0%	0%	5%	6%	0%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	40.6	40.6		40.6	40.6		7.8	7.8		7.8	7.8	
Effective Green, g (s)	41.6	41.6		41.6	41.6		8.8	8.8		8.8	8.8	
Actuated g/C Ratio	0.69	0.69		0.69	0.69		0.15	0.15		0.15	0.15	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	687	2230		621	2133		197	231		192	230	
v/s Ratio Prot		0.13			0.12			0.01			0.01	
v/s Ratio Perm	0.06			c0.23			0.01			c0.02		
v/c Ratio	0.09	0.20		0.34	0.18		0.09	0.04		0.12	0.09	
Uniform Delay, d1	3.1	3.4		3.8	3.3		22.3	22.2		22.4	22.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.1		0.7	0.1		0.3	0.1		0.4	0.2	
Delay (s)	3.3	3.5		4.5	3.4		22.6	22.3		22.8	22.5	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		3.4			3.8			22.4			22.6	
Approach LOS		A			A			C			C	

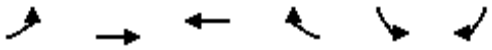
Intersection Summary					
HCM 2000 Control Delay	5.6	HCM 2000 Level of Service		A	
HCM 2000 Volume to Capacity ratio	0.30				
Actuated Cycle Length (s)	60.4	Sum of lost time (s)		10.0	
Intersection Capacity Utilization	80.7%	ICU Level of Service		D	
Analysis Period (min)	15				

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	445	380	5	50	30
Future Volume (vph)	10	445	380	5	50	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.998		0.950	
Flt Protected	0.950				0.970	
Satd. Flow (prot)	1805	3471	3250	0	1751	0
Flt Permitted	0.950				0.970	
Satd. Flow (perm)	1805	3471	3250	0	1751	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		443.3	47.5		121.4	
Travel Time (s)		31.9	3.4		8.7	
Confl. Peds. (#/hr)	5			5		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	4%	11%	0%	0%	0%
Adj. Flow (vph)	11	511	437	6	57	34
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	511	443	0	91	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

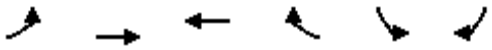
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.6%		ICU Level of Service A	
Analysis Period (min) 15			



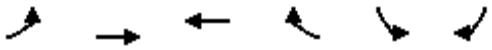
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	445	380	5	50	30
Future Volume (Veh/h)	10	445	380	5	50	30
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	11	511	437	6	57	34
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			48			
pX, platoon unblocked	0.97				0.97	0.97
vC, conflicting volume	448				722	226
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	377				659	149
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				85	96
cM capacity (veh/h)	1155				385	849

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	11	256	256	291	152	91
Volume Left	11	0	0	0	0	57
Volume Right	0	0	0	0	6	34
cSH	1155	1700	1700	1700	1700	484
Volume to Capacity	0.01	0.15	0.15	0.17	0.09	0.19
Queue Length 95th (m)	0.2	0.0	0.0	0.0	0.0	5.5
Control Delay (s)	8.1	0.0	0.0	0.0	0.0	14.2
Lane LOS	A					B
Approach Delay (s)	0.2			0.0		14.2
Approach LOS						B

Intersection Summary				
Average Delay	1.3			
Intersection Capacity Utilization	23.6%	ICU Level of Service		A
Analysis Period (min)	15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	375	875	700	40	105	350
Future Volume (vph)	375	875	700	40	105	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0			0.0	60.0	0.0
Storage Lanes	1			0	1	2
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.88
Ped Bike Factor	1.00		1.00			
Frt			0.992			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1703	3438	3414	0	1805	2561
Flt Permitted	0.309				0.950	
Satd. Flow (perm)	552	3438	3414	0	1805	2561
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			6			368
Link Speed (k/h)		50	50		50	
Link Distance (m)		209.5	575.4		443.3	
Travel Time (s)		15.1	41.4		31.9	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	5%	5%	0%	0%	11%
Adj. Flow (vph)	395	921	737	42	111	368
Shared Lane Traffic (%)						
Lane Group Flow (vph)	395	921	779	0	111	368
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		7.2	7.2		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			

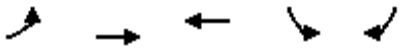


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	6.0	38.0	38.0		10.0	10.0
Minimum Split (s)	12.0	47.6	47.6		33.8	33.8
Total Split (s)	35.0	109.2	74.2		30.8	30.8
Total Split (%)	25.0%	78.0%	53.0%		22.0%	22.0%
Maximum Green (s)	29.0	102.6	67.6		25.0	25.0
Yellow Time (s)	4.0	3.7	3.7		3.3	3.3
All-Red Time (s)	2.0	2.9	2.9		2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.6	5.6		4.8	4.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Recall Mode	None	C-Min	C-Min		None	None
Walk Time (s)		10.0	10.0		10.0	10.0
Flash Dont Walk (s)		31.0	31.0		18.0	18.0
Pedestrian Calls (#/hr)		10	10		0	0
Act Effct Green (s)	115.0	114.4	93.5		15.2	15.2
Actuated g/C Ratio	0.82	0.82	0.67		0.11	0.11
v/c Ratio	0.68	0.33	0.34		0.57	0.61
Control Delay	9.4	3.7	9.8		70.1	9.7
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	9.4	3.7	9.8		70.1	9.7
LOS	A	A	A		E	A
Approach Delay		5.4	9.8		23.7	
Approach LOS		A	A		C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 10.2		Intersection LOS: B	
Intersection Capacity Utilization 76.1%		ICU Level of Service D	
Analysis Period (min) 15			

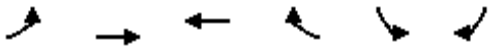
Splits and Phases: 13: Speers Rd/Cornwall Rd & Cross Ave





Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	395	921	779	111	368
v/c Ratio	0.68	0.33	0.34	0.57	0.61
Control Delay	9.4	3.7	9.8	70.1	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	9.4	3.7	9.8	70.1	9.7
Queue Length 50th (m)	21.4	28.3	36.5	31.3	0.0
Queue Length 95th (m)	38.2	43.8	100.3	50.3	16.0
Internal Link Dist (m)		185.5	551.4	419.3	
Turn Bay Length (m)	70.0			60.0	
Base Capacity (vph)	700	2809	2280	335	775
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.56	0.33	0.34	0.33	0.47

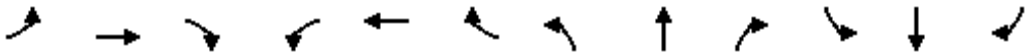
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	375	875	700	40	105	350
Future Volume (vph)	375	875	700	40	105	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		4.8	4.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1701	3438	3414		1805	2561
Flt Permitted	0.31	1.00	1.00		0.95	1.00
Satd. Flow (perm)	553	3438	3414		1805	2561
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	395	921	737	42	111	368
RTOR Reduction (vph)	0	0	2	0	0	328
Lane Group Flow (vph)	395	921	777	0	111	40
Confl. Peds. (#/hr)	15			15		
Heavy Vehicles (%)	6%	5%	5%	0%	0%	11%
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Actuated Green, G (s)	113.4	113.4	92.4		14.2	14.2
Effective Green, g (s)	114.4	114.4	93.4		15.2	15.2
Actuated g/C Ratio	0.82	0.82	0.67		0.11	0.11
Clearance Time (s)	6.0	6.6	6.6		5.8	5.8
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Lane Grp Cap (vph)	583	2809	2277		195	278
v/s Ratio Prot	c0.08	0.27	0.23			
v/s Ratio Perm	c0.48				c0.06	0.02
v/c Ratio	0.68	0.33	0.34		0.57	0.14
Uniform Delay, d1	4.7	3.2	10.0		59.3	56.5
Progression Factor	1.00	1.00	0.85		1.00	1.00
Incremental Delay, d2	3.2	0.3	0.4		3.8	0.2
Delay (s)	7.9	3.5	8.9		63.1	56.7
Level of Service	A	A	A		E	E
Approach Delay (s)		4.8	8.9		58.2	
Approach LOS		A	A		E	

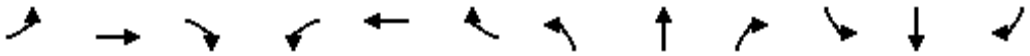
Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	76.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	140	0	5	0	200	110	10	460	0
Future Volume (vph)	0	0	0	140	0	5	0	200	110	10	460	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.995			0.947				
Flt Protected					0.954						0.999	
Satd. Flow (prot)	0	1900	0	0	1631	0	0	3319	0	0	3503	0
Flt Permitted					0.954						0.999	
Satd. Flow (perm)	0	1900	0	0	1631	0	0	3319	0	0	3503	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		33.6			249.8			420.1			134.0	
Travel Time (s)		2.4			18.0			30.2			9.6	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	11%	0%	0%	50%	3%	3%	0%	3%	0%
Adj. Flow (vph)	0	0	0	161	0	6	0	230	126	11	529	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	167	0	0	356	0	0	540	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	140	0	5	0	200	110	10	460	0
Future Volume (Veh/h)	0	0	0	140	0	5	0	200	110	10	460	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	0	0	161	0	6	0	230	126	11	529	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	672	907	264	580	844	178	529			356		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	672	907	264	580	844	178	529			356		
tC, single (s)	7.5	6.5	6.9	7.7	6.5	6.9	5.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.7			2.2		
p0 queue free %	100	100	100	57	100	99	100			99		
cM capacity (veh/h)	341	275	740	377	299	841	763			1214		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	167	115	241	276	264
Volume Left	0	161	0	0	11	0
Volume Right	0	6	0	126	0	0
cSH	1700	384	763	1700	1214	1700
Volume to Capacity	0.00	0.43	0.00	0.14	0.01	0.16
Queue Length 95th (m)	0.0	17.1	0.0	0.0	0.2	0.0
Control Delay (s)	0.0	21.4	0.0	0.0	0.4	0.0
Lane LOS	A	C			A	
Approach Delay (s)	0.0	21.4	0.0		0.2	
Approach LOS	A	C				

Intersection Summary				
Average Delay	3.5			
Intersection Capacity Utilization	34.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	95	105	110	175	85	25
Future Volume (vph)	95	105	110	175	85	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.929				0.970	
Flt Protected				0.981	0.963	
Satd. Flow (prot)	1708	0	0	1816	1742	0
Flt Permitted				0.981	0.963	
Satd. Flow (perm)	1708	0	0	1816	1742	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	632.0			1164.2	455.7	
Travel Time (s)	45.5			83.8	32.8	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	7%	0%	2%	3%	1%	5%
Adj. Flow (vph)	116	128	134	213	104	30
Shared Lane Traffic (%)						
Lane Group Flow (vph)	244	0	0	347	134	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

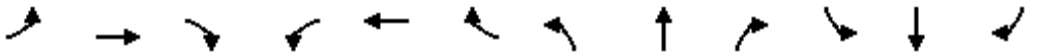
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	95	105	110	175	85	25
Future Volume (Veh/h)	95	105	110	175	85	25
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	116	128	134	213	104	30
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			244		661	180
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			244		661	180
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			90		73	96
cM capacity (veh/h)			1322		385	855

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	244	347	134
Volume Left	0	134	104
Volume Right	128	0	30
cSH	1700	1322	440
Volume to Capacity	0.14	0.10	0.30
Queue Length 95th (m)	0.0	2.7	10.2
Control Delay (s)	0.0	3.7	16.7
Lane LOS		A	C
Approach Delay (s)	0.0	3.7	16.7
Approach LOS			C

Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	740	205	40	610	35	230	75	60	55	105	25
Future Volume (vph)	25	740	205	40	610	35	230	75	60	55	105	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00		1.00	0.99		1.00		0.98
Frt		0.967			0.992			0.934				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	3350	0	1752	3440	0	1736	1745	0	1703	1881	1553
Flt Permitted	0.355			0.216			0.684			0.663		
Satd. Flow (perm)	617	3350	0	398	3440	0	1244	1745	0	1183	1881	1526
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		62			10			42				32
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			455.7	
Travel Time (s)		43.9			11.1			15.4			32.8	
Confl. Peds. (#/hr)	5					5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Adj. Flow (vph)	27	804	223	43	663	38	250	82	65	60	114	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	1027	0	43	701	0	250	147	0	60	114	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	34.7	34.7		34.7	34.7		20.3	20.3		20.3	20.3	20.3
Actuated g/C Ratio	0.53	0.53		0.53	0.53		0.31	0.31		0.31	0.31	0.31
v/c Ratio	0.08	0.56		0.20	0.38		0.64	0.26		0.16	0.19	0.05
Control Delay	9.6	11.3		12.2	9.9		29.2	14.7		19.1	18.7	6.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	9.6	11.3		12.2	9.9		29.2	14.7		19.1	18.7	6.7
LOS	A	B		B	A		C	B		B	B	A
Approach Delay		11.3			10.1			23.8			17.2	
Approach LOS		B			B			C			B	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 64.9
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 13.5 Intersection LOS: B
Intersection Capacity Utilization 68.1% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 16: Chartwell Rd & Cornwall Rd



16: Chartwell Rd & Cornwall Rd



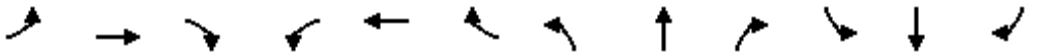
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	27	1027	43	701	250	147	60	114	27
v/c Ratio	0.08	0.56	0.20	0.38	0.64	0.26	0.16	0.19	0.05
Control Delay	9.6	11.3	12.2	9.9	29.2	14.7	19.1	18.7	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.6	11.3	12.2	9.9	29.2	14.7	19.1	18.7	6.7
Queue Length 50th (m)	1.5	37.0	2.5	23.4	25.3	9.1	5.1	9.8	0.0
Queue Length 95th (m)	6.4	74.2	10.4	47.5	62.2	27.0	16.6	26.5	4.9
Internal Link Dist (m)		585.1		130.4		189.6		431.7	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	544	2963	351	3036	638	916	607	965	799
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.35	0.12	0.23	0.39	0.16	0.10	0.12	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	740	205	40	610	35	230	75	60	55	105	25
Future Volume (vph)	25	740	205	40	610	35	230	75	60	55	105	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.99		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1652	3351		1752	3440		1730	1746		1698	1881	1529
Flt Permitted	0.35	1.00		0.22	1.00		0.68	1.00		0.66	1.00	1.00
Satd. Flow (perm)	617	3351		399	3440		1245	1746		1186	1881	1529
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	804	223	43	663	38	250	82	65	60	114	27
RTOR Reduction (vph)	0	29	0	0	5	0	0	29	0	0	0	19
Lane Group Flow (vph)	27	998	0	43	696	0	250	118	0	60	114	8
Confl. Peds. (#/hr)	5					5	5		5	5		5
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	33.6	33.6		33.6	33.6		19.2	19.2		19.2	19.2	19.2
Effective Green, g (s)	34.6	34.6		34.6	34.6		20.2	20.2		20.2	20.2	20.2
Actuated g/C Ratio	0.54	0.54		0.54	0.54		0.31	0.31		0.31	0.31	0.31
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	332	1805		215	1853		391	549		373	591	481
v/s Ratio Prot		c0.30			0.20			0.07			0.06	
v/s Ratio Perm	0.04			0.11			c0.20			0.05		0.01
v/c Ratio	0.08	0.55		0.20	0.38		0.64	0.22		0.16	0.19	0.02
Uniform Delay, d1	7.1	9.7		7.6	8.6		18.9	16.2		15.9	16.1	15.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.3	0.7		1.1	0.3		3.8	0.3		0.3	0.2	0.0
Delay (s)	7.4	10.4		8.8	8.9		22.7	16.4		16.2	16.3	15.2
Level of Service	A	B		A	A		C	B		B	B	B
Approach Delay (s)		10.4			8.9			20.4			16.1	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	64.2	Sum of lost time (s)	9.4
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

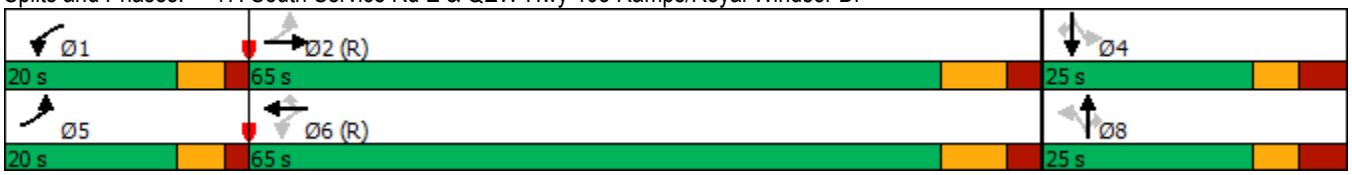


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	735	80	170	650	0	5	20	110	0	60	15
Future Volume (vph)	65	735	80	170	650	0	5	20	110	0	60	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	125.0		0.0	145.0		55.0	15.0		40.0	35.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985							0.850			0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3213	3364	0	1787	3312	1900	1805	1900	1455	1900	1863	1122
Flt Permitted	0.389			0.278			0.715					
Satd. Flow (perm)	1315	3364	0	523	3312	1900	1358	1900	1455	1900	1863	1122
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16							117			113
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		232.7			227.3			1164.2			153.5	
Travel Time (s)		16.8			16.4			83.8			11.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	9%	6%	3%	1%	9%	0%	0%	0%	11%	0%	2%	44%
Adj. Flow (vph)	69	782	85	181	691	0	5	21	117	0	64	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	69	867	0	181	691	0	5	21	117	0	64	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	8.0	20.0		8.0	20.0	20.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	14.0	28.4		14.0	28.4	28.4	17.8	17.8	17.8	17.8	17.8	17.8
Total Split (s)	20.0	65.0		20.0	65.0	65.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	18.2%	59.1%		18.2%	59.1%	59.1%	22.7%	22.7%	22.7%	22.7%	22.7%	22.7%
Maximum Green (s)	14.0	56.6		14.0	56.6	56.6	17.2	17.2	17.2	17.2	17.2	17.2
Yellow Time (s)	4.0	5.4		4.0	5.4	5.4	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.0	3.0		2.0	3.0	3.0	4.1	4.1	4.1	4.1	4.1	4.1
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	79.4	68.0		84.6	73.0		11.6	11.6	11.6		11.6	11.6
Actuated g/C Ratio	0.72	0.62		0.77	0.66		0.11	0.11	0.11		0.11	0.11
v/c Ratio	0.06	0.42		0.34	0.31		0.04	0.10	0.46		0.33	0.07
Control Delay	3.2	11.8		4.7	9.0		44.2	45.4	14.2		50.1	0.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	3.2	11.8		4.7	9.0		44.2	45.4	14.2		50.1	0.7
LOS	A	B		A	A		D	D	B		D	A
Approach Delay		11.1			8.1			19.9			40.2	
Approach LOS		B			A			B			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.46			
Intersection Signal Delay: 11.6		Intersection LOS: B	
Intersection Capacity Utilization 56.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr

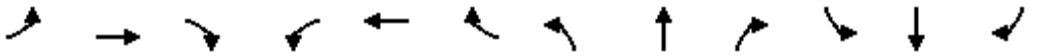


17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	69	867	181	691	5	21	117	64	16
v/c Ratio	0.06	0.42	0.34	0.31	0.04	0.10	0.46	0.33	0.07
Control Delay	3.2	11.8	4.7	9.0	44.2	45.4	14.2	50.1	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.2	11.8	4.7	9.0	44.2	45.4	14.2	50.1	0.7
Queue Length 50th (m)	1.3	46.5	7.5	33.8	1.1	4.4	0.0	13.7	0.0
Queue Length 95th (m)	3.0	71.5	14.1	47.3	4.7	12.0	17.0	27.0	0.0
Internal Link Dist (m)		208.7		203.3		1140.2		129.5	
Turn Bay Length (m)	125.0		145.0		15.0		40.0		
Base Capacity (vph)	1274	2085	584	2197	224	314	338	308	279
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.42	0.31	0.31	0.02	0.07	0.35	0.21	0.06

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	735	80	170	650	0	5	20	110	0	60	15
Future Volume (vph)	65	735	80	170	650	0	5	20	110	0	60	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.4		5.0	7.4		6.8	6.8	6.8		6.8	6.8
Lane Util. Factor	0.97	0.95		1.00	0.95		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	3213	3365		1787	3312		1805	1900	1455		1863	1122
Flt Permitted	0.39	1.00		0.28	1.00		0.72	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1315	3365		524	3312		1359	1900	1455		1863	1122
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	69	782	85	181	691	0	5	21	117	0	64	16
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	105	0	0	14
Lane Group Flow (vph)	69	861	0	181	691	0	5	21	12	0	64	2
Heavy Vehicles (%)	9%	6%	3%	1%	9%	0%	0%	0%	11%	0%	2%	44%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	73.4	67.0		81.0	70.8		10.6	10.6	10.6		10.6	10.6
Effective Green, g (s)	75.4	68.0		83.0	71.8		11.6	11.6	11.6		11.6	11.6
Actuated g/C Ratio	0.69	0.62		0.75	0.65		0.11	0.11	0.11		0.11	0.11
Clearance Time (s)	6.0	8.4		6.0	8.4		7.8	7.8	7.8		7.8	7.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	1029	2080		523	2161		143	200	153		196	118
v/s Ratio Prot	0.00	c0.26		c0.04	0.21			0.01			c0.03	
v/s Ratio Perm	0.04			0.23			0.00		0.01			0.00
v/c Ratio	0.07	0.41		0.35	0.32		0.03	0.10	0.08		0.33	0.01
Uniform Delay, d1	5.6	10.8		4.4	8.4		44.2	44.5	44.4		45.6	44.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.6		0.4	0.4		0.1	0.2	0.2		1.0	0.0
Delay (s)	5.6	11.4		4.8	8.8		44.3	44.7	44.6		46.6	44.1
Level of Service	A	B		A	A		D	D	D		D	D
Approach Delay (s)		11.0			8.0			44.6			46.1	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	115	175	0	25	35	0
Future Volume (vph)	115	175	0	25	35	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.919					
Flt Protected					0.950	
Satd. Flow (prot)	1712	0	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1712	0	0	1863	1770	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	64.3			219.4	105.4	
Travel Time (s)	4.6			15.8	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	190	0	27	38	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	315	0	0	27	38	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	115	175	0	25	35	0
Future Volume (Veh/h)	115	175	0	25	35	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	125	190	0	27	38	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			315		247	220
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			315		247	220
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		95	100
cM capacity (veh/h)			1245		741	820

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	315	27	38
Volume Left	0	0	38
Volume Right	190	0	0
cSH	1700	1245	741
Volume to Capacity	0.19	0.00	0.05
Queue Length 95th (m)	0.0	0.0	1.3
Control Delay (s)	0.0	0.0	10.1
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.1
Approach LOS			B

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	26.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	115	0	35	25	0	175
Future Volume (vph)	115	0	35	25	0	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.972		
Satd. Flow (prot)	1863	0	0	1811	1611	0
Flt Permitted				0.972		
Satd. Flow (perm)	1863	0	0	1811	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	53.7			64.3	43.5	
Travel Time (s)	3.9			4.6	3.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	0	38	27	0	190
Shared Lane Traffic (%)						
Lane Group Flow (vph)	125	0	0	65	190	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	115	0	35	25	0	175
Future Volume (Veh/h)	115	0	35	25	0	175
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	125	0	38	27	0	190
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			125		228	125
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			125		228	125
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	79
cM capacity (veh/h)			1462		740	926

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	125	65	190
Volume Left	0	38	0
Volume Right	0	0	190
cSH	1700	1462	926
Volume to Capacity	0.07	0.03	0.21
Queue Length 95th (m)	0.0	0.6	6.1
Control Delay (s)	0.0	4.5	9.9
Lane LOS		A	A
Approach Delay (s)	0.0	4.5	9.9
Approach LOS			A

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	27.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	205	0	5	225	245	55
Future Volume (vph)	205	0	5	225	245	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.975	
Flt Protected				0.999	0.961	
Satd. Flow (prot)	1863	0	0	1861	1745	0
Flt Permitted				0.999	0.961	
Satd. Flow (perm)	1863	0	0	1861	1745	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	216.0			632.0	87.0	
Travel Time (s)	15.6			45.5	6.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	223	0	5	245	266	60
Shared Lane Traffic (%)						
Lane Group Flow (vph)	223	0	0	250	326	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

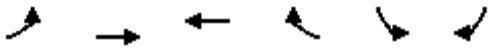
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	205	0	5	225	245	55
Future Volume (Veh/h)	205	0	5	225	245	55
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	223	0	5	245	266	60
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			223		478	223
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			223		478	223
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		51	93
cM capacity (veh/h)			1346		544	817

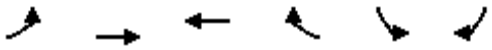
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	223	250	326
Volume Left	0	5	266
Volume Right	0	0	60
cSH	1700	1346	580
Volume to Capacity	0.13	0.00	0.56
Queue Length 95th (m)	0.0	0.1	27.8
Control Delay (s)	0.0	0.2	18.9
Lane LOS		A	C
Approach Delay (s)	0.0	0.2	18.9
Approach LOS			C

Intersection Summary			
Average Delay	7.8		
Intersection Capacity Utilization	39.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	25	30	150	5	30
Future Volume (vph)	25	25	30	150	5	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.888		0.883	
Flt Protected		0.976			0.993	
Satd. Flow (prot)	0	1818	1654	0	1633	0
Flt Permitted		0.976			0.993	
Satd. Flow (perm)	0	1818	1654	0	1633	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		249.8	119.8		103.6	
Travel Time (s)		18.0	8.6		7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	27	33	163	5	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	54	196	0	38	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.5%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	25	30	150	5	30
Future Volume (Veh/h)	25	25	30	150	5	30
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	27	33	163	5	33
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	196				196	114
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	196				196	114
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	96
cM capacity (veh/h)	1377				778	938

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	54	196	38
Volume Left	27	0	5
Volume Right	0	163	33
cSH	1377	1700	913
Volume to Capacity	0.02	0.12	0.04
Queue Length 95th (m)	0.5	0.0	1.0
Control Delay (s)	3.9	0.0	9.1
Lane LOS	A		A
Approach Delay (s)	3.9	0.0	9.1
Approach LOS			A

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	30	150	150	25	5	5
Future Volume (vph)	30	150	150	25	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.888		0.981			
Flt Protected	0.992					0.976
Satd. Flow (prot)	1641	0	1827	0	0	1818
Flt Permitted	0.992					0.976
Satd. Flow (perm)	1641	0	1827	0	0	1818
Link Speed (k/h)	50		50			50
Link Distance (m)	41.9		103.6			87.0
Travel Time (s)	3.0		7.5			6.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	163	163	27	5	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	196	0	190	0	0	10
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100		100	100	
Sign Control	Stop		Free			Free

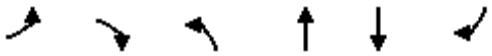
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	30	150	150	25	5	5
Future Volume (Veh/h)	30	150	150	25	5	5
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	163	163	27	5	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	192	176			190	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	192	176			190	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	81			100	
cM capacity (veh/h)	795	867			1384	

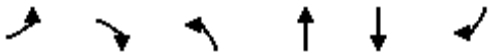
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	196	190	10
Volume Left	33	0	5
Volume Right	163	27	0
cSH	854	1700	1384
Volume to Capacity	0.23	0.11	0.00
Queue Length 95th (m)	7.1	0.0	0.1
Control Delay (s)	10.5	0.0	3.8
Lane LOS	B		A
Approach Delay (s)	10.5	0.0	3.8
Approach LOS	B		

Intersection Summary			
Average Delay	5.3		
Intersection Capacity Utilization	27.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	175	35	35	175	0
Future Volume (vph)	0	175	35	35	175	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.976		
Satd. Flow (prot)	1611	0	0	1818	1863	0
Flt Permitted				0.976		
Satd. Flow (perm)	1611	0	0	1818	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	49.0			201.6	105.4	
Travel Time (s)	3.5			14.5	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	190	38	38	190	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	190	0	0	76	190	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

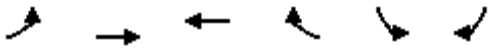
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	175	35	35	175	0
Future Volume (Veh/h)	0	175	35	35	175	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	190	38	38	190	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				201		
pX, platoon unblocked						
vC, conflicting volume	304	190	190			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	304	190	190			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	78	97			
cM capacity (veh/h)	669	852	1384			

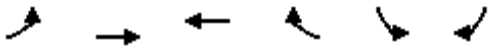
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	190	76	190
Volume Left	0	38	0
Volume Right	190	0	0
cSH	852	1384	1700
Volume to Capacity	0.22	0.03	0.11
Queue Length 95th (m)	6.8	0.7	0.0
Control Delay (s)	10.4	3.9	0.0
Lane LOS	B	A	
Approach Delay (s)	10.4	3.9	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	5.0		
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	30	0	0	0	0	180
Future Volume (vph)	30	0	0	0	0	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected		0.950				
Satd. Flow (prot)	0	1770	1863	0	1611	0
Flt Permitted		0.950				
Satd. Flow (perm)	0	1770	1863	0	1611	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		119.8	134.5		44.9	
Travel Time (s)		8.6	9.7		3.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	0	0	0	0	196
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	33	0	0	196	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	0	0	0	0	180
Future Volume (Veh/h)	30	0	0	0	0	180
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	0	0	0	0	196
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0				66	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				66	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	82
cM capacity (veh/h)	1623				920	1085

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	33	0	196
Volume Left	33	0	0
Volume Right	0	0	196
cSH	1623	1700	1085
Volume to Capacity	0.02	0.00	0.18
Queue Length 95th (m)	0.5	0.0	5.3
Control Delay (s)	7.3	0.0	9.0
Lane LOS	A		A
Approach Delay (s)	7.3	0.0	9.0
Approach LOS			A

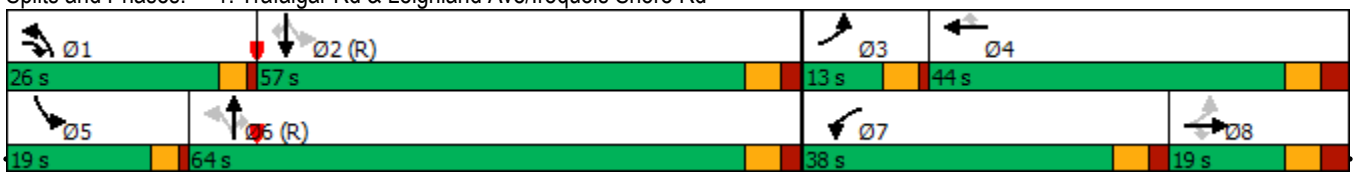
Intersection Summary			
Average Delay	8.8		
Intersection Capacity Utilization	21.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	135	280	765	175	285	295	2145	875	130	1540	115
Future Volume (vph)	100	135	280	765	175	285	295	2145	875	130	1540	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.95					0.92			0.97			0.87
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1881	1599	3467	1881	1615	1787	5136	1599	1805	5085	1615
Flt Permitted	0.644			0.950			0.071			0.075		
Satd. Flow (perm)	1161	1881	1599	3467	1881	1485	134	5136	1543	142	5085	1399
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			166			544			173
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			521.8			275.4			339.2	
Travel Time (s)		27.7			37.6			19.8			24.4	
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Adj. Flow (vph)	103	139	289	789	180	294	304	2211	902	134	1588	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	139	289	789	180	294	304	2211	902	134	1588	119
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

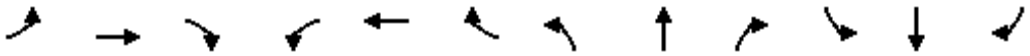
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	11.0	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	13.0	19.0	26.0	38.0	44.0	44.0	26.0	64.0	64.0	19.0	57.0	57.0
Total Split (%)	9.3%	13.6%	18.6%	27.1%	31.4%	31.4%	18.6%	45.7%	45.7%	13.6%	40.7%	40.7%
Maximum Green (s)	8.3	12.2	22.0	32.3	37.2	37.2	22.0	57.9	57.9	15.0	50.9	50.9
Yellow Time (s)	3.7	3.7	3.0	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	1.0	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					30	30		50	50		50	50
Act Effct Green (s)	24.1	12.9	40.8	33.3	38.1	38.1	80.3	62.9	62.9	67.5	53.1	53.1
Actuated g/C Ratio	0.17	0.09	0.29	0.24	0.27	0.27	0.57	0.45	0.45	0.48	0.38	0.38
v/c Ratio	0.43	0.80	0.54	0.96	0.35	0.56	0.90	0.96	0.91	0.63	0.82	0.19
Control Delay	37.6	93.5	29.6	75.1	43.4	22.9	52.7	21.4	9.9	40.1	43.9	1.5
Queue Delay	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.2	0.0
Total Delay	37.6	93.5	30.4	75.1	43.4	22.9	52.7	21.4	29.9	40.1	44.1	1.5
LOS	D	F	C	E	D	C	D	C	C	D	D	A
Approach Delay		48.3			58.4			26.4			41.0	
Approach LOS		D			E			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 37.6		Intersection LOS: D	
Intersection Capacity Utilization 96.2%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd

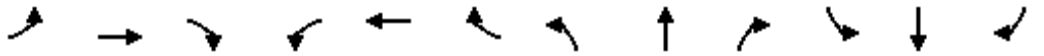


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	103	139	289	789	180	294	304	2211	902	134	1588	119
v/c Ratio	0.43	0.80	0.54	0.96	0.35	0.56	0.90	0.96	0.91	0.63	0.82	0.19
Control Delay	37.6	93.5	29.6	75.1	43.4	22.9	52.7	21.4	9.9	40.1	43.9	1.5
Queue Delay	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.2	0.0
Total Delay	37.6	93.5	30.4	75.1	43.4	22.9	52.7	21.4	29.9	40.1	44.1	1.5
Queue Length 50th (m)	19.6	40.3	44.2	117.8	42.4	31.2	64.0	182.3	58.8	20.4	154.3	0.0
Queue Length 95th (m)	33.5	#75.2	74.6	#158.5	65.1	62.7	m60.7	m190.1	m90.7	42.4	174.9	3.0
Internal Link Dist (m)		361.1			497.8			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	244	177	550	824	513	525	348	2307	992	262	1929	638
Starvation Cap Reductn	0	0	0	0	0	0	0	0	116	0	0	0
Spillback Cap Reductn	0	0	83	0	0	0	0	0	0	0	33	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.79	0.62	0.96	0.35	0.56	0.87	0.96	1.03	0.51	0.84	0.19

Intersection Summary

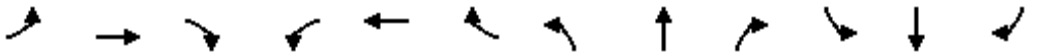
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	135	280	765	175	285	295	2145	875	130	1540	115
Future Volume (vph)	100	135	280	765	175	285	295	2145	875	130	1540	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.92	1.00	1.00	0.97	1.00	1.00	0.87
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1747	1881	1599	3467	1881	1485	1787	5136	1543	1805	5085	1399
Flt Permitted	0.64	1.00	1.00	0.95	1.00	1.00	0.07	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	1184	1881	1599	3467	1881	1485	134	5136	1543	143	5085	1399
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	103	139	289	789	180	294	304	2211	902	134	1588	119
RTOR Reduction (vph)	0	0	79	0	0	121	0	0	300	0	0	74
Lane Group Flow (vph)	103	139	210	789	180	173	304	2211	602	134	1588	45
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	20.0	11.9	33.0	32.3	37.1	37.1	77.2	61.9	61.9	63.4	52.1	52.1
Effective Green, g (s)	22.0	12.9	35.0	33.3	38.1	38.1	78.2	62.9	62.9	65.4	53.1	53.1
Actuated g/C Ratio	0.16	0.09	0.25	0.24	0.27	0.27	0.56	0.45	0.45	0.47	0.38	0.38
Clearance Time (s)	4.7	6.8	4.0	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	222	173	399	824	511	404	335	2307	693	212	1928	530
v/s Ratio Prot	0.03	c0.07	0.08	c0.23	0.10		c0.14	c0.43		0.06	0.31	
v/s Ratio Perm	0.04		0.05			0.12	0.36		0.39	0.24		0.03
v/c Ratio	0.46	0.80	0.53	0.96	0.35	0.43	0.91	0.96	0.87	0.63	0.82	0.09
Uniform Delay, d1	52.8	62.3	45.3	52.7	41.0	42.0	43.6	37.3	34.8	30.5	39.2	27.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.25	0.49	0.51	1.00	1.00	1.00
Incremental Delay, d2	1.5	23.0	1.3	21.4	0.4	0.7	3.7	1.5	1.5	6.0	4.1	0.3
Delay (s)	54.4	85.3	46.6	74.0	41.4	42.7	58.0	19.9	19.1	36.6	43.4	28.2
Level of Service	D	F	D	E	D	D	E	B	B	D	D	C
Approach Delay (s)		58.2			62.1			23.1			41.9	
Approach LOS		E			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	37.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	96.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

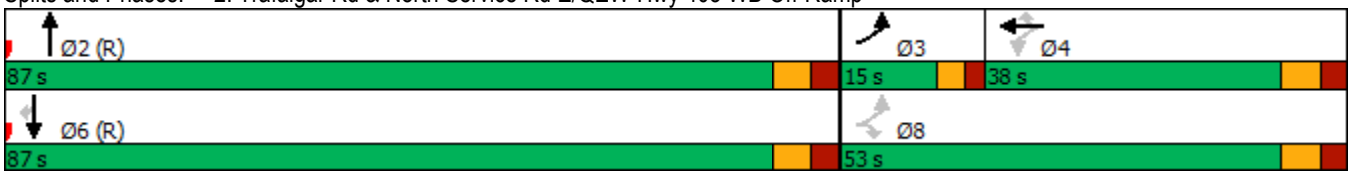


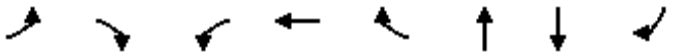
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	270	685	5	395	0	3095	0	0	2765	15
Future Volume (vph)	25	0	270	685	5	395	0	3095	0	0	2765	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.94
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.953							
Satd. Flow (prot)	1805	0	1599	1681	1687	1583	0	5136	0	0	5036	1524
Flt Permitted	0.157			0.950	0.953							
Satd. Flow (perm)	298	0	1599	1681	1687	1583	0	5136	0	0	5036	1437
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			92						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							15		10	10		15
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Adj. Flow (vph)	27	0	287	729	5	420	0	3293	0	0	2941	16
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	27	0	287	364	370	420	0	3293	0	0	2941	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	15.0		53.0	38.0	38.0	38.0		87.0			87.0	87.0
Total Split (%)	10.7%		37.9%	27.1%	27.1%	27.1%		62.1%			62.1%	62.1%
Maximum Green (s)	10.0		46.0	31.0	31.0	31.0		80.0			80.0	80.0
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		15			15	15
Act Effct Green (s)	45.0		43.0	34.5	34.5	34.5		85.0			85.0	85.0
Actuated g/C Ratio	0.32		0.31	0.25	0.25	0.25		0.61			0.61	0.61
v/c Ratio	0.14		0.56	0.88	0.89	0.92		1.06			0.96	0.02
Control Delay	32.2		39.8	73.6	75.0	65.5		49.2			41.8	0.0
Queue Delay	0.0		0.0	0.0	0.0	0.0		3.6			0.0	0.0
Total Delay	32.2		39.8	73.6	75.0	65.5		52.8			41.8	0.0
LOS	C		D	E	E	E		D			D	A
Approach Delay		39.2			71.1			52.8			41.6	
Approach LOS		D			E			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.06			
Intersection Signal Delay: 50.7		Intersection LOS: D	
Intersection Capacity Utilization 104.2%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp





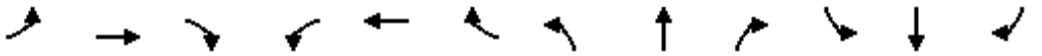
Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	27	287	364	370	420	3293	2941	16
v/c Ratio	0.14	0.56	0.88	0.89	0.92	1.06	0.96	0.02
Control Delay	32.2	39.8	73.6	75.0	65.5	49.2	41.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0
Total Delay	32.2	39.8	73.6	75.0	65.5	52.8	41.8	0.0
Queue Length 50th (m)	5.2	59.8	109.0	111.1	97.9	~397.0	~255.0	0.0
Queue Length 95th (m)	12.3	89.6	#177.4	#180.9	#169.6	#421.1	#348.8	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	214	557	414	415	459	3119	3058	899
Starvation Cap Reductn	0	0	0	0	0	4	0	0
Spillback Cap Reductn	0	0	0	0	0	25	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.52	0.88	0.89	0.92	1.06	0.96	0.02

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

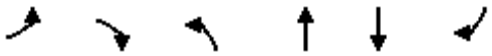
m Volume for 95th percentile queue is metered by upstream signal.



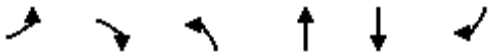
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	270	685	5	395	0	3095	0	0	2765	15
Future Volume (vph)	25	0	270	685	5	395	0	3095	0	0	2765	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.94
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1681	1687	1583		5136			5036	1437
Flt Permitted	0.16		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	298		1599	1681	1687	1583		5136			5036	1437
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	27	0	287	729	5	420	0	3293	0	0	2941	16
RTOR Reduction (vph)	0	0	21	0	0	69	0	0	0	0	0	7
Lane Group Flow (vph)	27	0	266	364	370	351	0	3293	0	0	2941	9
Confl. Peds. (#/hr)							15		10	10		15
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	44.0		44.0	33.5	33.5	33.5		82.0			82.0	82.0
Effective Green, g (s)	45.0		45.0	34.5	34.5	34.5		83.0			83.0	83.0
Actuated g/C Ratio	0.32		0.32	0.25	0.25	0.25		0.59			0.59	0.59
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	165		513	414	415	390		3044			2985	851
v/s Ratio Prot	0.01							c0.64			0.58	
v/s Ratio Perm	0.04		c0.17	0.22	0.22	c0.22						0.01
v/c Ratio	0.16		0.52	0.88	0.89	0.90		1.08			0.99	0.01
Uniform Delay, d1	35.4		38.7	50.7	50.9	51.1		28.5			27.9	11.7
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.66			1.34	1.00
Incremental Delay, d2	0.8		1.0	18.7	20.6	22.6		39.9			10.2	0.0
Delay (s)	36.2		39.7	69.4	71.6	73.7		58.7			47.6	11.7
Level of Service	D		D	E	E	E		E			D	B
Approach Delay (s)		39.4			71.7			58.7			47.4	
Approach LOS		D			E			E			D	

Intersection Summary			
HCM 2000 Control Delay	55.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



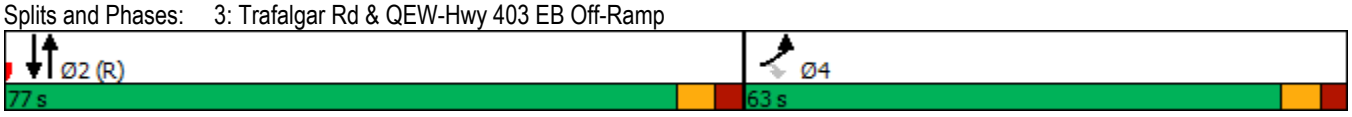
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1170	570	0	2255	2350	0
Future Volume (vph)	1170	570	0	2255	2350	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3467	1583	0	5085	5085	0
Flt Permitted	0.950					
Satd. Flow (perm)	3467	*1800	0	5085	5085	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		1				
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			45.3	331.3	
Travel Time (s)	15.4			3.3	23.9	
Confl. Peds. (#/hr)			25			25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Adj. Flow (vph)	1232	600	0	2374	2474	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1232	600	0	2374	2474	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	63.0	63.0		77.0	77.0	
Total Split (%)	45.0%	45.0%		55.0%	55.0%	
Maximum Green (s)	56.0	56.0		70.0	70.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		15	15	
Act Effct Green (s)	55.3	55.3		72.7	72.7	
Actuated g/C Ratio	0.40	0.40		0.52	0.52	
v/c Ratio	0.90	0.84		0.90	0.94	
Control Delay	49.6	50.5		31.4	32.7	
Queue Delay	0.0	0.0		45.9	0.0	
Total Delay	49.6	50.5		77.2	32.7	
LOS	D	D		E	C	
Approach Delay	49.9			77.2	32.7	
Approach LOS	D			E	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 53.2		Intersection LOS: D	
Intersection Capacity Utilization 90.7%		ICU Level of Service E	
Analysis Period (min) 15			
* User Entered Value			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



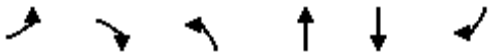
3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	1232	600	2374	2474
v/c Ratio	0.90	0.84	0.90	0.94
Control Delay	49.6	50.5	31.4	32.7
Queue Delay	0.0	0.0	45.9	0.0
Total Delay	49.6	50.5	77.2	32.7
Queue Length 50th (m)	168.5	153.7	201.2	219.8
Queue Length 95th (m)	200.6	207.0	m222.5	m#249.0
Internal Link Dist (m)	190.2		21.3	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1411	733	2641	2641
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	484	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.87	0.82	1.10	0.94

Intersection Summary

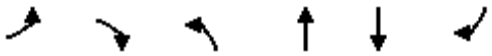
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1170	570	0	2255	2350	0
Future Volume (vph)	1170	570	0	2255	2350	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3467	1583		5085	5085	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3467	1800		5085	5085	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1232	600	0	2374	2474	0
RTOR Reduction (vph)	0	1	0	0	0	0
Lane Group Flow (vph)	1232	599	0	2374	2474	0
Confl. Peds. (#/hr)			25			25
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	54.3	54.3		71.7	71.7	
Effective Green, g (s)	55.3	55.3		72.7	72.7	
Actuated g/C Ratio	0.39	0.39		0.52	0.52	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1369	711		2640	2640	
v/s Ratio Prot	c0.36			0.47	c0.49	
v/s Ratio Perm		0.33				
v/c Ratio	0.90	0.84		0.90	0.94	
Uniform Delay, d1	39.8	38.4		30.3	31.5	
Progression Factor	1.00	1.00		0.94	0.91	
Incremental Delay, d2	8.2	9.0		2.4	3.5	
Delay (s)	48.0	47.4		30.8	32.2	
Level of Service	D	D		C	C	
Approach Delay (s)	47.8			30.8	32.2	
Approach LOS	D			C	C	

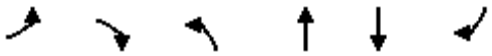
Intersection Summary			
HCM 2000 Control Delay	36.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	90.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	60	0	2355	2225	680
Future Volume (vph)	0	60	0	2355	2225	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.965	
Flt Protected						
Satd. Flow (prot)	0	1522	0	5085	4910	0
Flt Permitted						
Satd. Flow (perm)	0	1522	0	5085	4910	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	144.9			271.4	45.3	
Travel Time (s)	10.4			19.5	3.3	
Confl. Peds. (#/hr)			20			20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	8%	0%	2%	1%	5%
Adj. Flow (vph)	0	64	0	2505	2367	723
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	64	0	2505	3090	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 69.0%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	60	0	2355	2225	680
Future Volume (Veh/h)	0	60	0	2355	2225	680
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	64	0	2505	2367	723
Pedestrians	20					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	2					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				271	45	
pX, platoon unblocked	0.66	0.54	0.54			
vC, conflicting volume	3584	1170	3110			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	638	0	1916			
tC, single (s)	6.8	7.1	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	100	89	100			
cM capacity (veh/h)	268	563	166			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	64	835	835	835	947	947	1196
Volume Left	0	0	0	0	0	0	0
Volume Right	64	0	0	0	0	0	723
cSH	563	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.11	0.49	0.49	0.49	0.56	0.56	0.70
Queue Length 95th (m)	3.1	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	12.2	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	12.2	0.0			0.0		
Approach LOS	B						

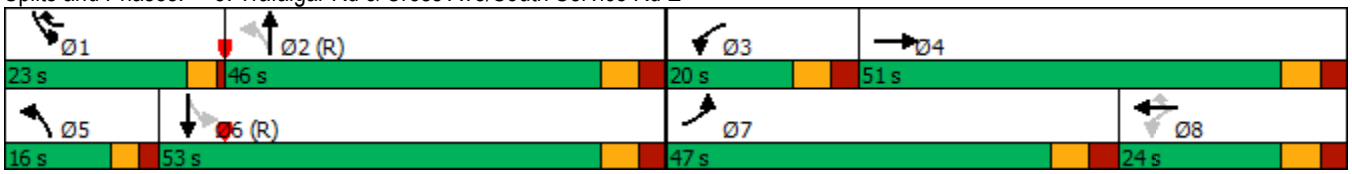
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	950	105	120	75	120	355	140	1250	55	320	1490	390
Future Volume (vph)	950	105	120	75	120	355	140	1250	55	320	1490	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		0.0	50.0		0.0	120.0		0.0	55.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.98		0.98				1.00			0.99	
Frt		0.920				0.850		0.994			0.969	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	1662	0	1805	1900	1599	1719	5099	0	1752	4949	0
Flt Permitted	0.950			0.614			0.100			0.093		
Satd. Flow (perm)	3400	1662	0	1146	1900	1599	181	5099	0	172	4949	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		44				140		5			51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		217.0			420.1			277.9			271.4	
Travel Time (s)		15.6			30.2			20.0			19.5	
Confl. Peds. (#/hr)			20	20			15		15	15		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Adj. Flow (vph)	979	108	124	77	124	366	144	1289	57	330	1536	402
Shared Lane Traffic (%)												
Lane Group Flow (vph)	979	232	0	77	124	366	144	1346	0	330	1938	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		12.0	10.0	7.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0		19.0	17.0	11.0	12.0	34.0		11.0	34.0	
Total Split (s)	47.0	51.0		20.0	24.0	23.0	16.0	46.0		23.0	53.0	
Total Split (%)	33.6%	36.4%		14.3%	17.1%	16.4%	11.4%	32.9%		16.4%	37.9%	
Maximum Green (s)	40.0	44.0		13.0	17.0	19.0	11.0	39.0		19.0	46.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	1.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0						7.0			7.0	
Flash Dont Walk (s)		28.0						20.0			20.0	
Pedestrian Calls (#/hr)		10						15			15	
Act Effct Green (s)	41.0	43.5		28.5	15.5	44.0	53.8	40.0		68.5	49.6	
Actuated g/C Ratio	0.29	0.31		0.20	0.11	0.31	0.38	0.29		0.49	0.35	
v/c Ratio	0.98	0.42		0.26	0.59	0.61	0.72	0.92		0.98	1.08	
Control Delay	73.8	32.8		28.6	70.4	29.4	48.7	55.2		77.7	92.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	73.8	32.8		28.6	70.4	29.4	48.7	55.2		77.7	92.3	
LOS	E	C		C	E	C	D	E		E	F	
Approach Delay		66.0			38.3			54.6			90.2	
Approach LOS		E			D			D			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 70.0		Intersection LOS: E	
Intersection Capacity Utilization 99.3%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 5: Trafalgar Rd & Cross Ave/South Service Rd E



5: Trafalgar Rd & Cross Ave/South Service Rd E



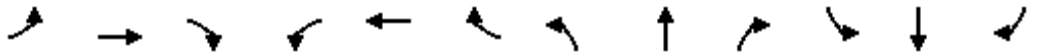
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	979	232	77	124	366	144	1346	330	1938
v/c Ratio	0.98	0.42	0.26	0.59	0.61	0.72	0.92	0.98	1.08
Control Delay	73.8	32.8	28.6	70.4	29.4	48.7	55.2	77.7	92.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.8	32.8	28.6	70.4	29.4	48.7	55.2	77.7	92.3
Queue Length 50th (m)	146.4	42.8	12.6	34.7	56.2	31.7	105.6	~88.9	~234.8
Queue Length 95th (m)	#192.6	67.0	22.4	56.0	91.9	m40.8	m140.6	m#112.3	m#264.6
Internal Link Dist (m)		193.0		396.1			253.9		247.4
Turn Bay Length (m)	130.0		50.0			120.0		55.0	
Base Capacity (vph)	995	568	307	244	598	205	1460	337	1787
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.41	0.25	0.51	0.61	0.70	0.92	0.98	1.08

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	950	105	120	75	120	355	140	1250	55	320	1490	390
Future Volume (vph)	950	105	120	75	120	355	140	1250	55	320	1490	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.98		1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	1.00	0.85	1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3400	1661		1786	1900	1599	1719	5098		1752	4948	
Flt Permitted	0.95	1.00		0.61	1.00	1.00	0.10	1.00		0.09	1.00	
Satd. Flow (perm)	3400	1661		1155	1900	1599	181	5098		172	4948	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	979	108	124	77	124	366	144	1289	57	330	1536	402
RTOR Reduction (vph)	0	30	0	0	0	102	0	4	0	0	33	0
Lane Group Flow (vph)	979	202	0	77	124	264	144	1342	0	330	1905	0
Confl. Peds. (#/hr)			20	20			15		15	15		15
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Actuated Green, G (s)	40.0	42.5		26.5	14.5	36.0	49.8	39.0		64.5	48.7	
Effective Green, g (s)	41.0	43.5		28.5	15.5	38.0	51.8	40.0		65.5	49.7	
Actuated g/C Ratio	0.29	0.31		0.20	0.11	0.27	0.37	0.29		0.47	0.36	
Clearance Time (s)	7.0	7.0		7.0	7.0	4.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	995	516		293	210	434	196	1456		334	1756	
v/s Ratio Prot	c0.29	0.12		0.02	0.07	c0.10	0.06	0.26		c0.16	c0.39	
v/s Ratio Perm				0.03		0.07	0.21			0.30		
v/c Ratio	0.98	0.39		0.26	0.59	0.61	0.73	0.92		0.99	1.08	
Uniform Delay, d1	49.2	37.9		46.4	59.2	44.5	35.4	48.5		44.2	45.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.30	1.01		1.31	1.22	
Incremental Delay, d2	24.5	0.7		0.6	5.1	2.4	7.1	6.3		29.4	43.3	
Delay (s)	73.6	38.5		47.0	64.4	46.9	53.0	55.3		87.2	98.4	
Level of Service	E	D		D	E	D	D	E		F	F	
Approach Delay (s)		66.9			50.7			55.1			96.8	
Approach LOS		E			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	74.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	99.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

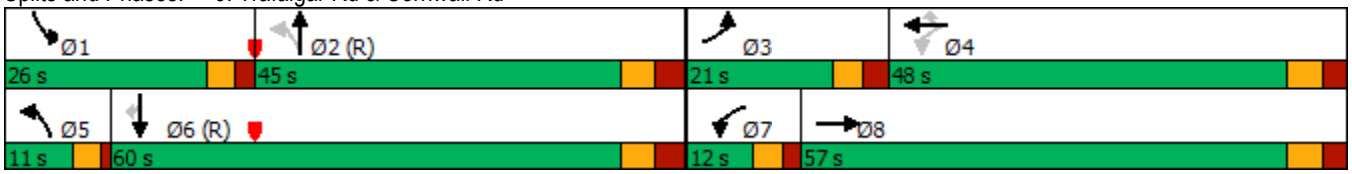
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	480	45	55	605	615	60	620	60	495	655	300
Future Volume (vph)	360	480	45	55	605	615	60	620	60	495	655	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.97	1.00		0.99		0.93	1.00	1.00		0.98		0.98
Frt		0.987				0.850		0.987				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	3487	0	1805	3539	1583	1770	3552	0	3433	1881	1553
Flt Permitted	0.950			0.448			0.107			0.950		
Satd. Flow (perm)	3378	3487	0	842	3539	1470	199	3552	0	3381	1881	1516
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				310		7				211
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			277.9	
Travel Time (s)		41.4			45.2			10.0			20.0	
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Adj. Flow (vph)	371	495	46	57	624	634	62	639	62	510	675	309
Shared Lane Traffic (%)												
Lane Group Flow (vph)	371	541	0	57	624	634	62	701	0	510	675	309
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	21.0	57.0		12.0	48.0	48.0	11.0	45.0		26.0	60.0	60.0
Total Split (%)	15.0%	40.7%		8.6%	34.3%	34.3%	7.9%	32.1%		18.6%	42.9%	42.9%
Maximum Green (s)	15.3	50.6		7.0	41.6	41.6	7.0	38.1		21.0	53.1	53.1
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		30			30	30		15			15	15
Act Effct Green (s)	16.6	53.4		51.1	41.7	41.7	50.2	39.3		22.4	56.9	56.9
Actuated g/C Ratio	0.12	0.38		0.36	0.30	0.30	0.36	0.28		0.16	0.41	0.41
v/c Ratio	0.90	0.41		0.16	0.59	0.97	0.39	0.70		0.93	0.88	0.42
Control Delay	85.4	36.5		22.6	44.5	52.9	28.4	49.1		86.5	42.6	15.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	85.4	36.5		22.6	44.5	52.9	28.4	49.1		86.5	42.6	15.7
LOS	F	D		C	D	D	C	D		F	D	B
Approach Delay		56.4			47.6			47.4			52.0	
Approach LOS		E			D			D			D	

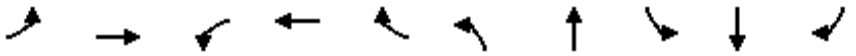
Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 50.8 Intersection LOS: D
Intersection Capacity Utilization 94.5% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd



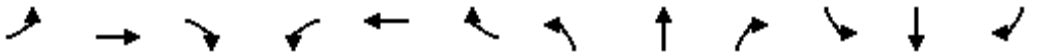
6: Trafalgar Rd & Cornwall Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	371	541	57	624	634	62	701	510	675	309
v/c Ratio	0.90	0.41	0.16	0.59	0.97	0.39	0.70	0.93	0.88	0.42
Control Delay	85.4	36.5	22.6	44.5	52.9	28.4	49.1	86.5	42.6	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.4	36.5	22.6	44.5	52.9	28.4	49.1	86.5	42.6	15.7
Queue Length 50th (m)	56.5	62.1	9.0	81.0	108.5	9.4	95.8	81.7	107.9	27.5
Queue Length 95th (m)	#87.1	82.3	17.6	101.5	#192.9	18.1	119.2	m78.1	m102.9	m26.2
Internal Link Dist (m)		551.4		604.3			115.4		253.9	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	410	1335	362	1076	662	160	1001	550	764	741
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.41	0.16	0.58	0.96	0.39	0.70	0.93	0.88	0.42

Intersection Summary

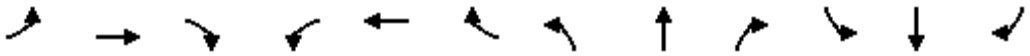
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	480	45	55	605	615	60	620	60	495	655	300
Future Volume (vph)	360	480	45	55	605	615	60	620	60	495	655	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.93	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3467	3487		1797	3539	1470	1769	3551		3433	1881	1516
Flt Permitted	0.95	1.00		0.45	1.00	1.00	0.11	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3467	3487		848	3539	1470	200	3551		3433	1881	1516
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	371	495	46	57	624	634	62	639	62	510	675	309
RTOR Reduction (vph)	0	5	0	0	0	215	0	5	0	0	0	128
Lane Group Flow (vph)	371	536	0	57	624	419	62	696	0	510	675	181
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	15.6	52.4		47.3	41.7	41.7	42.9	37.3		21.4	54.1	54.1
Effective Green, g (s)	16.6	53.4		49.3	42.7	42.7	44.9	38.3		22.4	55.1	55.1
Actuated g/C Ratio	0.12	0.38		0.35	0.31	0.31	0.32	0.27		0.16	0.39	0.39
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Lane Grp Cap (vph)	411	1330		343	1079	448	138	971		549	740	596
v/s Ratio Prot	c0.11	0.15		0.01	0.18		0.02	0.20		c0.15	c0.36	
v/s Ratio Perm				0.05		c0.28	0.12					0.12
v/c Ratio	0.90	0.40		0.17	0.58	0.93	0.45	0.72		0.93	0.91	0.30
Uniform Delay, d1	60.9	31.6		30.3	41.1	47.3	36.6	45.9		58.0	40.2	29.2
Progression Factor	0.99	1.12		1.00	1.00	1.00	1.00	1.00		1.39	0.97	1.56
Incremental Delay, d2	22.0	0.2		0.3	0.8	26.7	2.3	4.5		7.0	5.0	0.3
Delay (s)	82.3	35.6		30.7	41.8	74.0	38.9	50.5		87.5	44.1	45.9
Level of Service	F	D		C	D	E	D	D		F	D	D
Approach Delay (s)		54.6			56.8			49.5			59.3	
Approach LOS		D			E			D			E	

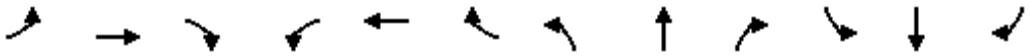
Intersection Summary			
HCM 2000 Control Delay	55.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	94.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	25	0	0	520	170	0	0	0	30	5	65
Future Volume (vph)	10	25	0	0	520	170	0	0	0	30	5	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.967						0.912	
Flt Protected		0.986									0.985	
Satd. Flow (prot)	0	1822	0	0	1745	0	0	1900	0	0	1707	0
Flt Permitted		0.986									0.985	
Satd. Flow (perm)	0	1822	0	0	1745	0	0	1900	0	0	1707	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		175.8			144.9			44.8			92.1	
Travel Time (s)		12.7			10.4			3.2			6.6	
Confl. Peds. (#/hr)			10	10					10	10		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	4%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	11	27	0	0	559	183	0	0	0	32	5	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	0	0	742	0	0	0	0	0	107	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

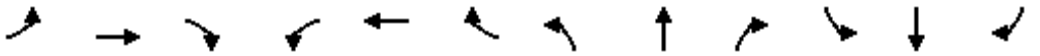
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 50.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	25	0	0	520	170	0	0	0	30	5	65
Future Volume (Veh/h)	10	25	0	0	520	170	0	0	0	30	5	65
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	11	27	0	0	559	183	0	0	0	32	5	70
Pedestrians					10			10				
Lane Width (m)					3.6			3.6				
Walking Speed (m/s)					1.2			1.2				
Percent Blockage					1			1				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		355										
pX, platoon unblocked												
vC, conflicting volume	742			37			782	801	47	710	710	650
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	742			37			782	801	47	710	710	650
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	91	99	85
cM capacity (veh/h)	874			1573			258	313	1011	343	354	472

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	38	742	0	107
Volume Left	11	0	0	32
Volume Right	0	183	0	70
cSH	874	1573	1700	419
Volume to Capacity	0.01	0.00	0.02	0.26
Queue Length 95th (m)	0.3	0.0	0.0	8.0
Control Delay (s)	2.7	0.0	0.0	16.5
Lane LOS	A		A	C
Approach Delay (s)	2.7	0.0	0.0	16.5
Approach LOS			A	C

Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	50.9%	ICU Level of Service	A	
Analysis Period (min)	15			



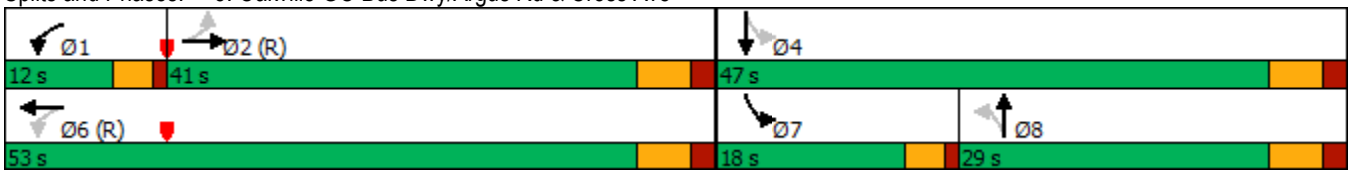
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	945	15	15	595	75	15	0	30	220	15	205
Future Volume (vph)	25	945	15	15	595	75	15	0	30	220	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	30.0			15.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00			0.99			0.94		0.95	0.94	
Frt		0.998			0.983			0.910			0.860	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1805	3546	0	902	3497	0	0	831	0	1787	1437	0
Flt Permitted	0.378			0.167				0.851		0.725		
Satd. Flow (perm)	710	3546	0	159	3497	0	0	708	0	1294	1437	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			19			120			174	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		107.3			217.0			71.0			179.3	
Travel Time (s)		7.7			15.6			5.1			12.9	
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Adj. Flow (vph)	27	1016	16	16	640	81	16	0	32	237	16	220
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	1032	0	16	721	0	0	48	0	237	236	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	22.0	22.0		8.0	22.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	29.0	29.0		12.0	29.0		29.0	29.0		9.0	29.0	
Total Split (s)	41.0	41.0		12.0	53.0		29.0	29.0		18.0	47.0	
Total Split (%)	41.0%	41.0%		12.0%	53.0%		29.0%	29.0%		18.0%	47.0%	
Maximum Green (s)	35.0	35.0		8.0	47.0		23.0	23.0		14.0	41.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	5.0	5.0		2.5	5.0		4.0	4.0		3.0	4.0	
Recall Mode	C-Min	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	16.0	16.0			16.0		16.0	16.0			16.0	
Pedestrian Calls (#/hr)	15	15			15		45	45			45	
Act Effct Green (s)	51.7	51.7		58.5	56.5			18.8		35.5	33.5	
Actuated g/C Ratio	0.52	0.52		0.58	0.56			0.19		0.36	0.34	
v/c Ratio	0.07	0.56		0.10	0.36			0.21		0.44	0.40	
Control Delay	20.1	22.0		14.1	14.3			2.0		24.7	7.9	
Queue Delay	0.0	1.6		0.0	0.0			0.0		0.0	0.0	
Total Delay	20.1	23.6		14.1	14.3			2.0		24.7	7.9	
LOS	C	C		B	B			A		C	A	
Approach Delay		23.6			14.3			2.0			16.3	
Approach LOS		C			B			A			B	

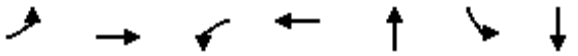
Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 18.7 Intersection LOS: B
Intersection Capacity Utilization 54.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 8: Oakville GO Bus Dwy/Argus Rd & Cross Ave

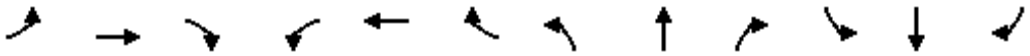


8: Oakville GO Bus Dwy/Argus Rd & Cross Ave



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	27	1032	16	721	48	237	236
v/c Ratio	0.07	0.56	0.10	0.36	0.21	0.44	0.40
Control Delay	20.1	22.0	14.1	14.3	2.0	24.7	7.9
Queue Delay	0.0	1.6	0.0	0.0	0.0	0.0	0.0
Total Delay	20.1	23.6	14.1	14.3	2.0	24.7	7.9
Queue Length 50th (m)	2.9	78.2	1.6	47.4	0.0	30.4	7.5
Queue Length 95th (m)	10.0	125.0	5.2	62.3	0.0	48.4	23.7
Internal Link Dist (m)		83.3		193.0	47.0		155.3
Turn Bay Length (m)	20.0		20.0			15.0	
Base Capacity (vph)	366	1832	159	1982	261	540	704
Starvation Cap Reductn	0	583	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.83	0.10	0.36	0.18	0.44	0.34

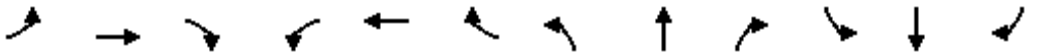
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	945	15	15	595	75	15	0	30	220	15	205
Future Volume (vph)	25	945	15	15	595	75	15	0	30	220	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99			0.95		1.00	0.94	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			0.99		0.96	1.00	
Frt	1.00	1.00		1.00	0.98			0.91		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1783	3544		902	3497			819		1722	1437	
Flt Permitted	0.38	1.00		0.17	1.00			0.85		0.72	1.00	
Satd. Flow (perm)	709	3544		158	3497			708		1314	1437	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	27	1016	16	16	640	81	16	0	32	237	16	220
RTOR Reduction (vph)	0	1	0	0	8	0	0	40	0	0	114	0
Lane Group Flow (vph)	27	1031	0	16	713	0	0	8	0	237	122	0
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	47.1	47.1		54.3	54.3			15.8		33.7	33.7	
Effective Green, g (s)	48.1	48.1		55.3	55.3			16.8		34.7	34.7	
Actuated g/C Ratio	0.48	0.48		0.55	0.55			0.17		0.35	0.35	
Clearance Time (s)	6.0	6.0		4.0	6.0			6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0		2.5	5.0			4.0		3.0	4.0	
Lane Grp Cap (vph)	341	1704		118	1933			118		516	498	
v/s Ratio Prot		c0.29		0.01	c0.20					c0.07	0.09	
v/s Ratio Perm	0.04			0.07				0.01		c0.09		
v/c Ratio	0.08	0.61		0.14	0.37			0.07		0.46	0.25	
Uniform Delay, d1	14.0	19.0		12.4	12.5			35.0		24.8	23.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.5	1.6		0.4	0.5			0.3		0.7	0.4	
Delay (s)	14.5	20.6		12.8	13.1			35.3		25.4	23.7	
Level of Service	B	C		B	B			D		C	C	
Approach Delay (s)		20.4			13.1			35.3			24.5	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



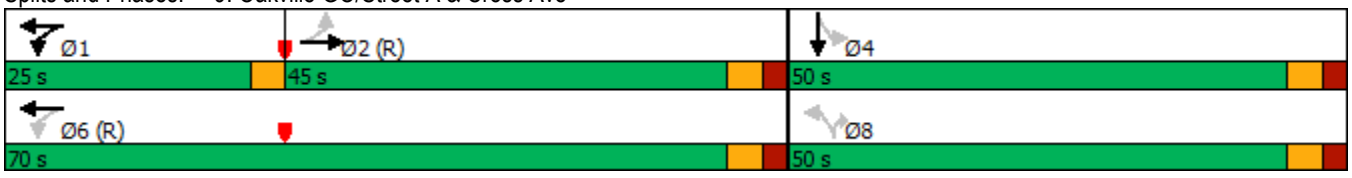
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	540	80	360	475	10	130	0	310	95	0	45
Future Volume (vph)	50	540	80	360	475	10	130	0	310	95	0	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00		0.99		0.97		0.98	
Frt		0.982			0.998				0.850		0.956	
Flt Protected		0.996			0.979		0.950				0.967	
Satd. Flow (prot)	0	3401	0	0	3429	0	1805	0	1615	0	1741	0
Flt Permitted		0.803			0.554		0.670				0.967	
Satd. Flow (perm)	0	2738	0	0	1936	0	1258	0	1570	0	1721	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			2				337		51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		139.5			107.3			62.6			201.6	
Travel Time (s)		10.0			7.7			4.5			14.5	
Confl. Peds. (#/hr)	30		10	10		30	10		10	10		10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	54	587	87	391	516	11	141	0	337	103	0	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	728	0	0	918	0	141	0	337	0	152	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	100		100
Number of Detectors	1	2		1	2		1		1	1	2	
Detector Template	Left	Thru		Left	Thru		Left		Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0		2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0		2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4						9.4	
Detector 2 Size(m)		0.6			0.6						0.6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type	Perm	NA		custom	NA		Perm		Perm	Perm	NA	
Protected Phases		2		1	1 6						4	
Permitted Phases	2			6			8		8	4		

Lane Group	Ø6
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (k/h)	
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(m)	
Detector 2 Size(m)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	6
Permitted Phases	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		1	1 6		8		8	4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		8.0			10.0		10.0	10.0	10.0	
Minimum Split (s)	40.6	40.6		11.0			27.6		27.6	27.6	27.6	
Total Split (s)	45.0	45.0		25.0			50.0		50.0	50.0	50.0	
Total Split (%)	37.5%	37.5%		20.8%			41.7%		41.7%	41.7%	41.7%	
Maximum Green (s)	39.4	39.4		22.0			44.4		44.4	44.4	44.4	
Yellow Time (s)	3.3	3.3		3.0			3.3		3.3	3.3	3.3	
All-Red Time (s)	2.3	2.3		0.0			2.3		2.3	2.3	2.3	
Lost Time Adjust (s)		-1.0					-1.0		-1.0		-1.0	
Total Lost Time (s)		4.6					4.6		4.6		4.6	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	5.0	5.0		2.5			3.5		3.5	3.0	3.0	
Recall Mode	C-Min	C-Min		None			None		None	None	None	
Walk Time (s)	7.0	7.0					7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	15.0	15.0					15.0		15.0	15.0	15.0	
Pedestrian Calls (#/hr)	20	20					10		10	10	10	
Act Effct Green (s)		70.7			92.7		20.7		20.7		20.7	
Actuated g/C Ratio		0.59			0.77		0.17		0.17		0.17	
v/c Ratio		0.45			0.54		0.65		0.61		0.45	
Control Delay		16.7			6.1		59.4		9.3		32.0	
Queue Delay		0.0			1.0		0.0		0.0		0.0	
Total Delay		16.7			7.0		59.4		9.3		32.0	
LOS		B			A		E		A		C	
Approach Delay		16.7			7.0			24.1			32.0	
Approach LOS		B			A			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 15.4		Intersection LOS: B	
Intersection Capacity Utilization 80.1%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 9: Oakville GO/Street A & Cross Ave



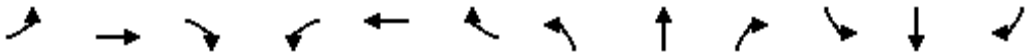
Lane Group	Ø6
Detector Phase	
Switch Phase	
Minimum Initial (s)	35.0
Minimum Split (s)	40.6
Total Split (s)	70.0
Total Split (%)	58%
Maximum Green (s)	64.4
Yellow Time (s)	3.3
All-Red Time (s)	2.3
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	5.0
Recall Mode	C-Min
Walk Time (s)	7.0
Flash Dont Walk (s)	15.0
Pedestrian Calls (#/hr)	20
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary



Lane Group	EBT	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	728	918	141	337	152
v/c Ratio	0.45	0.54	0.65	0.61	0.45
Control Delay	16.7	6.1	59.4	9.3	32.0
Queue Delay	0.0	1.0	0.0	0.0	0.0
Total Delay	16.7	7.0	59.4	9.3	32.0
Queue Length 50th (m)	48.2	30.9	33.0	0.0	22.3
Queue Length 95th (m)	88.8	54.6	51.0	24.1	39.8
Internal Link Dist (m)	115.5	83.3			177.6
Turn Bay Length (m)					
Base Capacity (vph)	1617	1789	475	803	682
Starvation Cap Reductn	0	566	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.45	0.75	0.30	0.42	0.22

Intersection Summary



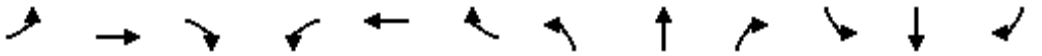
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	540	80	360	475	10	130	0	310	95	0	45
Future Volume (vph)	50	540	80	360	475	10	130	0	310	95	0	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6			2.0		4.6		4.6		4.6	
Lane Util. Factor		0.95			0.95		1.00		1.00		1.00	
Frpb, ped/bikes		0.99			1.00		1.00		0.97		0.99	
Flpb, ped/bikes		1.00			1.00		0.99		1.00		0.99	
Frt		0.98			1.00		1.00		0.85		0.96	
Flt Protected		1.00			0.98		0.95		1.00		0.97	
Satd. Flow (prot)		3397			3424		1786		1570		1723	
Flt Permitted		0.80			0.55		0.67		1.00		0.97	
Satd. Flow (perm)		2739			1938		1259		1570		1723	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	587	87	391	516	11	141	0	337	103	0	49
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	279	0	42	0
Lane Group Flow (vph)	0	723	0	0	918	0	141	0	58	0	110	0
Confl. Peds. (#/hr)	30		10	10		30	10		10	10		10
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		custom	NA		Perm		Perm	Perm	NA	
Protected Phases		2		1	1 6						4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)		69.6			89.1		19.7		19.7		19.7	
Effective Green, g (s)		70.6			90.1		20.7		20.7		20.7	
Actuated g/C Ratio		0.59			0.75		0.17		0.17		0.17	
Clearance Time (s)		5.6					5.6		5.6		5.6	
Vehicle Extension (s)		5.0					3.5		3.5		3.0	
Lane Grp Cap (vph)		1611			1671		217		270		297	
v/s Ratio Prot					c0.08							
v/s Ratio Perm		c0.26			0.33		c0.11		0.04		0.06	
v/c Ratio		0.45			0.55		0.65		0.22		0.37	
Uniform Delay, d1		13.8			6.3		46.3		42.7		43.9	
Progression Factor		1.00			1.00		1.00		1.00		1.00	
Incremental Delay, d2		0.9			0.3		6.8		0.5		0.8	
Delay (s)		14.7			6.6		53.1		43.1		44.7	
Level of Service		B			A		D		D		D	
Approach Delay (s)		14.7			6.6			46.1			44.7	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	445	0	0	525	130	0	0	80	120	0	95
Future Volume (vph)	40	445	0	0	525	130	0	0	80	120	0	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (m)	25.0			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.970			0.865				0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1805	3438	0	0	3386	0	0	1644	0	1805	0	1615
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1805	3438	0	0	3386	0	0	1644	0	1805	0	1615
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		132.8			139.5			48.2			88.5	
Travel Time (s)		9.6			10.0			3.5			6.4	
Confl. Peds. (#/hr)	15		10	10		15	5		5	5		5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	5%	0%	0%	4%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	45	506	0	0	597	148	0	0	91	136	0	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	506	0	0	745	0	0	91	0	136	0	108
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

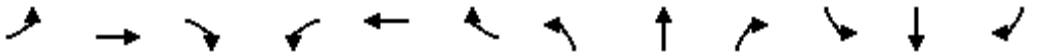
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	445	0	0	525	130	0	0	80	120	0	95
Future Volume (Veh/h)	40	445	0	0	525	130	0	0	80	120	0	95
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	45	506	0	0	597	148	0	0	91	136	0	108
Pedestrians		5			5			10			15	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		133			140							
pX, platoon unblocked				0.99			0.99	0.99	0.99	0.99	0.99	
vC, conflicting volume	760			516			1018	1366	268	1125	1292	392
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	760			492			998	1350	242	1107	1275	392
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			100			100	100	88	0	100	82
cM capacity (veh/h)	850			1063			152	139	749	135	155	602

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	45	253	253	398	347	91	136	108
Volume Left	45	0	0	0	0	0	136	0
Volume Right	0	0	0	0	148	91	0	108
cSH	850	1700	1700	1700	1700	749	135	602
Volume to Capacity	0.05	0.15	0.15	0.23	0.20	0.12	1.01	0.18
Queue Length 95th (m)	1.3	0.0	0.0	0.0	0.0	3.3	57.5	5.2
Control Delay (s)	9.5	0.0	0.0	0.0	0.0	10.5	142.6	12.3
Lane LOS	A					B	F	B
Approach Delay (s)	0.8			0.0		10.5	84.9	
Approach LOS						B	F	

Intersection Summary				
Average Delay	13.5			
Intersection Capacity Utilization	45.6%	ICU Level of Service		A
Analysis Period (min)	15			



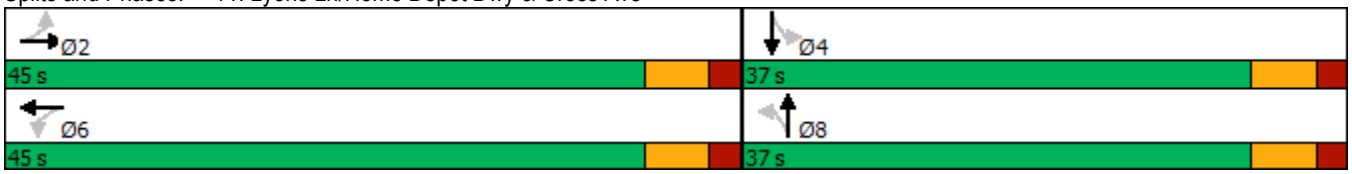
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	370	30	20	585	15	140	5	85	25	5	95
Future Volume (vph)	70	370	30	20	585	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	25.0		0.0	35.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		1.00	1.00		1.00	0.98		0.99	0.98	
Frt		0.989			0.996			0.858			0.858	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3375	0	1805	3456	0	1805	1595	0	1805	1588	0
Flt Permitted	0.366			0.483			0.681			0.689		
Satd. Flow (perm)	687	3375	0	913	3456	0	1288	1595	0	1296	1588	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			4			100			112	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		47.5			132.8			150.8			63.6	
Travel Time (s)		3.4			9.6			10.9			4.6	
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	82	435	35	24	688	18	165	6	100	29	6	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	470	0	24	706	0	165	106	0	29	118	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		35.0	35.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	41.0	41.0		41.0	41.0		28.0	28.0		28.0	28.0	
Total Split (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Total Split (%)	54.9%	54.9%		54.9%	54.9%		45.1%	45.1%		45.1%	45.1%	
Maximum Green (s)	39.0	39.0		39.0	39.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	15	15		15	15		10	10		10	10	
Act Effct Green (s)	36.2	36.2		36.2	36.2		15.5	15.5		15.5	15.5	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
v/c Ratio	0.20	0.24		0.04	0.35		0.51	0.22		0.09	0.25	
Control Delay	9.0	7.0		7.2	7.8		25.5	6.1		17.5	5.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	9.0	7.0		7.2	7.8		25.5	6.1		17.5	5.9	
LOS	A	A		A	A		C	A		B	A	
Approach Delay		7.3			7.8			17.9			8.2	
Approach LOS		A			A			B			A	

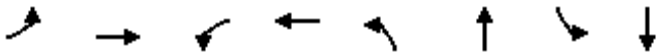
Intersection Summary

Area Type: Other
Cycle Length: 82
Actuated Cycle Length: 61.7
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 9.3 Intersection LOS: A
Intersection Capacity Utilization 82.0% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 11: Lyons Ln/Home Depot Dwy & Cross Ave

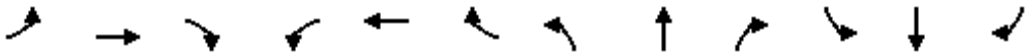


11: Lyons Ln/Home Depot Dwy & Cross Ave



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	82	470	24	706	165	106	29	118
v/c Ratio	0.20	0.24	0.04	0.35	0.51	0.22	0.09	0.25
Control Delay	9.0	7.0	7.2	7.8	25.5	6.1	17.5	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.0	7.0	7.2	7.8	25.5	6.1	17.5	5.9
Queue Length 50th (m)	3.9	11.5	1.0	19.3	16.8	0.5	2.7	0.5
Queue Length 95th (m)	12.7	23.3	4.6	36.4	30.4	8.9	7.5	9.3
Internal Link Dist (m)		23.5		108.8		126.8		39.6
Turn Bay Length (m)			25.0		35.0			
Base Capacity (vph)	447	2204	594	2253	671	879	675	881
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.21	0.04	0.31	0.25	0.12	0.04	0.13

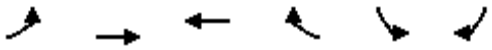
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	370	30	20	585	15	140	5	85	25	5	95
Future Volume (vph)	70	370	30	20	585	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	3375		1798	3457		1799	1600		1792	1589	
Flt Permitted	0.37	1.00		0.48	1.00		0.68	1.00		0.69	1.00	
Satd. Flow (perm)	689	3375		913	3457		1290	1600		1299	1589	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	82	435	35	24	688	18	165	6	100	29	6	112
RTOR Reduction (vph)	0	6	0	0	2	0	0	75	0	0	84	0
Lane Group Flow (vph)	82	464	0	24	704	0	165	31	0	29	34	0
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.2	35.2		35.2	35.2		14.4	14.4		14.4	14.4	
Effective Green, g (s)	36.2	36.2		36.2	36.2		15.4	15.4		15.4	15.4	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	404	1983		536	2031		322	400		324	397	
v/s Ratio Prot		0.14			c0.20			0.02			0.02	
v/s Ratio Perm	0.12			0.03			c0.13			0.02		
v/c Ratio	0.20	0.23		0.04	0.35		0.51	0.08		0.09	0.09	
Uniform Delay, d1	5.9	6.1		5.4	6.6		19.9	17.7		17.7	17.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.1		0.1	0.2		1.8	0.1		0.2	0.1	
Delay (s)	6.5	6.2		5.5	6.8		21.7	17.8		17.9	17.8	
Level of Service	A	A		A	A		C	B		B	B	
Approach Delay (s)		6.2			6.7			20.2			17.8	
Approach LOS		A			A			C			B	

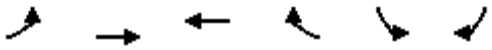
Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	61.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	480	825	30	20	25
Future Volume (vph)	25	480	825	30	20	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.995		0.926	
Flt Protected	0.950				0.978	
Satd. Flow (prot)	1805	3471	3491	0	1721	0
Flt Permitted	0.950				0.978	
Satd. Flow (perm)	1805	3471	3491	0	1721	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		443.3	47.5		121.4	
Travel Time (s)		31.9	3.4		8.7	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	4%	3%	0%	0%	0%
Adj. Flow (vph)	27	527	907	33	22	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	527	940	0	49	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

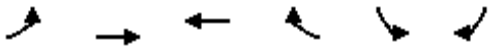
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.8%		ICU Level of Service A	
Analysis Period (min) 15			



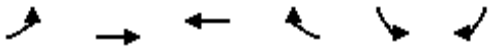
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	480	825	30	20	25
Future Volume (Veh/h)	25	480	825	30	20	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	27	527	907	33	22	27
Pedestrians					15	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			48			
pX, platoon unblocked	0.90				0.90	0.90
vC, conflicting volume	955				1256	485
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	728				1062	206
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				88	96
cM capacity (veh/h)	786				190	717

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	27	264	264	605	335	49
Volume Left	27	0	0	0	0	22
Volume Right	0	0	0	0	33	27
cSH	786	1700	1700	1700	1700	320
Volume to Capacity	0.03	0.15	0.15	0.36	0.20	0.15
Queue Length 95th (m)	0.9	0.0	0.0	0.0	0.0	4.3
Control Delay (s)	9.7	0.0	0.0	0.0	0.0	18.3
Lane LOS	A					C
Approach Delay (s)	0.5			0.0		18.3
Approach LOS						C

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	390	785	1035	110	115	725
Future Volume (vph)	390	785	1035	110	115	725
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0			0.0	60.0	0.0
Storage Lanes	1			0	1	2
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.88
Ped Bike Factor	1.00		1.00			
Frt			0.986			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1719	3574	3518	0	1805	2760
Flt Permitted	0.136				0.950	
Satd. Flow (perm)	246	3574	3518	0	1805	2760
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			11			637
Link Speed (k/h)		50	50		50	
Link Distance (m)		209.5	575.4		443.3	
Travel Time (s)		15.1	41.4		31.9	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Adj. Flow (vph)	415	835	1101	117	122	771
Shared Lane Traffic (%)						
Lane Group Flow (vph)	415	835	1218	0	122	771
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		7.2	7.2		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	6.0	38.0	38.0		10.0	10.0
Minimum Split (s)	12.0	47.6	47.6		33.8	33.8
Total Split (s)	35.0	109.2	74.2		30.8	30.8
Total Split (%)	25.0%	78.0%	53.0%		22.0%	22.0%
Maximum Green (s)	29.0	102.6	67.6		25.0	25.0
Yellow Time (s)	4.0	3.7	3.7		3.3	3.3
All-Red Time (s)	2.0	2.9	2.9		2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.6	5.6		4.8	4.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Recall Mode	None	C-Min	C-Min		None	None
Walk Time (s)		10.0	10.0		10.0	10.0
Flash Dont Walk (s)		31.0	31.0		18.0	18.0
Pedestrian Calls (#/hr)		10	10		0	0
Act Effct Green (s)	112.6	112.0	77.8		17.6	17.6
Actuated g/C Ratio	0.80	0.80	0.56		0.13	0.13
v/c Ratio	0.82	0.29	0.62		0.54	0.85
Control Delay	37.7	4.4	25.7		64.9	20.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	37.7	4.4	25.7		64.9	20.5
LOS	D	A	C		E	C
Approach Delay		15.4	25.7		26.6	
Approach LOS		B	C		C	

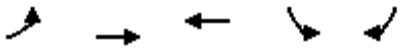
Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 22.1 Intersection LOS: C
Intersection Capacity Utilization 76.9% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 13: Speers Rd/Cornwall Rd & Cross Ave



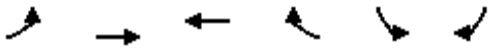
13: Speers Rd/Cornwall Rd & Cross Ave



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	415	835	1218	122	771
v/c Ratio	0.82	0.29	0.62	0.54	0.85
Control Delay	37.7	4.4	25.7	64.9	20.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	37.7	4.4	25.7	64.9	20.5
Queue Length 50th (m)	65.1	26.8	172.4	34.1	20.9
Queue Length 95th (m)	#127.6	47.2	195.2	51.9	46.7
Internal Link Dist (m)		185.5	551.4	419.3	
Turn Bay Length (m)	70.0			60.0	
Base Capacity (vph)	533	2859	1967	335	1031
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.78	0.29	0.62	0.36	0.75

Intersection Summary

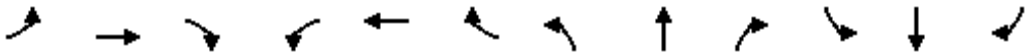
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	390	785	1035	110	115	725
Future Volume (vph)	390	785	1035	110	115	725
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		4.8	4.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1719	3574	3517		1805	2760
Flt Permitted	0.14	1.00	1.00		0.95	1.00
Satd. Flow (perm)	247	3574	3517		1805	2760
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	415	835	1101	117	122	771
RTOR Reduction (vph)	0	0	5	0	0	557
Lane Group Flow (vph)	415	835	1213	0	122	214
Confl. Peds. (#/hr)	15			15		
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Actuated Green, G (s)	111.0	111.0	76.8		16.6	16.6
Effective Green, g (s)	112.0	112.0	77.8		17.6	17.6
Actuated g/C Ratio	0.80	0.80	0.56		0.13	0.13
Clearance Time (s)	6.0	6.6	6.6		5.8	5.8
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Lane Grp Cap (vph)	504	2859	1954		226	346
v/s Ratio Prot	c0.17	0.23	0.34			
v/s Ratio Perm	c0.49				0.07	c0.08
v/c Ratio	0.82	0.29	0.62		0.54	0.62
Uniform Delay, d1	29.7	3.7	21.1		57.4	58.0
Progression Factor	1.00	1.00	1.06		1.00	1.00
Incremental Delay, d2	10.7	0.3	1.4		2.5	3.3
Delay (s)	40.4	3.9	23.7		59.9	61.3
Level of Service	D	A	C		E	E
Approach Delay (s)		16.0	23.7		61.1	
Approach LOS		B	C		E	

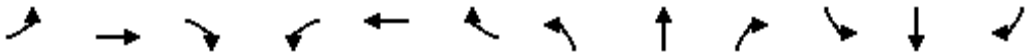
Intersection Summary			
HCM 2000 Control Delay	30.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	125	0	15	0	195	315	20	445	0
Future Volume (vph)	0	0	0	125	0	15	0	195	315	20	445	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.985			0.907				
Flt Protected					0.957						0.998	
Satd. Flow (prot)	0	1900	0	0	1760	0	0	3237	0	0	3603	0
Flt Permitted					0.957						0.998	
Satd. Flow (perm)	0	1900	0	0	1760	0	0	3237	0	0	3603	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		33.6			249.8			420.1			134.0	
Travel Time (s)		2.4			18.0			30.2			9.6	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	0%	3%	0%	0%	0%	0%
Adj. Flow (vph)	0	0	0	147	0	18	0	229	371	24	524	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	165	0	0	600	0	0	548	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	41.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	125	0	15	0	195	315	20	445	0
Future Volume (Veh/h)	0	0	0	125	0	15	0	195	315	20	445	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	147	0	18	0	229	371	24	524	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	704	1172	262	724	986	300	524			600		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	704	1172	262	724	986	300	524			600		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	52	100	97	100			98		
cM capacity (veh/h)	313	189	743	307	243	702	1053			987		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	165	114	486	286	262
Volume Left	0	147	0	0	24	0
Volume Right	0	18	0	371	0	0
cSH	1700	327	1053	1700	987	1700
Volume to Capacity	0.00	0.50	0.00	0.29	0.02	0.15
Queue Length 95th (m)	0.0	21.5	0.0	0.0	0.6	0.0
Control Delay (s)	0.0	26.7	0.0	0.0	1.0	0.0
Lane LOS	A	D			A	
Approach Delay (s)	0.0	26.7	0.0		0.5	
Approach LOS	A	D				

Intersection Summary				
Average Delay	3.6			
Intersection Capacity Utilization	41.5%	ICU Level of Service		A
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	120	90	85	155	200	135
Future Volume (vph)	120	90	85	155	200	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.942				0.946	
Flt Protected				0.983	0.971	
Satd. Flow (prot)	1757	0	0	1868	1728	0
Flt Permitted				0.983	0.971	
Satd. Flow (perm)	1757	0	0	1868	1728	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	632.0			1164.2	455.7	
Travel Time (s)	45.5			83.8	32.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	3%	0%	0%	1%	1%
Adj. Flow (vph)	135	101	96	174	225	152
Shared Lane Traffic (%)						
Lane Group Flow (vph)	236	0	0	270	377	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

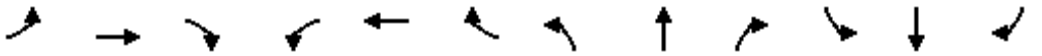
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 54.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	120	90	85	155	200	135
Future Volume (Veh/h)	120	90	85	155	200	135
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	135	101	96	174	225	152
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			236		552	186
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			236		552	186
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		51	82
cM capacity (veh/h)			1343		461	859

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	236	270	377
Volume Left	0	96	225
Volume Right	101	0	152
cSH	1700	1343	567
Volume to Capacity	0.14	0.07	0.66
Queue Length 95th (m)	0.0	1.8	39.4
Control Delay (s)	0.0	3.2	23.0
Lane LOS		A	C
Approach Delay (s)	0.0	3.2	23.0
Approach LOS			C

Intersection Summary			
Average Delay	10.8		
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	640	100	60	805	95	155	105	45	70	65	50
Future Volume (vph)	45	640	100	60	805	95	155	105	45	70	65	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		0.99					0.98
Frt		0.980			0.984			0.955				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3459	0	1805	3475	0	1770	1802	0	1805	1827	1553
Flt Permitted	0.254			0.326			0.712			0.656		
Satd. Flow (perm)	472	3459	0	618	3475	0	1320	1802	0	1246	1827	1520
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			22			23				53
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			455.7	
Travel Time (s)		43.9			11.1			15.4			32.8	
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Adj. Flow (vph)	48	681	106	64	856	101	165	112	48	74	69	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	787	0	64	957	0	165	160	0	74	69	53
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	30.2	30.2		30.2	30.2		14.8	14.8		14.8	14.8	14.8
Actuated g/C Ratio	0.55	0.55		0.55	0.55		0.27	0.27		0.27	0.27	0.27
v/c Ratio	0.18	0.41		0.19	0.50		0.46	0.32		0.22	0.14	0.12
Control Delay	9.0	7.8		8.5	8.7		22.6	16.6		18.7	17.2	6.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	9.0	7.8		8.5	8.7		22.6	16.6		18.7	17.2	6.7
LOS	A	A		A	A		C	B		B	B	A
Approach Delay		7.9			8.7			19.6			14.9	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 54.7			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay: 10.4		Intersection LOS: B	
Intersection Capacity Utilization 80.1%		ICU Level of Service D	
Analysis Period (min) 15			

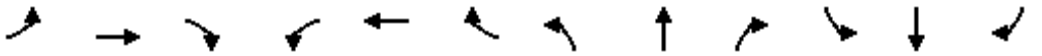
Splits and Phases: 16: Chartwell Rd & Cornwall Rd





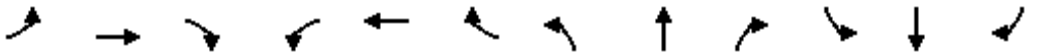
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	48	787	64	957	165	160	74	69	53
v/c Ratio	0.18	0.41	0.19	0.50	0.46	0.32	0.22	0.14	0.12
Control Delay	9.0	7.8	8.5	8.7	22.6	16.6	18.7	17.2	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.0	7.8	8.5	8.7	22.6	16.6	18.7	17.2	6.7
Queue Length 50th (m)	2.1	19.6	2.7	26.0	12.9	10.1	5.4	4.9	0.0
Queue Length 95th (m)	8.6	40.1	10.2	52.0	36.0	29.5	17.9	16.3	7.4
Internal Link Dist (m)		585.1		130.4		189.6		431.7	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	454	3328	594	3343	784	1080	740	1085	924
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.24	0.11	0.29	0.21	0.15	0.10	0.06	0.06

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	640	100	60	805	95	155	105	45	70	65	50
Future Volume (vph)	45	640	100	60	805	95	155	105	45	70	65	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.98		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1767	3460		1802	3477		1765	1802		1805	1827	1523
Flt Permitted	0.25	1.00		0.33	1.00		0.71	1.00		0.66	1.00	1.00
Satd. Flow (perm)	473	3460		619	3477		1323	1802		1246	1827	1523
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	48	681	106	64	856	101	165	112	48	74	69	53
RTOR Reduction (vph)	0	13	0	0	10	0	0	17	0	0	0	39
Lane Group Flow (vph)	48	774	0	64	947	0	165	143	0	74	69	14
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	29.1	29.1		29.1	29.1		13.8	13.8		13.8	13.8	13.8
Effective Green, g (s)	30.1	30.1		30.1	30.1		14.8	14.8		14.8	14.8	14.8
Actuated g/C Ratio	0.55	0.55		0.55	0.55		0.27	0.27		0.27	0.27	0.27
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	262	1917		343	1927		360	491		339	497	415
v/s Ratio Prot		0.22			c0.27			0.08			0.04	
v/s Ratio Perm	0.10			0.10			c0.12			0.06		0.01
v/c Ratio	0.18	0.40		0.19	0.49		0.46	0.29		0.22	0.14	0.03
Uniform Delay, d1	6.0	6.9		6.0	7.4		16.4	15.6		15.3	14.9	14.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.8	0.3		0.6	0.5		1.3	0.5		0.4	0.2	0.0
Delay (s)	6.8	7.3		6.7	7.9		17.7	16.1		15.7	15.1	14.6
Level of Service	A	A		A	A		B	B		B	B	B
Approach Delay (s)		7.3			7.8			16.9			15.2	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	54.3	Sum of lost time (s)	9.4
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

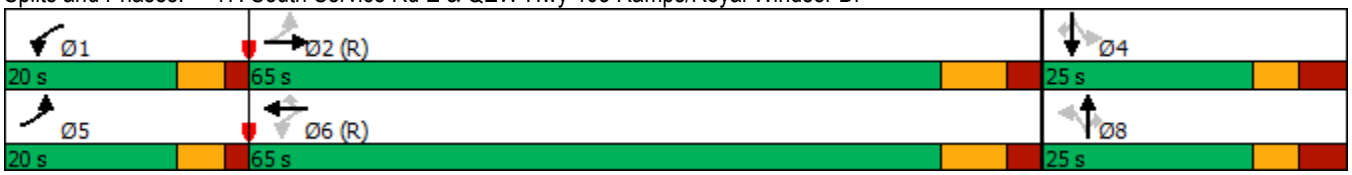


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	790	30	170	765	5	50	15	225	0	45	40
Future Volume (vph)	5	790	30	170	765	5	50	15	225	0	45	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	125.0		0.0	145.0		55.0	15.0		40.0	35.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												0.98
Frt		0.995				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3502	3386	0	1752	3505	1615	1656	1900	1599	1900	1712	1615
Flt Permitted	0.336			0.258			0.725					
Satd. Flow (perm)	1238	3386	0	476	3505	1615	1264	1900	1599	1900	1712	1585
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				107			247			113
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		232.7			227.3			1164.2			153.5	
Travel Time (s)		16.8			16.4			83.8			11.1	
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	6%	8%	3%	3%	0%	9%	0%	1%	0%	11%	0%
Adj. Flow (vph)	5	868	33	187	841	5	55	16	247	0	49	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	901	0	187	841	5	55	16	247	0	49	44
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

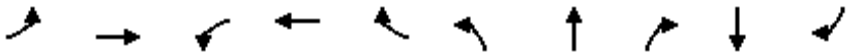
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	8.0	20.0		8.0	20.0	20.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	14.0	28.4		14.0	28.4	28.4	17.8	17.8	17.8	17.8	17.8	17.8
Total Split (s)	20.0	65.0		20.0	65.0	65.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	18.2%	59.1%		18.2%	59.1%	59.1%	22.7%	22.7%	22.7%	22.7%	22.7%	22.7%
Maximum Green (s)	14.0	56.6		14.0	56.6	56.6	17.2	17.2	17.2	17.2	17.2	17.2
Yellow Time (s)	4.0	5.4		4.0	5.4	5.4	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.0	3.0		2.0	3.0	3.0	4.1	4.1	4.1	4.1	4.1	4.1
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	78.1	66.7		85.8	80.6	80.6	12.4	12.4	12.4		12.4	12.4
Actuated g/C Ratio	0.71	0.61		0.78	0.73	0.73	0.11	0.11	0.11		0.11	0.11
v/c Ratio	0.00	0.44		0.37	0.33	0.00	0.39	0.08	0.62		0.26	0.16
Control Delay	3.6	13.0		5.3	6.4	0.0	53.0	43.4	12.9		47.4	1.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	3.6	13.0		5.3	6.4	0.0	53.0	43.4	12.9		47.4	1.2
LOS	A	B		A	A	A	D	D	B		D	A
Approach Delay		13.0			6.2			21.4			25.6	
Approach LOS		B			A			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 11.6		Intersection LOS: B	
Intersection Capacity Utilization 57.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr

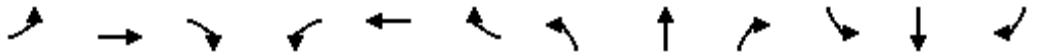


17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	5	901	187	841	5	55	16	247	49	44
v/c Ratio	0.00	0.44	0.37	0.33	0.00	0.39	0.08	0.62	0.26	0.16
Control Delay	3.6	13.0	5.3	6.4	0.0	53.0	43.4	12.9	47.4	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.6	13.0	5.3	6.4	0.0	53.0	43.4	12.9	47.4	1.2
Queue Length 50th (m)	0.1	50.9	7.9	24.9	0.0	11.9	3.3	0.0	10.4	0.0
Queue Length 95th (m)	0.5	81.2	16.3	62.2	0.0	24.3	9.9	23.3	21.7	0.0
Internal Link Dist (m)		208.7		203.3			1140.2		129.5	
Turn Bay Length (m)	125.0		145.0		55.0	15.0		40.0		
Base Capacity (vph)	1251	2055	547	2569	1212	209	314	470	283	356
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.44	0.34	0.33	0.00	0.26	0.05	0.53	0.17	0.12

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	790	30	170	765	5	50	15	225	0	45	40
Future Volume (vph)	5	790	30	170	765	5	50	15	225	0	45	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8		6.8	6.8
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	3502	3385		1752	3505	1615	1656	1900	1599		1712	1580
Flt Permitted	0.34	1.00		0.26	1.00	1.00	0.73	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1237	3385		477	3505	1615	1264	1900	1599		1712	1580
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	5	868	33	187	841	5	55	16	247	0	49	44
RTOR Reduction (vph)	0	2	0	0	0	2	0	0	219	0	0	39
Lane Group Flow (vph)	5	899	0	187	841	3	55	16	28	0	49	5
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	0%	6%	8%	3%	3%	0%	9%	0%	1%	0%	11%	0%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	67.3	65.7		82.4	74.8	74.8	11.4	11.4	11.4		11.4	11.4
Effective Green, g (s)	69.3	66.7		83.4	75.8	75.8	12.4	12.4	12.4		12.4	12.4
Actuated g/C Ratio	0.63	0.61		0.76	0.69	0.69	0.11	0.11	0.11		0.11	0.11
Clearance Time (s)	6.0	8.4		6.0	8.4	8.4	7.8	7.8	7.8		7.8	7.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	832	2052		497	2415	1112	142	214	180		192	178
v/s Ratio Prot	0.00	c0.27		c0.04	0.24			0.01			0.03	
v/s Ratio Perm	0.00			0.25		0.00	c0.04		0.02			0.00
v/c Ratio	0.01	0.44		0.38	0.35	0.00	0.39	0.07	0.15		0.26	0.03
Uniform Delay, d1	7.5	11.6		4.7	7.0	5.3	45.3	43.7	44.1		44.6	43.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.7		0.5	0.4	0.0	1.8	0.1	0.4		0.7	0.1
Delay (s)	7.5	12.3		5.2	7.4	5.3	47.0	43.8	44.5		45.3	43.5
Level of Service	A	B		A	A	A	D	D	D		D	D
Approach Delay (s)		12.3			7.0			44.9			44.4	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	60	0	85	120	0
Future Volume (vph)	50	60	0	85	120	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.926					
Flt Protected					0.950	
Satd. Flow (prot)	1725	0	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1725	0	0	1863	1770	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	64.3			219.4	105.4	
Travel Time (s)	4.6			15.8	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	65	0	92	130	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	119	0	0	92	130	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	50	60	0	85	120	0
Future Volume (Veh/h)	50	60	0	85	120	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	65	0	92	130	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			119		178	86
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			119		178	86
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		84	100
cM capacity (veh/h)			1469		811	972

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	119	92	130
Volume Left	0	0	130
Volume Right	65	0	0
cSH	1700	1469	811
Volume to Capacity	0.07	0.00	0.16
Queue Length 95th (m)	0.0	0.0	4.6
Control Delay (s)	0.0	0.0	10.3
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.3
Approach LOS			B

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	0	120	85	0	60
Future Volume (vph)	50	0	120	85	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.972		
Satd. Flow (prot)	1863	0	0	1811	1611	0
Flt Permitted				0.972		
Satd. Flow (perm)	1863	0	0	1811	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	53.7			64.3	43.5	
Travel Time (s)	3.9			4.6	3.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	0	130	92	0	65
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	0	222	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	50	0	120	85	0	60
Future Volume (Veh/h)	50	0	120	85	0	60
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	0	130	92	0	65
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			54		406	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			54		406	54
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		100	94
cM capacity (veh/h)			1551		551	1013

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	54	222	65
Volume Left	0	130	0
Volume Right	0	0	65
cSH	1700	1551	1013
Volume to Capacity	0.03	0.08	0.06
Queue Length 95th (m)	0.0	2.2	1.6
Control Delay (s)	0.0	4.7	8.8
Lane LOS		A	A
Approach Delay (s)	0.0	4.7	8.8
Approach LOS			A

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	28.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	195	0	40	385	80	15
Future Volume (vph)	195	0	40	385	80	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.979	
Flt Protected				0.995	0.959	
Satd. Flow (prot)	1863	0	0	1853	1749	0
Flt Permitted				0.995	0.959	
Satd. Flow (perm)	1863	0	0	1853	1749	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	216.0			632.0	87.0	
Travel Time (s)	15.6			45.5	6.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	212	0	43	418	87	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	212	0	0	461	103	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

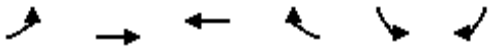
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 48.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	195	0	40	385	80	15
Future Volume (Veh/h)	195	0	40	385	80	15
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	212	0	43	418	87	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			212		716	212
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			212		716	212
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		77	98
cM capacity (veh/h)			1358		384	828

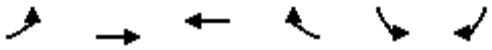
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	212	461	103
Volume Left	0	43	87
Volume Right	0	0	16
cSH	1700	1358	419
Volume to Capacity	0.12	0.03	0.25
Queue Length 95th (m)	0.0	0.8	7.6
Control Delay (s)	0.0	1.0	16.4
Lane LOS		A	C
Approach Delay (s)	0.0	1.0	16.4
Approach LOS			C

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	48.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	120	110	10	50	30	10
Future Volume (vph)	120	110	10	50	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.888		0.966	
Flt Protected		0.975			0.964	
Satd. Flow (prot)	0	1816	1654	0	1735	0
Flt Permitted		0.975			0.964	
Satd. Flow (perm)	0	1816	1654	0	1735	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		249.8	119.8		103.6	
Travel Time (s)		18.0	8.6		7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	120	11	54	33	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	250	65	0	44	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	120	110	10	50	30	10
Future Volume (Veh/h)	120	110	10	50	30	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	130	120	11	54	33	11
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	65				418	38
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	65				418	38
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				94	99
cM capacity (veh/h)	1537				541	1034

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	250	65	44
Volume Left	130	0	33
Volume Right	0	54	11
cSH	1537	1700	615
Volume to Capacity	0.08	0.04	0.07
Queue Length 95th (m)	2.2	0.0	1.8
Control Delay (s)	4.3	0.0	11.3
Lane LOS	A		B
Approach Delay (s)	4.3	0.0	11.3
Approach LOS			B

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	29.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	20	50	50	120	20	20
Future Volume (vph)	20	50	50	120	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.904		0.905			
Flt Protected	0.986					0.976
Satd. Flow (prot)	1660	0	1686	0	0	1818
Flt Permitted	0.986					0.976
Satd. Flow (perm)	1660	0	1686	0	0	1818
Link Speed (k/h)	50		50			50
Link Distance (m)	41.9		103.6			87.0
Travel Time (s)	3.0		7.5			6.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	54	54	130	22	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	76	0	184	0	0	44
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100		100	100	
Sign Control	Stop		Free			Free

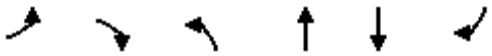
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.5%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	20	50	50	120	20	20
Future Volume (Veh/h)	20	50	50	120	20	20
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	54	54	130	22	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	185	119			184	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	185	119			184	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	94			98	
cM capacity (veh/h)	792	933			1391	

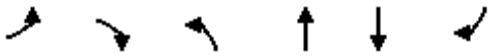
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	76	184	44
Volume Left	22	0	22
Volume Right	54	130	0
cSH	887	1700	1391
Volume to Capacity	0.09	0.11	0.02
Queue Length 95th (m)	2.2	0.0	0.4
Control Delay (s)	9.4	0.0	3.9
Lane LOS	A		A
Approach Delay (s)	9.4	0.0	3.9
Approach LOS	A		

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	70	130	120	60	0
Future Volume (vph)	0	70	130	120	60	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.975		
Satd. Flow (prot)	1611	0	0	1816	1863	0
Flt Permitted				0.975		
Satd. Flow (perm)	1611	0	0	1816	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	49.0			201.6	105.4	
Travel Time (s)	3.5			14.5	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	76	141	130	65	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	76	0	0	271	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

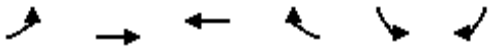
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	70	130	120	60	0
Future Volume (Veh/h)	0	70	130	120	60	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	76	141	130	65	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				201		
pX, platoon unblocked						
vC, conflicting volume	477	65	65			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	477	65	65			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	92	91			
cM capacity (veh/h)	497	999	1537			

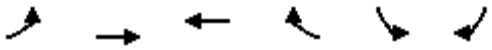
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	76	271	65
Volume Left	0	141	0
Volume Right	76	0	0
cSH	999	1537	1700
Volume to Capacity	0.08	0.09	0.04
Queue Length 95th (m)	2.0	2.4	0.0
Control Delay (s)	8.9	4.3	0.0
Lane LOS	A	A	
Approach Delay (s)	8.9	4.3	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	31.2%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	135	0	0	0	5	65
Future Volume (vph)	135	0	0	0	5	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.874	
Flt Protected		0.950			0.997	
Satd. Flow (prot)	0	1770	1863	0	1623	0
Flt Permitted		0.950			0.997	
Satd. Flow (perm)	0	1770	1863	0	1623	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		119.8	134.5		44.9	
Travel Time (s)		8.6	9.7		3.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	147	0	0	0	5	71
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	147	0	0	76	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	135	0	0	0	5	65
Future Volume (Veh/h)	135	0	0	0	5	65
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	147	0	0	0	5	71
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0				294	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				294	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				99	93
cM capacity (veh/h)	1623				634	1085

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	147	0	76
Volume Left	147	0	5
Volume Right	0	0	71
cSH	1623	1700	1036
Volume to Capacity	0.09	0.00	0.07
Queue Length 95th (m)	2.4	0.0	1.9
Control Delay (s)	7.4	0.0	8.7
Lane LOS	A		A
Approach Delay (s)	7.4	0.0	8.7
Approach LOS			A

Intersection Summary			
Average Delay	7.9		
Intersection Capacity Utilization	18.4%	ICU Level of Service	A
Analysis Period (min)	15		

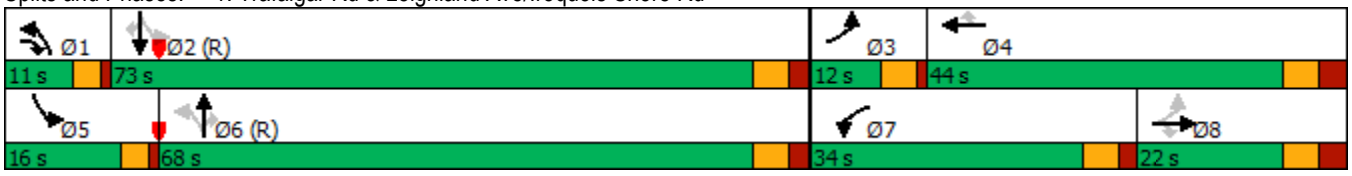
6) 2036 Future Background Traffic Conditions (Without Corridor Growth)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	100	335	685	55	120	145	1170	775	195	2070	50
Future Volume (vph)	35	100	335	685	55	120	145	1170	775	195	2070	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.96					0.95			0.97	1.00		0.93
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1863	1568	3367	1827	1553	1719	4988	1568	1787	5085	1524
Flt Permitted	0.720			0.950			0.062			0.157		
Satd. Flow (perm)	1277	1863	1568	3367	1827	1470	112	4988	1525	295	5085	1424
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136			123			707			142
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			521.8			275.4			339.2	
Travel Time (s)		27.7			37.6			19.8			24.4	
Confl. Peds. (#/hr)	35					35	35		10	10		35
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Adj. Flow (vph)	35	101	338	692	56	121	146	1182	783	197	2091	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	101	338	692	56	121	146	1182	783	197	2091	51
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

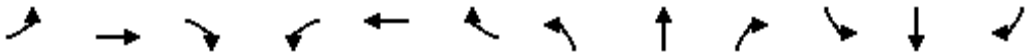
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	11.0	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	12.0	22.0	11.0	34.0	44.0	44.0	11.0	68.0	68.0	16.0	73.0	73.0
Total Split (%)	8.6%	15.7%	7.9%	24.3%	31.4%	31.4%	7.9%	48.6%	48.6%	11.4%	52.1%	52.1%
Maximum Green (s)	7.3	15.2	7.0	28.3	37.2	37.2	7.0	61.9	61.9	12.0	66.9	66.9
Yellow Time (s)	3.7	3.7	3.0	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	1.0	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					20	20		25	25		25	25
Act Effct Green (s)	24.1	13.8	30.0	29.3	38.3	38.3	78.4	66.0	66.0	81.4	67.9	67.9
Actuated g/C Ratio	0.17	0.10	0.21	0.21	0.27	0.27	0.56	0.47	0.47	0.58	0.48	0.48
v/c Ratio	0.14	0.55	0.76	0.98	0.11	0.25	0.80	0.50	0.72	0.65	0.85	0.07
Control Delay	32.6	71.4	42.8	84.7	39.7	7.4	63.2	19.5	13.8	23.9	35.7	0.2
Queue Delay	0.0	0.0	6.1	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.3	0.0
Total Delay	32.6	71.4	48.9	84.7	39.7	7.4	63.2	19.5	14.2	23.9	36.0	0.2
LOS	C	E	D	F	D	A	E	B	B	C	D	A
Approach Delay		52.5			71.1			20.6			34.2	
Approach LOS		D			E			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 36.3		Intersection LOS: D	
Intersection Capacity Utilization 91.8%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



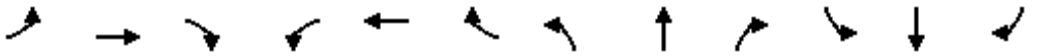
1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	35	101	338	692	56	121	146	1182	783	197	2091	51
v/c Ratio	0.14	0.55	0.76	0.98	0.11	0.25	0.80	0.50	0.72	0.65	0.85	0.07
Control Delay	32.6	71.4	42.8	84.7	39.7	7.4	63.2	19.5	13.8	23.9	35.7	0.2
Queue Delay	0.0	0.0	6.1	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.3	0.0
Total Delay	32.6	71.4	48.9	84.7	39.7	7.4	63.2	19.5	14.2	23.9	36.0	0.2
Queue Length 50th (m)	6.7	28.5	57.2	104.5	12.6	0.0	27.6	88.3	107.8	25.0	191.0	0.0
Queue Length 95th (m)	14.4	48.0	96.0	#145.7	23.9	15.4	#71.9	97.1	223.2	39.7	212.8	0.0
Internal Link Dist (m)		361.1			497.8			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	248	215	442	704	516	503	182	2352	1092	313	2466	763
Starvation Cap Reductn	0	0	0	0	0	0	0	0	69	0	0	0
Spillback Cap Reductn	0	0	64	0	0	0	0	0	0	0	71	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.47	0.89	0.98	0.11	0.24	0.80	0.50	0.77	0.63	0.87	0.07

Intersection Summary

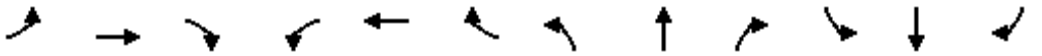
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	100	335	685	55	120	145	1170	775	195	2070	50
Future Volume (vph)	35	100	335	685	55	120	145	1170	775	195	2070	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.97	1.00	1.00	0.93
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1704	1863	1568	3367	1827	1470	1719	4988	1525	1787	5085	1424
Flt Permitted	0.72	1.00	1.00	0.95	1.00	1.00	0.06	1.00	1.00	0.16	1.00	1.00
Satd. Flow (perm)	1293	1863	1568	3367	1827	1470	111	4988	1525	296	5085	1424
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	35	101	338	692	56	121	146	1182	783	197	2091	51
RTOR Reduction (vph)	0	0	112	0	0	88	0	0	379	0	0	27
Lane Group Flow (vph)	35	101	226	692	56	33	146	1182	404	197	2091	24
Confl. Peds. (#/hr)	35					35	35		10	10		35
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	19.6	13.8	23.2	28.3	37.3	37.3	73.4	64.0	64.0	77.2	65.9	65.9
Effective Green, g (s)	21.6	14.8	25.2	29.3	38.3	38.3	75.4	65.0	65.0	79.2	66.9	66.9
Actuated g/C Ratio	0.15	0.11	0.18	0.21	0.27	0.27	0.54	0.46	0.46	0.57	0.48	0.48
Clearance Time (s)	4.7	6.8	4.0	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	219	196	282	704	499	402	179	2315	708	298	2429	680
v/s Ratio Prot	0.01	0.05	c0.06	c0.21	0.03		c0.06	0.24		c0.06	c0.41	
v/s Ratio Perm	0.02		0.08			0.02	0.38		0.27	0.32		0.02
v/c Ratio	0.16	0.52	0.80	0.98	0.11	0.08	0.82	0.51	0.57	0.66	0.86	0.04
Uniform Delay, d1	51.1	59.2	55.0	55.1	38.1	37.8	36.1	26.3	27.3	17.6	32.4	19.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.24	0.72	2.96	1.00	1.00	1.00
Incremental Delay, d2	0.3	2.3	15.1	29.5	0.1	0.1	21.1	0.7	2.8	5.4	4.3	0.1
Delay (s)	51.5	61.5	70.1	84.6	38.2	37.9	65.7	19.7	83.7	23.1	36.7	19.5
Level of Service	D	E	E	F	D	D	E	B	F	C	D	B
Approach Delay (s)		66.9			75.1			46.6			35.2	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	47.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	91.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

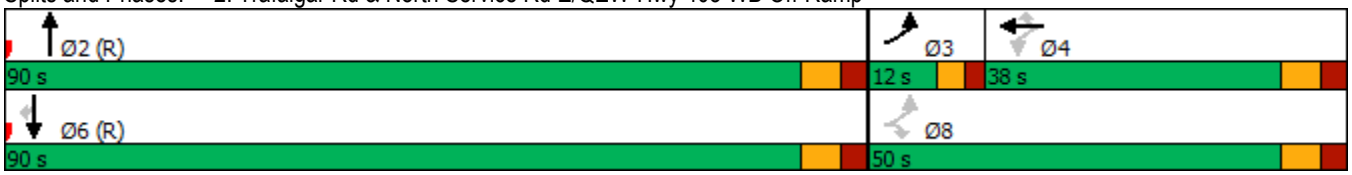


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	380	0	200	0	1900	0	0	3130	5
Future Volume (vph)	5	0	225	380	0	200	0	1900	0	0	3130	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.96
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.950							
Satd. Flow (prot)	1805	0	1599	1649	1649	1568	0	4988	0	0	5036	1615
Flt Permitted	0.340			0.950	0.950							
Satd. Flow (perm)	646	0	1599	1649	1649	1568	0	4988	0	0	5036	1543
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			93						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							10		5	5		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Adj. Flow (vph)	5	0	232	392	0	206	0	1959	0	0	3227	5
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	5	0	232	196	196	206	0	1959	0	0	3227	5
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

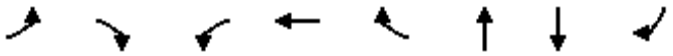
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	12.0		50.0	38.0	38.0	38.0		90.0			90.0	90.0
Total Split (%)	8.6%		35.7%	27.1%	27.1%	27.1%		64.3%			64.3%	64.3%
Maximum Green (s)	7.0		43.0	31.0	31.0	31.0		83.0			83.0	83.0
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		10			10	10
Act Effct Green (s)	28.7		26.7	24.3	24.3	24.3		101.3			101.3	101.3
Actuated g/C Ratio	0.20		0.19	0.17	0.17	0.17		0.72			0.72	0.72
v/c Ratio	0.03		0.70	0.69	0.69	0.59		0.54			0.89	0.00
Control Delay	37.8		55.8	65.9	65.9	34.8		8.2			24.8	0.0
Queue Delay	0.0		0.0	0.0	0.0	0.0		0.0			0.9	0.0
Total Delay	37.8		55.8	65.9	65.9	34.8		8.2			25.8	0.0
LOS	D		E	E	E	C		A			C	A
Approach Delay		55.5			55.2			8.2			25.7	
Approach LOS		E			E			A			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 24.1		Intersection LOS: C	
Intersection Capacity Utilization 99.9%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp



2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp

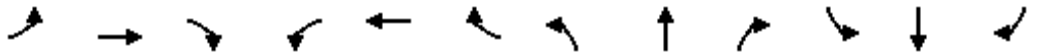


Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	5	232	196	196	206	1959	3227	5
v/c Ratio	0.03	0.70	0.69	0.69	0.59	0.54	0.89	0.00
Control Delay	37.8	55.8	65.9	65.9	34.8	8.2	24.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0
Total Delay	37.8	55.8	65.9	65.9	34.8	8.2	25.8	0.0
Queue Length 50th (m)	1.2	56.5	56.7	56.7	30.1	73.8	244.1	0.0
Queue Length 95th (m)	4.4	73.3	81.7	81.7	54.6	94.7	m#394.2	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	198	523	376	376	430	3607	3642	1135
Starvation Cap Reductn	0	0	0	0	0	0	186	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.44	0.52	0.52	0.48	0.54	0.93	0.00

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

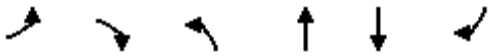
m Volume for 95th percentile queue is metered by upstream signal.



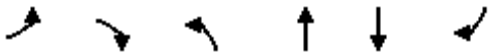
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	380	0	200	0	1900	0	0	3130	5
Future Volume (vph)	5	0	225	380	0	200	0	1900	0	0	3130	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.96
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1649	1649	1568		4988			5036	1543
Flt Permitted	0.34		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	647		1599	1649	1649	1568		4988			5036	1543
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	5	0	232	392	0	206	0	1959	0	0	3227	5
RTOR Reduction (vph)	0	0	24	0	0	77	0	0	0	0	0	2
Lane Group Flow (vph)	5	0	208	196	196	129	0	1959	0	0	3227	3
Confl. Peds. (#/hr)							10		5	5		10
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	29.7		29.7	23.3	23.3	23.3		96.3			96.3	96.3
Effective Green, g (s)	30.7		30.7	24.3	24.3	24.3		97.3			97.3	97.3
Actuated g/C Ratio	0.22		0.22	0.17	0.17	0.17		0.69			0.69	0.69
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	161		350	286	286	272		3466			3500	1072
v/s Ratio Prot	0.00							0.39			c0.64	
v/s Ratio Perm	0.01		c0.13	c0.12	0.12	0.08						0.00
v/c Ratio	0.03		0.59	0.69	0.69	0.47		0.57			0.92	0.00
Uniform Delay, d1	43.4		49.1	54.3	54.3	52.1		10.7			18.1	6.5
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.76			1.42	1.00
Incremental Delay, d2	0.1		2.9	6.7	6.7	1.3		0.5			2.9	0.0
Delay (s)	43.5		51.9	60.9	60.9	53.4		8.7			28.6	6.5
Level of Service	D		D	E	E	D		A			C	A
Approach Delay (s)		51.7			58.3			8.7			28.6	
Approach LOS		D			E			A			C	

Intersection Summary			
HCM 2000 Control Delay	26.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	99.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



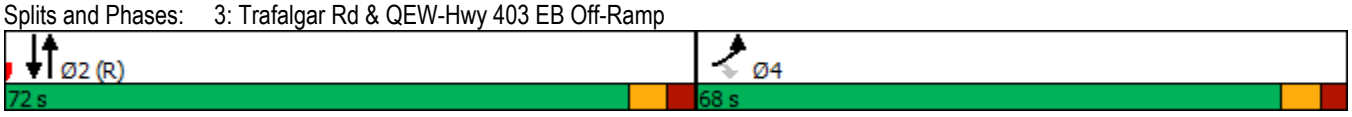
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	885	625	0	1465	2200	0
Future Volume (vph)	885	625	0	1465	2200	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3433	1583	0	4940	5036	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	*1800	0	4940	5036	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		1				
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			45.3	331.3	
Travel Time (s)	15.4			3.3	23.9	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Adj. Flow (vph)	903	638	0	1495	2245	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	903	638	0	1495	2245	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	68.0	68.0		72.0	72.0	
Total Split (%)	48.6%	48.6%		51.4%	51.4%	
Maximum Green (s)	61.0	61.0		65.0	65.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		10	10	
Act Effct Green (s)	56.6	56.6		71.4	71.4	
Actuated g/C Ratio	0.40	0.40		0.51	0.51	
v/c Ratio	0.65	0.88		0.59	0.87	
Control Delay	35.7	52.3		23.4	29.8	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	35.7	52.3		23.4	29.8	
LOS	D	D		C	C	
Approach Delay	42.5			23.4	29.8	
Approach LOS	D			C	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 31.7		Intersection LOS: C	
Intersection Capacity Utilization 91.2%		ICU Level of Service F	
Analysis Period (min) 15			
* User Entered Value			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



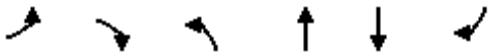
3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	903	638	1495	2245
v/c Ratio	0.65	0.88	0.59	0.87
Control Delay	35.7	52.3	23.4	29.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	35.7	52.3	23.4	29.8
Queue Length 50th (m)	105.9	165.6	71.2	180.1
Queue Length 95th (m)	122.8	212.1	m78.9	#226.5
Internal Link Dist (m)	190.2		21.3	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1520	797	2519	2568
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.59	0.80	0.59	0.87

Intersection Summary

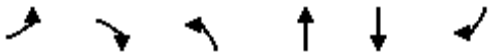
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	885	625	0	1465	2200	0
Future Volume (vph)	885	625	0	1465	2200	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	1583		4940	5036	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	1800		4940	5036	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	903	638	0	1495	2245	0
RTOR Reduction (vph)	0	1	0	0	0	0
Lane Group Flow (vph)	903	637	0	1495	2245	0
Confl. Peds. (#/hr)			10			10
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	55.6	55.6		70.4	70.4	
Effective Green, g (s)	56.6	56.6		71.4	71.4	
Actuated g/C Ratio	0.40	0.40		0.51	0.51	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1387	727		2519	2568	
v/s Ratio Prot	0.26			0.30	c0.45	
v/s Ratio Perm		c0.35				
v/c Ratio	0.65	0.88		0.59	0.87	
Uniform Delay, d1	33.7	38.5		24.1	30.3	
Progression Factor	1.00	1.00		0.90	0.86	
Incremental Delay, d2	1.1	11.5		0.7	2.5	
Delay (s)	34.8	50.0		22.5	28.6	
Level of Service	C	D		C	C	
Approach Delay (s)	41.1			22.5	28.6	
Approach LOS	D			C	C	

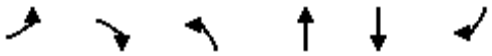
Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	40	0	1630	2155	680
Future Volume (vph)	0	40	0	1630	2155	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.964	
Flt Protected						
Satd. Flow (prot)	0	1565	0	4940	4855	0
Flt Permitted						
Satd. Flow (perm)	0	1565	0	4940	4855	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	144.9			271.4	45.3	
Travel Time (s)	10.4			19.5	3.3	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	5%	0%	5%	3%	3%
Adj. Flow (vph)	0	43	0	1753	2317	731
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	43	0	1753	3048	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 67.1%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	40	0	1630	2155	680
Future Volume (Veh/h)	0	40	0	1630	2155	680
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	43	0	1753	2317	731
Pedestrians	10					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				271	45	
pX, platoon unblocked	0.68	0.60	0.60			
vC, conflicting volume	3277	1148	3058			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1153	0	2105			
tC, single (s)	6.8	7.0	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	93	100			
cM capacity (veh/h)	131	642	158			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	43	584	584	584	927	927	1194
Volume Left	0	0	0	0	0	0	0
Volume Right	43	0	0	0	0	0	731
cSH	642	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.07	0.34	0.34	0.34	0.55	0.55	0.70
Queue Length 95th (m)	1.7	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	11.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	11.0	0.0			0.0		
Approach LOS	B						

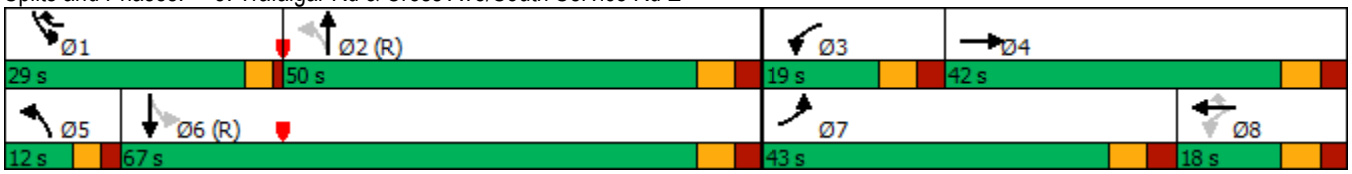
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	67.1%	ICU Level of Service		C
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	790	75	150	65	60	145	110	1180	35	190	1450	440
Future Volume (vph)	790	75	150	65	60	145	110	1180	35	190	1450	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		0.0	50.0		0.0	120.0		0.0	55.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.99		1.00				1.00			0.99	
Frt		0.900				0.850		0.996			0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3273	1594	0	1736	1810	1553	1671	5013	0	1736	4845	0
Flt Permitted	0.950			0.614			0.071			0.120		
Satd. Flow (perm)	3273	1594	0	1117	1810	1553	125	5013	0	219	4845	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		70				140		3			69	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		217.0			420.1			277.9			271.4	
Travel Time (s)		15.6			30.2			20.0			19.5	
Confl. Peds. (#/hr)			5	5			15		5	5		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Adj. Flow (vph)	814	77	155	67	62	149	113	1216	36	196	1495	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	814	232	0	67	62	149	113	1252	0	196	1949	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		12.0	10.0	7.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0		19.0	17.0	11.0	12.0	34.0		11.0	34.0	
Total Split (s)	43.0	42.0		19.0	18.0	29.0	12.0	50.0		29.0	67.0	
Total Split (%)	30.7%	30.0%		13.6%	12.9%	20.7%	8.6%	35.7%		20.7%	47.9%	
Maximum Green (s)	36.0	35.0		12.0	11.0	25.0	7.0	43.0		25.0	60.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	1.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0						7.0			7.0	
Flash Dont Walk (s)		28.0						20.0			20.0	
Pedestrian Calls (#/hr)		5						10			10	
Act Effct Green (s)	36.6	35.6		22.4	11.6	30.7	67.9	57.6		79.5	64.9	
Actuated g/C Ratio	0.26	0.25		0.16	0.08	0.22	0.48	0.41		0.57	0.46	
v/c Ratio	0.95	0.51		0.29	0.41	0.33	0.74	0.61		0.65	0.85	
Control Delay	71.5	35.0		34.9	69.7	8.9	52.2	36.4		37.1	39.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	71.5	35.0		34.9	69.7	8.9	52.2	36.4		37.1	39.5	
LOS	E	C		C	E	A	D	D		D	D	
Approach Delay		63.4			28.7			37.7			39.3	
Approach LOS		E			C			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 43.5		Intersection LOS: D	
Intersection Capacity Utilization 93.5%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 5: Trafalgar Rd & Cross Ave/South Service Rd E



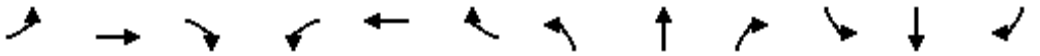
5: Trafalgar Rd & Cross Ave/South Service Rd E



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	814	232	67	62	149	113	1252	196	1949
v/c Ratio	0.95	0.51	0.29	0.41	0.33	0.74	0.61	0.65	0.85
Control Delay	71.5	35.0	34.9	69.7	8.9	52.2	36.4	37.1	39.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.5	35.0	34.9	69.7	8.9	52.2	36.4	37.1	39.5
Queue Length 50th (m)	120.3	40.2	12.2	17.4	2.0	23.5	90.9	38.8	150.9
Queue Length 95th (m)	#160.3	68.0	23.1	33.3	18.6	m#33.5	m106.2	m49.5	175.3
Internal Link Dist (m)		193.0		396.1			253.9		247.4
Turn Bay Length (m)	130.0		50.0			120.0		55.0	
Base Capacity (vph)	865	461	235	155	545	152	2065	407	2281
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.50	0.29	0.40	0.27	0.74	0.61	0.48	0.85

Intersection Summary

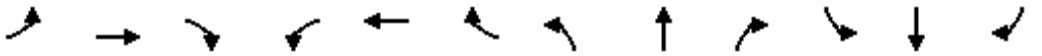
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	790	75	150	65	60	145	110	1180	35	190	1450	440
Future Volume (vph)	790	75	150	65	60	145	110	1180	35	190	1450	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.90		1.00	1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3273	1593		1731	1810	1553	1671	5011		1735	4846	
Flt Permitted	0.95	1.00		0.61	1.00	1.00	0.07	1.00		0.12	1.00	
Satd. Flow (perm)	3273	1593		1119	1810	1553	125	5011		219	4846	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	814	77	155	67	62	149	113	1216	36	196	1495	454
RTOR Reduction (vph)	0	52	0	0	0	114	0	2	0	0	38	0
Lane Group Flow (vph)	814	180	0	67	62	35	113	1250	0	196	1911	0
Confl. Peds. (#/hr)			5	5			15		5	5		15
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Actuated Green, G (s)	35.6	34.6		18.2	8.6	24.1	62.6	55.3		74.8	62.5	
Effective Green, g (s)	36.6	35.6		20.2	9.6	26.1	64.6	56.3		75.8	63.5	
Actuated g/C Ratio	0.26	0.25		0.14	0.07	0.19	0.46	0.40		0.54	0.45	
Clearance Time (s)	7.0	7.0		7.0	7.0	4.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	855	405		207	124	289	149	2015		297	2198	
v/s Ratio Prot	c0.25	c0.11		0.02	0.03	0.01	0.04	0.25		c0.08	c0.39	
v/s Ratio Perm				0.02		0.01	0.30			0.28		
v/c Ratio	0.95	0.44		0.32	0.50	0.12	0.76	0.62		0.66	0.87	
Uniform Delay, d1	50.8	43.9		53.3	62.9	47.4	28.9	33.3		21.4	34.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.13	1.03		1.63	1.11	
Incremental Delay, d2	20.0	1.1		1.1	4.3	0.2	13.2	0.9		3.1	3.0	
Delay (s)	70.8	44.9		54.4	67.2	47.6	45.8	35.3		37.9	41.3	
Level of Service	E	D		D	E	D	D	D		D	D	
Approach Delay (s)		65.1			53.6			36.2			41.0	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	45.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



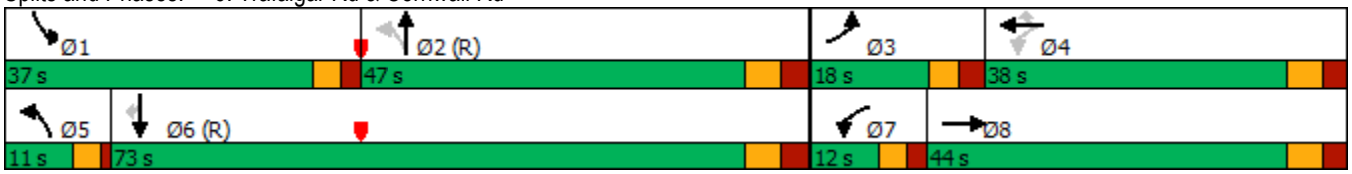
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	430	70	30	355	640	50	405	55	670	645	385
Future Volume (vph)	300	430	70	30	355	640	50	405	55	670	645	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.98	0.99		0.99		0.95	0.99	1.00		0.99		0.96
Frt		0.979				0.850		0.982				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3367	3322	0	1736	3438	1553	1770	3450	0	3400	1881	1553
Flt Permitted	0.950			0.455			0.299			0.950		
Satd. Flow (perm)	3299	3322	0	819	3438	1483	553	3450	0	3365	1881	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				486		11				324
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			277.9	
Travel Time (s)		41.4			45.2			10.0			20.0	
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Adj. Flow (vph)	313	448	73	31	370	667	52	422	57	698	672	401
Shared Lane Traffic (%)												
Lane Group Flow (vph)	313	521	0	31	370	667	52	479	0	698	672	401
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

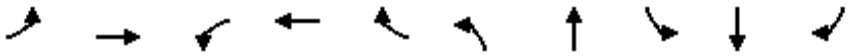
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	18.0	44.0		12.0	38.0	38.0	11.0	47.0		37.0	73.0	73.0
Total Split (%)	12.9%	31.4%		8.6%	27.1%	27.1%	7.9%	33.6%		26.4%	52.1%	52.1%
Maximum Green (s)	12.3	37.6		7.0	31.6	31.6	7.0	40.1		32.0	66.1	66.1
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		20			20	20		15			15	15
Act Effct Green (s)	16.6	42.7		38.5	28.8	28.8	53.0	42.1		32.5	69.7	69.7
Actuated g/C Ratio	0.12	0.30		0.28	0.21	0.21	0.38	0.30		0.23	0.50	0.50
v/c Ratio	0.78	0.51		0.11	0.52	0.97	0.19	0.46		0.89	0.72	0.44
Control Delay	75.1	47.5		28.9	51.6	41.2	18.5	41.3		80.6	31.8	9.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.1	0.0
Total Delay	75.1	47.5		28.9	51.6	41.2	18.5	41.3		80.6	31.8	9.6
LOS	E	D		C	D	D	B	D		F	C	A
Approach Delay		57.9			44.4			39.0			46.0	
Approach LOS		E			D			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 47.1 Intersection LOS: D
Intersection Capacity Utilization 93.0% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd

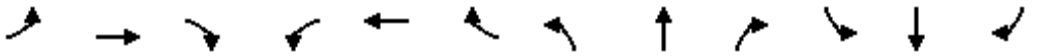




Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	313	521	31	370	667	52	479	698	672	401
v/c Ratio	0.78	0.51	0.11	0.52	0.97	0.19	0.46	0.89	0.72	0.44
Control Delay	75.1	47.5	28.9	51.6	41.2	18.5	41.3	80.6	31.8	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total Delay	75.1	47.5	28.9	51.6	41.2	18.5	41.3	80.6	31.8	9.6
Queue Length 50th (m)	46.5	66.3	5.5	49.1	62.4	6.9	61.7	111.2	99.5	22.1
Queue Length 95th (m)	#80.3	90.6	13.1	65.6	#147.7	12.6	76.7 m	#133.7	m114.0	m31.1
Internal Link Dist (m)		551.4		604.3			115.4		253.9	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	400	1022	279	800	718	278	1089	806	959	922
Starvation Cap Reductn	0	0	0	0	0	0	0	0	12	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.51	0.11	0.46	0.93	0.19	0.44	0.87	0.71	0.43

Intersection Summary

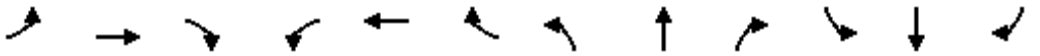
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	430	70	30	355	640	50	405	55	670	645	385
Future Volume (vph)	300	430	70	30	355	640	50	405	55	670	645	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.95	1.00	1.00		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3367	3322		1723	3438	1483	1766	3450		3400	1881	1498
Flt Permitted	0.95	1.00		0.45	1.00	1.00	0.30	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3367	3322		825	3438	1483	557	3450		3400	1881	1498
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	312	448	73	31	370	667	52	422	57	698	672	401
RTOR Reduction (vph)	0	9	0	0	0	379	0	8	0	0	0	169
Lane Group Flow (vph)	313	512	0	31	370	288	52	471	0	698	672	232
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	15.6	41.7		34.4	29.9	29.9	44.6	39.0		31.5	65.9	65.9
Effective Green, g (s)	16.6	42.7		36.4	30.9	30.9	46.6	40.0		32.5	66.9	66.9
Actuated g/C Ratio	0.12	0.31		0.26	0.22	0.22	0.33	0.29		0.23	0.48	0.48
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Lane Grp Cap (vph)	399	1013		249	758	327	242	985		789	898	715
v/s Ratio Prot	c0.09	0.15		0.00	0.11		0.01	0.14		c0.21	c0.36	
v/s Ratio Perm				0.03		c0.19	0.06					0.15
v/c Ratio	0.78	0.51		0.12	0.49	0.88	0.21	0.48		0.88	0.75	0.32
Uniform Delay, d1	60.0	40.0		39.0	47.6	52.8	32.5	41.4		51.9	29.7	22.6
Progression Factor	1.03	1.15		1.00	1.00	1.00	1.00	1.00		1.38	0.97	1.77
Incremental Delay, d2	9.5	0.4		0.3	0.5	23.1	0.4	1.7		7.7	3.5	0.7
Delay (s)	71.0	46.3		39.3	48.1	75.9	33.0	43.0		79.5	32.5	40.6
Level of Service	E	D		D	D	E	C	D		E	C	D
Approach Delay (s)		55.5			65.2			42.0			52.9	
Approach LOS		E			E			D			D	

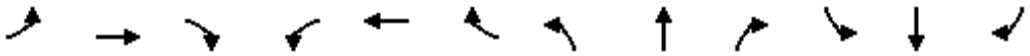
Intersection Summary			
HCM 2000 Control Delay	55.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	93.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	15	0	5	615	140	0	5	0	20	5	100
Future Volume (vph)	0	15	0	5	615	140	0	5	0	20	5	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.975						0.892	
Flt Protected											0.992	
Satd. Flow (prot)	0	1792	0	0	1813	0	0	1900	0	0	1480	0
Flt Permitted											0.992	
Satd. Flow (perm)	0	1792	0	0	1813	0	0	1900	0	0	1480	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		175.8			144.9			44.8			92.1	
Travel Time (s)		12.7			10.4			3.2			6.6	
Confl. Peds. (#/hr)			5	5					10	10		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	6%	0%	0%	2%	3%	0%	0%	0%	0%	0%	17%
Adj. Flow (vph)	0	17	0	6	691	157	0	6	0	22	6	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	17	0	0	854	0	0	6	0	0	140	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

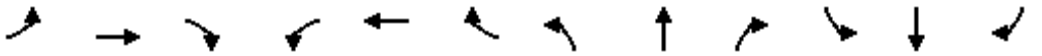
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	15	0	5	615	140	0	5	0	20	5	100
Future Volume (Veh/h)	0	15	0	5	615	140	0	5	0	20	5	100
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	17	0	6	691	157	0	6	0	22	6	112
Pedestrians					10			5				
Lane Width (m)					3.6			3.6				
Walking Speed (m/s)					1.2			1.2				
Percent Blockage					1			0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		355										
pX, platoon unblocked												
vC, conflicting volume	848			22			918	882	32	812	804	770
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	848			22			918	882	32	812	804	770
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.4
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.5
p0 queue free %	100			100			100	98	100	92	98	70
cM capacity (veh/h)	798			1600			174	285	1035	291	316	378

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	17	854	6	140
Volume Left	0	6	0	22
Volume Right	0	157	0	112
cSH	798	1600	285	358
Volume to Capacity	0.00	0.00	0.02	0.39
Queue Length 95th (m)	0.0	0.1	0.5	14.5
Control Delay (s)	0.0	0.1	17.9	21.4
Lane LOS		A	C	C
Approach Delay (s)	0.0	0.1	17.9	21.4
Approach LOS			C	C

Intersection Summary				
Average Delay	3.1			
Intersection Capacity Utilization	65.8%	ICU Level of Service	C	
Analysis Period (min)	15			

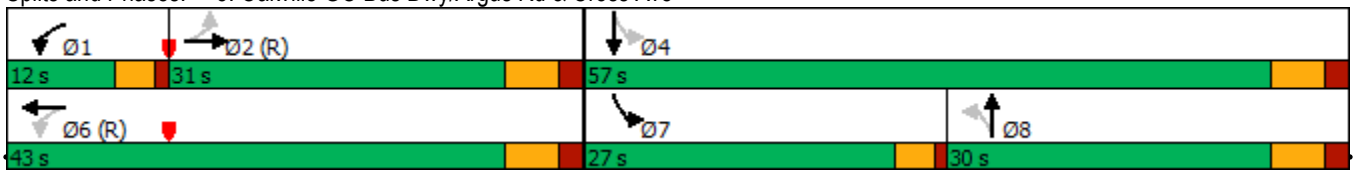


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	780	15	20	555	25	15	0	30	175	10	440
Future Volume (vph)	20	780	15	20	555	25	15	0	30	175	10	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	30.0			15.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		1.00	1.00			0.97		0.98	0.96	
Frt		0.997			0.993			0.909			0.853	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1719	3498	0	950	3533	0	0	845	0	1719	1528	0
Flt Permitted	0.426			0.250				0.780		0.727		
Satd. Flow (perm)	764	3498	0	249	3533	0	0	667	0	1285	1528	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			5			120			140	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		107.3			217.0			71.0			179.3	
Travel Time (s)		7.7			15.6			5.1			12.9	
Confl. Peds. (#/hr)	10		10	10		10	20		20	20		20
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	1%	100%	90%	1%	7%	100%	100%	94%	5%	100%	0%
Adj. Flow (vph)	21	804	15	21	572	26	15	0	31	180	10	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	819	0	21	598	0	0	46	0	180	464	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

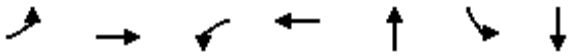
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	22.0	22.0		8.0	22.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	29.0	29.0		12.0	29.0		29.0	29.0		9.0	29.0	
Total Split (s)	31.0	31.0		12.0	43.0		30.0	30.0		27.0	57.0	
Total Split (%)	31.0%	31.0%		12.0%	43.0%		30.0%	30.0%		27.0%	57.0%	
Maximum Green (s)	25.0	25.0		8.0	37.0		24.0	24.0		23.0	51.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	5.0	5.0		2.5	5.0		4.0	4.0		3.0	4.0	
Recall Mode	C-Min	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	16.0	16.0			16.0		16.0	16.0			16.0	
Pedestrian Calls (#/hr)	10	10			10		20	20			20	
Act Effct Green (s)	52.4	52.4		59.3	57.3			16.7		34.7	32.7	
Actuated g/C Ratio	0.52	0.52		0.59	0.57			0.17		0.35	0.33	
v/c Ratio	0.05	0.45		0.10	0.30			0.22		0.35	0.78	
Control Delay	20.0	19.5		13.6	13.2			2.4		23.6	29.2	
Queue Delay	0.0	1.6		0.0	0.0			0.0		0.0	0.0	
Total Delay	20.0	21.2		13.6	13.2			2.4		23.6	29.2	
LOS	B	C		B	B			A		C	C	
Approach Delay		21.1			13.2			2.4			27.7	
Approach LOS		C			B			A			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 20.4		Intersection LOS: C	
Intersection Capacity Utilization 60.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: Oakville GO Bus Dwy/Argus Rd & Cross Ave

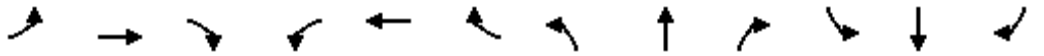


8: Oakville GO Bus Dwy/Argus Rd & Cross Ave



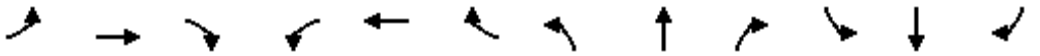
Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	21	819	21	598	46	180	464
v/c Ratio	0.05	0.45	0.10	0.30	0.22	0.35	0.78
Control Delay	20.0	19.5	13.6	13.2	2.4	23.6	29.2
Queue Delay	0.0	1.6	0.0	0.0	0.0	0.0	0.0
Total Delay	20.0	21.2	13.6	13.2	2.4	23.6	29.2
Queue Length 50th (m)	1.7	43.3	1.6	28.9	0.0	27.4	62.9
Queue Length 95th (m)	8.6	98.2	6.5	54.2	0.0	35.4	82.6
Internal Link Dist (m)		83.3		193.0	47.0		155.3
Turn Bay Length (m)	20.0		20.0			15.0	
Base Capacity (vph)	400	1835	210	2025	256	559	861
Starvation Cap Reductn	0	794	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.79	0.10	0.30	0.18	0.32	0.54

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	780	15	20	555	25	15	0	30	175	10	440
Future Volume (vph)	20	780	15	20	555	25	15	0	30	175	10	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.97		1.00	0.96	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00		0.98	1.00	
Frt	1.00	1.00		1.00	0.99			0.91		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1703	3499		949	3535			842		1691	1529	
Flt Permitted	0.43	1.00		0.25	1.00			0.78		0.73	1.00	
Satd. Flow (perm)	763	3499		250	3535			667		1293	1529	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	21	804	15	21	572	26	15	0	31	180	10	454
RTOR Reduction (vph)	0	1	0	0	2	0	0	39	0	0	93	0
Lane Group Flow (vph)	21	818	0	21	596	0	0	7	0	180	371	0
Confl. Peds. (#/hr)	10		10	10		10	20		20	20		20
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	5%	1%	100%	90%	1%	7%	100%	100%	94%	5%	100%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	47.9	47.9		55.1	55.1			13.7		32.9	32.9	
Effective Green, g (s)	48.9	48.9		56.1	56.1			14.7		33.9	33.9	
Actuated g/C Ratio	0.49	0.49		0.56	0.56			0.15		0.34	0.34	
Clearance Time (s)	6.0	6.0		4.0	6.0			6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0		2.5	5.0			4.0		3.0	4.0	
Lane Grp Cap (vph)	373	1711		169	1983			98		502	518	
v/s Ratio Prot		c0.23		0.01	c0.17					0.06	c0.24	
v/s Ratio Perm	0.03			0.06				0.01		0.06		
v/c Ratio	0.06	0.48		0.12	0.30			0.07		0.36	0.72	
Uniform Delay, d1	13.4	17.0		10.9	11.6			36.8		24.5	28.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.3	1.0		0.2	0.4			0.4		0.4	5.0	
Delay (s)	13.7	18.0		11.2	12.0			37.2		24.9	33.9	
Level of Service	B	B		B	B			D		C	C	
Approach Delay (s)		17.9			12.0			37.2			31.4	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	290	90	650	430	15	60	0	235	275	0	75
Future Volume (vph)	25	290	90	650	430	15	60	0	235	275	0	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00		1.00		0.97		0.99	
Frt		0.967			0.998				0.850		0.971	
Flt Protected		0.997			0.971		0.950				0.962	
Satd. Flow (prot)	0	3270	0	0	3416	0	1805	0	1615	0	1769	0
Flt Permitted		0.820			0.568		0.536				0.962	
Satd. Flow (perm)	0	2688	0	0	1998	0	1013	0	1570	0	1759	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28			2				255		51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		139.5			107.3			62.6			201.6	
Travel Time (s)		10.0			7.7			4.5			14.5	
Confl. Peds. (#/hr)	15					15	5		10	10		5
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	27	315	98	707	467	16	65	0	255	299	0	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	440	0	0	1190	0	65	0	255	0	381	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	100		100
Number of Detectors	1	2		1	2		1		1	1	2	
Detector Template	Left	Thru		Left	Thru		Left		Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0		2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0		2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4						9.4	
Detector 2 Size(m)		0.6			0.6						0.6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type	Perm	NA		custom	NA		Perm		Perm	custom	NA	
Protected Phases		2		1	1 6					7	7 4	

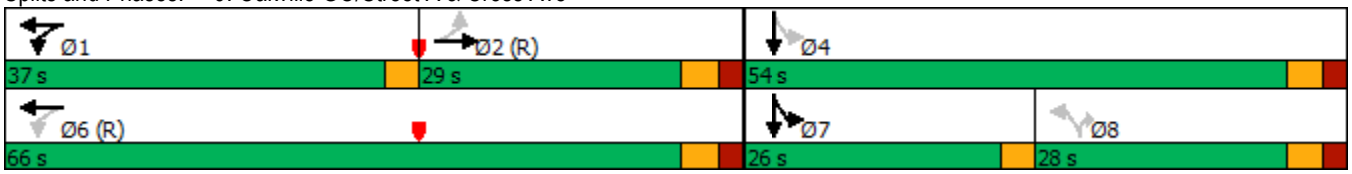
Lane Group	Ø4	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	4	6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			8		8	4		
Detector Phase	2	2		1	1 6		8		8	7	7 4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		8.0			10.0		10.0	8.0		
Minimum Split (s)	27.6	27.6		11.0			27.6		27.6	11.0		
Total Split (s)	29.0	29.0		37.0			28.0		28.0	26.0		
Total Split (%)	24.2%	24.2%		30.8%			23.3%		23.3%	21.7%		
Maximum Green (s)	23.4	23.4		34.0			22.4		22.4	23.0		
Yellow Time (s)	3.3	3.3		3.0			3.3		3.3	3.0		
All-Red Time (s)	2.3	2.3		0.0			2.3		2.3	0.0		
Lost Time Adjust (s)		-1.0					-1.0		-1.0			
Total Lost Time (s)		4.6					4.6		4.6			
Lead/Lag	Lag	Lag		Lead			Lag		Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes		
Vehicle Extension (s)	5.0	5.0		2.5			3.5		3.5	3.0		
Recall Mode	C-Min	C-Min		None			None		None	None		
Walk Time (s)	7.0	7.0					7.0		7.0			
Flash Dont Walk (s)	15.0	15.0					15.0		15.0			
Pedestrian Calls (#/hr)	10	10					10		10			
Act Effct Green (s)		36.9			72.9		15.5		15.5		43.1	
Actuated g/C Ratio		0.31			0.61		0.13		0.13		0.36	
v/c Ratio		0.52			0.99dl		0.50		0.60		0.57	
Control Delay		37.4			18.7		60.5		11.6		29.4	
Queue Delay		0.0			14.7		0.0		0.0		0.0	
Total Delay		37.4			33.4		60.5		11.6		29.4	
LOS		D			C		E		B		C	
Approach Delay		37.4			33.4			21.5			29.4	
Approach LOS		D			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 31.9		Intersection LOS: C	
Intersection Capacity Utilization 89.8%		ICU Level of Service E	
Analysis Period (min) 15			

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 9: Oakville GO/Street A & Cross Ave



Lane Group	Ø4	Ø6
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	10.0	20.0
Minimum Split (s)	27.6	27.6
Total Split (s)	54.0	66.0
Total Split (%)	45%	55%
Maximum Green (s)	48.4	60.4
Yellow Time (s)	3.3	3.3
All-Red Time (s)	2.3	2.3
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	5.0
Recall Mode	None	C-Min
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	15.0	15.0
Pedestrian Calls (#/hr)	10	10
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary



Lane Group	EBT	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	440	1190	65	255	381
v/c Ratio	0.52	0.99dl	0.50	0.60	0.57
Control Delay	37.4	18.7	60.5	11.6	29.4
Queue Delay	0.0	14.7	0.0	0.0	0.0
Total Delay	37.4	33.4	60.5	11.6	29.4
Queue Length 50th (m)	45.1	87.6	15.4	0.0	65.4
Queue Length 95th (m)	71.1	129.5	28.6	22.9	86.2
Internal Link Dist (m)	115.5	83.3			177.6
Turn Bay Length (m)					
Base Capacity (vph)	845	1635	197	511	793
Starvation Cap Reductn	0	451	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.52	1.01	0.33	0.50	0.48

Intersection Summary

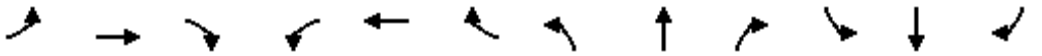
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	290	90	650	430	15	60	0	235	275	0	75
Future Volume (vph)	25	290	90	650	430	15	60	0	235	275	0	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6			2.0		4.6		4.6		2.0	
Lane Util. Factor		0.95			0.95		1.00		1.00		1.00	
Frpb, ped/bikes		1.00			1.00		1.00		0.97		1.00	
Flpb, ped/bikes		1.00			1.00		1.00		1.00		0.99	
Frt		0.97			1.00		1.00		0.85		0.97	
Flt Protected		1.00			0.97		0.95		1.00		0.96	
Satd. Flow (prot)		3267			3417		1796		1570		1757	
Flt Permitted		0.82			0.57		0.54		1.00		0.96	
Satd. Flow (perm)		2687			1997		1013		1570		1757	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	315	98	707	467	16	65	0	255	299	0	82
RTOR Reduction (vph)	0	19	0	0	1	0	0	0	222	0	34	0
Lane Group Flow (vph)	0	421	0	0	1189	0	65	0	33	0	347	0
Confl. Peds. (#/hr)	15					15	5		10	10		5
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	0%	9%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		custom	NA		Perm		Perm	custom	NA	
Protected Phases		2		1	1 6					7	7 4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)		35.9			69.3		14.5		14.5		39.5	
Effective Green, g (s)		36.9			70.3		15.5		15.5		40.5	
Actuated g/C Ratio		0.31			0.59		0.13		0.13		0.34	
Clearance Time (s)		5.6					5.6		5.6			
Vehicle Extension (s)		5.0					3.5		3.5			
Lane Grp Cap (vph)		826			1541		130		202		592	
v/s Ratio Prot					c0.20						c0.11	
v/s Ratio Perm		c0.16			0.25		0.06		0.02		0.09	
v/c Ratio		0.51			0.99dl		0.50		0.16		0.59	
Uniform Delay, d1		34.1			18.8		48.6		46.5		32.8	
Progression Factor		1.00			1.00		1.00		1.00		1.00	
Incremental Delay, d2		2.2			2.4		3.5		0.5		1.5	
Delay (s)		36.4			21.1		52.2		46.9		34.3	
Level of Service		D			C		D		D		C	
Approach Delay (s)		36.4			21.1			48.0			34.3	
Approach LOS		D			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		

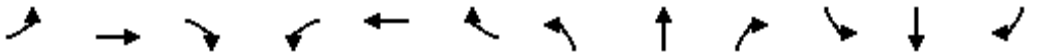
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	255	0	5	420	155	0	0	0	155	0	25
Future Volume (vph)	25	255	0	5	420	155	0	0	0	155	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (m)	25.0			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.960							0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1805	3312	0	0	3267	0	0	1900	0	1787	0	1509
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1805	3312	0	0	3267	0	0	1900	0	1787	0	1509
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		132.8			139.5			48.2			88.5	
Travel Time (s)		9.6			10.0			3.5			6.4	
Confl. Peds. (#/hr)	20		10	10		20						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	0%	0%	8%	1%	0%	0%	0%	1%	0%	7%
Adj. Flow (vph)	27	277	0	5	457	168	0	0	0	168	0	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	277	0	0	630	0	0	0	0	168	0	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

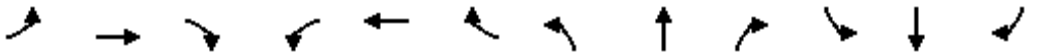
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	255	0	5	420	155	0	0	0	155	0	25
Future Volume (Veh/h)	25	255	0	5	420	155	0	0	0	155	0	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	277	0	5	457	168	0	0	0	168	0	27
Pedestrians								10			20	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			2	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		133			140							
pX, platoon unblocked												
vC, conflicting volume	645			287			606	996	148	764	912	332
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	645			287			606	996	148	764	912	332
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	7.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.4
p0 queue free %	97			100			100	100	100	39	100	96
cM capacity (veh/h)	934			1276			350	232	870	278	260	638

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	27	138	138	234	396	0	168	27
Volume Left	27	0	0	5	0	0	168	0
Volume Right	0	0	0	0	168	0	0	27
cSH	934	1700	1700	1276	1700	1700	278	638
Volume to Capacity	0.03	0.08	0.08	0.00	0.23	0.12	0.61	0.04
Queue Length 95th (m)	0.7	0.0	0.0	0.1	0.0	0.0	29.1	1.1
Control Delay (s)	9.0	0.0	0.0	0.2	0.0	0.0	36.0	10.9
Lane LOS	A			A		A	E	B
Approach Delay (s)	0.8			0.1		0.0	32.5	
Approach LOS						A	D	

Intersection Summary				
Average Delay	5.9			
Intersection Capacity Utilization	36.0%	ICU Level of Service		A
Analysis Period (min)	15			

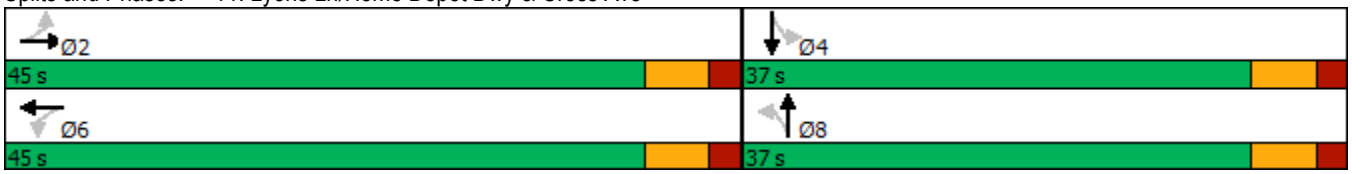


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	245	130	180	265	5	15	5	20	20	10	45
Future Volume (vph)	55	245	130	180	265	5	15	5	20	20	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	25.0		0.0	35.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99				1.00		0.99	0.99		0.99	0.99	
Frt		0.948			0.997			0.881			0.878	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3232	0	1787	3094	0	1805	1588	0	1703	1580	0
Flt Permitted	0.561			0.499			0.715			0.738		
Satd. Flow (perm)	1059	3232	0	939	3094	0	1352	1588	0	1316	1580	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		151			3			23			52	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		47.5			132.8			150.8			63.6	
Travel Time (s)		3.4			9.6			10.9			4.6	
Confl. Peds. (#/hr)	5					5	5		5	5		5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	9%	0%	1%	16%	29%	0%	0%	5%	6%	0%	5%
Adj. Flow (vph)	64	285	151	209	308	6	17	6	23	23	12	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	436	0	209	314	0	17	29	0	23	64	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

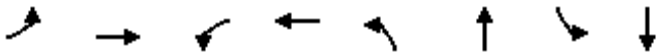
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		35.0	35.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	41.0	41.0		41.0	41.0		28.0	28.0		28.0	28.0	
Total Split (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Total Split (%)	54.9%	54.9%		54.9%	54.9%		45.1%	45.1%		45.1%	45.1%	
Maximum Green (s)	39.0	39.0		39.0	39.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	5	5		5	5		5	5		5	5	
Act Effct Green (s)	43.8	43.8		43.8	43.8		13.1	13.1		13.1	13.1	
Actuated g/C Ratio	0.76	0.76		0.76	0.76		0.23	0.23		0.23	0.23	
v/c Ratio	0.08	0.18		0.29	0.13		0.06	0.08		0.08	0.16	
Control Delay	6.1	3.5		7.6	4.9		17.7	9.7		18.1	8.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	6.1	3.5		7.6	4.9		17.7	9.7		18.1	8.4	
LOS	A	A		A	A		B	A		B	A	
Approach Delay		3.9			6.0			12.7			11.0	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 57.9			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.29			
Intersection Signal Delay: 5.7		Intersection LOS: A	
Intersection Capacity Utilization 80.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 11: Lyons Ln/Home Depot Dwy & Cross Ave

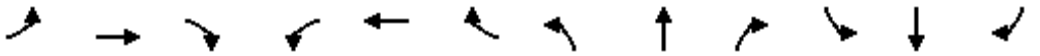


11: Lyons Ln/Home Depot Dwy & Cross Ave



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	436	209	314	17	29	23	64
v/c Ratio	0.08	0.18	0.29	0.13	0.06	0.08	0.08	0.16
Control Delay	6.1	3.5	7.6	4.9	17.7	9.7	18.1	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.1	3.5	7.6	4.9	17.7	9.7	18.1	8.4
Queue Length 50th (m)	2.3	5.4	9.0	6.0	1.5	0.6	2.1	1.1
Queue Length 95th (m)	9.5	16.0	30.3	16.6	5.3	5.3	6.5	8.0
Internal Link Dist (m)		23.5		108.8		126.8		39.6
Turn Bay Length (m)			25.0		35.0			
Base Capacity (vph)	843	2605	748	2465	755	896	734	905
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.17	0.28	0.13	0.02	0.03	0.03	0.07

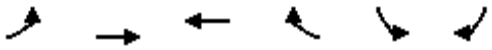
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	245	130	180	265	5	15	5	20	20	10	45
Future Volume (vph)	55	245	130	180	265	5	15	5	20	20	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	1.00		1.00	0.88		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1797	3232		1787	3095		1798	1590		1696	1582	
Flt Permitted	0.56	1.00		0.50	1.00		0.72	1.00		0.74	1.00	
Satd. Flow (perm)	1061	3232		938	3095		1354	1590		1318	1582	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	64	285	151	209	308	6	17	6	23	23	12	52
RTOR Reduction (vph)	0	47	0	0	1	0	0	20	0	0	44	0
Lane Group Flow (vph)	64	389	0	209	313	0	17	9	0	23	20	0
Confl. Peds. (#/hr)	5					5	5		5	5		5
Heavy Vehicles (%)	0%	9%	0%	1%	16%	29%	0%	0%	5%	6%	0%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	40.6	40.6		40.6	40.6		7.8	7.8		7.8	7.8	
Effective Green, g (s)	41.6	41.6		41.6	41.6		8.8	8.8		8.8	8.8	
Actuated g/C Ratio	0.69	0.69		0.69	0.69		0.15	0.15		0.15	0.15	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	730	2226		646	2131		197	231		192	230	
v/s Ratio Prot		0.12			0.10			0.01			0.01	
v/s Ratio Perm	0.06			c0.22			0.01			c0.02		
v/c Ratio	0.09	0.17		0.32	0.15		0.09	0.04		0.12	0.09	
Uniform Delay, d1	3.1	3.3		3.8	3.3		22.3	22.2		22.4	22.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.1		0.6	0.1		0.3	0.1		0.4	0.2	
Delay (s)	3.2	3.4		4.4	3.3		22.6	22.3		22.8	22.5	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		3.4			3.7			22.4			22.6	
Approach LOS		A			A			C			C	

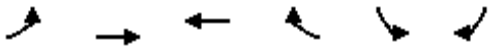
Intersection Summary			
HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	60.4	Sum of lost time (s)	10.0
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	385	320	5	50	30
Future Volume (vph)	10	385	320	5	50	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.998		0.950	
Flt Protected	0.950				0.970	
Satd. Flow (prot)	1805	3471	3251	0	1751	0
Flt Permitted	0.950				0.970	
Satd. Flow (perm)	1805	3471	3251	0	1751	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		443.3	47.5		121.4	
Travel Time (s)		31.9	3.4		8.7	
Confl. Peds. (#/hr)	5			5		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	4%	11%	0%	0%	0%
Adj. Flow (vph)	11	443	368	6	57	34
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	443	374	0	91	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

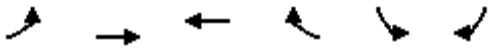
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.9%		ICU Level of Service A	
Analysis Period (min) 15			



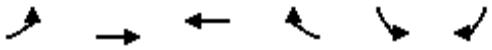
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	385	320	5	50	30
Future Volume (Veh/h)	10	385	320	5	50	30
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	11	443	368	6	57	34
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			48			
pX, platoon unblocked	0.98				0.98	0.98
vC, conflicting volume	379				620	192
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	336				581	146
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				87	96
cM capacity (veh/h)	1209				436	863

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	11	222	222	245	129	91
Volume Left	11	0	0	0	0	57
Volume Right	0	0	0	0	6	34
cSH	1209	1700	1700	1700	1700	535
Volume to Capacity	0.01	0.13	0.13	0.14	0.08	0.17
Queue Length 95th (m)	0.2	0.0	0.0	0.0	0.0	4.9
Control Delay (s)	8.0	0.0	0.0	0.0	0.0	13.1
Lane LOS	A					B
Approach Delay (s)	0.2			0.0		13.1
Approach LOS						B

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	21.9%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	320	755	605	35	105	280
Future Volume (vph)	320	755	605	35	105	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0			0.0	60.0	0.0
Storage Lanes	1			0	1	2
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.88
Ped Bike Factor	1.00		1.00			
Frt			0.992			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1703	3438	3414	0	1805	2561
Flt Permitted	0.355				0.950	
Satd. Flow (perm)	633	3438	3414	0	1805	2561
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			6			295
Link Speed (k/h)		50	50		50	
Link Distance (m)		209.5	575.4		443.3	
Travel Time (s)		15.1	41.4		31.9	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	5%	5%	0%	0%	11%
Adj. Flow (vph)	337	795	637	37	111	295
Shared Lane Traffic (%)						
Lane Group Flow (vph)	337	795	674	0	111	295
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		7.2	7.2		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			

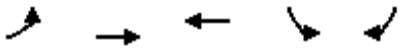


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	6.0	38.0	38.0		10.0	10.0
Minimum Split (s)	12.0	47.6	47.6		33.8	33.8
Total Split (s)	35.0	109.2	74.2		30.8	30.8
Total Split (%)	25.0%	78.0%	53.0%		22.0%	22.0%
Maximum Green (s)	29.0	102.6	67.6		25.0	25.0
Yellow Time (s)	4.0	3.7	3.7		3.3	3.3
All-Red Time (s)	2.0	2.9	2.9		2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.6	5.6		4.8	4.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Recall Mode	None	C-Min	C-Min		None	None
Walk Time (s)		10.0	10.0		10.0	10.0
Flash Dont Walk (s)		31.0	31.0		18.0	18.0
Pedestrian Calls (#/hr)		10	10		0	0
Act Effct Green (s)	115.0	114.4	96.0		15.2	15.2
Actuated g/C Ratio	0.82	0.82	0.69		0.11	0.11
v/c Ratio	0.54	0.28	0.29		0.57	0.55
Control Delay	6.5	3.5	8.0		70.1	9.7
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	6.5	3.5	8.0		70.1	9.7
LOS	A	A	A		E	A
Approach Delay		4.4	8.0		26.3	
Approach LOS		A	A		C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 9.5		Intersection LOS: A	
Intersection Capacity Utilization 73.1%		ICU Level of Service D	
Analysis Period (min) 15			

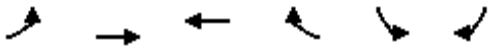
Splits and Phases: 13: Speers Rd/Cornwall Rd & Cross Ave





Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	337	795	674	111	295
v/c Ratio	0.54	0.28	0.29	0.57	0.55
Control Delay	6.5	3.5	8.0	70.1	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	6.5	3.5	8.0	70.1	9.7
Queue Length 50th (m)	17.5	23.3	33.2	31.3	0.0
Queue Length 95th (m)	31.6	36.3	43.0	50.3	14.8
Internal Link Dist (m)		185.5	551.4	419.3	
Turn Bay Length (m)	70.0			60.0	
Base Capacity (vph)	749	2809	2342	335	715
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.45	0.28	0.29	0.33	0.41

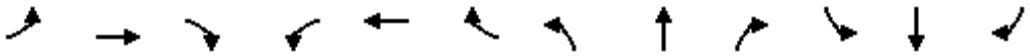
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	320	755	605	35	105	280
Future Volume (vph)	320	755	605	35	105	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		4.8	4.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1700	3438	3414		1805	2561
Flt Permitted	0.36	1.00	1.00		0.95	1.00
Satd. Flow (perm)	636	3438	3414		1805	2561
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	337	795	637	37	111	295
RTOR Reduction (vph)	0	0	2	0	0	263
Lane Group Flow (vph)	337	795	672	0	111	32
Confl. Peds. (#/hr)	15			15		
Heavy Vehicles (%)	6%	5%	5%	0%	0%	11%
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Actuated Green, G (s)	113.4	113.4	95.0		14.2	14.2
Effective Green, g (s)	114.4	114.4	96.0		15.2	15.2
Actuated g/C Ratio	0.82	0.82	0.69		0.11	0.11
Clearance Time (s)	6.0	6.6	6.6		5.8	5.8
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Lane Grp Cap (vph)	621	2809	2341		195	278
v/s Ratio Prot	c0.05	0.23	0.20			
v/s Ratio Perm	c0.39				c0.06	0.01
v/c Ratio	0.54	0.28	0.29		0.57	0.12
Uniform Delay, d1	3.6	3.0	8.6		59.3	56.3
Progression Factor	1.00	1.00	0.84		1.00	1.00
Incremental Delay, d2	1.1	0.3	0.3		3.8	0.2
Delay (s)	4.7	3.3	7.5		63.1	56.5
Level of Service	A	A	A		E	E
Approach Delay (s)		3.7	7.5		58.3	
Approach LOS		A	A		E	

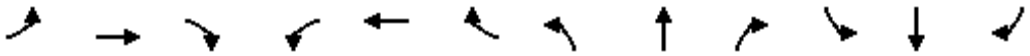
Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	80	0	5	0	175	60	10	185	0
Future Volume (vph)	0	0	0	80	0	5	0	175	60	10	185	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.992			0.962				
Flt Protected					0.955						0.998	
Satd. Flow (prot)	0	1900	0	0	1632	0	0	3372	0	0	3503	0
Flt Permitted					0.955						0.998	
Satd. Flow (perm)	0	1900	0	0	1632	0	0	3372	0	0	3503	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		33.6			124.9			420.1			134.0	
Travel Time (s)		2.4			9.0			30.2			9.6	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	11%	0%	0%	50%	3%	3%	0%	3%	0%
Adj. Flow (vph)	0	0	0	92	0	6	0	201	69	11	213	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	98	0	0	270	0	0	224	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	80	0	5	0	175	60	10	185	0
Future Volume (Veh/h)	0	0	0	80	0	5	0	175	60	10	185	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	0	0	92	0	6	0	201	69	11	213	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	342	505	106	364	470	135	213			270		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	342	505	106	364	470	135	213			270		
tC, single (s)	7.5	6.5	6.9	7.7	6.5	6.9	5.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.7			2.2		
p0 queue free %	100	100	100	83	100	99	100			99		
cM capacity (veh/h)	586	469	934	542	490	895	1067			1305		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	98	100	170	118	106
Volume Left	0	92	0	0	11	0
Volume Right	0	6	0	69	0	0
cSH	1700	555	1067	1700	1305	1700
Volume to Capacity	0.00	0.18	0.00	0.10	0.01	0.06
Queue Length 95th (m)	0.0	5.1	0.0	0.0	0.2	0.0
Control Delay (s)	0.0	12.9	0.0	0.0	0.8	0.0
Lane LOS	A	B			A	
Approach Delay (s)	0.0	12.9	0.0		0.4	
Approach LOS	A	B				

Intersection Summary				
Average Delay	2.3			
Intersection Capacity Utilization	24.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	75	60	95	150	70	20
Future Volume (vph)	75	60	95	150	70	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.940				0.970	
Flt Protected				0.981	0.962	
Satd. Flow (prot)	1719	0	0	1816	1740	0
Flt Permitted				0.981	0.962	
Satd. Flow (perm)	1719	0	0	1816	1740	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	632.0			1164.2	455.7	
Travel Time (s)	45.5			83.8	32.8	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	7%	0%	2%	3%	1%	5%
Adj. Flow (vph)	91	73	116	183	85	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	164	0	0	299	109	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

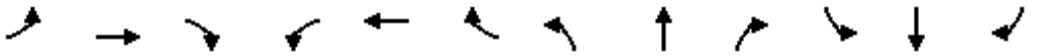
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	75	60	95	150	70	20
Future Volume (Veh/h)	75	60	95	150	70	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	91	73	116	183	85	24
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			164		542	128
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			164		542	128
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		82	97
cM capacity (veh/h)			1414		462	915

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	164	299	109
Volume Left	0	116	85
Volume Right	73	0	24
cSH	1700	1414	518
Volume to Capacity	0.10	0.08	0.21
Queue Length 95th (m)	0.0	2.1	6.3
Control Delay (s)	0.0	3.5	13.8
Lane LOS		A	B
Approach Delay (s)	0.0	3.5	13.8
Approach LOS			B

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	35.9%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	645	205	40	525	35	230	65	60	35	75	25
Future Volume (vph)	25	645	205	40	525	35	230	65	60	35	75	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00		1.00	0.99		1.00		0.98
Frt		0.964			0.991			0.928				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	3338	0	1752	3436	0	1736	1732	0	1703	1881	1553
Flt Permitted	0.405			0.253			0.704			0.670		
Satd. Flow (perm)	703	3338	0	467	3436	0	1280	1732	0	1196	1881	1526
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		75			12			48				32
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			455.7	
Travel Time (s)		43.9			11.1			15.4			32.8	
Confl. Peds. (#/hr)	5					5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Adj. Flow (vph)	27	701	223	43	571	38	250	71	65	38	82	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	924	0	43	609	0	250	136	0	38	82	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	31.0	31.0		31.0	31.0		19.0	19.0		19.0	19.0	19.0
Actuated g/C Ratio	0.52	0.52		0.52	0.52		0.32	0.32		0.32	0.32	0.32
v/c Ratio	0.07	0.52		0.18	0.34		0.62	0.23		0.10	0.14	0.05
Control Delay	9.6	10.6		11.6	9.6		25.4	12.0		16.1	16.0	6.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	9.6	10.6		11.6	9.6		25.4	12.0		16.1	16.0	6.0
LOS	A	B		B	A		C	B		B	B	A
Approach Delay		10.6			9.7			20.7			14.2	
Approach LOS		B			A			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 59.8			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 12.4		Intersection LOS: B	
Intersection Capacity Utilization 68.1%		ICU Level of Service C	
Analysis Period (min) 15			

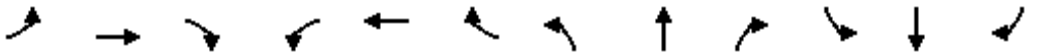
Splits and Phases: 16: Chartwell Rd & Cornwall Rd





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	27	924	43	609	250	136	38	82	27
v/c Ratio	0.07	0.52	0.18	0.34	0.62	0.23	0.10	0.14	0.05
Control Delay	9.6	10.6	11.6	9.6	25.4	12.0	16.1	16.0	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.6	10.6	11.6	9.6	25.4	12.0	16.1	16.0	6.0
Queue Length 50th (m)	1.3	28.6	2.3	18.0	21.9	6.5	2.8	6.0	0.0
Queue Length 95th (m)	6.5	63.2	10.1	40.3	54.6	21.4	10.4	18.0	4.6
Internal Link Dist (m)		585.1		130.4		189.6		431.7	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	649	3088	431	3174	704	975	658	1035	854
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.30	0.10	0.19	0.36	0.14	0.06	0.08	0.03

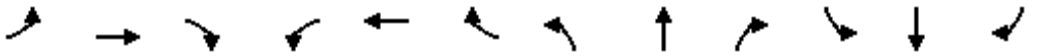
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	645	205	40	525	35	230	65	60	35	75	25
Future Volume (vph)	25	645	205	40	525	35	230	65	60	35	75	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.99		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1652	3338		1752	3435		1730	1734		1698	1881	1529
Flt Permitted	0.40	1.00		0.25	1.00		0.70	1.00		0.67	1.00	1.00
Satd. Flow (perm)	704	3338		467	3435		1282	1734		1198	1881	1529
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	701	223	43	571	38	250	71	65	38	82	27
RTOR Reduction (vph)	0	36	0	0	6	0	0	33	0	0	0	18
Lane Group Flow (vph)	27	888	0	43	603	0	250	103	0	38	82	9
Confl. Peds. (#/hr)	5					5	5		5	5		5
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	29.9	29.9		29.9	29.9		17.9	17.9		17.9	17.9	17.9
Effective Green, g (s)	30.9	30.9		30.9	30.9		18.9	18.9		18.9	18.9	18.9
Actuated g/C Ratio	0.52	0.52		0.52	0.52		0.32	0.32		0.32	0.32	0.32
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	367	1742		243	1792		409	553		382	600	488
v/s Ratio Prot		c0.27			0.18			0.06			0.04	
v/s Ratio Perm	0.04			0.09			c0.20			0.03		0.01
v/c Ratio	0.07	0.51		0.18	0.34		0.61	0.19		0.10	0.14	0.02
Uniform Delay, d1	7.0	9.2		7.5	8.2		17.0	14.6		14.2	14.3	13.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.6		0.9	0.3		3.1	0.2		0.2	0.1	0.0
Delay (s)	7.2	9.8		8.3	8.5		20.1	14.8		14.3	14.5	13.8
Level of Service	A	A		A	A		C	B		B	B	B
Approach Delay (s)		9.7			8.5			18.3			14.3	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	59.2	Sum of lost time (s)	9.4
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

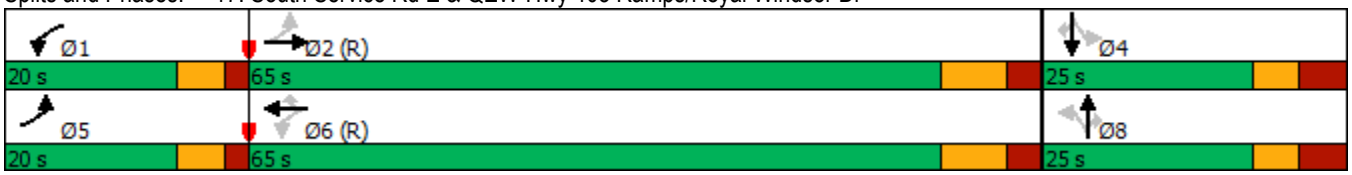


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	630	70	145	560	0	5	20	80	0	50	15
Future Volume (vph)	55	630	70	145	560	0	5	20	80	0	50	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	125.0		0.0	145.0		55.0	15.0		40.0	35.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985							0.850			0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3213	3364	0	1787	3312	1900	1805	1900	1455	1900	1863	1122
Flt Permitted	0.427			0.337			0.722					
Satd. Flow (perm)	1444	3364	0	634	3312	1900	1372	1900	1455	1900	1863	1122
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16							113			113
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		232.7			227.3			1164.2			153.5	
Travel Time (s)		16.8			16.4			83.8			11.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	9%	6%	3%	1%	9%	0%	0%	0%	11%	0%	2%	44%
Adj. Flow (vph)	59	670	74	154	596	0	5	21	85	0	53	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	744	0	154	596	0	5	21	85	0	53	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	8.0	20.0		8.0	20.0	20.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	14.0	28.4		14.0	28.4	28.4	17.8	17.8	17.8	17.8	17.8	17.8
Total Split (s)	20.0	65.0		20.0	65.0	65.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	18.2%	59.1%		18.2%	59.1%	59.1%	22.7%	22.7%	22.7%	22.7%	22.7%	22.7%
Maximum Green (s)	14.0	56.6		14.0	56.6	56.6	17.2	17.2	17.2	17.2	17.2	17.2
Yellow Time (s)	4.0	5.4		4.0	5.4	5.4	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.0	3.0		2.0	3.0	3.0	4.1	4.1	4.1	4.1	4.1	4.1
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	81.1	69.7		83.7	73.3		11.3	11.3	11.3		11.3	11.3
Actuated g/C Ratio	0.74	0.63		0.76	0.67		0.10	0.10	0.10		0.10	0.10
v/c Ratio	0.05	0.35		0.26	0.27		0.04	0.11	0.34		0.28	0.07
Control Delay	2.9	10.0		3.9	8.4		44.8	46.0	7.8		49.4	0.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	2.9	10.0		3.9	8.4		44.8	46.0	7.8		49.4	0.7
LOS	A	A		A	A		D	D	A		D	A
Approach Delay		9.5			7.5			16.7			38.1	
Approach LOS		A			A			B			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.35			
Intersection Signal Delay: 10.2		Intersection LOS: B	
Intersection Capacity Utilization 52.0%		ICU Level of Service A	
Analysis Period (min) 15			

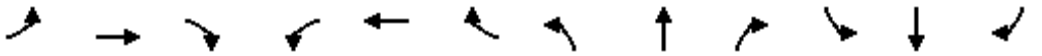
Splits and Phases: 17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	59	744	154	596	5	21	85	53	16
v/c Ratio	0.05	0.35	0.26	0.27	0.04	0.11	0.34	0.28	0.07
Control Delay	2.9	10.0	3.9	8.4	44.8	46.0	7.8	49.4	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.9	10.0	3.9	8.4	44.8	46.0	7.8	49.4	0.7
Queue Length 50th (m)	1.1	36.1	6.3	28.2	1.1	4.4	0.0	11.3	0.0
Queue Length 95th (m)	2.5	53.4	11.6	39.0	4.8	12.2	8.8	23.8	0.0
Internal Link Dist (m)		208.7		203.3		1140.2		129.5	
Turn Bay Length (m)	125.0		145.0		15.0		40.0		
Base Capacity (vph)	1375	2135	657	2206	227	314	335	308	279
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.35	0.23	0.27	0.02	0.07	0.25	0.17	0.06

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	630	70	145	560	0	5	20	80	0	50	15
Future Volume (vph)	55	630	70	145	560	0	5	20	80	0	50	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.4		5.0	7.4		6.8	6.8	6.8		6.8	6.8
Lane Util. Factor	0.97	0.95		1.00	0.95		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	3213	3364		1787	3312		1805	1900	1455		1863	1122
Flt Permitted	0.43	1.00		0.34	1.00		0.72	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1443	3364		635	3312		1373	1900	1455		1863	1122
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	59	670	74	154	596	0	5	21	85	0	53	16
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	76	0	0	14
Lane Group Flow (vph)	59	738	0	154	596	0	5	21	9	0	53	2
Heavy Vehicles (%)	9%	6%	3%	1%	9%	0%	0%	0%	11%	0%	2%	44%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	75.1	68.7		79.9	71.1		10.3	10.3	10.3		10.3	10.3
Effective Green, g (s)	77.1	69.7		81.9	72.1		11.3	11.3	11.3		11.3	11.3
Actuated g/C Ratio	0.70	0.63		0.74	0.66		0.10	0.10	0.10		0.10	0.10
Clearance Time (s)	6.0	8.4		6.0	8.4		7.8	7.8	7.8		7.8	7.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	1130	2131		575	2170		141	195	149		191	115
v/s Ratio Prot	0.00	c0.22		c0.02	0.18			0.01			c0.03	
v/s Ratio Perm	0.03			0.18			0.00		0.01			0.00
v/c Ratio	0.05	0.35		0.27	0.27		0.04	0.11	0.06		0.28	0.01
Uniform Delay, d1	5.0	9.5		4.2	8.0		44.4	44.8	44.5		45.6	44.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.4		0.3	0.3		0.1	0.2	0.2		0.8	0.0
Delay (s)	5.0	9.9		4.4	8.3		44.5	45.0	44.7		46.4	44.4
Level of Service	A	A		A	A		D	D	D		D	D
Approach Delay (s)		9.5			7.5			44.8			45.9	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	115	175	0	25	35	0
Future Volume (vph)	115	175	0	25	35	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.919					
Flt Protected					0.950	
Satd. Flow (prot)	1712	0	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1712	0	0	1863	1770	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	64.3			219.4	105.4	
Travel Time (s)	4.6			15.8	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	190	0	27	38	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	315	0	0	27	38	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	115	175	0	25	35	0
Future Volume (Veh/h)	115	175	0	25	35	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	125	190	0	27	38	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			315		247	220
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			315		247	220
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		95	100
cM capacity (veh/h)			1245		741	820

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	315	27	38
Volume Left	0	0	38
Volume Right	190	0	0
cSH	1700	1245	741
Volume to Capacity	0.19	0.00	0.05
Queue Length 95th (m)	0.0	0.0	1.3
Control Delay (s)	0.0	0.0	10.1
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.1
Approach LOS			B

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	26.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	115	0	35	25	0	175
Future Volume (vph)	115	0	35	25	0	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.972		
Satd. Flow (prot)	1863	0	0	1811	1611	0
Flt Permitted				0.972		
Satd. Flow (perm)	1863	0	0	1811	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	53.7			64.3	43.5	
Travel Time (s)	3.9			4.6	3.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	0	38	27	0	190
Shared Lane Traffic (%)						
Lane Group Flow (vph)	125	0	0	65	190	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

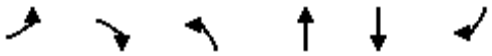
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	115	0	35	25	0	175
Future Volume (Veh/h)	115	0	35	25	0	175
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	125	0	38	27	0	190
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			125		228	125
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			125		228	125
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	79
cM capacity (veh/h)			1462		740	926

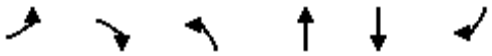
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	125	65	190
Volume Left	0	38	0
Volume Right	0	0	190
cSH	1700	1462	926
Volume to Capacity	0.07	0.03	0.21
Queue Length 95th (m)	0.0	0.6	6.1
Control Delay (s)	0.0	4.5	9.9
Lane LOS		A	A
Approach Delay (s)	0.0	4.5	9.9
Approach LOS			A

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	27.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	175	35	35	175	0
Future Volume (vph)	0	175	35	35	175	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.976		
Satd. Flow (prot)	1611	0	0	1818	1863	0
Flt Permitted				0.976		
Satd. Flow (perm)	1611	0	0	1818	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	49.0			201.6	105.4	
Travel Time (s)	3.5			14.5	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	190	38	38	190	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	190	0	0	76	190	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	175	35	35	175	0
Future Volume (Veh/h)	0	175	35	35	175	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	190	38	38	190	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				201		
pX, platoon unblocked						
vC, conflicting volume	304	190	190			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	304	190	190			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	78	97			
cM capacity (veh/h)	669	852	1384			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	190	76	190
Volume Left	0	38	0
Volume Right	190	0	0
cSH	852	1384	1700
Volume to Capacity	0.22	0.03	0.11
Queue Length 95th (m)	6.8	0.7	0.0
Control Delay (s)	10.4	3.9	0.0
Lane LOS	B	A	
Approach Delay (s)	10.4	3.9	0.0
Approach LOS	B		

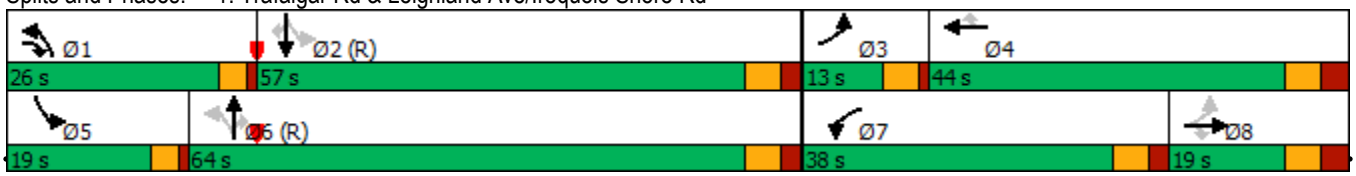
Intersection Summary			
Average Delay	5.0		
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	115	280	765	150	285	295	1840	875	130	1310	115
Future Volume (vph)	100	115	280	765	150	285	295	1840	875	130	1310	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.95					0.92			0.97			0.87
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1881	1599	3467	1881	1615	1787	5136	1599	1805	5085	1615
Flt Permitted	0.659			0.950			0.087			0.075		
Satd. Flow (perm)	1185	1881	1599	3467	1881	1485	164	5136	1543	142	5085	1399
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			193			634			173
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			521.8			275.4			339.2	
Travel Time (s)		27.7			37.6			19.8			24.4	
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Adj. Flow (vph)	103	119	289	789	155	294	304	1897	902	134	1351	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	119	289	789	155	294	304	1897	902	134	1351	119
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

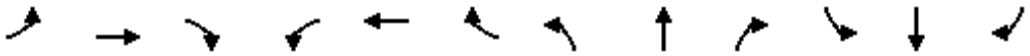
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	11.0	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	13.0	19.0	26.0	38.0	44.0	44.0	26.0	64.0	64.0	19.0	57.0	57.0
Total Split (%)	9.3%	13.6%	18.6%	27.1%	31.4%	31.4%	18.6%	45.7%	45.7%	13.6%	40.7%	40.7%
Maximum Green (s)	8.3	12.2	22.0	32.3	37.2	37.2	22.0	57.9	57.9	15.0	50.9	50.9
Yellow Time (s)	3.7	3.7	3.0	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	1.0	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					30	30		50	50		50	50
Act Effct Green (s)	24.0	12.8	40.3	33.3	38.0	38.0	80.4	63.1	63.1	68.0	53.6	53.6
Actuated g/C Ratio	0.17	0.09	0.29	0.24	0.27	0.27	0.57	0.45	0.45	0.49	0.38	0.38
v/c Ratio	0.42	0.70	0.54	0.96	0.30	0.54	0.88	0.82	0.86	0.63	0.69	0.19
Control Delay	37.6	82.8	29.8	75.1	42.5	18.6	58.7	20.1	14.1	39.9	39.0	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.7	0.0	0.0	0.0
Total Delay	37.6	82.8	29.8	75.1	42.5	18.6	58.7	20.1	25.8	39.9	39.0	1.4
LOS	D	F	C	E	D	B	E	C	C	D	D	A
Approach Delay		43.7			57.6			25.5			36.3	
Approach LOS		D			E			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 35.8		Intersection LOS: D	
Intersection Capacity Utilization 90.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



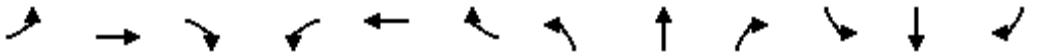
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	103	119	289	789	155	294	304	1897	902	134	1351	119
v/c Ratio	0.42	0.70	0.54	0.96	0.30	0.54	0.88	0.82	0.86	0.63	0.69	0.19
Control Delay	37.6	82.8	29.8	75.1	42.5	18.6	58.7	20.1	14.1	39.9	39.0	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.7	0.0	0.0	0.0
Total Delay	37.6	82.8	29.8	75.1	42.5	18.6	58.7	20.1	25.8	39.9	39.0	1.4
Queue Length 50th (m)	19.6	34.1	44.2	117.8	36.0	23.6	58.1	111.5	88.7	20.4	122.8	0.0
Queue Length 95th (m)	33.5	#60.7	74.6	#158.5	56.6	54.4	m78.8	168.9	#275.7	42.4	141.0	3.0
Internal Link Dist (m)		361.1			497.8			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	245	177	548	824	513	545	360	2313	1043	262	1946	642
Starvation Cap Reductn	0	0	0	0	0	0	0	0	135	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.67	0.53	0.96	0.30	0.54	0.84	0.82	0.99	0.51	0.69	0.19

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	115	280	765	150	285	295	1840	875	130	1310	115
Future Volume (vph)	100	115	280	765	150	285	295	1840	875	130	1310	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.92	1.00	1.00	0.97	1.00	1.00	0.87
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1743	1881	1599	3467	1881	1485	1787	5136	1543	1805	5085	1399
Flt Permitted	0.66	1.00	1.00	0.95	1.00	1.00	0.09	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	1209	1881	1599	3467	1881	1485	163	5136	1543	142	5085	1399
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	103	119	289	789	155	294	304	1897	902	134	1351	119
RTOR Reduction (vph)	0	0	79	0	0	141	0	0	349	0	0	74
Lane Group Flow (vph)	103	119	210	789	155	153	304	1897	553	134	1351	45
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	19.9	11.8	32.6	32.3	37.0	37.0	77.3	62.0	62.0	63.8	52.5	52.5
Effective Green, g (s)	21.9	12.8	34.6	33.3	38.0	38.0	78.3	63.0	63.0	65.8	53.5	53.5
Actuated g/C Ratio	0.16	0.09	0.25	0.24	0.27	0.27	0.56	0.45	0.45	0.47	0.38	0.38
Clearance Time (s)	4.7	6.8	4.0	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	223	171	395	824	510	403	344	2311	694	212	1943	534
v/s Ratio Prot	0.03	c0.06	0.08	c0.23	0.08		c0.14	0.37		0.06	0.27	
v/s Ratio Perm	0.04		0.05			0.10	c0.36		0.36	0.24		0.03
v/c Ratio	0.46	0.70	0.53	0.96	0.30	0.38	0.88	0.82	0.80	0.63	0.70	0.09
Uniform Delay, d1	52.9	61.7	45.7	52.7	40.5	41.4	39.4	33.6	33.0	27.5	36.4	27.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.26	0.53	0.84	1.00	1.00	1.00
Incremental Delay, d2	1.5	11.6	1.4	21.4	0.3	0.6	12.9	1.7	4.9	6.0	2.1	0.3
Delay (s)	54.5	73.3	47.1	74.0	40.8	42.0	62.7	19.6	32.5	33.5	38.5	27.9
Level of Service	D	E	D	E	D	D	E	B	C	C	D	C
Approach Delay (s)		54.7			62.3			27.6			37.3	
Approach LOS		D			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	38.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	90.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

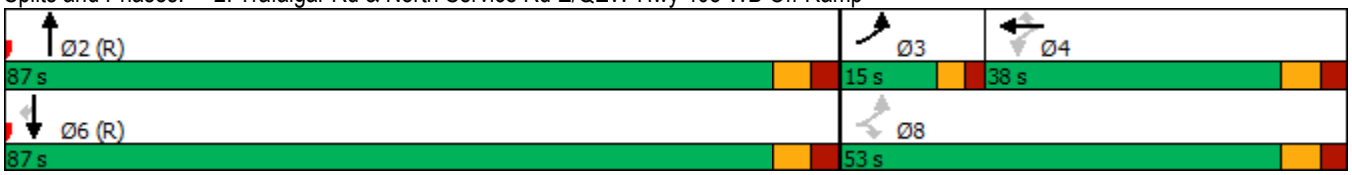


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	270	545	5	340	0	2660	0	0	2365	15
Future Volume (vph)	25	0	270	545	5	340	0	2660	0	0	2365	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.94
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.953							
Satd. Flow (prot)	1805	0	1599	1681	1687	1583	0	5136	0	0	5036	1524
Flt Permitted	0.217			0.950	0.953							
Satd. Flow (perm)	412	0	1599	1681	1687	1583	0	5136	0	0	5036	1437
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			96						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							15		10	10		15
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Adj. Flow (vph)	27	0	287	580	5	362	0	2830	0	0	2516	16
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	27	0	287	290	295	362	0	2830	0	0	2516	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

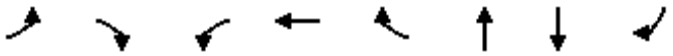
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	15.0		53.0	38.0	38.0	38.0		87.0			87.0	87.0
Total Split (%)	10.7%		37.9%	27.1%	27.1%	27.1%		62.1%			62.1%	62.1%
Maximum Green (s)	10.0		46.0	31.0	31.0	31.0		80.0			80.0	80.0
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		15			15	15
Act Effct Green (s)	40.2		38.2	29.8	29.8	29.8		89.8			89.8	89.8
Actuated g/C Ratio	0.29		0.27	0.21	0.21	0.21		0.64			0.64	0.64
v/c Ratio	0.13		0.63	0.81	0.82	0.88		0.86			0.78	0.02
Control Delay	32.8		44.3	70.3	71.3	61.2		16.6			27.0	0.1
Queue Delay	0.0		0.0	0.0	0.0	0.0		0.1			0.0	0.0
Total Delay	32.8		44.3	70.3	71.3	61.2		16.6			27.0	0.1
LOS	C		D	E	E	E		B			C	A
Approach Delay		43.3			67.1			16.6			26.8	
Approach LOS		D			E			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 29.0		Intersection LOS: C	
Intersection Capacity Utilization 92.6%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp



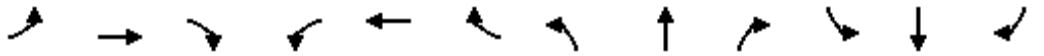
2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp



Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	27	287	290	295	362	2830	2516	16
v/c Ratio	0.13	0.63	0.81	0.82	0.88	0.86	0.78	0.02
Control Delay	32.8	44.3	70.3	71.3	61.2	16.6	27.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	32.8	44.3	70.3	71.3	61.2	16.6	27.0	0.1
Queue Length 50th (m)	5.2	59.8	82.2	84.0	75.2	297.9	206.8	0.0
Queue Length 95th (m)	12.3	89.6	#122.7	#128.1	#129.1	204.8	m227.2	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	227	557	390	391	441	3292	3228	946
Starvation Cap Reductn	0	0	0	0	0	4	0	0
Spillback Cap Reductn	0	0	0	0	0	23	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.52	0.74	0.75	0.82	0.87	0.78	0.02

Intersection Summary

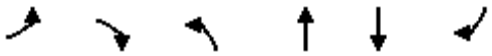
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



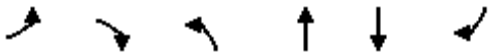
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	270	545	5	340	0	2660	0	0	2365	15
Future Volume (vph)	25	0	270	545	5	340	0	2660	0	0	2365	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.94
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1681	1687	1583		5136			5036	1437
Flt Permitted	0.22		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	412		1599	1681	1687	1583		5136			5036	1437
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	27	0	287	580	5	362	0	2830	0	0	2516	16
RTOR Reduction (vph)	0	0	22	0	0	76	0	0	0	0	0	6
Lane Group Flow (vph)	27	0	265	290	295	286	0	2830	0	0	2516	10
Confl. Peds. (#/hr)							15		10	10		15
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	39.3		39.3	28.8	28.8	28.8		86.7			86.7	86.7
Effective Green, g (s)	40.3		40.3	29.8	29.8	29.8		87.7			87.7	87.7
Actuated g/C Ratio	0.29		0.29	0.21	0.21	0.21		0.63			0.63	0.63
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	183		460	357	359	336		3217			3154	900
v/s Ratio Prot	0.01							c0.55			0.50	
v/s Ratio Perm	0.04		c0.17	0.17	0.17	c0.18						0.01
v/c Ratio	0.15		0.58	0.81	0.82	0.85		0.88			0.80	0.01
Uniform Delay, d1	37.7		42.6	52.4	52.6	53.0		21.8			19.5	9.8
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.63			1.26	1.00
Incremental Delay, d2	0.6		1.9	13.1	14.0	18.4		2.6			1.5	0.0
Delay (s)	38.3		44.4	65.6	66.6	71.4		16.2			26.2	9.9
Level of Service	D		D	E	E	E		B			C	A
Approach Delay (s)		43.9			68.1			16.2			26.1	
Approach LOS		D			E			B			C	

Intersection Summary			
HCM 2000 Control Delay	28.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



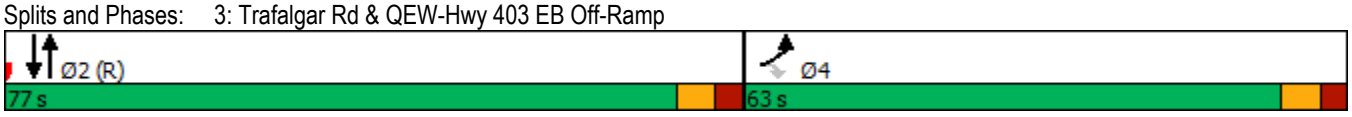
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1005	470	0	1925	1960	0
Future Volume (vph)	1005	470	0	1925	1960	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3467	1583	0	5085	5085	0
Flt Permitted	0.950					
Satd. Flow (perm)	3467	*1800	0	5085	5085	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		3				
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			45.3	331.3	
Travel Time (s)	15.4			3.3	23.9	
Confl. Peds. (#/hr)			25			25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Adj. Flow (vph)	1058	495	0	2026	2063	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1058	495	0	2026	2063	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	63.0	63.0		77.0	77.0	
Total Split (%)	45.0%	45.0%		55.0%	55.0%	
Maximum Green (s)	56.0	56.0		70.0	70.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		15	15	
Act Effct Green (s)	51.1	51.1		76.9	76.9	
Actuated g/C Ratio	0.36	0.36		0.55	0.55	
v/c Ratio	0.84	0.75		0.73	0.74	
Control Delay	47.1	46.2		28.6	23.6	
Queue Delay	0.0	0.0		0.1	0.0	
Total Delay	47.1	46.2		28.6	23.6	
LOS	D	D		C	C	
Approach Delay	46.8			28.6	23.6	
Approach LOS	D			C	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 31.8		Intersection LOS: C	
Intersection Capacity Utilization 77.0%		ICU Level of Service D	
Analysis Period (min) 15			
* User Entered Value			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



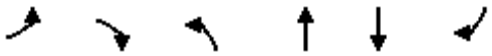
3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	1058	495	2026	2063
v/c Ratio	0.84	0.75	0.73	0.74
Control Delay	47.1	46.2	28.6	23.6
Queue Delay	0.0	0.0	0.1	0.0
Total Delay	47.1	46.2	28.6	23.6
Queue Length 50th (m)	143.5	124.1	171.1	116.0
Queue Length 95th (m)	161.1	158.2	m120.8	159.3
Internal Link Dist (m)	190.2		21.3	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1411	734	2794	2794
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	77	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.75	0.67	0.75	0.74

Intersection Summary

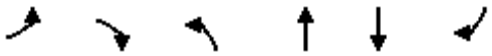
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1005	470	0	1925	1960	0
Future Volume (vph)	1005	470	0	1925	1960	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3467	1583		5085	5085	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3467	1800		5085	5085	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1058	495	0	2026	2063	0
RTOR Reduction (vph)	0	2	0	0	0	0
Lane Group Flow (vph)	1058	493	0	2026	2063	0
Confl. Peds. (#/hr)			25			25
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	50.1	50.1		75.9	75.9	
Effective Green, g (s)	51.1	51.1		76.9	76.9	
Actuated g/C Ratio	0.37	0.37		0.55	0.55	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1265	657		2793	2793	
v/s Ratio Prot	c0.31			0.40	c0.41	
v/s Ratio Perm		0.27				
v/c Ratio	0.84	0.75		0.73	0.74	
Uniform Delay, d1	40.6	38.9		23.6	23.9	
Progression Factor	1.00	1.00		1.12	0.90	
Incremental Delay, d2	5.0	4.8		1.0	1.2	
Delay (s)	45.6	43.7		27.5	22.8	
Level of Service	D	D		C	C	
Approach Delay (s)	45.0			27.5	22.8	
Approach LOS	D			C	C	

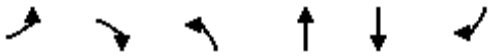
Intersection Summary			
HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	60	0	1990	1785	680
Future Volume (vph)	0	60	0	1990	1785	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.959	
Flt Protected						
Satd. Flow (prot)	0	1522	0	5085	4872	0
Flt Permitted						
Satd. Flow (perm)	0	1522	0	5085	4872	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	144.9			271.4	45.3	
Travel Time (s)	10.4			19.5	3.3	
Confl. Peds. (#/hr)			20			20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	8%	0%	2%	1%	5%
Adj. Flow (vph)	0	64	0	2117	1899	723
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	64	0	2117	2622	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.6%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	60	0	1990	1785	680
Future Volume (Veh/h)	0	60	0	1990	1785	680
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	64	0	2117	1899	723
Pedestrians	20					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	2					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				271	45	
pX, platoon unblocked	0.77	0.69	0.69			
vC, conflicting volume	2986	1014	2642			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1083	0	1806			
tC, single (s)	6.8	7.1	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	100	91	100			
cM capacity (veh/h)	164	722	234			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	64	706	706	706	760	760	1103
Volume Left	0	0	0	0	0	0	0
Volume Right	64	0	0	0	0	0	723
cSH	722	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.09	0.42	0.42	0.42	0.45	0.45	0.65
Queue Length 95th (m)	2.3	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	10.5	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.5	0.0			0.0		
Approach LOS	B						

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

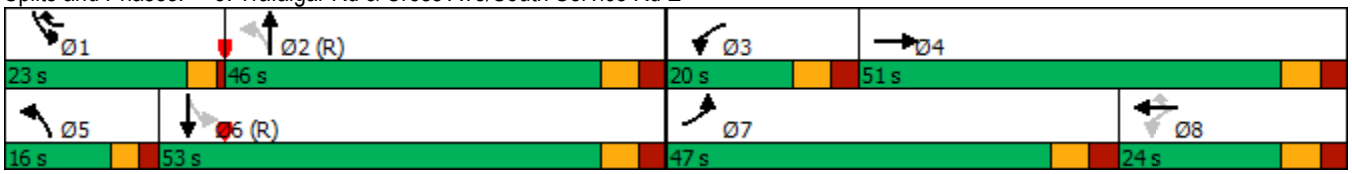
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	950	70	120	65	100	275	140	1085	30	150	1295	390
Future Volume (vph)	950	70	120	65	100	275	140	1085	30	150	1295	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		0.0	50.0		0.0	120.0		0.0	55.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.98		0.98				1.00			0.99	
Frt		0.905				0.850		0.996			0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	1619	0	1805	1900	1599	1719	5112	0	1752	4920	0
Flt Permitted	0.950			0.634			0.084			0.122		
Satd. Flow (perm)	3400	1619	0	1183	1900	1599	152	5112	0	225	4920	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		65				140		3			58	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		217.0			420.1			277.9			271.4	
Travel Time (s)		15.6			30.2			20.0			19.5	
Confl. Peds. (#/hr)			20	20			15		15	15		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Adj. Flow (vph)	979	72	124	67	103	284	144	1119	31	155	1335	402
Shared Lane Traffic (%)												
Lane Group Flow (vph)	979	196	0	67	103	284	144	1150	0	155	1737	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		12.0	10.0	7.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0		19.0	17.0	11.0	12.0	34.0		11.0	34.0	
Total Split (s)	47.0	51.0		20.0	24.0	23.0	16.0	46.0		23.0	53.0	
Total Split (%)	33.6%	36.4%		14.3%	17.1%	16.4%	11.4%	32.9%		16.4%	37.9%	
Maximum Green (s)	40.0	44.0		13.0	17.0	19.0	11.0	39.0		19.0	46.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	1.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0						7.0			7.0	
Flash Dont Walk (s)		28.0						20.0			20.0	
Pedestrian Calls (#/hr)		10						15			15	
Act Effct Green (s)	41.0	46.5		27.7	14.7	34.9	63.1	49.1		66.7	50.3	
Actuated g/C Ratio	0.29	0.33		0.20	0.10	0.25	0.45	0.35		0.48	0.36	
v/c Ratio	0.98	0.34		0.23	0.52	0.56	0.71	0.64		0.59	0.96	
Control Delay	73.8	25.6		28.5	68.2	26.0	50.4	41.2		40.7	56.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	73.8	25.6		28.5	68.2	26.0	50.4	41.2		40.7	56.1	
LOS	E	C		C	E	C	D	D		D	E	
Approach Delay		65.8			35.9			42.2			54.9	
Approach LOS		E			D			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 52.4 Intersection LOS: D
Intersection Capacity Utilization 95.6% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 5: Trafalgar Rd & Cross Ave/South Service Rd E



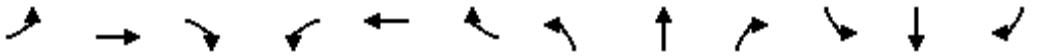
5: Trafalgar Rd & Cross Ave/South Service Rd E



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	979	196	67	103	284	144	1150	155	1737
v/c Ratio	0.98	0.34	0.23	0.52	0.56	0.71	0.64	0.59	0.96
Control Delay	73.8	25.6	28.5	68.2	26.0	50.4	41.2	40.7	56.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.8	25.6	28.5	68.2	26.0	50.4	41.2	40.7	56.1
Queue Length 50th (m)	146.4	29.2	11.2	28.9	36.5	32.8	85.3	29.5	139.4
Queue Length 95th (m)	#192.6	50.4	20.1	47.8	61.4	m44.3	m106.3	m49.4	#220.5
Internal Link Dist (m)		193.0		396.1			253.9		247.4
Turn Bay Length (m)	130.0		50.0			120.0		55.0	
Base Capacity (vph)	995	595	304	244	564	209	1794	329	1804
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.33	0.22	0.42	0.50	0.69	0.64	0.47	0.96

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	950	70	120	65	100	275	140	1085	30	150	1295	390
Future Volume (vph)	950	70	120	65	100	275	140	1085	30	150	1295	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.98		1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3400	1620		1785	1900	1599	1719	5111		1752	4921	
Flt Permitted	0.95	1.00		0.63	1.00	1.00	0.08	1.00		0.12	1.00	
Satd. Flow (perm)	3400	1620		1192	1900	1599	152	5111		226	4921	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	979	72	124	67	103	284	144	1119	31	155	1335	402
RTOR Reduction (vph)	0	43	0	0	0	110	0	2	0	0	38	0
Lane Group Flow (vph)	979	153	0	67	103	174	144	1148	0	155	1699	0
Confl. Peds. (#/hr)			20	20			15		15	15		15
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Actuated Green, G (s)	40.0	45.5		24.7	15.1	28.3	57.7	46.7		61.1	47.9	
Effective Green, g (s)	41.0	46.5		26.7	16.1	30.3	59.7	47.7		63.1	48.9	
Actuated g/C Ratio	0.29	0.33		0.19	0.12	0.22	0.43	0.34		0.45	0.35	
Clearance Time (s)	7.0	7.0		7.0	7.0	4.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	995	538		272	218	346	199	1741		256	1718	
v/s Ratio Prot	c0.29	0.09		0.02	0.05	c0.05	c0.06	0.22		c0.06	c0.35	
v/s Ratio Perm				0.03		0.06	0.25			0.21		
v/c Ratio	0.98	0.28		0.25	0.47	0.50	0.72	0.66		0.61	0.99	
Uniform Delay, d1	49.2	34.5		47.6	58.0	48.2	32.3	39.2		26.2	45.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.33	1.02		1.61	1.06	
Incremental Delay, d2	24.5	0.4		0.6	2.2	1.2	7.4	1.2		2.9	16.0	
Delay (s)	73.6	34.9		48.2	60.2	49.4	50.5	41.3		45.1	64.1	
Level of Service	E	C		D	E	D	D	D		D	E	
Approach Delay (s)		67.2			51.7			42.4			62.5	
Approach LOS		E			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	57.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
Analysis Period (min)	15		

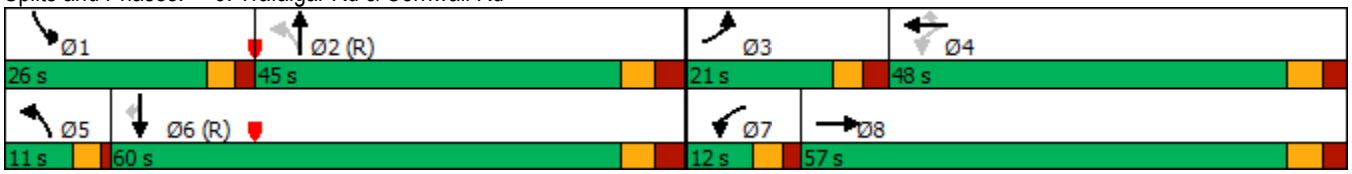
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	420	45	55	530	615	60	520	60	495	560	300
Future Volume (vph)	360	420	45	55	530	615	60	520	60	495	560	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.97	1.00		0.99		0.93	1.00	1.00		0.98		0.98
Frt		0.986				0.850		0.984				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	3482	0	1805	3539	1583	1770	3539	0	3433	1881	1553
Flt Permitted	0.950			0.478			0.240			0.950		
Satd. Flow (perm)	3368	3482	0	898	3539	1470	445	3539	0	3373	1881	1516
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9				326		9				247
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			277.9	
Travel Time (s)		41.4			45.2			10.0			20.0	
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Adj. Flow (vph)	371	433	46	57	546	634	62	536	62	510	577	309
Shared Lane Traffic (%)												
Lane Group Flow (vph)	371	479	0	57	546	634	62	598	0	510	577	309
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

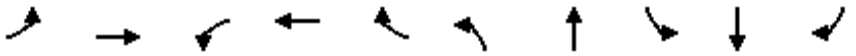
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	21.0	57.0		12.0	48.0	48.0	11.0	45.0		26.0	60.0	60.0
Total Split (%)	15.0%	40.7%		8.6%	34.3%	34.3%	7.9%	32.1%		18.6%	42.9%	42.9%
Maximum Green (s)	15.3	50.6		7.0	41.6	41.6	7.0	38.1		21.0	53.1	53.1
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		30			30	30		15			15	15
Act Effct Green (s)	17.7	53.4		50.8	41.0	41.0	49.7	38.8		22.4	56.5	56.5
Actuated g/C Ratio	0.13	0.38		0.36	0.29	0.29	0.36	0.28		0.16	0.40	0.40
v/c Ratio	0.85	0.36		0.15	0.53	0.96	0.27	0.61		0.93	0.76	0.41
Control Delay	79.3	37.3		22.1	43.2	49.7	24.0	46.5		91.6	41.1	13.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	79.3	37.3		22.1	43.2	49.7	24.0	46.5		91.6	41.1	13.4
LOS	E	D		C	D	D	C	D		F	D	B
Approach Delay		55.6			45.6			44.4			53.5	
Approach LOS		E			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 50.1		Intersection LOS: D	
Intersection Capacity Utilization 94.5%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd



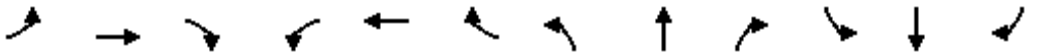
6: Trafalgar Rd & Cornwall Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	371	479	57	546	634	62	598	510	577	309
v/c Ratio	0.85	0.36	0.15	0.53	0.96	0.27	0.61	0.93	0.76	0.41
Control Delay	79.3	37.3	22.1	43.2	49.7	24.0	46.5	91.6	41.1	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.3	37.3	22.1	43.2	49.7	24.0	46.5	91.6	41.1	13.4
Queue Length 50th (m)	56.0	53.0	8.9	69.0	102.4	9.6	79.5	81.6	93.2	25.2
Queue Length 95th (m)	#87.2	74.9	17.6	87.8	#185.9	18.1	99.3	m#87.2	m98.6	m28.2
Internal Link Dist (m)		551.4		604.3			115.4		253.9	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	438	1334	380	1082	676	233	1021	550	776	771
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.36	0.15	0.50	0.94	0.27	0.59	0.93	0.74	0.40

Intersection Summary

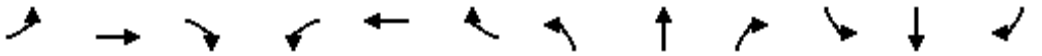
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	420	45	55	530	615	60	520	60	495	560	300
Future Volume (vph)	360	420	45	55	530	615	60	520	60	495	560	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.93	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3467	3481		1796	3539	1470	1768	3541		3433	1881	1516
Flt Permitted	0.95	1.00		0.48	1.00	1.00	0.24	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3467	3481		904	3539	1470	447	3541		3433	1881	1516
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	371	433	46	57	546	634	62	536	62	510	577	309
RTOR Reduction (vph)	0	6	0	0	0	228	0	7	0	0	0	150
Lane Group Flow (vph)	371	473	0	57	546	406	62	591	0	510	577	159
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	16.7	52.4		47.0	41.0	41.0	42.5	36.9		21.4	53.7	53.7
Effective Green, g (s)	17.7	53.4		49.0	42.0	42.0	44.5	37.9		22.4	54.7	54.7
Actuated g/C Ratio	0.13	0.38		0.35	0.30	0.30	0.32	0.27		0.16	0.39	0.39
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Lane Grp Cap (vph)	438	1327		361	1061	441	204	958		549	734	592
v/s Ratio Prot	c0.11	0.14		0.01	0.15		0.01	0.17		c0.15	c0.31	
v/s Ratio Perm				0.05		c0.28	0.08					0.10
v/c Ratio	0.85	0.36		0.16	0.51	0.92	0.30	0.62		0.93	0.79	0.27
Uniform Delay, d1	59.8	31.0		30.5	40.6	47.4	34.9	44.7		58.0	37.5	29.0
Progression Factor	1.03	1.18		1.00	1.00	1.00	1.00	1.00		1.38	1.00	1.83
Incremental Delay, d2	13.8	0.2		0.3	0.4	24.4	0.8	3.0		12.4	3.9	0.5
Delay (s)	75.5	36.8		30.8	41.0	71.8	35.8	47.7		92.2	41.3	53.5
Level of Service	E	D		C	D	E	D	D		F	D	D
Approach Delay (s)		53.7			56.3			46.6			62.6	
Approach LOS		D			E			D			E	

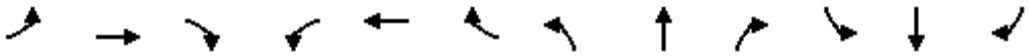
Intersection Summary			
HCM 2000 Control Delay	56.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	94.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	25	0	0	520	170	0	0	0	30	5	65
Future Volume (vph)	10	25	0	0	520	170	0	0	0	30	5	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.967						0.912	
Flt Protected		0.986									0.985	
Satd. Flow (prot)	0	1822	0	0	1745	0	0	1900	0	0	1707	0
Flt Permitted		0.986									0.985	
Satd. Flow (perm)	0	1822	0	0	1745	0	0	1900	0	0	1707	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		175.8			144.9			44.8			92.1	
Travel Time (s)		12.7			10.4			3.2			6.6	
Confl. Peds. (#/hr)			10	10					10	10		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	4%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	11	27	0	0	559	183	0	0	0	32	5	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	0	0	742	0	0	0	0	0	107	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 50.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	25	0	0	520	170	0	0	0	30	5	65
Future Volume (Veh/h)	10	25	0	0	520	170	0	0	0	30	5	65
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	11	27	0	0	559	183	0	0	0	32	5	70
Pedestrians					10			10				
Lane Width (m)					3.6			3.6				
Walking Speed (m/s)					1.2			1.2				
Percent Blockage					1			1				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		355										
pX, platoon unblocked												
vC, conflicting volume	742			37			782	801	47	710	710	650
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	742			37			782	801	47	710	710	650
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	91	99	85
cM capacity (veh/h)	874			1573			258	313	1011	343	354	472

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	38	742	0	107
Volume Left	11	0	0	32
Volume Right	0	183	0	70
cSH	874	1573	1700	419
Volume to Capacity	0.01	0.00	0.02	0.26
Queue Length 95th (m)	0.3	0.0	0.0	8.0
Control Delay (s)	2.7	0.0	0.0	16.5
Lane LOS	A		A	C
Approach Delay (s)	2.7	0.0	0.0	16.5
Approach LOS			A	C

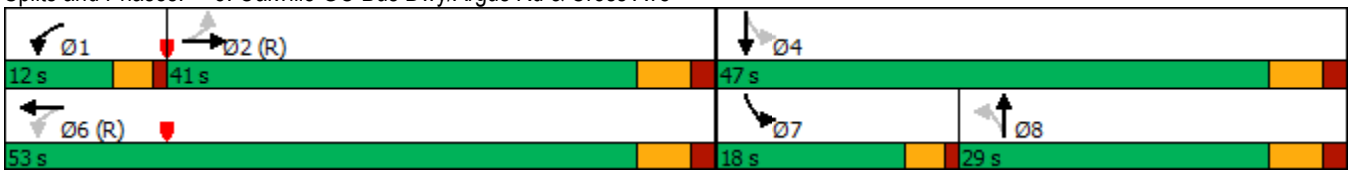
Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	50.9%	ICU Level of Service	A	
Analysis Period (min)	15			

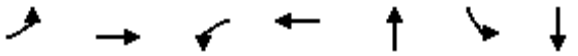
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	810	15	15	510	75	15	0	30	220	15	205
Future Volume (vph)	25	810	15	15	510	75	15	0	30	220	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	30.0			15.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		1.00	0.99			0.94		0.95	0.94	
Frt		0.997			0.981			0.910			0.860	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1805	3533	0	902	3487	0	0	831	0	1787	1437	0
Flt Permitted	0.413			0.217				0.851		0.725		
Satd. Flow (perm)	774	3533	0	205	3487	0	0	708	0	1294	1437	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			22			120			220	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		107.3			217.0			71.0			179.3	
Travel Time (s)		7.7			15.6			5.1			12.9	
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Adj. Flow (vph)	27	871	16	16	548	81	16	0	32	237	16	220
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	887	0	16	629	0	0	48	0	237	236	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	22.0	22.0		8.0	22.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	29.0	29.0		12.0	29.0		29.0	29.0		9.0	29.0	
Total Split (s)	41.0	41.0		12.0	53.0		29.0	29.0		18.0	47.0	
Total Split (%)	41.0%	41.0%		12.0%	53.0%		29.0%	29.0%		18.0%	47.0%	
Maximum Green (s)	35.0	35.0		8.0	47.0		23.0	23.0		14.0	41.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	5.0	5.0		2.5	5.0		4.0	4.0		3.0	4.0	
Recall Mode	C-Min	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	16.0	16.0			16.0		16.0	16.0			16.0	
Pedestrian Calls (#/hr)	15	15			15		45	45			45	
Act Effct Green (s)	51.1	51.1		57.9	55.9			18.8		36.1	34.1	
Actuated g/C Ratio	0.51	0.51		0.58	0.56			0.19		0.36	0.34	
v/c Ratio	0.07	0.49		0.09	0.32			0.21		0.44	0.37	
Control Delay	20.2	21.0		14.1	14.1			2.0		24.2	5.0	
Queue Delay	0.0	0.8		0.0	0.0			0.0		0.0	0.0	
Total Delay	20.2	21.8		14.1	14.1			2.0		24.2	5.0	
LOS	C	C		B	B			A		C	A	
Approach Delay		21.8			14.1			2.0			14.6	
Approach LOS		C			B			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay: 17.3		Intersection LOS: B	
Intersection Capacity Utilization 50.3%		ICU Level of Service A	
Analysis Period (min) 15			

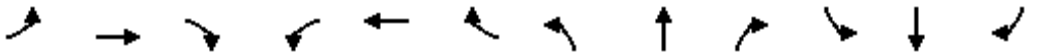
Splits and Phases: 8: Oakville GO Bus Dwy/Argus Rd & Cross Ave





Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	27	887	16	629	48	237	236
v/c Ratio	0.07	0.49	0.09	0.32	0.21	0.44	0.37
Control Delay	20.2	21.0	14.1	14.1	2.0	24.2	5.0
Queue Delay	0.0	0.8	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	21.8	14.1	14.1	2.0	24.2	5.0
Queue Length 50th (m)	3.0	67.4	1.7	42.1	0.0	28.7	1.8
Queue Length 95th (m)	9.9	103.0	5.2	53.1	0.0	48.4	16.4
Internal Link Dist (m)		83.3		193.0	47.0		155.3
Turn Bay Length (m)	20.0		20.0			15.0	
Base Capacity (vph)	395	1806	181	1978	261	550	738
Starvation Cap Reductn	0	563	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.71	0.09	0.32	0.18	0.43	0.32

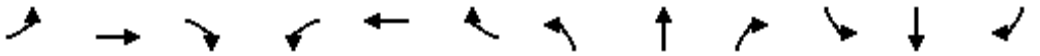
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	810	15	15	510	75	15	0	30	220	15	205
Future Volume (vph)	25	810	15	15	510	75	15	0	30	220	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99			0.95		1.00	0.94	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			0.99		0.96	1.00	
Frt	1.00	1.00		1.00	0.98			0.91		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1780	3534		902	3486			819		1722	1437	
Flt Permitted	0.41	1.00		0.22	1.00			0.85		0.72	1.00	
Satd. Flow (perm)	774	3534		206	3486			708		1314	1437	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	27	871	16	16	548	81	16	0	32	237	16	220
RTOR Reduction (vph)	0	1	0	0	10	0	0	40	0	0	142	0
Lane Group Flow (vph)	27	886	0	16	619	0	0	8	0	237	94	0
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	46.5	46.5		53.7	53.7			15.8		34.3	34.3	
Effective Green, g (s)	47.5	47.5		54.7	54.7			16.8		35.3	35.3	
Actuated g/C Ratio	0.48	0.48		0.55	0.55			0.17		0.35	0.35	
Clearance Time (s)	6.0	6.0		4.0	6.0			6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0		2.5	5.0			4.0		3.0	4.0	
Lane Grp Cap (vph)	367	1678		141	1906			118		527	507	
v/s Ratio Prot		c0.25		0.00	c0.18					c0.07	0.07	
v/s Ratio Perm	0.03			0.06				0.01		c0.09		
v/c Ratio	0.07	0.53		0.11	0.32			0.07		0.45	0.18	
Uniform Delay, d1	14.3	18.4		11.9	12.5			35.0		24.3	22.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.4	1.2		0.3	0.5			0.3		0.6	0.2	
Delay (s)	14.7	19.6		12.1	12.9			35.3		24.9	22.6	
Level of Service	B	B		B	B			D		C	C	
Approach Delay (s)		19.4			12.9			35.3			23.8	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	18.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	50.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



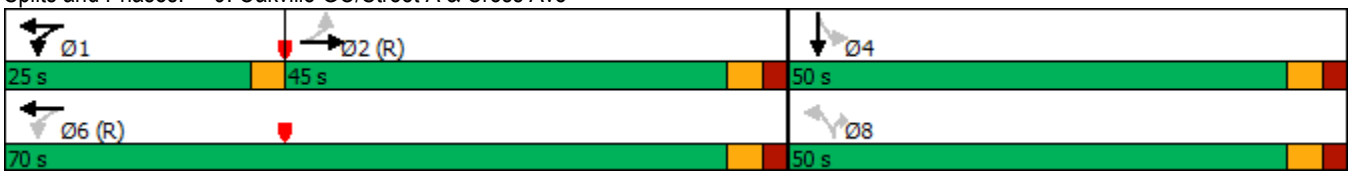
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	450	80	360	415	10	130	0	310	95	0	45
Future Volume (vph)	50	450	80	360	415	10	130	0	310	95	0	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00		0.99		0.97		0.98	
Frt		0.979			0.998				0.850		0.956	
Flt Protected		0.996			0.978		0.950				0.967	
Satd. Flow (prot)	0	3392	0	0	3431	0	1805	0	1615	0	1741	0
Flt Permitted		0.800			0.572		0.670				0.967	
Satd. Flow (perm)	0	2719	0	0	2000	0	1258	0	1570	0	1721	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			2				337		51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		139.5			107.3			62.6			201.6	
Travel Time (s)		10.0			7.7			4.5			14.5	
Confl. Peds. (#/hr)	30		10	10		30	10		10	10		10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	54	489	87	391	451	11	141	0	337	103	0	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	630	0	0	853	0	141	0	337	0	152	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1		1	1	2	
Detector Template	Left	Thru		Left	Thru		Left		Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0		2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0		2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4						9.4	
Detector 2 Size(m)		0.6			0.6						0.6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type	Perm	NA		custom	NA		Perm		Perm	Perm	NA	
Protected Phases		2		1	1 6						4	
Permitted Phases	2			6			8		8	4		

Lane Group	Ø6
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (k/h)	
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(m)	
Detector 2 Size(m)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	6
Permitted Phases	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		1	1 6		8		8	4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		8.0			10.0		10.0	10.0	10.0	
Minimum Split (s)	40.6	40.6		11.0			27.6		27.6	27.6	27.6	
Total Split (s)	45.0	45.0		25.0			50.0		50.0	50.0	50.0	
Total Split (%)	37.5%	37.5%		20.8%			41.7%		41.7%	41.7%	41.7%	
Maximum Green (s)	39.4	39.4		22.0			44.4		44.4	44.4	44.4	
Yellow Time (s)	3.3	3.3		3.0			3.3		3.3	3.3	3.3	
All-Red Time (s)	2.3	2.3		0.0			2.3		2.3	2.3	2.3	
Lost Time Adjust (s)		-1.0					-1.0		-1.0		-1.0	
Total Lost Time (s)		4.6					4.6		4.6		4.6	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	5.0	5.0		2.5			3.5		3.5	3.0	3.0	
Recall Mode	C-Min	C-Min		None			None		None	None	None	
Walk Time (s)	7.0	7.0					7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	15.0	15.0					15.0		15.0	15.0	15.0	
Pedestrian Calls (#/hr)	20	20					10		10	10	10	
Act Effct Green (s)		72.1			92.7		20.7		20.7		20.7	
Actuated g/C Ratio		0.60			0.77		0.17		0.17		0.17	
v/c Ratio		0.38			0.49		0.65		0.61		0.45	
Control Delay		14.8			5.7		59.4		9.3		32.0	
Queue Delay		0.0			0.9		0.0		0.0		0.0	
Total Delay		14.8			6.6		59.4		9.3		32.0	
LOS		B			A		E		A		C	
Approach Delay		14.8			6.6			24.1			32.0	
Approach LOS		B			A			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 14.8		Intersection LOS: B	
Intersection Capacity Utilization 78.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 9: Oakville GO/Street A & Cross Ave



Lane Group	Ø6
Detector Phase	
Switch Phase	
Minimum Initial (s)	35.0
Minimum Split (s)	40.6
Total Split (s)	70.0
Total Split (%)	58%
Maximum Green (s)	64.4
Yellow Time (s)	3.3
All-Red Time (s)	2.3
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	5.0
Recall Mode	C-Min
Walk Time (s)	7.0
Flash Dont Walk (s)	15.0
Pedestrian Calls (#/hr)	20
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary



Lane Group	EBT	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	630	853	141	337	152
v/c Ratio	0.38	0.49	0.65	0.61	0.45
Control Delay	14.8	5.7	59.4	9.3	32.0
Queue Delay	0.0	0.9	0.0	0.0	0.0
Total Delay	14.8	6.6	59.4	9.3	32.0
Queue Length 50th (m)	38.7	28.0	33.0	0.0	22.3
Queue Length 95th (m)	70.7	49.7	51.0	24.1	39.8
Internal Link Dist (m)	115.5	83.3			177.6
Turn Bay Length (m)					
Base Capacity (vph)	1639	1820	475	803	682
Starvation Cap Reductn	0	630	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.38	0.72	0.30	0.42	0.22

Intersection Summary

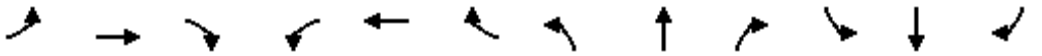
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	450	80	360	415	10	130	0	310	95	0	45
Future Volume (vph)	50	450	80	360	415	10	130	0	310	95	0	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6			2.0		4.6		4.6		4.6	
Lane Util. Factor		0.95			0.95		1.00		1.00		1.00	
Frpb, ped/bikes		0.99			1.00		1.00		0.97		0.99	
Flpb, ped/bikes		1.00			1.00		0.99		1.00		0.99	
Frt		0.98			1.00		1.00		0.85		0.96	
Flt Protected		1.00			0.98		0.95		1.00		0.97	
Satd. Flow (prot)		3385			3422		1786		1570		1723	
Flt Permitted		0.80			0.57		0.67		1.00		0.97	
Satd. Flow (perm)		2721			2003		1259		1570		1723	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	489	87	391	451	11	141	0	337	103	0	49
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	279	0	42	0
Lane Group Flow (vph)	0	624	0	0	853	0	141	0	58	0	110	0
Confl. Peds. (#/hr)	30		10	10		30	10		10	10		10
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		custom	NA		Perm		Perm	Perm	NA	
Protected Phases		2		1	1 6						4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)		71.0			89.1		19.7		19.7		19.7	
Effective Green, g (s)		72.0			90.1		20.7		20.7		20.7	
Actuated g/C Ratio		0.60			0.75		0.17		0.17		0.17	
Clearance Time (s)		5.6					5.6		5.6		5.6	
Vehicle Extension (s)		5.0					3.5		3.5		3.0	
Lane Grp Cap (vph)		1632			1694		217		270		297	
v/s Ratio Prot					c0.07							
v/s Ratio Perm		c0.23			0.31		c0.11		0.04		0.06	
v/c Ratio		0.38			0.50		0.65		0.22		0.37	
Uniform Delay, d1		12.5			6.0		46.3		42.7		43.9	
Progression Factor		1.00			1.00		1.00		1.00		1.00	
Incremental Delay, d2		0.7			0.2		6.8		0.5		0.8	
Delay (s)		13.1			6.2		53.1		43.1		44.7	
Level of Service		B			A		D		D		D	
Approach Delay (s)		13.1			6.2			46.1			44.7	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	375	0	0	460	130	0	0	80	120	0	95
Future Volume (vph)	40	375	0	0	460	130	0	0	80	120	0	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (m)	25.0			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.967			0.865				0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1805	3438	0	0	3378	0	0	1644	0	1805	0	1615
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1805	3438	0	0	3378	0	0	1644	0	1805	0	1615
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		132.8			139.5			48.2			88.5	
Travel Time (s)		9.6			10.0			3.5			6.4	
Confl. Peds. (#/hr)	15		10	10		15	5		5	5		5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	5%	0%	0%	4%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	45	426	0	0	523	148	0	0	91	136	0	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	426	0	0	671	0	0	91	0	136	0	108
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

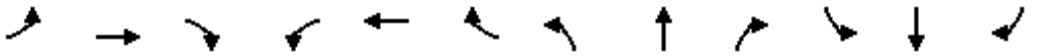
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	375	0	0	460	130	0	0	80	120	0	95
Future Volume (Veh/h)	40	375	0	0	460	130	0	0	80	120	0	95
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	45	426	0	0	523	148	0	0	91	136	0	108
Pedestrians		5			5			10			15	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		133			140							
pX, platoon unblocked												
vC, conflicting volume	686			436			900	1212	228	1011	1138	356
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	686			436			900	1212	228	1011	1138	356
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			100			100	100	88	16	100	83
cM capacity (veh/h)	906			1125			184	171	771	161	189	636

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	45	213	213	349	322	91	136	108
Volume Left	45	0	0	0	0	0	136	0
Volume Right	0	0	0	0	148	91	0	108
cSH	906	1700	1700	1700	1700	771	161	636
Volume to Capacity	0.05	0.13	0.13	0.21	0.19	0.12	0.84	0.17
Queue Length 95th (m)	1.3	0.0	0.0	0.0	0.0	3.2	45.8	4.9
Control Delay (s)	9.2	0.0	0.0	0.0	0.0	10.3	90.3	11.8
Lane LOS	A					B	F	B
Approach Delay (s)	0.9			0.0		10.3	55.6	
Approach LOS						B	F	

Intersection Summary				
Average Delay	10.1			
Intersection Capacity Utilization	43.8%	ICU Level of Service		A
Analysis Period (min)	15			

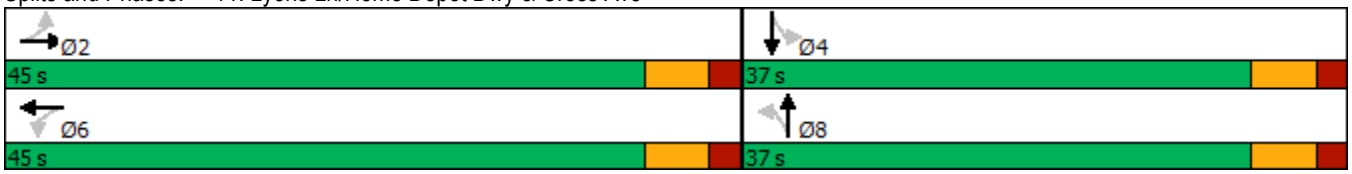


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	310	30	20	510	15	140	5	85	25	5	95
Future Volume (vph)	70	310	30	20	510	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	25.0		0.0	35.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		0.99	1.00		1.00	0.98		0.99	0.98	
Frt		0.987			0.996			0.858			0.858	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3370	0	1805	3455	0	1805	1595	0	1805	1588	0
Flt Permitted	0.411			0.516			0.681			0.689		
Satd. Flow (perm)	770	3370	0	975	3455	0	1288	1595	0	1296	1588	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			5			100			112	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		47.5			132.8			150.8			63.6	
Travel Time (s)		3.4			9.6			10.9			4.6	
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	82	365	35	24	600	18	165	6	100	29	6	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	400	0	24	618	0	165	106	0	29	118	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

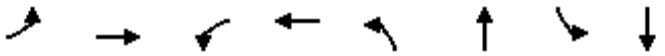
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		35.0	35.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	41.0	41.0		41.0	41.0		28.0	28.0		28.0	28.0	
Total Split (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Total Split (%)	54.9%	54.9%		54.9%	54.9%		45.1%	45.1%		45.1%	45.1%	
Maximum Green (s)	39.0	39.0		39.0	39.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	15	15		15	15		10	10		10	10	
Act Effct Green (s)	36.2	36.2		36.2	36.2		15.5	15.5		15.5	15.5	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
v/c Ratio	0.18	0.20		0.04	0.30		0.51	0.22		0.09	0.25	
Control Delay	8.5	6.7		7.2	7.5		25.5	6.1		17.5	5.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	8.5	6.7		7.2	7.5		25.5	6.1		17.5	5.9	
LOS	A	A		A	A		C	A		B	A	
Approach Delay		7.0			7.5			17.9			8.2	
Approach LOS		A			A			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 61.7			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 9.3		Intersection LOS: A	
Intersection Capacity Utilization 82.0%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 11: Lyons Ln/Home Depot Dwy & Cross Ave



11: Lyons Ln/Home Depot Dwy & Cross Ave



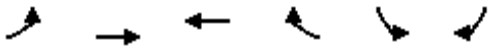
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	82	400	24	618	165	106	29	118
v/c Ratio	0.18	0.20	0.04	0.30	0.51	0.22	0.09	0.25
Control Delay	8.5	6.7	7.2	7.5	25.5	6.1	17.5	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.5	6.7	7.2	7.5	25.5	6.1	17.5	5.9
Queue Length 50th (m)	3.8	9.4	1.0	16.3	16.8	0.5	2.7	0.5
Queue Length 95th (m)	12.3	19.6	4.5	31.3	30.4	8.9	7.5	9.3
Internal Link Dist (m)		23.5		108.8		126.8		39.6
Turn Bay Length (m)			25.0		35.0			
Base Capacity (vph)	501	2201	635	2253	671	879	675	881
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.18	0.04	0.27	0.25	0.12	0.04	0.13

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	310	30	20	510	15	140	5	85	25	5	95
Future Volume (vph)	70	310	30	20	510	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1784	3370		1798	3455		1799	1600		1792	1589	
Flt Permitted	0.41	1.00		0.52	1.00		0.68	1.00		0.69	1.00	
Satd. Flow (perm)	771	3370		977	3455		1290	1600		1299	1589	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	82	365	35	24	600	18	165	6	100	29	6	112
RTOR Reduction (vph)	0	7	0	0	2	0	0	75	0	0	84	0
Lane Group Flow (vph)	82	393	0	24	616	0	165	31	0	29	34	0
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.2	35.2		35.2	35.2		14.4	14.4		14.4	14.4	
Effective Green, g (s)	36.2	36.2		36.2	36.2		15.4	15.4		15.4	15.4	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	453	1980		574	2030		322	400		324	397	
v/s Ratio Prot		0.12			c0.18			0.02			0.02	
v/s Ratio Perm	0.11			0.02			c0.13			0.02		
v/c Ratio	0.18	0.20		0.04	0.30		0.51	0.08		0.09	0.09	
Uniform Delay, d1	5.9	5.9		5.4	6.4		19.9	17.7		17.7	17.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.1		0.1	0.2		1.8	0.1		0.2	0.1	
Delay (s)	6.3	6.0		5.4	6.6		21.7	17.8		17.9	17.8	
Level of Service	A	A		A	A		C	B		B	B	
Approach Delay (s)		6.1			6.5			20.2			17.8	
Approach LOS		A			A			C			B	

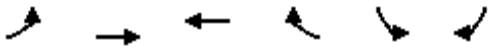
Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	61.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	405	715	30	20	25
Future Volume (vph)	25	405	715	30	20	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.994		0.926	
Flt Protected	0.950				0.978	
Satd. Flow (prot)	1805	3471	3488	0	1721	0
Flt Permitted	0.950				0.978	
Satd. Flow (perm)	1805	3471	3488	0	1721	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		443.3	47.5		121.4	
Travel Time (s)		31.9	3.4		8.7	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	4%	3%	0%	0%	0%
Adj. Flow (vph)	27	445	786	33	22	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	445	819	0	49	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

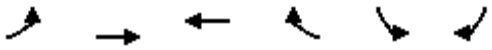
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.8%		ICU Level of Service A	
Analysis Period (min) 15			



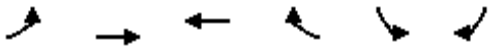
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	405	715	30	20	25
Future Volume (Veh/h)	25	405	715	30	20	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	27	445	786	33	22	27
Pedestrians					15	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			48			
pX, platoon unblocked	0.92				0.92	0.92
vC, conflicting volume	834				1094	424
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	645				928	200
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				91	96
cM capacity (veh/h)	862				238	739

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	27	222	222	524	295	49
Volume Left	27	0	0	0	0	22
Volume Right	0	0	0	0	33	27
cSH	862	1700	1700	1700	1700	380
Volume to Capacity	0.03	0.13	0.13	0.31	0.17	0.13
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0	3.5
Control Delay (s)	9.3	0.0	0.0	0.0	0.0	15.9
Lane LOS	A					C
Approach Delay (s)	0.5			0.0		15.9
Approach LOS						C

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	30.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	325	680	895	100	110	620
Future Volume (vph)	325	680	895	100	110	620
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0			0.0	60.0	0.0
Storage Lanes	1			0	1	2
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.88
Ped Bike Factor	1.00		1.00			
Frt			0.985			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1719	3574	3515	0	1805	2760
Flt Permitted	0.207				0.950	
Satd. Flow (perm)	374	3574	3515	0	1805	2760
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			12			660
Link Speed (k/h)		50	50		50	
Link Distance (m)		209.5	575.4		443.3	
Travel Time (s)		15.1	41.4		31.9	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Adj. Flow (vph)	346	723	952	106	117	660
Shared Lane Traffic (%)						
Lane Group Flow (vph)	346	723	1058	0	117	660
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		7.2	7.2		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			

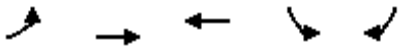


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	6.0	38.0	38.0		10.0	10.0
Minimum Split (s)	12.0	47.6	47.6		33.8	33.8
Total Split (s)	35.0	109.2	74.2		30.8	30.8
Total Split (%)	25.0%	78.0%	53.0%		22.0%	22.0%
Maximum Green (s)	29.0	102.6	67.6		25.0	25.0
Yellow Time (s)	4.0	3.7	3.7		3.3	3.3
All-Red Time (s)	2.0	2.9	2.9		2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.6	5.6		4.8	4.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Recall Mode	None	C-Min	C-Min		None	None
Walk Time (s)		10.0	10.0		10.0	10.0
Flash Dont Walk (s)		31.0	31.0		18.0	18.0
Pedestrian Calls (#/hr)		10	10		0	0
Act Effct Green (s)	114.3	113.7	89.4		15.9	15.9
Actuated g/C Ratio	0.82	0.81	0.64		0.11	0.11
v/c Ratio	0.71	0.25	0.47		0.57	0.73
Control Delay	14.8	3.6	13.5		69.0	9.2
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	14.8	3.6	13.5		69.0	9.2
LOS	B	A	B		E	A
Approach Delay		7.2	13.5		18.2	
Approach LOS		A	B		B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 12.4		Intersection LOS: B	
Intersection Capacity Utilization 73.3%		ICU Level of Service D	
Analysis Period (min) 15			

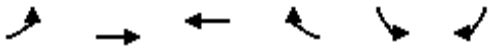
Splits and Phases: 13: Speers Rd/Cornwall Rd & Cross Ave





Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	346	723	1058	117	660
v/c Ratio	0.71	0.25	0.47	0.57	0.73
Control Delay	14.8	3.6	13.5	69.0	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	3.6	13.5	69.0	9.2
Queue Length 50th (m)	18.5	21.0	40.5	33.0	0.0
Queue Length 95th (m)	52.5	34.0	171.8	51.8	18.9
Internal Link Dist (m)		185.5	551.4	419.3	
Turn Bay Length (m)	70.0			60.0	
Base Capacity (vph)	595	2901	2249	335	1050
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.58	0.25	0.47	0.35	0.63

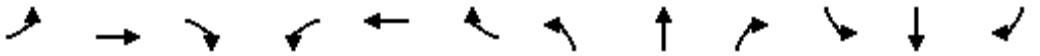
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	325	680	895	100	110	620
Future Volume (vph)	325	680	895	100	110	620
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		4.8	4.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1718	3574	3514		1805	2760
Flt Permitted	0.21	1.00	1.00		0.95	1.00
Satd. Flow (perm)	375	3574	3514		1805	2760
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	346	723	952	106	117	660
RTOR Reduction (vph)	0	0	4	0	0	585
Lane Group Flow (vph)	346	723	1054	0	117	75
Confl. Peds. (#/hr)	15			15		
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Actuated Green, G (s)	112.7	112.7	88.4		14.9	14.9
Effective Green, g (s)	113.7	113.7	89.4		15.9	15.9
Actuated g/C Ratio	0.81	0.81	0.64		0.11	0.11
Clearance Time (s)	6.0	6.6	6.6		5.8	5.8
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Lane Grp Cap (vph)	489	2902	2243		204	313
v/s Ratio Prot	c0.10	0.20	0.30			
v/s Ratio Perm	c0.48				c0.06	0.03
v/c Ratio	0.71	0.25	0.47		0.57	0.24
Uniform Delay, d1	9.0	3.1	13.1		58.8	56.5
Progression Factor	1.00	1.00	0.86		1.00	1.00
Incremental Delay, d2	4.8	0.2	0.7		3.9	0.4
Delay (s)	13.8	3.3	11.9		62.7	56.9
Level of Service	B	A	B		E	E
Approach Delay (s)		6.7	11.9		57.8	
Approach LOS		A	B		E	

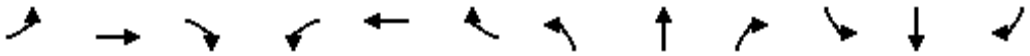
Intersection Summary			
HCM 2000 Control Delay	22.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	100	0	15	0	170	100	20	320	0
Future Volume (vph)	0	0	0	100	0	15	0	170	100	20	320	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.982			0.944				
Flt Protected					0.958						0.997	
Satd. Flow (prot)	0	1900	0	0	1757	0	0	3345	0	0	3599	0
Flt Permitted					0.958						0.997	
Satd. Flow (perm)	0	1900	0	0	1757	0	0	3345	0	0	3599	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		33.6			124.9			420.1			134.0	
Travel Time (s)		2.4			9.0			30.2			9.6	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	0%	3%	0%	0%	0%	0%
Adj. Flow (vph)	0	0	0	118	0	18	0	200	118	24	376	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	136	0	0	318	0	0	400	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	100	0	15	0	170	100	20	320	0
Future Volume (Veh/h)	0	0	0	100	0	15	0	170	100	20	320	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	118	0	18	0	200	118	24	376	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	542	742	188	495	683	159	376			318		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	542	742	188	495	683	159	376			318		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	74	100	98	100			98		
cM capacity (veh/h)	413	339	828	451	367	864	1194			1253		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	136	100	218	212	188
Volume Left	0	118	0	0	24	0
Volume Right	0	18	0	118	0	0
cSH	1700	481	1194	1700	1253	1700
Volume to Capacity	0.00	0.28	0.00	0.13	0.02	0.11
Queue Length 95th (m)	0.0	9.2	0.0	0.0	0.5	0.0
Control Delay (s)	0.0	15.4	0.0	0.0	1.0	0.0
Lane LOS	A	C			A	
Approach Delay (s)	0.0	15.4	0.0		0.6	
Approach LOS	A	C				

Intersection Summary				
Average Delay	2.7			
Intersection Capacity Utilization	33.8%	ICU Level of Service		A
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	115	70	75	130	150	115
Future Volume (vph)	115	70	75	130	150	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.949				0.942	
Flt Protected				0.982	0.972	
Satd. Flow (prot)	1772	0	0	1866	1722	0
Flt Permitted				0.982	0.972	
Satd. Flow (perm)	1772	0	0	1866	1722	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	632.0			1164.2	455.7	
Travel Time (s)	45.5			83.8	32.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	3%	0%	0%	1%	1%
Adj. Flow (vph)	129	79	84	146	169	129
Shared Lane Traffic (%)						
Lane Group Flow (vph)	208	0	0	230	298	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

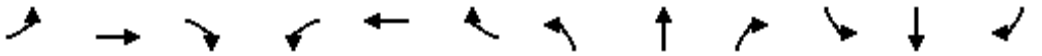
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 46.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	115	70	75	130	150	115
Future Volume (Veh/h)	115	70	75	130	150	115
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	129	79	84	146	169	129
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			208		482	168
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			208		482	168
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			94		67	85
cM capacity (veh/h)			1375		511	878

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	208	230	298
Volume Left	0	84	169
Volume Right	79	0	129
cSH	1700	1375	624
Volume to Capacity	0.12	0.06	0.48
Queue Length 95th (m)	0.0	1.6	20.6
Control Delay (s)	0.0	3.2	15.9
Lane LOS		A	C
Approach Delay (s)	0.0	3.2	15.9
Approach LOS			C

Intersection Summary			
Average Delay	7.4		
Intersection Capacity Utilization	46.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	555	100	60	700	85	155	80	45	65	50	50
Future Volume (vph)	45	555	100	60	700	85	155	80	45	65	50	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		0.99					0.98
Frt		0.977			0.984			0.946				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3447	0	1805	3475	0	1770	1786	0	1805	1827	1553
Flt Permitted	0.305			0.372			0.722			0.672		
Satd. Flow (perm)	567	3447	0	704	3475	0	1338	1786	0	1277	1827	1520
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			23			30				53
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			455.7	
Travel Time (s)		43.9			11.1			15.4			32.8	
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Adj. Flow (vph)	48	590	106	64	745	90	165	85	48	69	53	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	696	0	64	835	0	165	133	0	69	53	53
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	27.6	27.6		27.6	27.6		14.0	14.0		14.0	14.0	14.0
Actuated g/C Ratio	0.54	0.54		0.54	0.54		0.27	0.27		0.27	0.27	0.27
v/c Ratio	0.16	0.37		0.17	0.44		0.45	0.26		0.20	0.11	0.12
Control Delay	8.3	7.4		8.1	8.1		20.5	13.7		16.6	15.2	6.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	8.3	7.4		8.1	8.1		20.5	13.7		16.6	15.2	6.1
LOS	A	A		A	A		C	B		B	B	A
Approach Delay		7.4			8.1			17.5			13.0	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 51.2			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.45			
Intersection Signal Delay: 9.6		Intersection LOS: A	
Intersection Capacity Utilization 76.9%		ICU Level of Service D	
Analysis Period (min) 15			

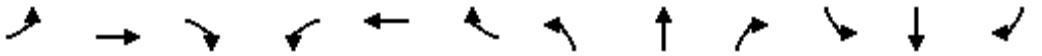
Splits and Phases: 16: Chartwell Rd & Cornwall Rd





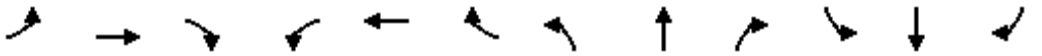
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	48	696	64	835	165	133	69	53	53
v/c Ratio	0.16	0.37	0.17	0.44	0.45	0.26	0.20	0.11	0.12
Control Delay	8.3	7.4	8.1	8.1	20.5	13.7	16.6	15.2	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.3	7.4	8.1	8.1	20.5	13.7	16.6	15.2	6.1
Queue Length 50th (m)	1.9	15.7	2.6	20.4	11.9	6.9	4.6	3.5	0.0
Queue Length 95th (m)	7.9	32.5	9.5	41.1	31.9	21.3	15.1	11.8	6.8
Internal Link Dist (m)		585.1		130.4		189.6		431.7	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	557	3390	692	3417	837	1129	799	1144	971
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.21	0.09	0.24	0.20	0.12	0.09	0.05	0.05

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	555	100	60	700	85	155	80	45	65	50	50
Future Volume (vph)	45	555	100	60	700	85	155	80	45	65	50	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.98		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1767	3450		1802	3476		1765	1786		1805	1827	1524
Flt Permitted	0.30	1.00		0.37	1.00		0.72	1.00		0.67	1.00	1.00
Satd. Flow (perm)	567	3450		705	3476		1342	1786		1277	1827	1524
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	48	590	106	64	745	90	165	85	48	69	53	53
RTOR Reduction (vph)	0	17	0	0	11	0	0	22	0	0	0	38
Lane Group Flow (vph)	48	679	0	64	824	0	165	111	0	69	53	15
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	26.6	26.6		26.6	26.6		13.0	13.0		13.0	13.0	13.0
Effective Green, g (s)	27.6	27.6		27.6	27.6		14.0	14.0		14.0	14.0	14.0
Actuated g/C Ratio	0.54	0.54		0.54	0.54		0.27	0.27		0.27	0.27	0.27
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	306	1867		381	1881		368	490		350	501	418
v/s Ratio Prot		0.20			c0.24			0.06			0.03	
v/s Ratio Perm	0.08			0.09			c0.12			0.05		0.01
v/c Ratio	0.16	0.36		0.17	0.44		0.45	0.23		0.20	0.11	0.03
Uniform Delay, d1	5.9	6.7		5.9	7.0		15.3	14.3		14.2	13.8	13.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.6	0.3		0.5	0.4		1.2	0.3		0.4	0.1	0.0
Delay (s)	6.5	7.0		6.4	7.4		16.5	14.6		14.6	14.0	13.6
Level of Service	A	A		A	A		B	B		B	B	B
Approach Delay (s)		6.9			7.4			15.7			14.1	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	8.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	51.0	Sum of lost time (s)	9.4
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

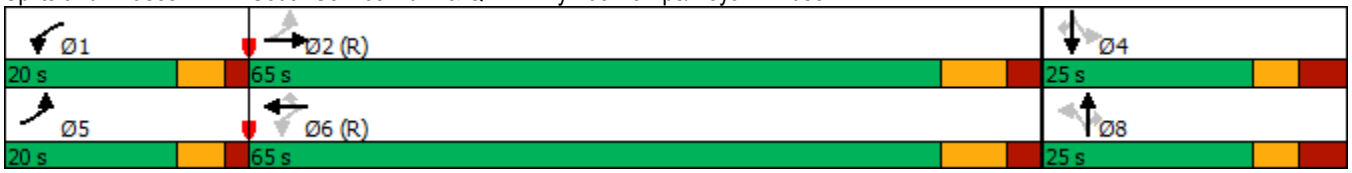


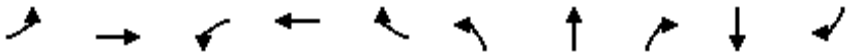
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	680	25	140	655	5	45	15	190	0	40	35
Future Volume (vph)	5	680	25	140	655	5	45	15	190	0	40	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	125.0		0.0	145.0		55.0	15.0		40.0	35.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												0.98
Frt		0.995				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3502	3386	0	1752	3505	1615	1656	1900	1599	1900	1712	1615
Flt Permitted	0.378			0.312			0.728					
Satd. Flow (perm)	1393	3386	0	576	3505	1615	1269	1900	1599	1900	1712	1585
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				107			209			113
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		232.7			227.3			1164.2			153.5	
Travel Time (s)		16.8			16.4			83.8			11.1	
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	6%	8%	3%	3%	0%	9%	0%	1%	0%	11%	0%
Adj. Flow (vph)	5	747	27	154	720	5	49	16	209	0	44	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	774	0	154	720	5	49	16	209	0	44	38
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	8.0	20.0		8.0	20.0	20.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	14.0	28.4		14.0	28.4	28.4	17.8	17.8	17.8	17.8	17.8	17.8
Total Split (s)	20.0	65.0		20.0	65.0	65.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	18.2%	59.1%		18.2%	59.1%	59.1%	22.7%	22.7%	22.7%	22.7%	22.7%	22.7%
Maximum Green (s)	14.0	56.6		14.0	56.6	56.6	17.2	17.2	17.2	17.2	17.2	17.2
Yellow Time (s)	4.0	5.4		4.0	5.4	5.4	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.0	3.0		2.0	3.0	3.0	4.1	4.1	4.1	4.1	4.1	4.1
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	80.2	68.8		85.8	80.9	80.9	12.1	12.1	12.1		12.1	12.1
Actuated g/C Ratio	0.73	0.63		0.78	0.74	0.74	0.11	0.11	0.11		0.11	0.11
v/c Ratio	0.00	0.36		0.28	0.28	0.00	0.36	0.08	0.58		0.24	0.14
Control Delay	3.2	10.8		4.3	5.9	0.0	52.4	44.0	13.0		47.4	1.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	3.2	10.8		4.3	5.9	0.0	52.4	44.0	13.0		47.4	1.1
LOS	A	B		A	A	A	D	D	B		D	A
Approach Delay		10.8			5.6			21.8			25.9	
Approach LOS		B			A			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 10.7		Intersection LOS: B	
Intersection Capacity Utilization 52.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr





Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	5	774	154	720	5	49	16	209	44	38
v/c Ratio	0.00	0.36	0.28	0.28	0.00	0.36	0.08	0.58	0.24	0.14
Control Delay	3.2	10.8	4.3	5.9	0.0	52.4	44.0	13.0	47.4	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.2	10.8	4.3	5.9	0.0	52.4	44.0	13.0	47.4	1.1
Queue Length 50th (m)	0.1	38.6	6.3	20.4	0.0	10.5	3.3	0.0	9.3	0.0
Queue Length 95th (m)	0.5	60.2	13.1	50.6	0.0	22.4	10.0	21.7	19.9	0.0
Internal Link Dist (m)		208.7		203.3			1140.2		129.5	
Turn Bay Length (m)	125.0		145.0		55.0	15.0		40.0		
Base Capacity (vph)	1371	2121	611	2579	1216	209	314	438	283	356
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.36	0.25	0.28	0.00	0.23	0.05	0.48	0.16	0.11

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	680	25	140	655	5	45	15	190	0	40	35
Future Volume (vph)	5	680	25	140	655	5	45	15	190	0	40	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8		6.8	6.8
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	3502	3386		1752	3505	1615	1656	1900	1599		1712	1579
Flt Permitted	0.38	1.00		0.31	1.00	1.00	0.73	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1393	3386		575	3505	1615	1270	1900	1599		1712	1579
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	5	747	27	154	720	5	49	16	209	0	44	38
RTOR Reduction (vph)	0	2	0	0	0	2	0	0	186	0	0	34
Lane Group Flow (vph)	5	772	0	154	720	3	49	16	23	0	44	4
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	0%	6%	8%	3%	3%	0%	9%	0%	1%	0%	11%	0%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	69.4	67.8		82.7	75.1	75.1	11.1	11.1	11.1		11.1	11.1
Effective Green, g (s)	71.4	68.8		83.7	76.1	76.1	12.1	12.1	12.1		12.1	12.1
Actuated g/C Ratio	0.65	0.63		0.76	0.69	0.69	0.11	0.11	0.11		0.11	0.11
Clearance Time (s)	6.0	8.4		6.0	8.4	8.4	7.8	7.8	7.8		7.8	7.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	954	2117		543	2424	1117	139	209	175		188	173
v/s Ratio Prot	0.00	c0.23		c0.03	0.21			0.01			0.03	
v/s Ratio Perm	0.00			0.19		0.00	c0.04		0.01			0.00
v/c Ratio	0.01	0.36		0.28	0.30	0.00	0.35	0.08	0.13		0.23	0.02
Uniform Delay, d1	6.8	10.0		4.0	6.6	5.2	45.3	43.9	44.2		44.7	43.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.5		0.3	0.3	0.0	1.5	0.2	0.3		0.6	0.1
Delay (s)	6.8	10.5		4.3	6.9	5.2	46.9	44.1	44.5		45.4	43.7
Level of Service	A	B		A	A	A	D	D	D		D	D
Approach Delay (s)		10.5			6.4			44.9			44.6	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	60	0	85	120	0
Future Volume (vph)	50	60	0	85	120	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.926					
Flt Protected					0.950	
Satd. Flow (prot)	1725	0	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1725	0	0	1863	1770	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	64.3			219.4	105.4	
Travel Time (s)	4.6			15.8	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	65	0	92	130	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	119	0	0	92	130	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	50	60	0	85	120	0
Future Volume (Veh/h)	50	60	0	85	120	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	65	0	92	130	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			119		178	86
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			119		178	86
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		84	100
cM capacity (veh/h)			1469		811	972

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	119	92	130
Volume Left	0	0	130
Volume Right	65	0	0
cSH	1700	1469	811
Volume to Capacity	0.07	0.00	0.16
Queue Length 95th (m)	0.0	0.0	4.6
Control Delay (s)	0.0	0.0	10.3
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.3
Approach LOS			B

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	0	120	85	0	60
Future Volume (vph)	50	0	120	85	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.972		
Satd. Flow (prot)	1863	0	0	1811	1611	0
Flt Permitted				0.972		
Satd. Flow (perm)	1863	0	0	1811	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	53.7			64.3	43.5	
Travel Time (s)	3.9			4.6	3.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	0	130	92	0	65
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	0	222	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

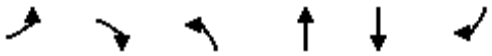
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	50	0	120	85	0	60
Future Volume (Veh/h)	50	0	120	85	0	60
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	0	130	92	0	65
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			54		406	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			54		406	54
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		100	94
cM capacity (veh/h)			1551		551	1013

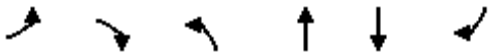
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	54	222	65
Volume Left	0	130	0
Volume Right	0	0	65
cSH	1700	1551	1013
Volume to Capacity	0.03	0.08	0.06
Queue Length 95th (m)	0.0	2.2	1.6
Control Delay (s)	0.0	4.7	8.8
Lane LOS		A	A
Approach Delay (s)	0.0	4.7	8.8
Approach LOS			A

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	28.2%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	70	130	120	60	0
Future Volume (vph)	0	70	130	120	60	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.975		
Satd. Flow (prot)	1611	0	0	1816	1863	0
Flt Permitted				0.975		
Satd. Flow (perm)	1611	0	0	1816	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	49.0			201.6	105.4	
Travel Time (s)	3.5			14.5	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	76	141	130	65	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	76	0	0	271	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	70	130	120	60	0
Future Volume (Veh/h)	0	70	130	120	60	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	76	141	130	65	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				201		
pX, platoon unblocked						
vC, conflicting volume	477	65	65			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	477	65	65			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	92	91			
cM capacity (veh/h)	497	999	1537			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	76	271	65
Volume Left	0	141	0
Volume Right	76	0	0
cSH	999	1537	1700
Volume to Capacity	0.08	0.09	0.04
Queue Length 95th (m)	2.0	2.4	0.0
Control Delay (s)	8.9	4.3	0.0
Lane LOS	A	A	
Approach Delay (s)	8.9	4.3	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	31.2%	ICU Level of Service	A
Analysis Period (min)	15		

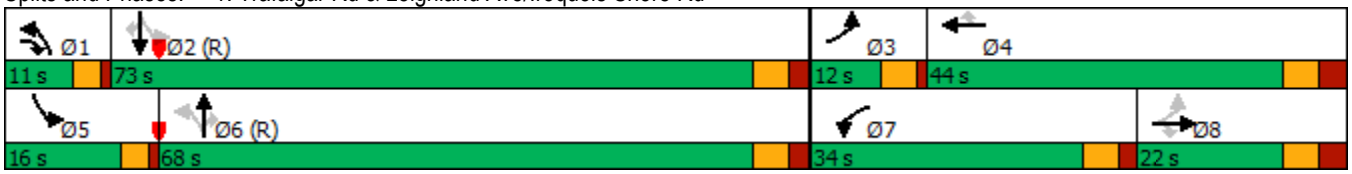
7) 2036 Future Background Traffic Conditions (With Corridor Growth)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	135	335	685	75	120	145	1495	775	195	2755	50
Future Volume (vph)	35	135	335	685	75	120	145	1495	775	195	2755	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.96					0.95			0.97			0.93
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1863	1568	3367	1827	1553	1719	4988	1568	1787	5085	1524
Flt Permitted	0.708			0.950			0.063			0.084		
Satd. Flow (perm)	1257	1863	1568	3367	1827	1470	114	4988	1525	158	5085	1424
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136			123			654			142
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			521.8			275.4			339.2	
Travel Time (s)		27.7			37.6			19.8			24.4	
Confl. Peds. (#/hr)	35					35	35		10	10		35
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Adj. Flow (vph)	35	136	338	692	76	121	146	1510	783	197	2783	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	136	338	692	76	121	146	1510	783	197	2783	51
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

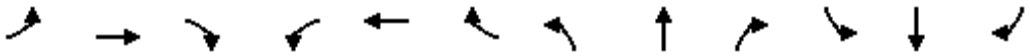
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	11.0	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	12.0	22.0	11.0	34.0	44.0	44.0	11.0	68.0	68.0	16.0	73.0	73.0
Total Split (%)	8.6%	15.7%	7.9%	24.3%	31.4%	31.4%	7.9%	48.6%	48.6%	11.4%	52.1%	52.1%
Maximum Green (s)	7.3	15.2	7.0	28.3	37.2	37.2	7.0	61.9	61.9	12.0	66.9	66.9
Yellow Time (s)	3.7	3.7	3.0	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	1.0	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					20	20		25	25		25	25
Act Effct Green (s)	25.0	14.8	30.0	29.3	39.2	39.2	76.1	64.6	64.6	81.4	67.9	67.9
Actuated g/C Ratio	0.18	0.11	0.21	0.21	0.28	0.28	0.54	0.46	0.46	0.58	0.48	0.48
v/c Ratio	0.14	0.69	0.76	0.98	0.15	0.24	0.86	0.66	0.74	0.82	1.13	0.07
Control Delay	32.1	78.9	42.8	84.7	39.6	7.3	64.8	19.9	11.5	52.1	98.0	0.2
Queue Delay	0.0	0.0	62.3	41.1	0.0	0.0	0.0	0.0	0.7	0.0	0.1	0.0
Total Delay	32.1	78.9	105.1	125.9	39.6	7.3	64.8	19.9	12.2	52.1	98.1	0.2
LOS	C	E	F	F	D	A	E	B	B	D	F	A
Approach Delay		93.1			102.4			20.1			93.4	
Approach LOS		F			F			C			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.13			
Intersection Signal Delay: 68.5		Intersection LOS: E	
Intersection Capacity Utilization 105.5%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



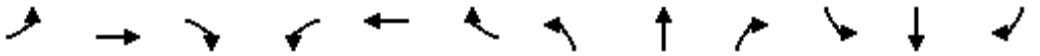
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	35	136	338	692	76	121	146	1510	783	197	2783	51
v/c Ratio	0.14	0.69	0.76	0.98	0.15	0.24	0.86	0.66	0.74	0.82	1.13	0.07
Control Delay	32.1	78.9	42.8	84.7	39.6	7.3	64.8	19.9	11.5	52.1	98.0	0.2
Queue Delay	0.0	0.0	62.3	41.1	0.0	0.0	0.0	0.0	0.7	0.0	0.1	0.0
Total Delay	32.1	78.9	105.1	125.9	39.6	7.3	64.8	19.9	12.2	52.1	98.1	0.2
Queue Length 50th (m)	6.5	38.4	57.2	104.5	16.9	0.0	24.8	121.3	51.4	32.7	~343.2	0.0
Queue Length 95th (m)	14.4	62.0	96.0	#145.7	30.8	15.4	m#59.2	110.8	226.5	#74.2	#369.4	0.0
Internal Link Dist (m)		361.1			497.8			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	255	215	442	704	516	503	170	2301	1055	245	2466	763
Starvation Cap Reductn	0	0	0	0	0	0	0	0	80	0	0	0
Spillback Cap Reductn	0	0	251	275	0	0	0	0	0	0	79	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.63	1.77	1.61	0.15	0.24	0.86	0.66	0.80	0.80	1.17	0.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	135	335	685	75	120	145	1495	775	195	2755	50
Future Volume (vph)	35	135	335	685	75	120	145	1495	775	195	2755	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.97	1.00	1.00	0.93
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1707	1863	1568	3367	1827	1470	1719	4988	1525	1787	5085	1424
Flt Permitted	0.71	1.00	1.00	0.95	1.00	1.00	0.06	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	1271	1863	1568	3367	1827	1470	114	4988	1525	158	5085	1424
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	35	136	338	692	76	121	146	1510	783	197	2783	51
RTOR Reduction (vph)	0	0	112	0	0	87	0	0	357	0	0	27
Lane Group Flow (vph)	35	136	226	692	76	34	146	1510	426	197	2783	24
Confl. Peds. (#/hr)	35					35	35		10	10		35
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	20.5	14.7	23.1	28.3	38.2	38.2	71.0	62.6	62.6	77.8	66.0	66.0
Effective Green, g (s)	22.5	15.7	25.1	29.3	39.2	39.2	73.0	63.6	63.6	79.4	67.0	67.0
Actuated g/C Ratio	0.16	0.11	0.18	0.21	0.28	0.28	0.52	0.45	0.45	0.57	0.48	0.48
Clearance Time (s)	4.7	6.8	4.0	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	225	208	281	704	511	411	167	2265	692	238	2433	681
v/s Ratio Prot	0.01	0.07	c0.05	c0.21	0.04		c0.06	0.30		c0.08	c0.55	
v/s Ratio Perm	0.02		0.09			0.02	0.40		0.28	0.39		0.02
v/c Ratio	0.16	0.65	0.81	0.98	0.15	0.08	0.87	0.67	0.62	0.83	1.14	0.04
Uniform Delay, d1	50.3	59.5	55.1	55.1	37.9	37.1	38.7	29.9	28.9	30.5	36.5	19.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.13	0.64	1.59	1.00	1.00	1.00
Incremental Delay, d2	0.3	7.2	15.4	29.5	0.1	0.1	27.1	1.1	2.8	20.5	70.2	0.1
Delay (s)	50.7	66.7	70.5	84.6	38.0	37.2	70.8	20.1	48.7	51.0	106.7	19.5
Level of Service	D	E	E	F	D	D	E	C	D	D	F	B
Approach Delay (s)		68.1			74.1			32.3			101.6	
Approach LOS		E			E			C			F	

Intersection Summary			
HCM 2000 Control Delay	71.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	105.5%	ICU Level of Service	G
Analysis Period (min)	15		

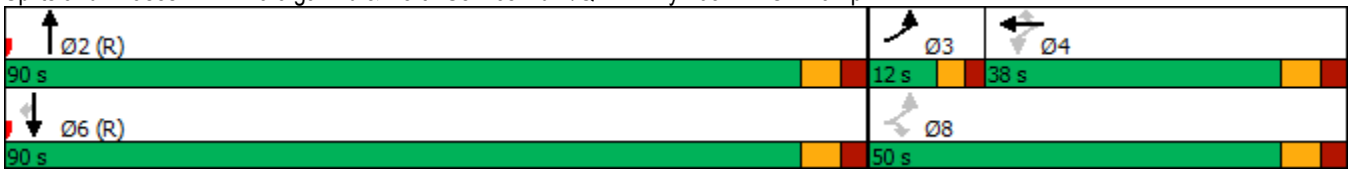
c Critical Lane Group

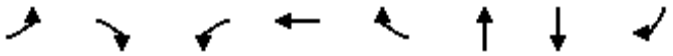
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	505	0	270	0	2475	0	0	4190	5
Future Volume (vph)	5	0	225	505	0	270	0	2475	0	0	4190	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.96
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.950							
Satd. Flow (prot)	1805	0	1599	1649	1649	1568	0	4988	0	0	5036	1615
Flt Permitted	0.251			0.950	0.950							
Satd. Flow (perm)	477	0	1599	1649	1649	1568	0	4988	0	0	5036	1543
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			83						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							10		5	5		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Adj. Flow (vph)	5	0	232	521	0	278	0	2552	0	0	4320	5
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	5	0	232	260	261	278	0	2552	0	0	4320	5
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	12.0		50.0	38.0	38.0	38.0		90.0			90.0	90.0
Total Split (%)	8.6%		35.7%	27.1%	27.1%	27.1%		64.3%			64.3%	64.3%
Maximum Green (s)	7.0		43.0	31.0	31.0	31.0		83.0			83.0	83.0
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		10			10	10
Act Effct Green (s)	32.1		30.1	27.7	27.7	27.7		97.9			97.9	97.9
Actuated g/C Ratio	0.23		0.22	0.20	0.20	0.20		0.70			0.70	0.70
v/c Ratio	0.03		0.63	0.80	0.80	0.74		0.73			1.23	0.00
Control Delay	36.0		49.4	71.1	71.4	48.2		11.3			131.5	0.0
Queue Delay	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	36.0		49.4	71.1	71.4	48.2		11.4			131.5	0.0
LOS	D		D	E	E	D		B			F	A
Approach Delay		49.1			63.2			11.4			131.4	
Approach LOS		D			E			B			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.23			
Intersection Signal Delay: 83.3		Intersection LOS: F	
Intersection Capacity Utilization 123.9%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp





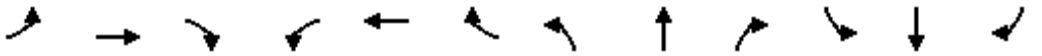
Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	5	232	260	261	278	2552	4320	5
v/c Ratio	0.03	0.63	0.80	0.80	0.74	0.73	1.23	0.00
Control Delay	36.0	49.4	71.1	71.4	48.2	11.3	131.5	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.0	49.4	71.1	71.4	48.2	11.4	131.5	0.0
Queue Length 50th (m)	1.2	54.4	75.7	76.1	53.9	113.0	~558.7	0.0
Queue Length 95th (m)	4.4	72.7	108.4	108.4	85.5	173.4	m#554.7	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	185	523	379	379	425	3486	3520	1099
Starvation Cap Reductn	0	0	0	0	0	79	108	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.44	0.69	0.69	0.65	0.75	1.27	0.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

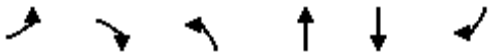
m Volume for 95th percentile queue is metered by upstream signal.



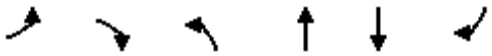
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	505	0	270	0	2475	0	0	4190	5
Future Volume (vph)	5	0	225	505	0	270	0	2475	0	0	4190	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.96
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1649	1649	1568		4988			5036	1543
Flt Permitted	0.25		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	477		1599	1649	1649	1568		4988			5036	1543
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	5	0	232	521	0	278	0	2552	0	0	4320	5
RTOR Reduction (vph)	0	0	23	0	0	67	0	0	0	0	0	2
Lane Group Flow (vph)	5	0	209	260	261	211	0	2552	0	0	4320	3
Confl. Peds. (#/hr)							10		5	5		10
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	33.1		33.1	26.7	26.7	26.7		92.9			92.9	92.9
Effective Green, g (s)	34.1		34.1	27.7	27.7	27.7		93.9			93.9	93.9
Actuated g/C Ratio	0.24		0.24	0.20	0.20	0.20		0.67			0.67	0.67
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	138		389	326	326	310		3345			3377	1034
v/s Ratio Prot	0.00							0.51			c0.86	
v/s Ratio Perm	0.01		c0.13	0.16	0.16	0.13						0.00
v/c Ratio	0.04		0.54	0.80	0.80	0.68		0.76			1.28	0.00
Uniform Delay, d1	41.4		46.1	53.5	53.5	52.1		15.5			23.0	7.6
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.72			1.40	1.00
Incremental Delay, d2	0.2		1.6	12.7	13.1	6.1		1.0			126.5	0.0
Delay (s)	41.5		47.7	66.2	66.7	58.1		12.1			158.6	7.6
Level of Service	D		D	E	E	E		B			F	A
Approach Delay (s)		47.5			63.5			12.1			158.5	
Approach LOS		D			E			B			F	

Intersection Summary			
HCM 2000 Control Delay	98.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	123.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



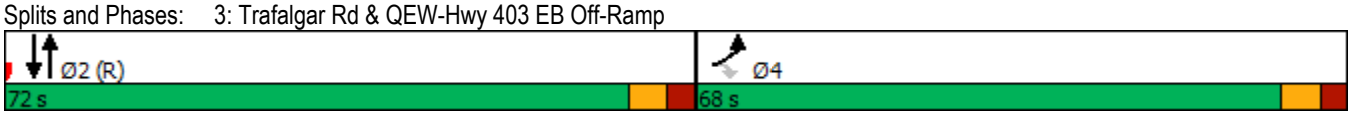
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1200	830	0	1860	2920	0
Future Volume (vph)	1200	830	0	1860	2920	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3433	1583	0	4940	5036	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	*1800	0	4940	5036	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			45.3	331.3	
Travel Time (s)	15.4			3.3	23.9	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Adj. Flow (vph)	1224	847	0	1898	2980	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1224	847	0	1898	2980	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	68.0	68.0		72.0	72.0	
Total Split (%)	48.6%	48.6%		51.4%	51.4%	
Maximum Green (s)	61.0	61.0		65.0	65.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		10	10	
Act Effct Green (s)	62.0	62.0		66.0	66.0	
Actuated g/C Ratio	0.44	0.44		0.47	0.47	
v/c Ratio	0.81	1.06		0.82	1.26	
Control Delay	38.9	87.6		24.0	147.9	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	38.9	87.6		24.0	147.9	
LOS	D	F		C	F	
Approach Delay	58.8			24.0	147.9	
Approach LOS	E			C	F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.26			
Intersection Signal Delay: 87.5		Intersection LOS: F	
Intersection Capacity Utilization 117.8%		ICU Level of Service H	
Analysis Period (min) 15			
* User Entered Value			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



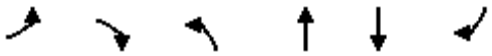
Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	1224	847	1898	2980
v/c Ratio	0.81	1.06	0.82	1.26
Control Delay	38.9	87.6	24.0	147.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	38.9	87.6	24.0	147.9
Queue Length 50th (m)	156.9	~271.2	79.1	~397.3
Queue Length 95th (m)	186.8	#352.2	m86.1	m#294.0
Internal Link Dist (m)	190.2		21.3	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1520	797	2328	2374
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.81	1.06	0.82	1.26

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

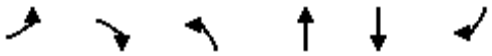
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1200	830	0	1860	2920	0
Future Volume (vph)	1200	830	0	1860	2920	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	1583		4940	5036	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	1800		4940	5036	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1224	847	0	1898	2980	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1224	847	0	1898	2980	0
Confl. Peds. (#/hr)			10			10
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	61.0	61.0		65.0	65.0	
Effective Green, g (s)	62.0	62.0		66.0	66.0	
Actuated g/C Ratio	0.44	0.44		0.47	0.47	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1520	797		2328	2374	
v/s Ratio Prot	0.36			0.38	c0.59	
v/s Ratio Perm		c0.47				
v/c Ratio	0.81	1.06		0.82	1.26	
Uniform Delay, d1	33.8	39.0		31.8	37.0	
Progression Factor	1.00	1.00		0.69	0.98	
Incremental Delay, d2	3.2	49.9		1.7	115.2	
Delay (s)	37.0	88.9		23.7	151.4	
Level of Service	D	F		C	F	
Approach Delay (s)	58.2			23.7	151.4	
Approach LOS	E			C	F	

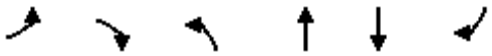
Intersection Summary			
HCM 2000 Control Delay	88.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	117.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	40	0	2025	2875	680
Future Volume (vph)	0	40	0	2025	2875	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.971	
Flt Protected						
Satd. Flow (prot)	0	1565	0	4940	4890	0
Flt Permitted						
Satd. Flow (perm)	0	1565	0	4940	4890	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	144.9			271.4	45.3	
Travel Time (s)	10.4			19.5	3.3	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	5%	0%	5%	3%	3%
Adj. Flow (vph)	0	43	0	2177	3091	731
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	43	0	2177	3822	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	40	0	2025	2875	680
Future Volume (Veh/h)	0	40	0	2025	2875	680
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	43	0	2177	3091	731
Pedestrians	10					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				271	45	
pX, platoon unblocked	0.67	0.53	0.53			
vC, conflicting volume	4192	1406	3832			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1269	0	3245			
tC, single (s)	6.8	7.0	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	92	100			
cM capacity (veh/h)	108	567	49			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	43	726	726	726	1236	1236	1349
Volume Left	0	0	0	0	0	0	0
Volume Right	43	0	0	0	0	0	731
cSH	567	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.08	0.43	0.43	0.43	0.73	0.73	0.79
Queue Length 95th (m)	2.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	11.9	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	11.9	0.0			0.0		
Approach LOS	B						

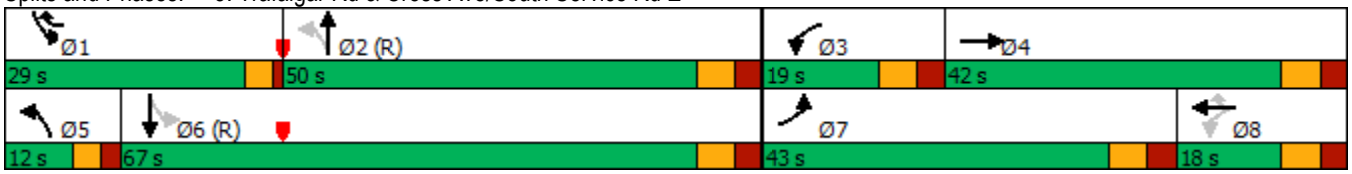
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	80.9%	ICU Level of Service		D
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	790	90	150	65	80	145	110	1560	35	190	1930	440
Future Volume (vph)	790	90	150	65	80	145	110	1560	35	190	1930	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		0.0	50.0		0.0	120.0		0.0	55.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.99		1.00				1.00			0.99	
Frt		0.906				0.850		0.997			0.972	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3273	1612	0	1736	1810	1553	1671	5019	0	1736	4893	0
Flt Permitted	0.950			0.605			0.076			0.072		
Satd. Flow (perm)	3273	1612	0	1101	1810	1553	134	5019	0	132	4893	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		58				140		2			47	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		217.0			420.1			277.9			271.4	
Travel Time (s)		15.6			30.2			20.0			19.5	
Confl. Peds. (#/hr)			5	5			15		5	5		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Adj. Flow (vph)	814	93	155	67	82	149	113	1608	36	196	1990	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	814	248	0	67	82	149	113	1644	0	196	2444	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		12.0	10.0	7.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0		19.0	17.0	11.0	12.0	34.0		11.0	34.0	
Total Split (s)	43.0	42.0		19.0	18.0	29.0	12.0	50.0		29.0	67.0	
Total Split (%)	30.7%	30.0%		13.6%	12.9%	20.7%	8.6%	35.7%		20.7%	47.9%	
Maximum Green (s)	36.0	35.0		12.0	11.0	25.0	7.0	43.0		25.0	60.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	1.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0						7.0			7.0	
Flash Dont Walk (s)		28.0						20.0			20.0	
Pedestrian Calls (#/hr)		5						10			10	
Act Effct Green (s)	36.6	39.2		24.8	11.8	34.5	64.1	53.9		76.1	61.4	
Actuated g/C Ratio	0.26	0.28		0.18	0.08	0.25	0.46	0.38		0.54	0.44	
v/c Ratio	0.95	0.50		0.26	0.54	0.31	0.75	0.85		0.75	1.13	
Control Delay	71.5	37.3		33.3	75.2	8.5	52.5	41.3		41.0	99.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	71.5	37.3		33.3	75.2	8.5	52.5	41.3		41.0	99.6	
LOS	E	D		C	E	A	D	D		D	F	
Approach Delay		63.5			32.4			42.0			95.3	
Approach LOS		E			C			D			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.13			
Intersection Signal Delay: 69.9		Intersection LOS: E	
Intersection Capacity Utilization 102.7%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 5: Trafalgar Rd & Cross Ave/South Service Rd E



5: Trafalgar Rd & Cross Ave/South Service Rd E



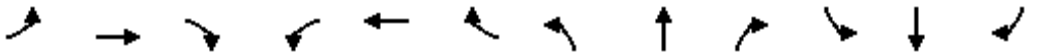
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	814	248	67	82	149	113	1644	196	2444
v/c Ratio	0.95	0.50	0.26	0.54	0.31	0.75	0.85	0.75	1.13
Control Delay	71.5	37.3	33.3	75.2	8.5	52.5	41.3	41.0	99.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.5	37.3	33.3	75.2	8.5	52.5	41.3	41.0	99.6
Queue Length 50th (m)	120.3	48.0	12.2	23.3	2.0	22.1	120.4	45.0	~221.4
Queue Length 95th (m)	#160.3	77.2	23.1	41.8	18.6	m#33.0	m#202.9	m36.0	m139.5
Internal Link Dist (m)		193.0		396.1			253.9		247.4
Turn Bay Length (m)	130.0		50.0			120.0		55.0	
Base Capacity (vph)	865	493	253	155	581	151	1932	370	2171
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	38
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.50	0.26	0.53	0.26	0.75	0.85	0.53	1.15

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

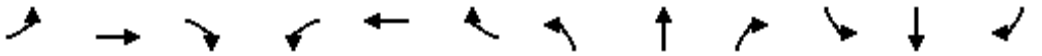
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	790	90	150	65	80	145	110	1560	35	190	1930	440
Future Volume (vph)	790	90	150	65	80	145	110	1560	35	190	1930	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3273	1612		1731	1810	1553	1671	5017		1736	4894	
Flt Permitted	0.95	1.00		0.61	1.00	1.00	0.08	1.00		0.07	1.00	
Satd. Flow (perm)	3273	1612		1103	1810	1553	134	5017		132	4894	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	814	93	155	67	82	149	113	1608	36	196	1990	454
RTOR Reduction (vph)	0	42	0	0	0	110	0	1	0	0	27	0
Lane Group Flow (vph)	814	206	0	67	82	39	113	1643	0	196	2417	0
Confl. Peds. (#/hr)			5	5			15		5	5		15
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Actuated Green, G (s)	35.6	38.2		21.8	12.2	27.9	58.7	51.5		71.2	59.0	
Effective Green, g (s)	36.6	39.2		23.8	13.2	29.9	60.7	52.5		72.2	60.0	
Actuated g/C Ratio	0.26	0.28		0.17	0.09	0.21	0.43	0.38		0.52	0.43	
Clearance Time (s)	7.0	7.0		7.0	7.0	4.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	855	451		235	170	331	148	1881		259	2097	
v/s Ratio Prot	c0.25	c0.13		0.02	0.05	0.01	0.04	0.33		c0.09	c0.49	
v/s Ratio Perm				0.03		0.01	0.29			0.30		
v/c Ratio	0.95	0.46		0.29	0.48	0.12	0.76	0.87		0.76	1.15	
Uniform Delay, d1	50.8	41.6		50.2	60.2	44.4	33.1	40.7		37.7	40.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.13	0.94		1.26	1.21	
Incremental Delay, d2	20.0	1.0		0.8	2.9	0.2	14.7	4.2		1.2	69.3	
Delay (s)	70.8	42.6		51.0	63.1	44.6	52.2	42.3		48.5	117.6	
Level of Service	E	D		D	E	D	D	D		D	F	
Approach Delay (s)		64.2			51.1			43.0			112.4	
Approach LOS		E			D			D			F	

Intersection Summary			
HCM 2000 Control Delay	79.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	102.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



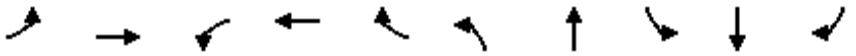
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	555	70	30	470	640	50	535	55	670	845	385
Future Volume (vph)	300	555	70	30	470	640	50	535	55	670	845	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.98	0.99		0.99		0.95		1.00		0.99		0.96
Frt		0.983				0.850		0.986				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3367	3338	0	1736	3438	1553	1770	3469	0	3400	1881	1553
Flt Permitted	0.950			0.317			0.101			0.950		
Satd. Flow (perm)	3309	3338	0	573	3438	1483	188	3469	0	3371	1881	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				449		8				248
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			277.9	
Travel Time (s)		41.4			45.2			10.0			20.0	
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Adj. Flow (vph)	313	578	73	31	490	667	52	557	57	698	880	401
Shared Lane Traffic (%)												
Lane Group Flow (vph)	313	651	0	31	490	667	52	614	0	698	880	401
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	18.0	44.0		12.0	38.0	38.0	11.0	47.0		37.0	73.0	73.0
Total Split (%)	12.9%	31.4%		8.6%	27.1%	27.1%	7.9%	33.6%		26.4%	52.1%	52.1%
Maximum Green (s)	12.3	37.6		7.0	31.6	31.6	7.0	40.1		32.0	66.1	66.1
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		20			20	20		15			15	15
Act Effct Green (s)	14.4	43.7		41.3	31.9	31.9	52.4	41.5		32.3	69.0	69.0
Actuated g/C Ratio	0.10	0.31		0.30	0.23	0.23	0.37	0.30		0.23	0.49	0.49
v/c Ratio	0.91	0.62		0.13	0.63	0.98	0.33	0.59		0.89	0.95	0.46
Control Delay	90.9	50.7		30.0	52.6	46.4	23.3	44.4		78.9	33.1	11.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	1.7	0.0
Total Delay	90.9	50.7		30.0	52.6	46.4	23.3	44.4		78.9	34.8	11.8
LOS	F	D		C	D	D	C	D		E	C	B
Approach Delay		63.8			48.5			42.8			45.7	
Approach LOS		E			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 135			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 49.6		Intersection LOS: D	
Intersection Capacity Utilization 95.8%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd

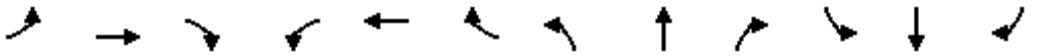




Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	313	651	31	490	667	52	614	698	880	401
v/c Ratio	0.91	0.62	0.13	0.63	0.98	0.33	0.59	0.89	0.95	0.46
Control Delay	90.9	50.7	30.0	52.6	46.4	23.3	44.4	78.9	33.1	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0
Total Delay	90.9	50.7	30.0	52.6	46.4	23.3	44.4	78.9	34.8	11.8
Queue Length 50th (m)	48.0	93.3	5.8	67.7	78.5	6.3	79.8	111.6	120.1	29.4
Queue Length 95th (m)	#80.3	119.2	13.1	87.5	#165.3	12.6	100.8	m102.4	m110.3	m26.2
Internal Link Dist (m)		551.4		604.3			115.4		253.9	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	345	1049	235	800	689	160	1034	801	926	864
Starvation Cap Reductn	0	0	0	0	0	0	0	0	13	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.62	0.13	0.61	0.97	0.33	0.59	0.87	0.96	0.46

Intersection Summary

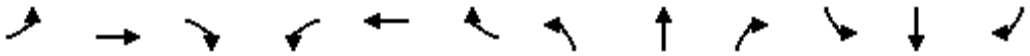
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	555	70	30	470	640	50	535	55	670	845	385
Future Volume (vph)	300	555	70	30	470	640	50	535	55	670	845	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.95	1.00	1.00		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3367	3339		1730	3438	1483	1770	3470		3400	1881	1498
Flt Permitted	0.95	1.00		0.32	1.00	1.00	0.10	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3367	3339		576	3438	1483	189	3470		3400	1881	1498
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	312	578	73	31	490	667	52	557	57	698	880	401
RTOR Reduction (vph)	0	7	0	0	0	341	0	6	0	0	0	131
Lane Group Flow (vph)	313	644	0	31	490	326	52	608	0	698	880	270
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	13.4	42.7		37.0	32.8	32.8	44.1	38.5		31.3	65.2	65.2
Effective Green, g (s)	14.4	43.7		39.0	33.8	33.8	46.1	39.5		32.3	66.2	66.2
Actuated g/C Ratio	0.10	0.31		0.28	0.24	0.24	0.33	0.28		0.23	0.47	0.47
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Lane Grp Cap (vph)	346	1042		203	830	358	136	979		784	889	708
v/s Ratio Prot	c0.09	0.19		0.01	0.14		0.02	0.18		c0.21	c0.47	
v/s Ratio Perm				0.04		c0.22	0.11					0.18
v/c Ratio	0.90	0.62		0.15	0.59	0.91	0.38	0.62		0.89	0.99	0.38
Uniform Delay, d1	62.1	41.0		37.3	47.0	51.6	37.1	43.7		52.1	36.6	23.7
Progression Factor	1.00	1.15		1.00	1.00	1.00	1.00	1.00		1.49	0.85	1.34
Incremental Delay, d2	24.8	1.0		0.5	1.1	26.6	1.8	3.0		1.4	7.0	0.1
Delay (s)	87.2	48.2		37.8	48.1	78.3	38.9	46.7		79.1	38.3	32.0
Level of Service	F	D		D	D	E	D	D		E	D	C
Approach Delay (s)		60.9			64.8			46.1			51.4	
Approach LOS		E			E			D			D	

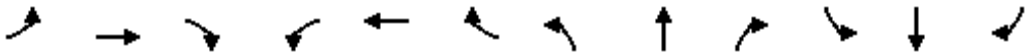
Intersection Summary			
HCM 2000 Control Delay	55.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	95.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	15	0	5	615	140	0	5	0	20	5	100
Future Volume (vph)	0	15	0	5	615	140	0	5	0	20	5	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.975						0.892	
Flt Protected											0.992	
Satd. Flow (prot)	0	1792	0	0	1813	0	0	1900	0	0	1480	0
Flt Permitted											0.992	
Satd. Flow (perm)	0	1792	0	0	1813	0	0	1900	0	0	1480	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		175.8			144.9			44.8			92.1	
Travel Time (s)		12.7			10.4			3.2			6.6	
Confl. Peds. (#/hr)			5	5					10	10		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	6%	0%	0%	2%	3%	0%	0%	0%	0%	0%	17%
Adj. Flow (vph)	0	17	0	6	691	157	0	6	0	22	6	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	17	0	0	854	0	0	6	0	0	140	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

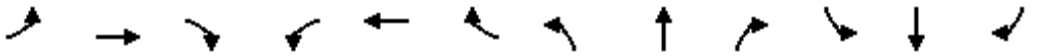
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	15	0	5	615	140	0	5	0	20	5	100
Future Volume (Veh/h)	0	15	0	5	615	140	0	5	0	20	5	100
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	17	0	6	691	157	0	6	0	22	6	112
Pedestrians					10			5				
Lane Width (m)					3.6			3.6				
Walking Speed (m/s)					1.2			1.2				
Percent Blockage					1			0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		355										
pX, platoon unblocked												
vC, conflicting volume	848			22			918	882	32	812	804	770
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	848			22			918	882	32	812	804	770
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.4
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.5
p0 queue free %	100			100			100	98	100	92	98	70
cM capacity (veh/h)	798			1600			174	285	1035	291	316	378

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	17	854	6	140
Volume Left	0	6	0	22
Volume Right	0	157	0	112
cSH	798	1600	285	358
Volume to Capacity	0.00	0.00	0.02	0.39
Queue Length 95th (m)	0.0	0.1	0.5	14.5
Control Delay (s)	0.0	0.1	17.9	21.4
Lane LOS		A	C	C
Approach Delay (s)	0.0	0.1	17.9	21.4
Approach LOS			C	C

Intersection Summary				
Average Delay	3.1			
Intersection Capacity Utilization	65.8%	ICU Level of Service	C	
Analysis Period (min)	15			

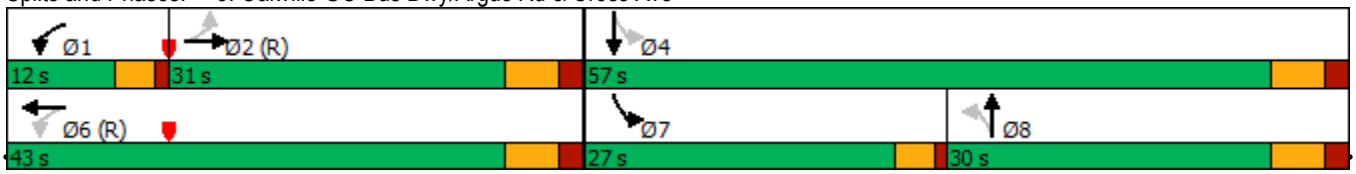


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	930	15	20	740	25	15	0	30	175	10	440
Future Volume (vph)	20	930	15	20	740	25	15	0	30	175	10	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	30.0			15.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00			1.00			0.97		0.98	0.96	
Frt		0.998			0.995			0.909			0.853	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1719	3512	0	950	3544	0	0	845	0	1719	1528	0
Flt Permitted	0.340			0.176				0.796		0.727		
Satd. Flow (perm)	611	3512	0	176	3544	0	0	681	0	1285	1528	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			4			120			70	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		107.3			217.0			71.0			179.3	
Travel Time (s)		7.7			15.6			5.1			12.9	
Confl. Peds. (#/hr)	10		10	10		10	20		20	20		20
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	1%	100%	90%	1%	7%	100%	100%	94%	5%	100%	0%
Adj. Flow (vph)	21	959	15	21	763	26	15	0	31	180	10	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	974	0	21	789	0	0	46	0	180	464	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

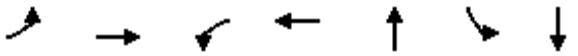
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	22.0	22.0		8.0	22.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	29.0	29.0		12.0	29.0		29.0	29.0		9.0	29.0	
Total Split (s)	31.0	31.0		12.0	43.0		30.0	30.0		27.0	57.0	
Total Split (%)	31.0%	31.0%		12.0%	43.0%		30.0%	30.0%		27.0%	57.0%	
Maximum Green (s)	25.0	25.0		8.0	37.0		24.0	24.0		23.0	51.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	5.0	5.0		2.5	5.0		4.0	4.0		3.0	4.0	
Recall Mode	C-Min	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	16.0	16.0			16.0		16.0	16.0			16.0	
Pedestrian Calls (#/hr)	10	10			10		20	20			20	
Act Effct Green (s)	49.4	49.4		56.3	54.3			19.2		37.7	35.7	
Actuated g/C Ratio	0.49	0.49		0.56	0.54			0.19		0.38	0.36	
v/c Ratio	0.07	0.56		0.12	0.41			0.20		0.32	0.79	
Control Delay	21.6	23.0		14.9	15.7			2.0		21.5	33.2	
Queue Delay	0.0	3.7		0.0	0.0			0.0		0.0	0.0	
Total Delay	21.6	26.7		14.9	15.7			2.0		21.5	33.2	
LOS	C	C		B	B			A		C	C	
Approach Delay		26.6			15.7			2.0			29.9	
Approach LOS		C			B			A			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 23.5		Intersection LOS: C	
Intersection Capacity Utilization 64.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 8: Oakville GO Bus Dwy/Argus Rd & Cross Ave



8: Oakville GO Bus Dwy/Argus Rd & Cross Ave



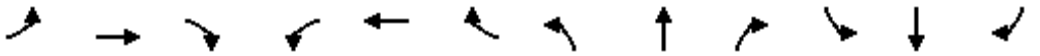
Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	21	974	21	789	46	180	464
v/c Ratio	0.07	0.56	0.12	0.41	0.20	0.32	0.79
Control Delay	21.6	23.0	14.9	15.7	2.0	21.5	33.2
Queue Delay	0.0	3.7	0.0	0.0	0.0	0.0	0.0
Total Delay	21.6	26.7	14.9	15.7	2.0	21.5	33.2
Queue Length 50th (m)	1.9	62.6	1.8	47.0	0.0	25.1	71.8
Queue Length 95th (m)	9.1	#135.8	6.8	76.9	0.0	34.1	93.5
Internal Link Dist (m)		83.3		193.0	47.0		155.3
Turn Bay Length (m)	20.0		20.0			15.0	
Base Capacity (vph)	302	1735	169	1926	262	589	828
Starvation Cap Reductn	0	653	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.90	0.12	0.41	0.18	0.31	0.56

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	930	15	20	740	25	15	0	30	175	10	440
Future Volume (vph)	20	930	15	20	740	25	15	0	30	175	10	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.97		1.00	0.96	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00		0.98	1.00	
Frt	1.00	1.00		1.00	1.00			0.91		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1707	3511		950	3544			842		1691	1529	
Flt Permitted	0.34	1.00		0.18	1.00			0.80		0.73	1.00	
Satd. Flow (perm)	610	3511		176	3544			681		1295	1529	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	21	959	15	21	763	26	15	0	31	180	10	454
RTOR Reduction (vph)	0	1	0	0	2	0	0	38	0	0	44	0
Lane Group Flow (vph)	21	973	0	21	787	0	0	8	0	180	420	0
Confl. Peds. (#/hr)	10		10	10		10	20		20	20		20
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	5%	1%	100%	90%	1%	7%	100%	100%	94%	5%	100%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	44.8	44.8		52.1	52.1			16.2		35.9	35.9	
Effective Green, g (s)	45.8	45.8		53.1	53.1			17.2		36.9	36.9	
Actuated g/C Ratio	0.46	0.46		0.53	0.53			0.17		0.37	0.37	
Clearance Time (s)	6.0	6.0		4.0	6.0			6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0		2.5	5.0			4.0		3.0	4.0	
Lane Grp Cap (vph)	279	1608		126	1881			117		543	564	
v/s Ratio Prot		c0.28		0.01	c0.22					0.06	c0.27	
v/s Ratio Perm	0.03			0.08				0.01		0.07		
v/c Ratio	0.08	0.61		0.17	0.42			0.07		0.33	0.74	
Uniform Delay, d1	15.2	20.3		13.3	14.1			34.7		22.3	27.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.5	1.7		0.5	0.7			0.3		0.4	5.6	
Delay (s)	15.7	22.0		13.8	14.8			35.0		22.7	33.1	
Level of Service	B	C		B	B			D		C	C	
Approach Delay (s)		21.9			14.8			35.0			30.2	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	22.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	370	90	650	550	15	60	0	235	275	0	75
Future Volume (vph)	25	370	90	650	550	15	60	0	235	275	0	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00		1.00		0.97		0.99	
Frt		0.972			0.998				0.850		0.971	
Flt Protected		0.997			0.974		0.950				0.962	
Satd. Flow (prot)	0	3274	0	0	3415	0	1805	0	1615	0	1769	0
Flt Permitted		0.817			0.539		0.536				0.962	
Satd. Flow (perm)	0	2682	0	0	1890	0	1013	0	1570	0	1759	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			2				255		51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		139.5			107.3			62.6			201.6	
Travel Time (s)		10.0			7.7			4.5			14.5	
Confl. Peds. (#/hr)	15					15	5		10	10		5
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	27	402	98	707	598	16	65	0	255	299	0	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	527	0	0	1321	0	65	0	255	0	381	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	100		100
Number of Detectors	1	2		1	2		1		1	1	2	
Detector Template	Left	Thru		Left	Thru		Left		Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0		2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0		2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4						9.4	
Detector 2 Size(m)		0.6			0.6						0.6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type	Perm	NA		custom	NA		Perm		Perm	custom	NA	
Protected Phases		2		1	1 6					7	7 4	

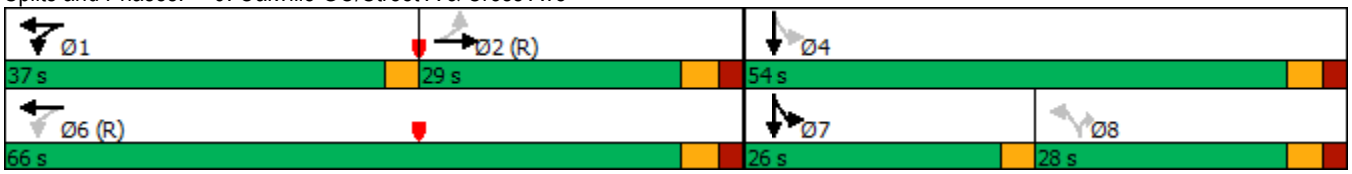
Lane Group	Ø4	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	4	6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			8		8	4		
Detector Phase	2	2		1	1 6		8		8	7	7 4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		8.0			10.0		10.0	8.0		
Minimum Split (s)	27.6	27.6		11.0			27.6		27.6	11.0		
Total Split (s)	29.0	29.0		37.0			28.0		28.0	26.0		
Total Split (%)	24.2%	24.2%		30.8%			23.3%		23.3%	21.7%		
Maximum Green (s)	23.4	23.4		34.0			22.4		22.4	23.0		
Yellow Time (s)	3.3	3.3		3.0			3.3		3.3	3.0		
All-Red Time (s)	2.3	2.3		0.0			2.3		2.3	0.0		
Lost Time Adjust (s)		-1.0					-1.0		-1.0			
Total Lost Time (s)		4.6					4.6		4.6			
Lead/Lag	Lag	Lag		Lead			Lag		Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes		
Vehicle Extension (s)	5.0	5.0		2.5			3.5		3.5	3.0		
Recall Mode	C-Min	C-Min		None			None		None	None		
Walk Time (s)	7.0	7.0					7.0		7.0			
Flash Dont Walk (s)	15.0	15.0					15.0		15.0			
Pedestrian Calls (#/hr)	10	10					10		10			
Act Effct Green (s)		33.3			72.9		15.5		15.5		43.1	
Actuated g/C Ratio		0.28			0.61		0.13		0.13		0.36	
v/c Ratio		0.69			1.01dl		0.50		0.60		0.57	
Control Delay		45.1			21.9		60.5		11.6		29.4	
Queue Delay		0.0			45.4		0.0		0.0		0.0	
Total Delay		45.1			67.3		60.5		11.6		29.4	
LOS		D			E		E		B		C	
Approach Delay		45.1			67.3			21.5			29.4	
Approach LOS		D			E			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 51.3		Intersection LOS: D	
Intersection Capacity Utilization 89.8%		ICU Level of Service E	
Analysis Period (min) 15			

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 9: Oakville GO/Street A & Cross Ave



Lane Group	Ø4	Ø6
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	10.0	20.0
Minimum Split (s)	27.6	27.6
Total Split (s)	54.0	66.0
Total Split (%)	45%	55%
Maximum Green (s)	48.4	60.4
Yellow Time (s)	3.3	3.3
All-Red Time (s)	2.3	2.3
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	5.0
Recall Mode	None	C-Min
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	15.0	15.0
Pedestrian Calls (#/hr)	10	10
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

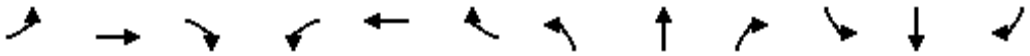
Intersection Summary



Lane Group	EBT	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	527	1321	65	255	381
v/c Ratio	0.69	1.01dl	0.50	0.60	0.57
Control Delay	45.1	21.9	60.5	11.6	29.4
Queue Delay	0.0	45.4	0.0	0.0	0.0
Total Delay	45.1	67.3	60.5	11.6	29.4
Queue Length 50th (m)	62.2	103.4	15.4	0.0	65.4
Queue Length 95th (m)	#101.2	#156.3	28.6	22.9	86.2
Internal Link Dist (m)	115.5	83.3			177.6
Turn Bay Length (m)					
Base Capacity (vph)	760	1621	197	511	793
Starvation Cap Reductn	0	413	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.69	1.09	0.33	0.50	0.48

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

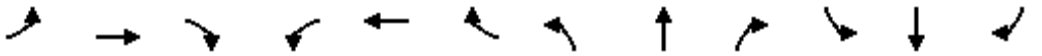


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	370	90	650	550	15	60	0	235	275	0	75
Future Volume (vph)	25	370	90	650	550	15	60	0	235	275	0	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6			2.0		4.6		4.6		2.0	
Lane Util. Factor		0.95			0.95		1.00		1.00		1.00	
Frpb, ped/bikes		1.00			1.00		1.00		0.97		1.00	
Flpb, ped/bikes		1.00			1.00		1.00		1.00		0.99	
Frt		0.97			1.00		1.00		0.85		0.97	
Flt Protected		1.00			0.97		0.95		1.00		0.96	
Satd. Flow (prot)		3274			3415		1796		1570		1757	
Flt Permitted		0.82			0.54		0.54		1.00		0.96	
Satd. Flow (perm)		2682			1889		1013		1570		1757	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	402	98	707	598	16	65	0	255	299	0	82
RTOR Reduction (vph)	0	15	0	0	1	0	0	0	222	0	34	0
Lane Group Flow (vph)	0	512	0	0	1320	0	65	0	33	0	347	0
Confl. Peds. (#/hr)	15					15	5		10	10		5
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	0%	9%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		custom	NA		Perm		Perm	custom	NA	
Protected Phases		2		1	1 6					7	7 4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)		32.3			69.3		14.5		14.5		39.5	
Effective Green, g (s)		33.3			70.3		15.5		15.5		40.5	
Actuated g/C Ratio		0.28			0.59		0.13		0.13		0.34	
Clearance Time (s)		5.6					5.6		5.6			
Vehicle Extension (s)		5.0					3.5		3.5			
Lane Grp Cap (vph)		744			1551		130		202		592	
v/s Ratio Prot					c0.25						c0.11	
v/s Ratio Perm		c0.19			0.25		0.06		0.02		0.09	
v/c Ratio		0.69			1.01dl		0.50		0.16		0.59	
Uniform Delay, d1		38.7			20.5		48.6		46.5		32.8	
Progression Factor		1.00			1.00		1.00		1.00		1.00	
Incremental Delay, d2		5.1			4.7		3.5		0.5		1.5	
Delay (s)		43.9			25.2		52.2		46.9		34.3	
Level of Service		D			C		D		D		C	
Approach Delay (s)		43.9			25.2			48.0			34.3	
Approach LOS		D			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	33.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		

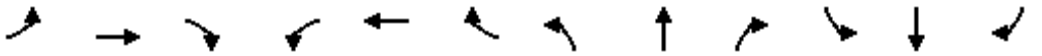
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	320	0	5	510	155	0	0	0	155	0	25
Future Volume (vph)	25	320	0	5	510	155	0	0	0	155	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (m)	25.0			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.965							0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1805	3312	0	0	3276	0	0	1900	0	1787	0	1509
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1805	3312	0	0	3276	0	0	1900	0	1787	0	1509
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		132.8			139.5			48.2			88.5	
Travel Time (s)		9.6			10.0			3.5			6.4	
Confl. Peds. (#/hr)	20		10	10		20						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	0%	0%	8%	1%	0%	0%	0%	1%	0%	7%
Adj. Flow (vph)	27	348	0	5	554	168	0	0	0	168	0	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	348	0	0	727	0	0	0	0	168	0	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	320	0	5	510	155	0	0	0	155	0	25
Future Volume (Veh/h)	25	320	0	5	510	155	0	0	0	155	0	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	348	0	5	554	168	0	0	0	168	0	27
Pedestrians								10			20	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			2	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		133			140							
pX, platoon unblocked												
vC, conflicting volume	742			358			726	1164	184	896	1080	381
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	742			358			726	1164	184	896	1080	381
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	7.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.4
p0 queue free %	97			100			100	100	100	24	100	95
cM capacity (veh/h)	860			1202			285	184	826	222	207	593

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	27	174	174	282	445	0	168	27
Volume Left	27	0	0	5	0	0	168	0
Volume Right	0	0	0	0	168	0	0	27
cSH	860	1700	1700	1202	1700	1700	222	593
Volume to Capacity	0.03	0.10	0.10	0.00	0.26	0.12	0.76	0.05
Queue Length 95th (m)	0.8	0.0	0.0	0.1	0.0	0.0	42.0	1.1
Control Delay (s)	9.3	0.0	0.0	0.2	0.0	0.0	58.7	11.4
Lane LOS	A			A		A	F	B
Approach Delay (s)	0.7			0.1		0.0	52.1	
Approach LOS						A	F	

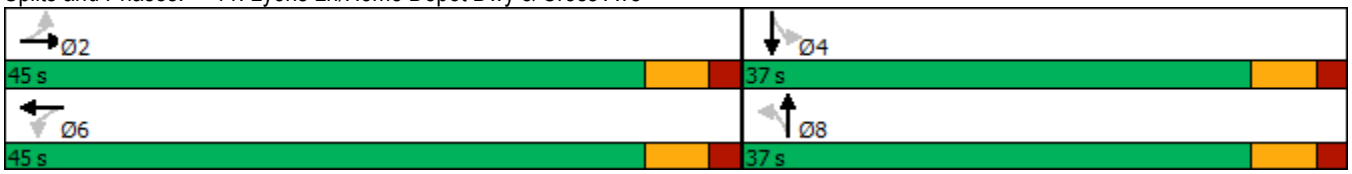
Intersection Summary				
Average Delay	8.1			
Intersection Capacity Utilization	38.4%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	305	130	180	305	5	15	5	20	20	10	45
Future Volume (vph)	55	305	130	180	305	5	15	5	20	20	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	25.0		0.0	35.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99				1.00		0.99	0.99		0.99	0.99	
Frt		0.955			0.998			0.881			0.878	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3243	0	1787	3099	0	1805	1588	0	1703	1580	0
Flt Permitted	0.536			0.466			0.715			0.738		
Satd. Flow (perm)	1013	3243	0	877	3099	0	1352	1588	0	1316	1580	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		113			3			23			52	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		47.5			132.8			150.8			63.6	
Travel Time (s)		3.4			9.6			10.9			4.6	
Confl. Peds. (#/hr)	5					5	5		5	5		5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	9%	0%	1%	16%	29%	0%	0%	5%	6%	0%	5%
Adj. Flow (vph)	64	355	151	209	355	6	17	6	23	23	12	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	506	0	209	361	0	17	29	0	23	64	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

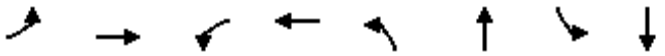
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		35.0	35.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	41.0	41.0		41.0	41.0		28.0	28.0		28.0	28.0	
Total Split (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Total Split (%)	54.9%	54.9%		54.9%	54.9%		45.1%	45.1%		45.1%	45.1%	
Maximum Green (s)	39.0	39.0		39.0	39.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	5	5		5	5		5	5		5	5	
Act Effct Green (s)	44.1	44.1		44.1	44.1		13.1	13.1		13.1	13.1	
Actuated g/C Ratio	0.76	0.76		0.76	0.76		0.23	0.23		0.23	0.23	
v/c Ratio	0.08	0.20		0.31	0.15		0.06	0.08		0.08	0.16	
Control Delay	6.1	4.1		8.0	4.9		18.0	9.9		18.3	8.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	6.1	4.1		8.0	4.9		18.0	9.9		18.3	8.6	
LOS	A	A		A	A		B	A		B	A	
Approach Delay		4.3			6.0			12.9			11.1	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 58.1			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.31			
Intersection Signal Delay: 5.9		Intersection LOS: A	
Intersection Capacity Utilization 80.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 11: Lyons Ln/Home Depot Dwy & Cross Ave

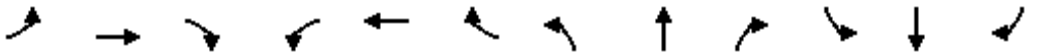


11: Lyons Ln/Home Depot Dwy & Cross Ave



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	506	209	361	17	29	23	64
v/c Ratio	0.08	0.20	0.31	0.15	0.06	0.08	0.08	0.16
Control Delay	6.1	4.1	8.0	4.9	18.0	9.9	18.3	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.1	4.1	8.0	4.9	18.0	9.9	18.3	8.6
Queue Length 50th (m)	2.3	7.8	9.2	7.1	1.5	0.6	2.1	1.1
Queue Length 95th (m)	9.4	20.9	31.4	18.8	5.4	5.4	6.6	8.1
Internal Link Dist (m)		23.5		108.8		126.8		39.6
Turn Bay Length (m)			25.0		35.0			
Base Capacity (vph)	805	2601	697	2464	753	894	732	903
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.19	0.30	0.15	0.02	0.03	0.03	0.07

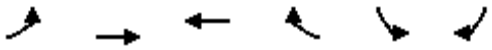
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	305	130	180	305	5	15	5	20	20	10	45
Future Volume (vph)	55	305	130	180	305	5	15	5	20	20	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	1.00		1.00	0.88		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1797	3244		1787	3097		1798	1590		1696	1582	
Flt Permitted	0.54	1.00		0.47	1.00		0.72	1.00		0.74	1.00	
Satd. Flow (perm)	1015	3244		876	3097		1354	1590		1318	1582	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	64	355	151	209	355	6	17	6	23	23	12	52
RTOR Reduction (vph)	0	35	0	0	1	0	0	20	0	0	45	0
Lane Group Flow (vph)	64	471	0	209	360	0	17	9	0	23	19	0
Confl. Peds. (#/hr)	5					5	5		5	5		5
Heavy Vehicles (%)	0%	9%	0%	1%	16%	29%	0%	0%	5%	6%	0%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	40.9	40.9		40.9	40.9		7.7	7.7		7.7	7.7	
Effective Green, g (s)	41.9	41.9		41.9	41.9		8.7	8.7		8.7	8.7	
Actuated g/C Ratio	0.69	0.69		0.69	0.69		0.14	0.14		0.14	0.14	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	701	2242		605	2141		194	228		189	227	
v/s Ratio Prot		0.15			0.12			0.01			0.01	
v/s Ratio Perm	0.06			c0.24			0.01			c0.02		
v/c Ratio	0.09	0.21		0.35	0.17		0.09	0.04		0.12	0.09	
Uniform Delay, d1	3.1	3.4		3.8	3.3		22.5	22.4		22.6	22.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.1		0.7	0.1		0.3	0.1		0.4	0.2	
Delay (s)	3.2	3.5		4.5	3.3		22.8	22.5		23.0	22.7	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		3.4			3.8			22.6			22.8	
Approach LOS		A			A			C			C	

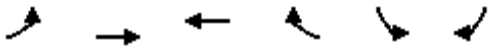
Intersection Summary					
HCM 2000 Control Delay	5.6	HCM 2000 Level of Service		A	
HCM 2000 Volume to Capacity ratio	0.31				
Actuated Cycle Length (s)	60.6	Sum of lost time (s)		10.0	
Intersection Capacity Utilization	80.7%	ICU Level of Service		D	
Analysis Period (min)	15				

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	510	380	5	50	30
Future Volume (vph)	10	510	380	5	50	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.998		0.950	
Flt Protected	0.950				0.970	
Satd. Flow (prot)	1805	3471	3250	0	1751	0
Flt Permitted	0.950				0.970	
Satd. Flow (perm)	1805	3471	3250	0	1751	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		443.3	47.5		121.4	
Travel Time (s)		31.9	3.4		8.7	
Confl. Peds. (#/hr)	5			5		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	4%	11%	0%	0%	0%
Adj. Flow (vph)	11	586	437	6	57	34
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	586	443	0	91	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

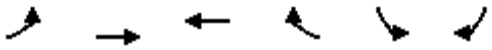
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.4%		ICU Level of Service A	
Analysis Period (min) 15			



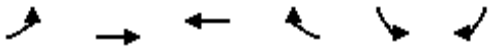
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	510	380	5	50	30
Future Volume (Veh/h)	10	510	380	5	50	30
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	11	586	437	6	57	34
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			48			
pX, platoon unblocked	0.98				0.98	0.98
vC, conflicting volume	448				760	226
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	385				705	158
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				84	96
cM capacity (veh/h)	1151				361	841

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	11	293	293	291	152	91
Volume Left	11	0	0	0	0	57
Volume Right	0	0	0	0	6	34
cSH	1151	1700	1700	1700	1700	459
Volume to Capacity	0.01	0.17	0.17	0.17	0.09	0.20
Queue Length 95th (m)	0.2	0.0	0.0	0.0	0.0	5.8
Control Delay (s)	8.2	0.0	0.0	0.0	0.0	14.8
Lane LOS	A					B
Approach Delay (s)	0.2			0.0		14.8
Approach LOS						B

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	25.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	425	1015	805	40	105	350
Future Volume (vph)	425	1015	805	40	105	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0			0.0	60.0	0.0
Storage Lanes	1			0	1	2
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.88
Ped Bike Factor	1.00		1.00			
Frt			0.993			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1703	3438	3417	0	1805	2561
Flt Permitted	0.257				0.950	
Satd. Flow (perm)	459	3438	3417	0	1805	2561
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			5			368
Link Speed (k/h)		50	50		50	
Link Distance (m)		209.5	575.4		443.3	
Travel Time (s)		15.1	41.4		31.9	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	5%	5%	0%	0%	11%
Adj. Flow (vph)	447	1068	847	42	111	368
Shared Lane Traffic (%)						
Lane Group Flow (vph)	447	1068	889	0	111	368
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		7.2	7.2		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			

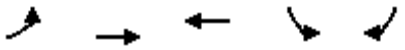


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	6.0	38.0	38.0		10.0	10.0
Minimum Split (s)	12.0	47.6	47.6		33.8	33.8
Total Split (s)	35.0	109.2	74.2		30.8	30.8
Total Split (%)	25.0%	78.0%	53.0%		22.0%	22.0%
Maximum Green (s)	29.0	102.6	67.6		25.0	25.0
Yellow Time (s)	4.0	3.7	3.7		3.3	3.3
All-Red Time (s)	2.0	2.9	2.9		2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.6	5.6		4.8	4.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Recall Mode	None	C-Min	C-Min		None	None
Walk Time (s)		10.0	10.0		10.0	10.0
Flash Dont Walk (s)		31.0	31.0		18.0	18.0
Pedestrian Calls (#/hr)		10	10		0	0
Act Effct Green (s)	115.0	114.4	86.6		15.2	15.2
Actuated g/C Ratio	0.82	0.82	0.62		0.11	0.11
v/c Ratio	0.77	0.38	0.42		0.57	0.61
Control Delay	16.4	4.0	15.2		70.1	9.7
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	16.4	4.0	15.2		70.1	9.7
LOS	B	A	B		E	A
Approach Delay		7.7	15.2		23.7	
Approach LOS		A	B		C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 12.7		Intersection LOS: B	
Intersection Capacity Utilization 78.9%		ICU Level of Service D	
Analysis Period (min) 15			

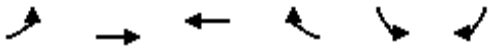
Splits and Phases: 13: Speers Rd/Cornwall Rd & Cross Ave





Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	447	1068	889	111	368
v/c Ratio	0.77	0.38	0.42	0.57	0.61
Control Delay	16.4	4.0	15.2	70.1	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	16.4	4.0	15.2	70.1	9.7
Queue Length 50th (m)	25.2	35.0	42.4	31.3	0.0
Queue Length 95th (m)	69.0	53.4	148.2	50.3	16.0
Internal Link Dist (m)		185.5	551.4	419.3	
Turn Bay Length (m)	70.0			60.0	
Base Capacity (vph)	656	2809	2123	335	775
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.68	0.38	0.42	0.33	0.47

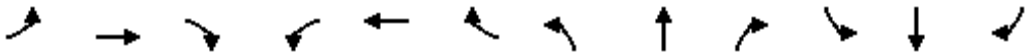
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	425	1015	805	40	105	350
Future Volume (vph)	425	1015	805	40	105	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		4.8	4.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1702	3438	3417		1805	2561
Flt Permitted	0.26	1.00	1.00		0.95	1.00
Satd. Flow (perm)	459	3438	3417		1805	2561
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	447	1068	847	42	111	368
RTOR Reduction (vph)	0	0	2	0	0	328
Lane Group Flow (vph)	447	1068	887	0	111	40
Confl. Peds. (#/hr)	15			15		
Heavy Vehicles (%)	6%	5%	5%	0%	0%	11%
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Actuated Green, G (s)	113.4	113.4	85.6		14.2	14.2
Effective Green, g (s)	114.4	114.4	86.6		15.2	15.2
Actuated g/C Ratio	0.82	0.82	0.62		0.11	0.11
Clearance Time (s)	6.0	6.6	6.6		5.8	5.8
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Lane Grp Cap (vph)	577	2809	2113		195	278
v/s Ratio Prot	c0.13	0.31	0.26			
v/s Ratio Perm	c0.51				c0.06	0.02
v/c Ratio	0.77	0.38	0.42		0.57	0.14
Uniform Delay, d1	8.5	3.4	13.8		59.3	56.5
Progression Factor	1.00	1.00	0.93		1.00	1.00
Incremental Delay, d2	6.6	0.4	0.5		3.8	0.2
Delay (s)	15.2	3.8	13.3		63.1	56.7
Level of Service	B	A	B		E	E
Approach Delay (s)		7.1	13.3		58.2	
Approach LOS		A	B		E	

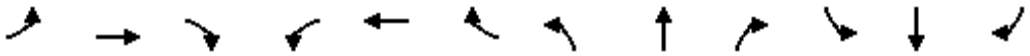
Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	78.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	80	0	5	0	225	60	10	250	0
Future Volume (vph)	0	0	0	80	0	5	0	225	60	10	250	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.992			0.968				
Flt Protected					0.955						0.998	
Satd. Flow (prot)	0	1900	0	0	1632	0	0	3393	0	0	3502	0
Flt Permitted					0.955						0.998	
Satd. Flow (perm)	0	1900	0	0	1632	0	0	3393	0	0	3502	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		33.6			124.9			420.1			134.0	
Travel Time (s)		2.4			9.0			30.2			9.6	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	11%	0%	0%	50%	3%	3%	0%	3%	0%
Adj. Flow (vph)	0	0	0	92	0	6	0	259	69	11	287	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	98	0	0	328	0	0	298	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	80	0	5	0	225	60	10	250	0
Future Volume (Veh/h)	0	0	0	80	0	5	0	225	60	10	250	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	0	0	92	0	6	0	259	69	11	287	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	444	637	144	459	602	164	287			328		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	444	637	144	459	602	164	287			328		
tC, single (s)	7.5	6.5	6.9	7.7	6.5	6.9	5.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.7			2.2		
p0 queue free %	100	100	100	80	100	99	100			99		
cM capacity (veh/h)	495	394	884	462	412	858	987			1243		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	98	130	198	154	144
Volume Left	0	92	0	0	11	0
Volume Right	0	6	0	69	0	0
cSH	1700	475	987	1700	1243	1700
Volume to Capacity	0.00	0.21	0.00	0.12	0.01	0.08
Queue Length 95th (m)	0.0	6.1	0.0	0.0	0.2	0.0
Control Delay (s)	0.0	14.5	0.0	0.0	0.6	0.0
Lane LOS	A	B			A	
Approach Delay (s)	0.0	14.5	0.0		0.3	
Approach LOS	A	B				

Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	25.6%	ICU Level of Service		A
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	75	80	130	200	95	25
Future Volume (vph)	75	80	130	200	95	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.930				0.972	
Flt Protected				0.981	0.962	
Satd. Flow (prot)	1709	0	0	1817	1745	0
Flt Permitted				0.981	0.962	
Satd. Flow (perm)	1709	0	0	1817	1745	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	632.0			1164.2	455.7	
Travel Time (s)	45.5			83.8	32.8	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	7%	0%	2%	3%	1%	5%
Adj. Flow (vph)	91	98	159	244	116	30
Shared Lane Traffic (%)						
Lane Group Flow (vph)	189	0	0	403	146	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

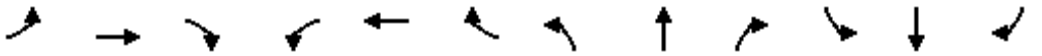
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	75	80	130	200	95	25
Future Volume (Veh/h)	75	80	130	200	95	25
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	91	98	159	244	116	30
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			189		702	140
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			189		702	140
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			89		68	97
cM capacity (veh/h)			1385		359	900

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	189	403	146
Volume Left	0	159	116
Volume Right	98	0	30
cSH	1700	1385	410
Volume to Capacity	0.11	0.11	0.36
Queue Length 95th (m)	0.0	3.1	12.7
Control Delay (s)	0.0	3.8	18.6
Lane LOS		A	C
Approach Delay (s)	0.0	3.8	18.6
Approach LOS			C

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	850	205	40	705	35	230	85	60	35	100	25
Future Volume (vph)	25	850	205	40	705	35	230	85	60	35	100	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00		1.00	0.99		1.00		0.98
Frt		0.971			0.993			0.938				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	3364	0	1752	3444	0	1736	1755	0	1703	1881	1553
Flt Permitted	0.308			0.181			0.687			0.653		
Satd. Flow (perm)	535	3364	0	334	3444	0	1249	1755	0	1165	1881	1526
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		52			9			37				32
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			455.7	
Travel Time (s)		43.9			11.1			15.4			32.8	
Confl. Peds. (#/hr)	5					5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Adj. Flow (vph)	27	924	223	43	766	38	250	92	65	38	109	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	1147	0	43	804	0	250	157	0	38	109	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	39.4	39.4		39.4	39.4		21.2	21.2		21.2	21.2	21.2
Actuated g/C Ratio	0.56	0.56		0.56	0.56		0.30	0.30		0.30	0.30	0.30
v/c Ratio	0.09	0.60		0.23	0.42		0.67	0.28		0.11	0.19	0.06
Control Delay	9.3	11.8		12.8	10.0		33.6	18.0		21.7	21.7	7.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	9.3	11.8		12.8	10.0		33.6	18.0		21.7	21.7	7.6
LOS	A	B		B	A		C	B		C	C	A
Approach Delay		11.7			10.1			27.6			19.5	
Approach LOS		B			B			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 70.6			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 14.2		Intersection LOS: B	
Intersection Capacity Utilization 68.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 16: Chartwell Rd & Cornwall Rd





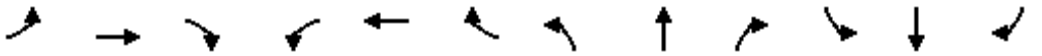
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	27	1147	43	804	250	157	38	109	27
v/c Ratio	0.09	0.60	0.23	0.42	0.67	0.28	0.11	0.19	0.06
Control Delay	9.3	11.8	12.8	10.0	33.6	18.0	21.7	21.7	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.3	11.8	12.8	10.0	33.6	18.0	21.7	21.7	7.6
Queue Length 50th (m)	1.6	46.6	2.7	29.4	28.7	11.8	3.6	10.6	0.0
Queue Length 95th (m)	6.4	86.3	10.6	55.1	70.4	33.9	13.1	29.0	5.4
Internal Link Dist (m)		585.1		130.4		189.6		431.7	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	447	2823	279	2883	596	857	556	898	745
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.41	0.15	0.28	0.42	0.18	0.07	0.12	0.04

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	850	205	40	705	35	230	85	60	35	100	25
Future Volume (vph)	25	850	205	40	705	35	230	85	60	35	100	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.99		1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1653	3364		1752	3444		1730	1756		1698	1881	1528
Flt Permitted	0.31	1.00		0.18	1.00		0.69	1.00		0.65	1.00	1.00
Satd. Flow (perm)	536	3364		335	3444		1250	1756		1166	1881	1528
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	924	223	43	766	38	250	92	65	38	109	27
RTOR Reduction (vph)	0	23	0	0	4	0	0	26	0	0	0	19
Lane Group Flow (vph)	27	1124	0	43	800	0	250	131	0	38	109	8
Confl. Peds. (#/hr)	5					5	5		5	5		5
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	38.3	38.3		38.3	38.3		20.1	20.1		20.1	20.1	20.1
Effective Green, g (s)	39.3	39.3		39.3	39.3		21.1	21.1		21.1	21.1	21.1
Actuated g/C Ratio	0.56	0.56		0.56	0.56		0.30	0.30		0.30	0.30	0.30
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	301	1894		188	1939		377	530		352	568	461
v/s Ratio Prot		c0.33			0.23			0.07			0.06	
v/s Ratio Perm	0.05			0.13			c0.20			0.03		0.01
v/c Ratio	0.09	0.59		0.23	0.41		0.66	0.25		0.11	0.19	0.02
Uniform Delay, d1	7.0	10.0		7.6	8.7		21.2	18.4		17.6	18.0	17.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.3	0.8		1.5	0.4		4.8	0.3		0.2	0.2	0.0
Delay (s)	7.3	10.9		9.2	9.0		26.0	18.7		17.7	18.3	17.1
Level of Service	A	B		A	A		C	B		B	B	B
Approach Delay (s)		10.8			9.0			23.2			18.0	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	69.8	Sum of lost time (s)	9.4
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

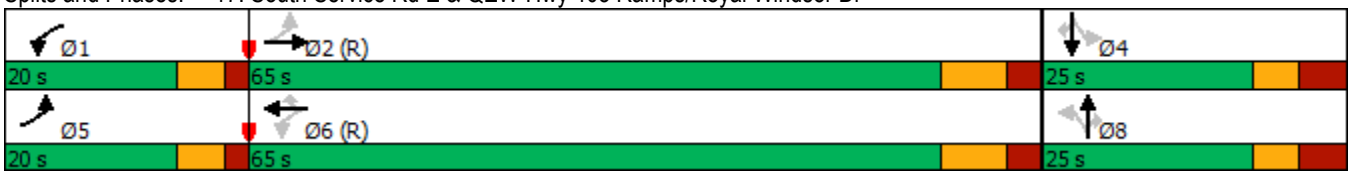


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	855	95	195	760	0	5	25	100	0	65	20
Future Volume (vph)	75	855	95	195	760	0	5	25	100	0	65	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	125.0		0.0	145.0		55.0	15.0		40.0	35.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985							0.850			0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3213	3364	0	1787	3312	1900	1805	1900	1455	1900	1863	1122
Flt Permitted	0.346			0.219			0.712					
Satd. Flow (perm)	1170	3364	0	412	3312	1900	1353	1900	1455	1900	1863	1122
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16							113			113
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		232.7			227.3			1164.2			153.5	
Travel Time (s)		16.8			16.4			83.8			11.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	9%	6%	3%	1%	9%	0%	0%	0%	11%	0%	2%	44%
Adj. Flow (vph)	80	910	101	207	809	0	5	27	106	0	69	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	1011	0	207	809	0	5	27	106	0	69	21
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	8.0	20.0		8.0	20.0	20.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	14.0	28.4		14.0	28.4	28.4	17.8	17.8	17.8	17.8	17.8	17.8
Total Split (s)	20.0	65.0		20.0	65.0	65.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	18.2%	59.1%		18.2%	59.1%	59.1%	22.7%	22.7%	22.7%	22.7%	22.7%	22.7%
Maximum Green (s)	14.0	56.6		14.0	56.6	56.6	17.2	17.2	17.2	17.2	17.2	17.2
Yellow Time (s)	4.0	5.4		4.0	5.4	5.4	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.0	3.0		2.0	3.0	3.0	4.1	4.1	4.1	4.1	4.1	4.1
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	77.4	66.0		85.5	72.8		11.8	11.8	11.8		11.8	11.8
Actuated g/C Ratio	0.70	0.60		0.78	0.66		0.11	0.11	0.11		0.11	0.11
v/c Ratio	0.08	0.50		0.43	0.37		0.03	0.13	0.41		0.35	0.10
Control Delay	3.5	14.0		5.8	9.6		43.8	45.6	12.6		50.4	0.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	3.5	14.0		5.8	9.6		43.8	45.6	12.6		50.4	0.8
LOS	A	B		A	A		D	D	B		D	A
Approach Delay		13.3			8.8			20.2			38.8	
Approach LOS		B			A			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay: 12.7		Intersection LOS: B	
Intersection Capacity Utilization 61.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	80	1011	207	809	5	27	106	69	21
v/c Ratio	0.08	0.50	0.43	0.37	0.03	0.13	0.41	0.35	0.10
Control Delay	3.5	14.0	5.8	9.6	43.8	45.6	12.6	50.4	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.5	14.0	5.8	9.6	43.8	45.6	12.6	50.4	0.8
Queue Length 50th (m)	1.5	61.4	8.7	41.5	1.1	5.7	0.0	14.8	0.0
Queue Length 95th (m)	3.5	93.4	16.3	57.9	4.7	14.1	14.7	28.4	0.0
Internal Link Dist (m)		208.7		203.3		1140.2		129.5	
Turn Bay Length (m)	125.0		145.0		15.0		40.0		
Base Capacity (vph)	1163	2024	518	2193	223	314	335	308	279
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.50	0.40	0.37	0.02	0.09	0.32	0.22	0.08

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	855	95	195	760	0	5	25	100	0	65	20
Future Volume (vph)	75	855	95	195	760	0	5	25	100	0	65	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.4		5.0	7.4		6.8	6.8	6.8		6.8	6.8
Lane Util. Factor	0.97	0.95		1.00	0.95		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	3213	3364		1787	3312		1805	1900	1455		1863	1122
Flt Permitted	0.35	1.00		0.22	1.00		0.71	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1171	3364		412	3312		1353	1900	1455		1863	1122
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	80	910	101	207	809	0	5	27	106	0	69	21
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	95	0	0	19
Lane Group Flow (vph)	80	1005	0	207	809	0	5	27	11	0	69	2
Heavy Vehicles (%)	9%	6%	3%	1%	9%	0%	0%	0%	11%	0%	2%	44%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	71.3	64.9		82.7	70.6		10.8	10.8	10.8		10.8	10.8
Effective Green, g (s)	73.3	65.9		84.0	71.6		11.8	11.8	11.8		11.8	11.8
Actuated g/C Ratio	0.67	0.60		0.76	0.65		0.11	0.11	0.11		0.11	0.11
Clearance Time (s)	6.0	8.4		6.0	8.4		7.8	7.8	7.8		7.8	7.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	917	2015		478	2155		145	203	156		199	120
v/s Ratio Prot	0.01	c0.30		c0.05	0.24			0.01			c0.04	
v/s Ratio Perm	0.05			0.28			0.00		0.01			0.00
v/c Ratio	0.09	0.50		0.43	0.38		0.03	0.13	0.07		0.35	0.02
Uniform Delay, d1	6.3	12.6		5.4	8.9		44.0	44.5	44.2		45.5	43.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.9		0.6	0.5		0.1	0.3	0.2		1.1	0.1
Delay (s)	6.3	13.5		6.0	9.4		44.1	44.8	44.4		46.6	44.0
Level of Service	A	B		A	A		D	D	D		D	D
Approach Delay (s)		13.0			8.7			44.4			46.0	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	61.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	115	175	0	25	35	0
Future Volume (vph)	115	175	0	25	35	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.919					
Flt Protected					0.950	
Satd. Flow (prot)	1712	0	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1712	0	0	1863	1770	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	64.3			219.4	105.4	
Travel Time (s)	4.6			15.8	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	190	0	27	38	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	315	0	0	27	38	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	115	175	0	25	35	0
Future Volume (Veh/h)	115	175	0	25	35	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	125	190	0	27	38	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			315		247	220
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			315		247	220
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		95	100
cM capacity (veh/h)			1245		741	820

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	315	27	38
Volume Left	0	0	38
Volume Right	190	0	0
cSH	1700	1245	741
Volume to Capacity	0.19	0.00	0.05
Queue Length 95th (m)	0.0	0.0	1.3
Control Delay (s)	0.0	0.0	10.1
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.1
Approach LOS			B

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	26.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	115	0	35	25	0	175
Future Volume (vph)	115	0	35	25	0	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.972		
Satd. Flow (prot)	1863	0	0	1811	1611	0
Flt Permitted				0.972		
Satd. Flow (perm)	1863	0	0	1811	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	53.7			64.3	43.5	
Travel Time (s)	3.9			4.6	3.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	0	38	27	0	190
Shared Lane Traffic (%)						
Lane Group Flow (vph)	125	0	0	65	190	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

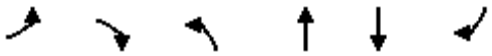
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	115	0	35	25	0	175
Future Volume (Veh/h)	115	0	35	25	0	175
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	125	0	38	27	0	190
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			125		228	125
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			125		228	125
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	79
cM capacity (veh/h)			1462		740	926

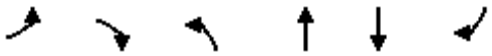
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	125	65	190
Volume Left	0	38	0
Volume Right	0	0	190
cSH	1700	1462	926
Volume to Capacity	0.07	0.03	0.21
Queue Length 95th (m)	0.0	0.6	6.1
Control Delay (s)	0.0	4.5	9.9
Lane LOS		A	A
Approach Delay (s)	0.0	4.5	9.9
Approach LOS			A

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	27.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	175	35	35	175	0
Future Volume (vph)	0	175	35	35	175	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.976		
Satd. Flow (prot)	1611	0	0	1818	1863	0
Flt Permitted				0.976		
Satd. Flow (perm)	1611	0	0	1818	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	49.0			201.6	105.4	
Travel Time (s)	3.5			14.5	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	190	38	38	190	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	190	0	0	76	190	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	175	35	35	175	0
Future Volume (Veh/h)	0	175	35	35	175	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	190	38	38	190	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				201		
pX, platoon unblocked						
vC, conflicting volume	304	190	190			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	304	190	190			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	78	97			
cM capacity (veh/h)	669	852	1384			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	190	76	190
Volume Left	0	38	0
Volume Right	190	0	0
cSH	852	1384	1700
Volume to Capacity	0.22	0.03	0.11
Queue Length 95th (m)	6.8	0.7	0.0
Control Delay (s)	10.4	3.9	0.0
Lane LOS	B	A	
Approach Delay (s)	10.4	3.9	0.0
Approach LOS	B		

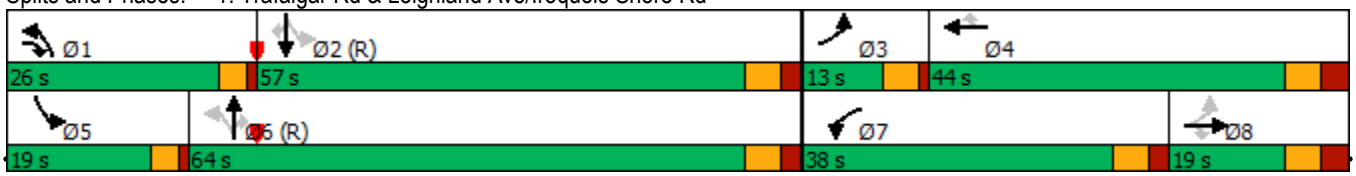
Intersection Summary			
Average Delay	5.0		
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		

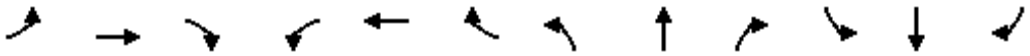
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	155	280	765	200	285	295	2435	875	130	1700	115
Future Volume (vph)	100	155	280	765	200	285	295	2435	875	130	1700	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.95					0.92			0.97			0.87
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1881	1599	3467	1881	1615	1787	5136	1599	1805	5085	1615
Flt Permitted	0.629			0.950			0.072			0.076		
Satd. Flow (perm)	1136	1881	1599	3467	1881	1485	135	5136	1543	144	5085	1399
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			145			479			173
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			521.8			275.4			339.2	
Travel Time (s)		27.7			37.6			19.8			24.4	
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Adj. Flow (vph)	103	160	289	789	206	294	304	2510	902	134	1753	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	160	289	789	206	294	304	2510	902	134	1753	119
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	11.0	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	13.0	19.0	26.0	38.0	44.0	44.0	26.0	64.0	64.0	19.0	57.0	57.0
Total Split (%)	9.3%	13.6%	18.6%	27.1%	31.4%	31.4%	18.6%	45.7%	45.7%	13.6%	40.7%	40.7%
Maximum Green (s)	8.3	12.2	22.0	32.3	37.2	37.2	22.0	57.9	57.9	15.0	50.9	50.9
Yellow Time (s)	3.7	3.7	3.0	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	1.0	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					30	30		50	50		50	50
Act Effct Green (s)	24.4	13.2	41.1	33.3	38.4	38.4	80.0	62.6	62.6	67.2	52.8	52.8
Actuated g/C Ratio	0.17	0.09	0.29	0.24	0.27	0.27	0.57	0.45	0.45	0.48	0.38	0.38
v/c Ratio	0.43	0.90	0.53	0.96	0.40	0.57	0.90	1.09	0.95	0.63	0.91	0.19
Control Delay	37.6	108.5	29.5	75.1	44.3	26.5	54.4	64.0	11.0	39.7	50.0	1.5
Queue Delay	0.0	0.0	60.8	2.9	0.0	0.0	0.0	0.0	27.0	0.0	3.0	0.0
Total Delay	37.6	108.5	90.3	77.9	44.3	26.5	54.4	64.0	38.0	39.7	53.0	1.5
LOS	D	F	F	E	D	C	D	E	D	D	D	A
Approach Delay		85.7			60.8			56.9			49.1	
Approach LOS		F			E			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.09			
Intersection Signal Delay: 57.6		Intersection LOS: E	
Intersection Capacity Utilization 102.0%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd





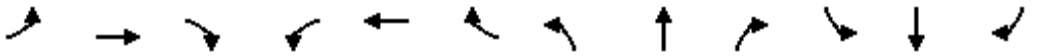
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	103	160	289	789	206	294	304	2510	902	134	1753	119
v/c Ratio	0.43	0.90	0.53	0.96	0.40	0.57	0.90	1.09	0.95	0.63	0.91	0.19
Control Delay	37.6	108.5	29.5	75.1	44.3	26.5	54.4	64.0	11.0	39.7	50.0	1.5
Queue Delay	0.0	0.0	60.8	2.9	0.0	0.0	0.0	0.0	27.0	0.0	3.0	0.0
Total Delay	37.6	108.5	90.3	77.9	44.3	26.5	54.4	64.0	38.0	39.7	53.0	1.5
Queue Length 50th (m)	19.6	47.0	44.2	117.8	49.3	37.2	64.0	~298.0	75.8	20.2	178.8	0.0
Queue Length 95th (m)	33.5	#90.9	74.6	#158.5	73.9	69.2	m45.7	m173.8	m34.9	42.1	#202.7	3.0
Internal Link Dist (m)		361.1			497.8			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	244	177	553	824	516	512	348	2296	954	262	1919	635
Starvation Cap Reductn	0	0	0	0	0	0	0	0	101	0	0	0
Spillback Cap Reductn	0	0	297	16	0	0	0	0	0	0	100	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.90	1.13	0.98	0.40	0.57	0.87	1.09	1.06	0.51	0.96	0.19

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

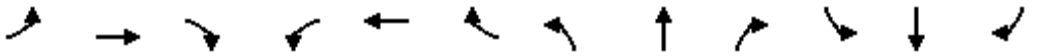
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	155	280	765	200	285	295	2435	875	130	1700	115
Future Volume (vph)	100	155	280	765	200	285	295	2435	875	130	1700	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.92	1.00	1.00	0.97	1.00	1.00	0.87
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1750	1881	1599	3467	1881	1485	1787	5136	1543	1805	5085	1399
Flt Permitted	0.63	1.00	1.00	0.95	1.00	1.00	0.07	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	1159	1881	1599	3467	1881	1485	135	5136	1543	144	5085	1399
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	103	160	289	789	206	294	304	2510	902	134	1753	119
RTOR Reduction (vph)	0	0	79	0	0	105	0	0	265	0	0	74
Lane Group Flow (vph)	103	160	210	789	206	189	304	2510	637	134	1753	45
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	20.3	12.2	33.3	32.3	37.4	37.4	76.9	61.6	61.6	63.1	51.8	51.8
Effective Green, g (s)	22.3	13.2	35.3	33.3	38.4	38.4	77.9	62.6	62.6	65.1	52.8	52.8
Actuated g/C Ratio	0.16	0.09	0.25	0.24	0.27	0.27	0.56	0.45	0.45	0.46	0.38	0.38
Clearance Time (s)	4.7	6.8	4.0	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	223	177	403	824	515	407	335	2296	689	212	1917	527
v/s Ratio Prot	0.03	c0.09	0.08	c0.23	0.11		c0.14	c0.49		0.06	0.34	
v/s Ratio Perm	0.04		0.05			0.13	0.36		0.41	0.24		0.03
v/c Ratio	0.46	0.90	0.52	0.96	0.40	0.46	0.91	1.09	0.92	0.63	0.91	0.09
Uniform Delay, d1	52.6	62.8	45.1	52.7	41.4	42.2	44.2	38.7	36.5	30.8	41.5	28.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.30	0.50	0.36	1.00	1.00	1.00
Incremental Delay, d2	1.5	41.2	1.2	21.4	0.5	0.8	3.7	42.8	2.7	6.0	8.3	0.3
Delay (s)	54.1	103.9	46.3	74.0	41.9	43.1	61.0	62.0	16.0	36.8	49.7	28.4
Level of Service	D	F	D	E	D	D	E	E	B	D	D	C
Approach Delay (s)		64.5			61.8			50.8			47.6	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	52.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	102.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

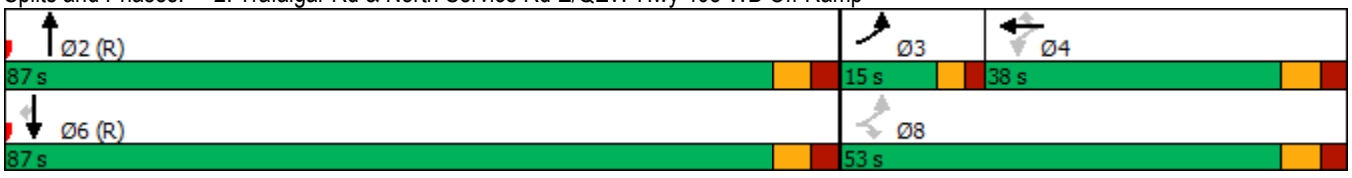


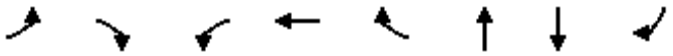
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	270	690	5	460	0	3540	0	0	3135	15
Future Volume (vph)	25	0	270	690	5	460	0	3540	0	0	3135	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.94
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.953							
Satd. Flow (prot)	1805	0	1599	1681	1687	1583	0	5136	0	0	5036	1524
Flt Permitted	0.203			0.950	0.953							
Satd. Flow (perm)	386	0	1599	1681	1687	1583	0	5136	0	0	5036	1437
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			94						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							15		10	10		15
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Adj. Flow (vph)	27	0	287	734	5	489	0	3766	0	0	3335	16
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	27	0	287	367	372	489	0	3766	0	0	3335	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	15.0		53.0	38.0	38.0	38.0		87.0			87.0	87.0
Total Split (%)	10.7%		37.9%	27.1%	27.1%	27.1%		62.1%			62.1%	62.1%
Maximum Green (s)	10.0		46.0	31.0	31.0	31.0		80.0			80.0	80.0
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		15			15	15
Act Effct Green (s)	49.0		47.0	38.5	38.5	38.5		81.0			81.0	81.0
Actuated g/C Ratio	0.35		0.34	0.28	0.28	0.28		0.58			0.58	0.58
v/c Ratio	0.12		0.52	0.79	0.80	0.97		1.27			1.14	0.02
Control Delay	31.4		37.0	61.9	62.4	74.4		144.7			103.8	0.0
Queue Delay	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	31.4		37.0	61.9	62.4	74.4		144.7			103.8	0.0
LOS	C		D	E	E	E		F			F	A
Approach Delay		36.5			67.0			144.7			103.3	
Approach LOS		D			E			F			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.27			
Intersection Signal Delay: 113.7		Intersection LOS: F	
Intersection Capacity Utilization 113.5%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp





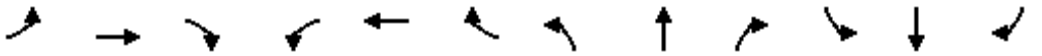
Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	27	287	367	372	489	3766	3335	16
v/c Ratio	0.12	0.52	0.79	0.80	0.97	1.27	1.14	0.02
Control Delay	31.4	37.0	61.9	62.4	74.4	144.7	103.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.4	37.0	61.9	62.4	74.4	144.7	103.8	0.0
Queue Length 50th (m)	5.2	59.8	110.1	112.0	~137.0	~504.5	~410.1	0.0
Queue Length 95th (m)	12.3	89.6	#179.4	#182.8	#214.1 m	#480.9	#433.6	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	246	557	462	464	503	2971	2913	860
Starvation Cap Reductn	0	0	0	0	0	4	0	0
Spillback Cap Reductn	0	0	0	0	0	26	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.52	0.79	0.80	0.97	1.28	1.14	0.02

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

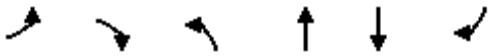
m Volume for 95th percentile queue is metered by upstream signal.



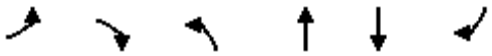
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	270	690	5	460	0	3540	0	0	3135	15
Future Volume (vph)	25	0	270	690	5	460	0	3540	0	0	3135	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.94
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1681	1687	1583		5136			5036	1437
Flt Permitted	0.20		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	386		1599	1681	1687	1583		5136			5036	1437
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	27	0	287	734	5	489	0	3766	0	0	3335	16
RTOR Reduction (vph)	0	0	20	0	0	68	0	0	0	0	0	7
Lane Group Flow (vph)	27	0	267	367	372	421	0	3766	0	0	3335	9
Confl. Peds. (#/hr)							15		10	10		15
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	48.0		48.0	37.5	37.5	37.5		78.0			78.0	78.0
Effective Green, g (s)	49.0		49.0	38.5	38.5	38.5		79.0			79.0	79.0
Actuated g/C Ratio	0.35		0.35	0.28	0.28	0.28		0.56			0.56	0.56
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	200		559	462	463	435		2898			2841	810
v/s Ratio Prot	0.01							c0.73			0.66	
v/s Ratio Perm	0.04		c0.17	0.22	0.22	c0.27						0.01
v/c Ratio	0.14		0.48	0.79	0.80	0.97		1.30			1.17	0.01
Uniform Delay, d1	32.5		35.5	47.1	47.2	50.1		30.5			30.5	13.4
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.76			1.29	1.00
Incremental Delay, d2	0.5		0.8	9.1	9.7	34.4		135.0			80.9	0.0
Delay (s)	33.1		36.3	56.2	57.0	84.5		158.3			120.1	13.4
Level of Service	C		D	E	E	F		F			F	B
Approach Delay (s)		36.0			67.7			158.3			119.6	
Approach LOS		D			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	126.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	113.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



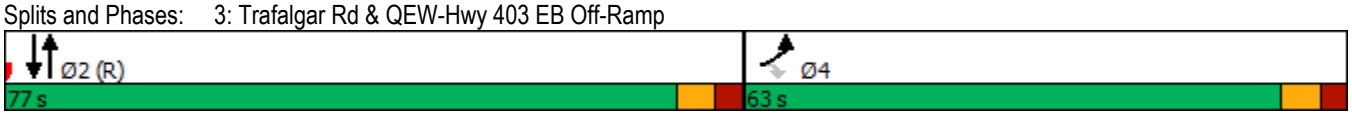
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1365	600	0	2535	2525	0
Future Volume (vph)	1365	600	0	2535	2525	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3467	1583	0	5085	5085	0
Flt Permitted	0.950					
Satd. Flow (perm)	3467	*1800	0	5085	5085	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		1				
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			45.3	331.3	
Travel Time (s)	15.4			3.3	23.9	
Confl. Peds. (#/hr)			25			25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Adj. Flow (vph)	1437	632	0	2668	2658	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1437	632	0	2668	2658	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	63.0	63.0		77.0	77.0	
Total Split (%)	45.0%	45.0%		55.0%	55.0%	
Maximum Green (s)	56.0	56.0		70.0	70.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		15	15	
Act Effct Green (s)	57.0	57.0		71.0	71.0	
Actuated g/C Ratio	0.41	0.41		0.51	0.51	
v/c Ratio	1.02	0.86		1.03	1.03	
Control Delay	69.6	51.3		54.2	48.4	
Queue Delay	0.0	0.0		27.9	0.0	
Total Delay	69.6	51.3		82.1	48.4	
LOS	E	D		F	D	
Approach Delay	64.0			82.1	48.4	
Approach LOS	E			F	D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay: 64.9		Intersection LOS: E	
Intersection Capacity Utilization 97.9%		ICU Level of Service F	
Analysis Period (min) 15			
* User Entered Value			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



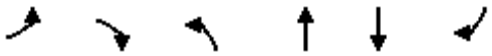
Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	1437	632	2668	2658
v/c Ratio	1.02	0.86	1.03	1.03
Control Delay	69.6	51.3	54.2	48.4
Queue Delay	0.0	0.0	27.9	0.0
Total Delay	69.6	51.3	82.1	48.4
Queue Length 50th (m)	~227.9	166.5	~308.1	~300.8
Queue Length 95th (m)	#271.8	#236.6	m#329.7	m204.8
Internal Link Dist (m)	190.2		21.3	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1411	733	2578	2578
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	938	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.02	0.86	1.63	1.03

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

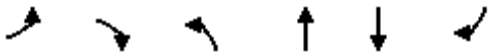
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1365	600	0	2535	2525	0
Future Volume (vph)	1365	600	0	2535	2525	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3467	1583		5085	5085	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3467	1800		5085	5085	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1437	632	0	2668	2658	0
RTOR Reduction (vph)	0	1	0	0	0	0
Lane Group Flow (vph)	1437	631	0	2668	2658	0
Confl. Peds. (#/hr)			25			25
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	56.0	56.0		70.0	70.0	
Effective Green, g (s)	57.0	57.0		71.0	71.0	
Actuated g/C Ratio	0.41	0.41		0.51	0.51	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1411	732		2578	2578	
v/s Ratio Prot	c0.41			c0.52	0.52	
v/s Ratio Perm		0.35				
v/c Ratio	1.02	0.86		1.03	1.03	
Uniform Delay, d1	41.5	37.9		34.5	34.5	
Progression Factor	1.00	1.00		0.92	0.95	
Incremental Delay, d2	28.7	10.3		22.6	15.8	
Delay (s)	70.2	48.2		54.3	48.6	
Level of Service	E	D		D	D	
Approach Delay (s)	63.5			54.3	48.6	
Approach LOS	E			D	D	

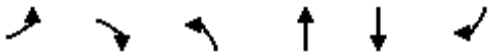
Intersection Summary			
HCM 2000 Control Delay	54.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	97.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	60	0	2600	2365	680
Future Volume (vph)	0	60	0	2600	2365	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.967	
Flt Protected						
Satd. Flow (prot)	0	1522	0	5085	4923	0
Flt Permitted						
Satd. Flow (perm)	0	1522	0	5085	4923	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	144.9			271.4	45.3	
Travel Time (s)	10.4			19.5	3.3	
Confl. Peds. (#/hr)			20			20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	8%	0%	2%	1%	5%
Adj. Flow (vph)	0	64	0	2766	2516	723
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	64	0	2766	3239	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	60	0	2600	2365	680
Future Volume (Veh/h)	0	60	0	2600	2365	680
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	64	0	2766	2516	723
Pedestrians	20					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	2					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				271	45	
pX, platoon unblocked	0.64	0.50	0.50			
vC, conflicting volume	3820	1220	3259			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	476	0	1999			
tC, single (s)	6.8	7.1	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	100	88	100			
cM capacity (veh/h)	326	520	142			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	64	922	922	922	1006	1006	1226
Volume Left	0	0	0	0	0	0	0
Volume Right	64	0	0	0	0	0	723
cSH	520	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.12	0.54	0.54	0.54	0.59	0.59	0.72
Queue Length 95th (m)	3.3	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	12.9	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	12.9	0.0			0.0		
Approach LOS	B						

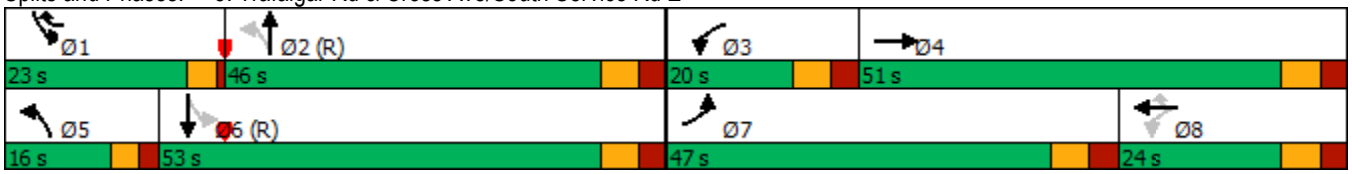
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	71.7%	ICU Level of Service		C
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	950	90	120	65	125	275	140	1440	30	150	1720	390
Future Volume (vph)	950	90	120	65	125	275	140	1440	30	150	1720	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		0.0	50.0		0.0	120.0		0.0	55.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.98		0.98				1.00			0.99	
Frt		0.914				0.850		0.997			0.972	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	1645	0	1805	1900	1599	1719	5118	0	1752	4973	0
Flt Permitted	0.950			0.622			0.086			0.083		
Satd. Flow (perm)	3400	1645	0	1161	1900	1599	156	5118	0	153	4973	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		51				140		2			39	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		217.0			420.1			277.9			271.4	
Travel Time (s)		15.6			30.2			20.0			19.5	
Confl. Peds. (#/hr)			20	20			15		15	15		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Adj. Flow (vph)	979	93	124	67	129	284	144	1485	31	155	1773	402
Shared Lane Traffic (%)												
Lane Group Flow (vph)	979	217	0	67	129	284	144	1516	0	155	2175	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		12.0	10.0	7.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0		19.0	17.0	11.0	12.0	34.0		11.0	34.0	
Total Split (s)	47.0	51.0		20.0	24.0	23.0	16.0	46.0		23.0	53.0	
Total Split (%)	33.6%	36.4%		14.3%	17.1%	16.4%	11.4%	32.9%		16.4%	37.9%	
Maximum Green (s)	40.0	44.0		13.0	17.0	19.0	11.0	39.0		19.0	46.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	1.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0						7.0			7.0	
Flash Dont Walk (s)		28.0						20.0			20.0	
Pedestrian Calls (#/hr)		10						15			15	
Act Effct Green (s)	41.0	47.5		28.7	15.7	36.0	61.8	48.0		65.9	49.5	
Actuated g/C Ratio	0.29	0.34		0.20	0.11	0.26	0.44	0.34		0.47	0.35	
v/c Ratio	0.98	0.37		0.22	0.61	0.55	0.72	0.86		0.66	1.22	
Control Delay	73.8	29.1		27.9	71.0	25.3	50.3	48.7		43.6	146.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	73.8	29.1		27.9	71.0	25.3	50.3	48.7		43.6	146.3	
LOS	E	C		C	E	C	D	D		D	F	
Approach Delay		65.7			38.0			48.8			139.5	
Approach LOS		E			D			D			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.22			
Intersection Signal Delay: 88.8		Intersection LOS: F	
Intersection Capacity Utilization 103.7%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 5: Trafalgar Rd & Cross Ave/South Service Rd E



5: Trafalgar Rd & Cross Ave/South Service Rd E



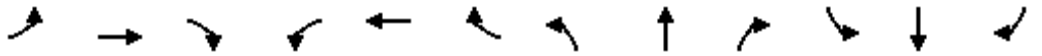
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	979	217	67	129	284	144	1516	155	2175
v/c Ratio	0.98	0.37	0.22	0.61	0.55	0.72	0.86	0.66	1.22
Control Delay	73.8	29.1	27.9	71.0	25.3	50.3	48.7	43.6	146.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.8	29.1	27.9	71.0	25.3	50.3	48.7	43.6	146.3
Queue Length 50th (m)	146.4	37.2	10.9	36.1	35.7	33.3	120.0	35.5	~288.7
Queue Length 95th (m)	#192.6	60.5	20.1	58.3	61.4	m39.8	m#194.2	m36.1	m#283.4
Internal Link Dist (m)		193.0		396.1			253.9		247.4
Turn Bay Length (m)	130.0		50.0			120.0		55.0	
Base Capacity (vph)	995	598	310	244	574	206	1757	302	1783
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.36	0.22	0.53	0.49	0.70	0.86	0.51	1.22

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

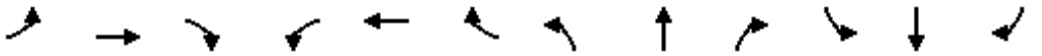
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	950	90	120	65	125	275	140	1440	30	150	1720	390
Future Volume (vph)	950	90	120	65	125	275	140	1440	30	150	1720	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.98		1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3400	1645		1786	1900	1599	1719	5117		1752	4974	
Flt Permitted	0.95	1.00		0.62	1.00	1.00	0.09	1.00		0.08	1.00	
Satd. Flow (perm)	3400	1645		1170	1900	1599	155	5117		153	4974	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	979	93	124	67	129	284	144	1485	31	155	1773	402
RTOR Reduction (vph)	0	34	0	0	0	109	0	1	0	0	26	0
Lane Group Flow (vph)	979	183	0	67	129	175	144	1515	0	155	2149	0
Confl. Peds. (#/hr)			20	20			15		15	15		15
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Actuated Green, G (s)	40.0	46.5		25.7	16.1	29.3	56.5	45.7		60.3	47.1	
Effective Green, g (s)	41.0	47.5		27.7	17.1	31.3	58.5	46.7		62.3	48.1	
Actuated g/C Ratio	0.29	0.34		0.20	0.12	0.22	0.42	0.33		0.44	0.34	
Clearance Time (s)	7.0	7.0		7.0	7.0	4.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	995	558		278	232	357	196	1706		230	1708	
v/s Ratio Prot	c0.29	0.11		0.02	c0.07	0.05	0.06	0.30		c0.07	c0.43	
v/s Ratio Perm				0.03		0.06	0.24			0.23		
v/c Ratio	0.98	0.33		0.24	0.56	0.49	0.73	0.89		0.67	1.26	
Uniform Delay, d1	49.2	34.4		46.8	57.9	47.4	33.0	44.2		30.3	46.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.37	1.06		1.44	1.26	
Incremental Delay, d2	24.5	0.5		0.5	3.5	1.1	6.4	3.6		2.2	117.7	
Delay (s)	73.6	34.9		47.3	61.4	48.5	51.6	50.2		45.9	175.5	
Level of Service	E	C		D	E	D	D	D		D	F	
Approach Delay (s)		66.6			51.8			50.3			166.8	
Approach LOS		E			D			D			F	

Intersection Summary			
HCM 2000 Control Delay	101.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	103.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



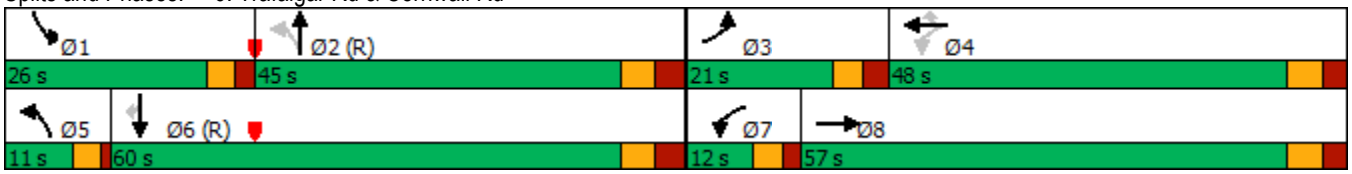
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	550	45	55	695	615	60	685	60	495	740	300
Future Volume (vph)	360	550	45	55	695	615	60	685	60	495	740	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.98	1.00		0.99		0.93		1.00		0.99		0.98
Frt		0.989				0.850		0.988				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	3494	0	1805	3539	1583	1770	3556	0	3433	1881	1553
Flt Permitted	0.950			0.390			0.105			0.950		
Satd. Flow (perm)	3389	3494	0	734	3539	1470	196	3556	0	3386	1881	1516
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				303		6				187
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			277.9	
Travel Time (s)		41.4			45.2			10.0			20.0	
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Adj. Flow (vph)	371	567	46	57	716	634	62	706	62	510	763	309
Shared Lane Traffic (%)												
Lane Group Flow (vph)	371	613	0	57	716	634	62	768	0	510	763	309
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

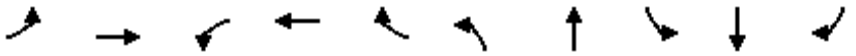
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	21.0	57.0		12.0	48.0	48.0	11.0	45.0		26.0	60.0	60.0
Total Split (%)	15.0%	40.7%		8.6%	34.3%	34.3%	7.9%	32.1%		18.6%	42.9%	42.9%
Maximum Green (s)	15.3	50.6		7.0	41.6	41.6	7.0	38.1		21.0	53.1	53.1
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		30			30	30		15			15	15
Act Effct Green (s)	16.3	53.7		51.7	42.3	42.3	50.0	39.1		22.3	56.6	56.6
Actuated g/C Ratio	0.12	0.38		0.37	0.30	0.30	0.36	0.28		0.16	0.40	0.40
v/c Ratio	0.92	0.46		0.17	0.67	0.97	0.39	0.77		0.94	1.01	0.43
Control Delay	85.5	35.2		22.8	46.3	53.0	28.6	52.1		85.4	50.8	17.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	85.5	35.2		22.8	46.3	53.0	28.6	52.1		85.4	50.8	17.1
LOS	F	D		C	D	D	C	D		F	D	B
Approach Delay		54.2			48.4			50.3			55.4	
Approach LOS		D			D			D			E	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 135
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 52.2 Intersection LOS: D
Intersection Capacity Utilization 96.1% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd





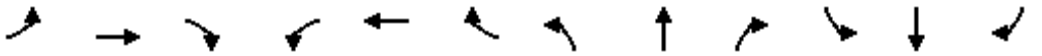
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	371	613	57	716	634	62	768	510	763	309
v/c Ratio	0.92	0.46	0.17	0.67	0.97	0.39	0.77	0.94	1.01	0.43
Control Delay	85.5	35.2	22.8	46.3	53.0	28.6	52.1	85.4	50.8	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.5	35.2	22.8	46.3	53.0	28.6	52.1	85.4	50.8	17.1
Queue Length 50th (m)	56.5	75.0	9.0	96.0	111.2	9.4	107.8	81.7	~231.0	29.6
Queue Length 95th (m)	#87.0	93.8	17.6	118.6	#195.9	18.1	132.6	m70.1	m101.9	m24.6
Internal Link Dist (m)		551.4		604.3			115.4		253.9	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	403	1345	332	1076	658	159	997	545	759	723
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.46	0.17	0.67	0.96	0.39	0.77	0.94	1.01	0.43

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

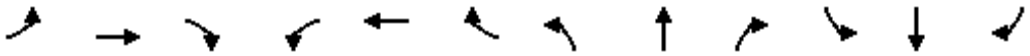
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	550	45	55	695	615	60	685	60	495	740	300
Future Volume (vph)	360	550	45	55	695	615	60	685	60	495	740	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.93	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3467	3493		1799	3539	1470	1770	3556		3433	1881	1516
Flt Permitted	0.95	1.00		0.39	1.00	1.00	0.10	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3467	3493		739	3539	1470	196	3556		3433	1881	1516
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	371	567	46	57	716	634	62	706	62	510	763	309
RTOR Reduction (vph)	0	4	0	0	0	209	0	4	0	0	0	114
Lane Group Flow (vph)	371	609	0	57	716	425	62	764	0	510	763	195
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	15.3	52.7		47.9	42.3	42.3	42.7	37.1		21.3	53.8	53.8
Effective Green, g (s)	16.3	53.7		49.9	43.3	43.3	44.7	38.1		22.3	54.8	54.8
Actuated g/C Ratio	0.12	0.38		0.36	0.31	0.31	0.32	0.27		0.16	0.39	0.39
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Lane Grp Cap (vph)	403	1339		313	1094	454	136	967		546	736	593
v/s Ratio Prot	c0.11	0.17		0.01	0.20		0.02	0.21		c0.15	c0.41	
v/s Ratio Perm				0.06		c0.29	0.12					0.13
v/c Ratio	0.92	0.45		0.18	0.65	0.94	0.46	0.79		0.93	1.04	0.33
Uniform Delay, d1	61.2	32.2		30.0	41.9	47.0	37.9	47.2		58.1	42.6	29.8
Progression Factor	0.95	1.05		1.00	1.00	1.00	1.00	1.00		1.44	0.94	1.42
Incremental Delay, d2	25.2	0.2		0.4	1.4	26.6	2.4	6.5		3.4	21.3	0.1
Delay (s)	83.0	34.0		30.4	43.3	73.6	40.3	53.8		86.8	61.5	42.4
Level of Service	F	C		C	D	E	D	D		F	E	D
Approach Delay (s)		52.5			56.4			52.8			65.9	
Approach LOS		D			E			D			E	

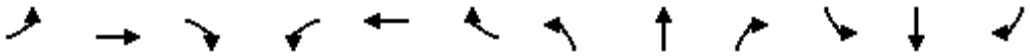
Intersection Summary			
HCM 2000 Control Delay	58.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	96.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	25	0	0	520	170	0	0	0	30	5	65
Future Volume (vph)	10	25	0	0	520	170	0	0	0	30	5	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.967						0.912	
Flt Protected		0.986									0.985	
Satd. Flow (prot)	0	1822	0	0	1745	0	0	1900	0	0	1707	0
Flt Permitted		0.986									0.985	
Satd. Flow (perm)	0	1822	0	0	1745	0	0	1900	0	0	1707	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		175.8			144.9			44.8			92.1	
Travel Time (s)		12.7			10.4			3.2			6.6	
Confl. Peds. (#/hr)			10	10					10	10		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	4%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	11	27	0	0	559	183	0	0	0	32	5	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	0	0	742	0	0	0	0	0	107	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

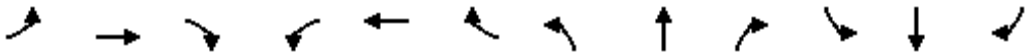
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 50.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	25	0	0	520	170	0	0	0	30	5	65
Future Volume (Veh/h)	10	25	0	0	520	170	0	0	0	30	5	65
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	11	27	0	0	559	183	0	0	0	32	5	70
Pedestrians					10			10				
Lane Width (m)					3.6			3.6				
Walking Speed (m/s)					1.2			1.2				
Percent Blockage					1			1				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		355										
pX, platoon unblocked												
vC, conflicting volume	742			37			782	801	47	710	710	650
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	742			37			782	801	47	710	710	650
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	91	99	85
cM capacity (veh/h)	874			1573			258	313	1011	343	354	472

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	38	742	0	107
Volume Left	11	0	0	32
Volume Right	0	183	0	70
cSH	874	1573	1700	419
Volume to Capacity	0.01	0.00	0.02	0.26
Queue Length 95th (m)	0.3	0.0	0.0	8.0
Control Delay (s)	2.7	0.0	0.0	16.5
Lane LOS	A		A	C
Approach Delay (s)	2.7	0.0	0.0	16.5
Approach LOS			A	C

Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	50.9%	ICU Level of Service	A	
Analysis Period (min)	15			

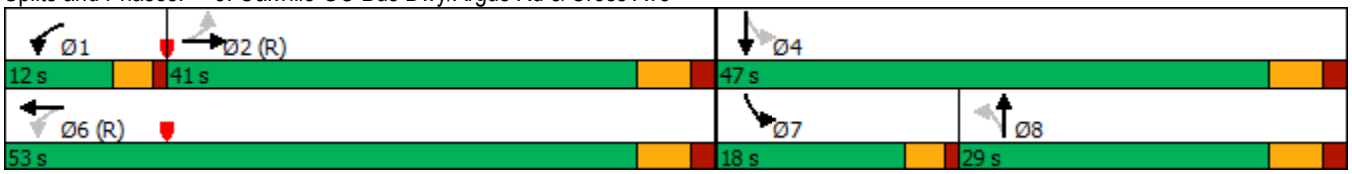


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1045	15	15	670	75	15	0	30	220	15	205
Future Volume (vph)	25	1045	15	15	670	75	15	0	30	220	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	30.0			15.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00			0.99			0.94		0.95	0.94	
Frt		0.998			0.985			0.910			0.860	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1805	3551	0	902	3506	0	0	831	0	1787	1437	0
Flt Permitted	0.338			0.132				0.851		0.725		
Satd. Flow (perm)	635	3551	0	125	3506	0	0	708	0	1294	1437	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			16			120			139	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		107.3			217.0			71.0			179.3	
Travel Time (s)		7.7			15.6			5.1			12.9	
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Adj. Flow (vph)	27	1124	16	16	720	81	16	0	32	237	16	220
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	1140	0	16	801	0	0	48	0	237	236	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

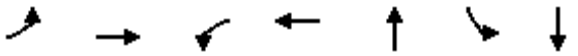
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	22.0	22.0		8.0	22.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	29.0	29.0		12.0	29.0		29.0	29.0		9.0	29.0	
Total Split (s)	41.0	41.0		12.0	53.0		29.0	29.0		18.0	47.0	
Total Split (%)	41.0%	41.0%		12.0%	53.0%		29.0%	29.0%		18.0%	47.0%	
Maximum Green (s)	35.0	35.0		8.0	47.0		23.0	23.0		14.0	41.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	5.0	5.0		2.5	5.0		4.0	4.0		3.0	4.0	
Recall Mode	C-Min	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	16.0	16.0			16.0		16.0	16.0			16.0	
Pedestrian Calls (#/hr)	15	15			15		45	45			45	
Act Effct Green (s)	51.7	51.7		58.5	56.5			18.8		35.5	33.5	
Actuated g/C Ratio	0.52	0.52		0.58	0.56			0.19		0.36	0.34	
v/c Ratio	0.08	0.62		0.11	0.40			0.21		0.44	0.41	
Control Delay	20.4	23.4		14.4	14.9			2.0		24.7	10.7	
Queue Delay	0.0	2.8		0.0	0.0			0.0		0.0	0.0	
Total Delay	20.4	26.2		14.4	14.9			2.0		24.7	10.7	
LOS	C	C		B	B			A		C	B	
Approach Delay		26.1			14.9			2.0			17.7	
Approach LOS		C			B			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 20.4		Intersection LOS: C	
Intersection Capacity Utilization 56.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: Oakville GO Bus Dwy/Argus Rd & Cross Ave



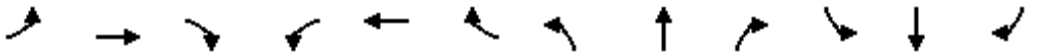
8: Oakville GO Bus Dwy/Argus Rd & Cross Ave



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	27	1140	16	801	48	237	236
v/c Ratio	0.08	0.62	0.11	0.40	0.21	0.44	0.41
Control Delay	20.4	23.4	14.4	14.9	2.0	24.7	10.7
Queue Delay	0.0	2.8	0.0	0.0	0.0	0.0	0.0
Total Delay	20.4	26.2	14.4	14.9	2.0	24.7	10.7
Queue Length 50th (m)	2.9	90.2	1.6	54.5	0.0	30.4	12.0
Queue Length 95th (m)	10.2	#154.2	5.2	71.0	0.0	48.4	29.6
Internal Link Dist (m)		83.3		193.0	47.0		155.3
Turn Bay Length (m)	20.0		20.0			15.0	
Base Capacity (vph)	327	1835	143	1986	261	540	684
Starvation Cap Reductn	0	557	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.89	0.11	0.40	0.18	0.44	0.35

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1045	15	15	670	75	15	0	30	220	15	205
Future Volume (vph)	25	1045	15	15	670	75	15	0	30	220	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99			0.95		1.00	0.94	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			0.99		0.96	1.00	
Frt	1.00	1.00		1.00	0.98			0.91		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1786	3550		902	3505			819		1722	1437	
Flt Permitted	0.34	1.00		0.13	1.00			0.85		0.72	1.00	
Satd. Flow (perm)	636	3550		126	3505			708		1314	1437	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	27	1124	16	16	720	81	16	0	32	237	16	220
RTOR Reduction (vph)	0	1	0	0	7	0	0	40	0	0	91	0
Lane Group Flow (vph)	27	1139	0	16	794	0	0	8	0	237	145	0
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	47.1	47.1		54.3	54.3			15.8		33.7	33.7	
Effective Green, g (s)	48.1	48.1		55.3	55.3			16.8		34.7	34.7	
Actuated g/C Ratio	0.48	0.48		0.55	0.55			0.17		0.35	0.35	
Clearance Time (s)	6.0	6.0		4.0	6.0			6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0		2.5	5.0			4.0		3.0	4.0	
Lane Grp Cap (vph)	305	1707		102	1938			118		516	498	
v/s Ratio Prot		c0.32		0.01	c0.23					c0.07	0.10	
v/s Ratio Perm	0.04			0.08				0.01		c0.09		
v/c Ratio	0.09	0.67		0.16	0.41			0.07		0.46	0.29	
Uniform Delay, d1	14.1	19.8		13.2	12.9			35.0		24.8	23.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.6	2.1		0.5	0.6			0.3		0.7	0.4	
Delay (s)	14.6	21.9		13.8	13.6			35.3		25.4	24.2	
Level of Service	B	C		B	B			D		C	C	
Approach Delay (s)		21.8			13.6			35.3			24.8	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	19.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

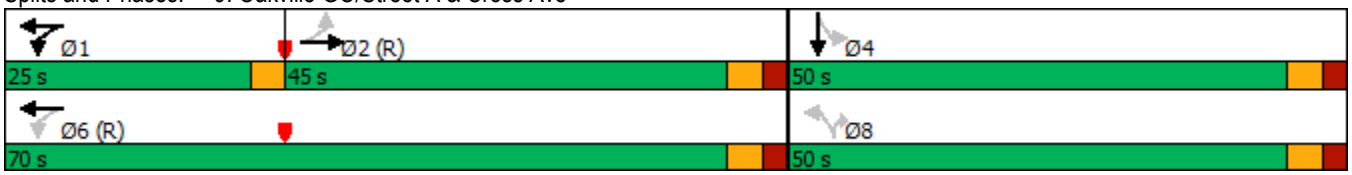
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	590	80	360	525	10	130	0	310	95	0	45
Future Volume (vph)	50	590	80	360	525	10	130	0	310	95	0	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00		0.99		0.97		0.98	
Frt		0.983			0.998				0.850		0.956	
Flt Protected		0.997			0.980		0.950				0.967	
Satd. Flow (prot)	0	3408	0	0	3428	0	1805	0	1615	0	1741	0
Flt Permitted		0.801			0.546		0.670				0.967	
Satd. Flow (perm)	0	2734	0	0	1906	0	1258	0	1570	0	1721	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			2				337		51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		139.5			107.3			62.6			201.6	
Travel Time (s)		10.0			7.7			4.5			14.5	
Confl. Peds. (#/hr)	30		10	10		30	10		10	10		10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	54	641	87	391	571	11	141	0	337	103	0	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	782	0	0	973	0	141	0	337	0	152	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	100		100
Number of Detectors	1	2		1	2		1		1	1	2	
Detector Template	Left	Thru		Left	Thru		Left		Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0		2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0		2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4						9.4	
Detector 2 Size(m)		0.6			0.6						0.6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type	Perm	NA		custom	NA		Perm		Perm	Perm	NA	
Protected Phases		2		1	1 6						4	
Permitted Phases	2			6			8		8	4		

Lane Group	Ø6
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (k/h)	
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(m)	
Detector 2 Size(m)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	6
Permitted Phases	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		1	1 6		8		8	4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		8.0			10.0		10.0	10.0	10.0	
Minimum Split (s)	40.6	40.6		11.0			27.6		27.6	27.6	27.6	
Total Split (s)	45.0	45.0		25.0			50.0		50.0	50.0	50.0	
Total Split (%)	37.5%	37.5%		20.8%			41.7%		41.7%	41.7%	41.7%	
Maximum Green (s)	39.4	39.4		22.0			44.4		44.4	44.4	44.4	
Yellow Time (s)	3.3	3.3		3.0			3.3		3.3	3.3	3.3	
All-Red Time (s)	2.3	2.3		0.0			2.3		2.3	2.3	2.3	
Lost Time Adjust (s)		-1.0					-1.0		-1.0		-1.0	
Total Lost Time (s)		4.6					4.6		4.6		4.6	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	5.0	5.0		2.5			3.5		3.5	3.0	3.0	
Recall Mode	C-Min	C-Min		None			None		None	None	None	
Walk Time (s)	7.0	7.0					7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	15.0	15.0					15.0		15.0	15.0	15.0	
Pedestrian Calls (#/hr)	20	20					10		10	10	10	
Act Effct Green (s)		69.8			92.7		20.7		20.7		20.7	
Actuated g/C Ratio		0.58			0.77		0.17		0.17		0.17	
v/c Ratio		0.49			0.57		0.65		0.61		0.45	
Control Delay		18.1			6.4		59.4		9.3		32.0	
Queue Delay		0.0			1.1		0.0		0.0		0.0	
Total Delay		18.1			7.5		59.4		9.3		32.0	
LOS		B			A		E		A		C	
Approach Delay		18.1			7.5			24.1			32.0	
Approach LOS		B			A			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 15.8		Intersection LOS: B	
Intersection Capacity Utilization 81.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 9: Oakville GO/Street A & Cross Ave



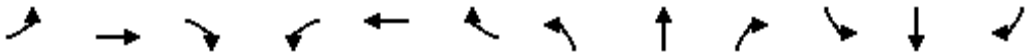
Lane Group	Ø6
Detector Phase	
Switch Phase	
Minimum Initial (s)	35.0
Minimum Split (s)	40.6
Total Split (s)	70.0
Total Split (%)	58%
Maximum Green (s)	64.4
Yellow Time (s)	3.3
All-Red Time (s)	2.3
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	5.0
Recall Mode	C-Min
Walk Time (s)	7.0
Flash Dont Walk (s)	15.0
Pedestrian Calls (#/hr)	20
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary



Lane Group	EBT	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	782	973	141	337	152
v/c Ratio	0.49	0.57	0.65	0.61	0.45
Control Delay	18.1	6.4	59.4	9.3	32.0
Queue Delay	0.0	1.1	0.0	0.0	0.0
Total Delay	18.1	7.5	59.4	9.3	32.0
Queue Length 50th (m)	54.6	33.5	33.0	0.0	22.3
Queue Length 95th (m)	100.4	59.0	51.0	24.1	39.8
Internal Link Dist (m)	115.5	83.3			177.6
Turn Bay Length (m)					
Base Capacity (vph)	1594	1775	475	803	682
Starvation Cap Reductn	0	523	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.49	0.78	0.30	0.42	0.22

Intersection Summary



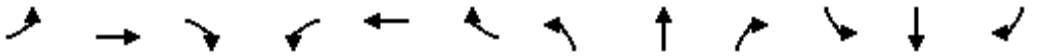
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	590	80	360	525	10	130	0	310	95	0	45
Future Volume (vph)	50	590	80	360	525	10	130	0	310	95	0	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6			2.0		4.6		4.6		4.6	
Lane Util. Factor		0.95			0.95		1.00		1.00		1.00	
Frpb, ped/bikes		0.99			1.00		1.00		0.97		0.99	
Flpb, ped/bikes		1.00			1.00		0.99		1.00		0.99	
Frt		0.98			1.00		1.00		0.85		0.96	
Flt Protected		1.00			0.98		0.95		1.00		0.97	
Satd. Flow (prot)		3402			3426		1786		1570		1723	
Flt Permitted		0.80			0.55		0.67		1.00		0.97	
Satd. Flow (perm)		2735			1908		1259		1570		1723	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	641	87	391	571	11	141	0	337	103	0	49
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	279	0	42	0
Lane Group Flow (vph)	0	777	0	0	973	0	141	0	58	0	110	0
Confl. Peds. (#/hr)	30		10	10		30	10		10	10		10
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		custom	NA		Perm		Perm	Perm	NA	
Protected Phases		2		1	1 6						4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)		68.7			89.1		19.7		19.7		19.7	
Effective Green, g (s)		69.7			90.1		20.7		20.7		20.7	
Actuated g/C Ratio		0.58			0.75		0.17		0.17		0.17	
Clearance Time (s)		5.6					5.6		5.6		5.6	
Vehicle Extension (s)		5.0					3.5		3.5		3.0	
Lane Grp Cap (vph)		1588			1665		217		270		297	
v/s Ratio Prot					c0.09							
v/s Ratio Perm		c0.28			0.35		c0.11		0.04		0.06	
v/c Ratio		0.49			0.58		0.65		0.22		0.37	
Uniform Delay, d1		14.7			6.6		46.3		42.7		43.9	
Progression Factor		1.00			1.00		1.00		1.00		1.00	
Incremental Delay, d2		1.1			0.4		6.8		0.5		0.8	
Delay (s)		15.8			7.1		53.1		43.1		44.7	
Level of Service		B			A		D		D		D	
Approach Delay (s)		15.8			7.1			46.1			44.7	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	20.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	475	0	0	580	130	0	0	80	120	0	95
Future Volume (vph)	40	475	0	0	580	130	0	0	80	120	0	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (m)	25.0			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.972			0.865				0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1805	3438	0	0	3392	0	0	1644	0	1805	0	1615
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1805	3438	0	0	3392	0	0	1644	0	1805	0	1615
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		132.8			139.5			48.2			88.5	
Travel Time (s)		9.6			10.0			3.5			6.4	
Confl. Peds. (#/hr)	15		10	10		15	5		5	5		5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	5%	0%	0%	4%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	45	540	0	0	659	148	0	0	91	136	0	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	540	0	0	807	0	0	91	0	136	0	108
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 47.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	475	0	0	580	130	0	0	80	120	0	95
Future Volume (Veh/h)	40	475	0	0	580	130	0	0	80	120	0	95
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	45	540	0	0	659	148	0	0	91	136	0	108
Pedestrians		5			5			10			15	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		133			140							
pX, platoon unblocked				0.98			0.98	0.98	0.98	0.98	0.98	
vC, conflicting volume	822			550			1082	1462	285	1204	1388	424
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	822			502			1045	1432	232	1169	1356	424
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	94			100			100	100	88	0	100	81
cM capacity (veh/h)	806			1043			138	123	752	120	136	575

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	45	270	270	439	368	91	136	108
Volume Left	45	0	0	0	0	0	136	0
Volume Right	0	0	0	0	148	91	0	108
cSH	806	1700	1700	1700	1700	752	120	575
Volume to Capacity	0.06	0.16	0.16	0.26	0.22	0.12	1.13	0.19
Queue Length 95th (m)	1.4	0.0	0.0	0.0	0.0	3.3	65.4	5.5
Control Delay (s)	9.7	0.0	0.0	0.0	0.0	10.4	190.4	12.7
Lane LOS	A					B	F	B
Approach Delay (s)	0.7			0.0		10.4	111.8	
Approach LOS						B	F	

Intersection Summary				
Average Delay	16.6			
Intersection Capacity Utilization	47.1%	ICU Level of Service		A
Analysis Period (min)	15			

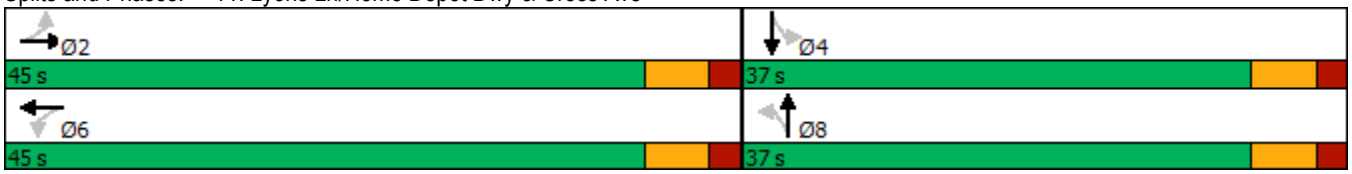
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	385	30	20	645	15	140	5	85	25	5	95
Future Volume (vph)	70	385	30	20	645	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	25.0		0.0	35.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		1.00	1.00		1.00	0.98		0.99	0.98	
Frt		0.989			0.997			0.858			0.858	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3375	0	1805	3459	0	1805	1595	0	1805	1588	0
Flt Permitted	0.333			0.474			0.681			0.689		
Satd. Flow (perm)	626	3375	0	897	3459	0	1288	1595	0	1296	1588	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			4			100			112	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		47.5			132.8			150.8			63.6	
Travel Time (s)		3.4			9.6			10.9			4.6	
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	82	453	35	24	759	18	165	6	100	29	6	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	488	0	24	777	0	165	106	0	29	118	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		35.0	35.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	41.0	41.0		41.0	41.0		28.0	28.0		28.0	28.0	
Total Split (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Total Split (%)	54.9%	54.9%		54.9%	54.9%		45.1%	45.1%		45.1%	45.1%	
Maximum Green (s)	39.0	39.0		39.0	39.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	15	15		15	15		10	10		10	10	
Act Effct Green (s)	36.2	36.2		36.2	36.2		15.5	15.5		15.5	15.5	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
v/c Ratio	0.22	0.25		0.05	0.38		0.51	0.22		0.09	0.25	
Control Delay	9.5	7.0		7.2	8.1		25.5	6.1		17.5	5.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	9.5	7.0		7.2	8.1		25.5	6.1		17.5	5.9	
LOS	A	A		A	A		C	A		B	A	
Approach Delay		7.4			8.1			17.9			8.2	
Approach LOS		A			A			B			A	

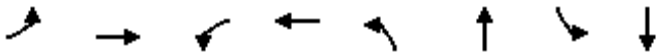
Intersection Summary

Area Type: Other
Cycle Length: 82
Actuated Cycle Length: 61.7
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 9.4 Intersection LOS: A
Intersection Capacity Utilization 82.0% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 11: Lyons Ln/Home Depot Dwy & Cross Ave

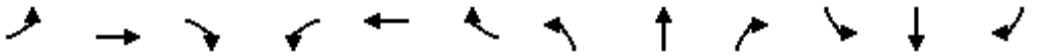


11: Lyons Ln/Home Depot Dwy & Cross Ave



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	82	488	24	777	165	106	29	118
v/c Ratio	0.22	0.25	0.05	0.38	0.51	0.22	0.09	0.25
Control Delay	9.5	7.0	7.2	8.1	25.5	6.1	17.5	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.5	7.0	7.2	8.1	25.5	6.1	17.5	5.9
Queue Length 50th (m)	3.9	12.0	1.0	21.8	16.8	0.5	2.7	0.5
Queue Length 95th (m)	13.1	24.2	4.6	40.6	30.4	8.9	7.5	9.3
Internal Link Dist (m)		23.5		108.8		126.8		39.6
Turn Bay Length (m)			25.0		35.0			
Base Capacity (vph)	407	2204	584	2255	671	879	675	881
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.22	0.04	0.34	0.25	0.12	0.04	0.13

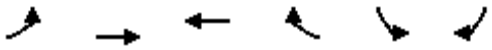
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	385	30	20	645	15	140	5	85	25	5	95
Future Volume (vph)	70	385	30	20	645	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	3376		1799	3458		1799	1600		1792	1589	
Flt Permitted	0.33	1.00		0.47	1.00		0.68	1.00		0.69	1.00	
Satd. Flow (perm)	627	3376		898	3458		1290	1600		1299	1589	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	82	453	35	24	759	18	165	6	100	29	6	112
RTOR Reduction (vph)	0	6	0	0	2	0	0	75	0	0	84	0
Lane Group Flow (vph)	82	482	0	24	775	0	165	31	0	29	34	0
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.2	35.2		35.2	35.2		14.4	14.4		14.4	14.4	
Effective Green, g (s)	36.2	36.2		36.2	36.2		15.4	15.4		15.4	15.4	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	368	1983		527	2032		322	400		324	397	
v/s Ratio Prot		0.14			c0.22			0.02			0.02	
v/s Ratio Perm	0.13			0.03			c0.13			0.02		
v/c Ratio	0.22	0.24		0.05	0.38		0.51	0.08		0.09	0.09	
Uniform Delay, d1	6.0	6.1		5.4	6.8		19.9	17.7		17.7	17.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.1		0.1	0.3		1.8	0.1		0.2	0.1	
Delay (s)	6.7	6.2		5.5	7.0		21.7	17.8		17.9	17.8	
Level of Service	A	A		A	A		C	B		B	B	
Approach Delay (s)		6.3			7.0			20.2			17.8	
Approach LOS		A			A			C			B	

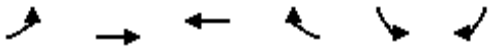
Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	61.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	515	930	30	20	25
Future Volume (vph)	25	515	930	30	20	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.995		0.926	
Flt Protected	0.950				0.978	
Satd. Flow (prot)	1805	3471	3491	0	1721	0
Flt Permitted	0.950				0.978	
Satd. Flow (perm)	1805	3471	3491	0	1721	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		443.3	47.5		121.4	
Travel Time (s)		31.9	3.4		8.7	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	4%	3%	0%	0%	0%
Adj. Flow (vph)	27	566	1022	33	22	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	566	1055	0	49	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

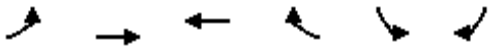
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.7%		ICU Level of Service A	
Analysis Period (min) 15			



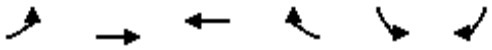
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	515	930	30	20	25
Future Volume (Veh/h)	25	515	930	30	20	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	27	566	1022	33	22	27
Pedestrians					15	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			48			
pX, platoon unblocked	0.88				0.88	0.88
vC, conflicting volume	1070				1390	542
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	816				1179	220
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				86	96
cM capacity (veh/h)	716				157	690

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	27	283	283	681	374	49
Volume Left	27	0	0	0	0	22
Volume Right	0	0	0	0	33	27
cSH	716	1700	1700	1700	1700	273
Volume to Capacity	0.04	0.17	0.17	0.40	0.22	0.18
Queue Length 95th (m)	0.9	0.0	0.0	0.0	0.0	5.1
Control Delay (s)	10.2	0.0	0.0	0.0	0.0	21.1
Lane LOS	B					C
Approach Delay (s)	0.5			0.0		21.1
Approach LOS						C

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	36.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	415	910	1200	120	125	825
Future Volume (vph)	415	910	1200	120	125	825
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0			0.0	60.0	0.0
Storage Lanes	1			0	1	2
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.88
Ped Bike Factor			1.00			
Frt			0.986			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1719	3574	3519	0	1805	2760
Flt Permitted	0.064				0.950	
Satd. Flow (perm)	116	3574	3519	0	1805	2760
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			11			613
Link Speed (k/h)		50	50		50	
Link Distance (m)		209.5	575.4		443.3	
Travel Time (s)		15.1	41.4		31.9	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Adj. Flow (vph)	441	968	1277	128	133	878
Shared Lane Traffic (%)						
Lane Group Flow (vph)	441	968	1405	0	133	878
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		7.2	7.2		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			

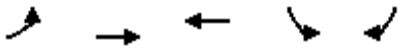


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	6.0	38.0	38.0		10.0	10.0
Minimum Split (s)	12.0	47.6	47.6		33.8	33.8
Total Split (s)	35.0	109.2	74.2		30.8	30.8
Total Split (%)	25.0%	78.0%	53.0%		22.0%	22.0%
Maximum Green (s)	29.0	102.6	67.6		25.0	25.0
Yellow Time (s)	4.0	3.7	3.7		3.3	3.3
All-Red Time (s)	2.0	2.9	2.9		2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.6	5.6		4.8	4.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Recall Mode	None	C-Min	C-Min		None	None
Walk Time (s)		10.0	10.0		10.0	10.0
Flash Dont Walk (s)		31.0	31.0		18.0	18.0
Pedestrian Calls (#/hr)		10	10		0	0
Act Effct Green (s)	108.3	107.7	68.7		21.9	21.9
Actuated g/C Ratio	0.77	0.77	0.49		0.16	0.16
v/c Ratio	0.92	0.35	0.81		0.47	0.93
Control Delay	65.8	5.9	40.0		58.3	32.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	65.8	5.9	40.0		58.3	32.9
LOS	E	A	D		E	C
Approach Delay		24.7	40.0		36.3	
Approach LOS		C	D		D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 33.4		Intersection LOS: C	
Intersection Capacity Utilization 81.3%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 13: Speers Rd/Cornwall Rd & Cross Ave



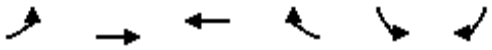


Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	441	968	1405	133	878
v/c Ratio	0.92	0.35	0.81	0.47	0.93
Control Delay	65.8	5.9	40.0	58.3	32.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	65.8	5.9	40.0	58.3	32.9
Queue Length 50th (m)	~110.9	46.0	203.4	34.7	46.6
Queue Length 95th (m)	#187.0	56.9	226.8	55.8	#79.3
Internal Link Dist (m)		185.5	551.4	419.3	
Turn Bay Length (m)	70.0			60.0	
Base Capacity (vph)	479	2749	1744	335	1011
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.92	0.35	0.81	0.40	0.87

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

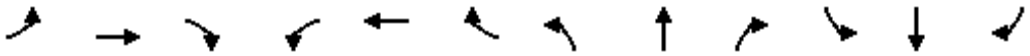
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	415	910	1200	120	125	825
Future Volume (vph)	415	910	1200	120	125	825
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		4.8	4.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1719	3574	3520		1805	2760
Flt Permitted	0.06	1.00	1.00		0.95	1.00
Satd. Flow (perm)	115	3574	3520		1805	2760
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	441	968	1277	128	133	878
RTOR Reduction (vph)	0	0	6	0	0	517
Lane Group Flow (vph)	441	968	1399	0	133	361
Confl. Peds. (#/hr)	15			15		
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Actuated Green, G (s)	106.7	106.7	67.7		20.9	20.9
Effective Green, g (s)	107.7	107.7	68.7		21.9	21.9
Actuated g/C Ratio	0.77	0.77	0.49		0.16	0.16
Clearance Time (s)	6.0	6.6	6.6		5.8	5.8
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Lane Grp Cap (vph)	478	2749	1727		282	431
v/s Ratio Prot	c0.22	0.27	0.40			
v/s Ratio Perm	c0.48				0.07	c0.13
v/c Ratio	0.92	0.35	0.81		0.47	0.84
Uniform Delay, d1	43.3	5.1	30.1		53.8	57.3
Progression Factor	1.00	1.00	1.18		1.00	1.00
Incremental Delay, d2	23.7	0.4	3.9		1.2	13.3
Delay (s)	67.0	5.5	39.6		55.0	70.6
Level of Service	E	A	D		E	E
Approach Delay (s)		24.7	39.6		68.5	
Approach LOS		C	D		E	

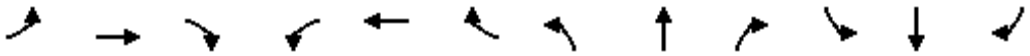
Intersection Summary			
HCM 2000 Control Delay	41.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	100	0	15	0	225	100	20	420	0
Future Volume (vph)	0	0	0	100	0	15	0	225	100	20	420	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.982			0.954				
Flt Protected					0.958						0.998	
Satd. Flow (prot)	0	1900	0	0	1757	0	0	3374	0	0	3603	0
Flt Permitted					0.958						0.998	
Satd. Flow (perm)	0	1900	0	0	1757	0	0	3374	0	0	3603	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		33.6			124.9			420.1			134.0	
Travel Time (s)		2.4			9.0			30.2			9.6	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	0%	3%	0%	0%	0%	0%
Adj. Flow (vph)	0	0	0	118	0	18	0	265	118	24	494	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	136	0	0	383	0	0	518	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	100	0	15	0	225	100	20	420	0
Future Volume (Veh/h)	0	0	0	100	0	15	0	225	100	20	420	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	118	0	18	0	265	118	24	494	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	692	925	247	619	866	192	494			383		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	692	925	247	619	866	192	494			383		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	68	100	98	100			98		
cM capacity (veh/h)	322	266	759	367	287	824	1080			1187		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	136	132	250	271	247
Volume Left	0	118	0	0	24	0
Volume Right	0	18	0	118	0	0
cSH	1700	396	1080	1700	1187	1700
Volume to Capacity	0.00	0.34	0.00	0.15	0.02	0.15
Queue Length 95th (m)	0.0	12.0	0.0	0.0	0.5	0.0
Control Delay (s)	0.0	18.8	0.0	0.0	0.9	0.0
Lane LOS	A	C			A	
Approach Delay (s)	0.0	18.8	0.0		0.5	
Approach LOS	A	C				

Intersection Summary				
Average Delay	2.7			
Intersection Capacity Utilization	38.1%	ICU Level of Service		A
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	115	95	100	165	200	155
Future Volume (vph)	115	95	100	165	200	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.939				0.941	
Flt Protected				0.981	0.973	
Satd. Flow (prot)	1751	0	0	1864	1722	0
Flt Permitted				0.981	0.973	
Satd. Flow (perm)	1751	0	0	1864	1722	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	632.0			1164.2	455.7	
Travel Time (s)	45.5			83.8	32.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	3%	0%	0%	1%	1%
Adj. Flow (vph)	129	107	112	185	225	174
Shared Lane Traffic (%)						
Lane Group Flow (vph)	236	0	0	297	399	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

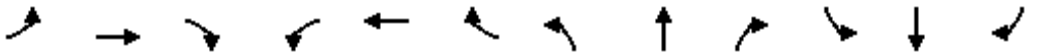
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 56.6%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	115	95	100	165	200	155
Future Volume (Veh/h)	115	95	100	165	200	155
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	129	107	112	185	225	174
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			236		592	182
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			236		592	182
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		48	80
cM capacity (veh/h)			1343		432	863

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	236	297	399
Volume Left	0	112	225
Volume Right	107	0	174
cSH	1700	1343	552
Volume to Capacity	0.14	0.08	0.72
Queue Length 95th (m)	0.0	2.2	47.7
Control Delay (s)	0.0	3.5	26.7
Lane LOS		A	D
Approach Delay (s)	0.0	3.5	26.7
Approach LOS			D

Intersection Summary			
Average Delay	12.5		
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	735	100	60	925	85	155	110	45	65	65	50
Future Volume (vph)	45	735	100	60	925	85	155	110	45	65	65	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		0.99					0.98
Frt		0.982			0.987			0.956				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3467	0	1805	3487	0	1770	1804	0	1805	1827	1553
Flt Permitted	0.215			0.284			0.712			0.653		
Satd. Flow (perm)	400	3467	0	538	3487	0	1320	1804	0	1241	1827	1520
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26			17			22				53
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			455.7	
Travel Time (s)		43.9			11.1			15.4			32.8	
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Adj. Flow (vph)	48	782	106	64	984	90	165	117	48	69	69	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	888	0	64	1074	0	165	165	0	69	69	53
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	33.8	33.8		33.8	33.8		15.7	15.7		15.7	15.7	15.7
Actuated g/C Ratio	0.57	0.57		0.57	0.57		0.26	0.26		0.26	0.26	0.26
v/c Ratio	0.21	0.45		0.21	0.54		0.47	0.33		0.21	0.14	0.12
Control Delay	9.7	8.1		8.9	9.2		25.4	18.9		21.0	19.6	7.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	9.7	8.1		8.9	9.2		25.4	18.9		21.0	19.6	7.4
LOS	A	A		A	A		C	B		C	B	A
Approach Delay		8.2			9.1			22.2			16.7	
Approach LOS		A			A			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 59.3			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 11.0		Intersection LOS: B	
Intersection Capacity Utilization 80.5%		ICU Level of Service D	
Analysis Period (min) 15			

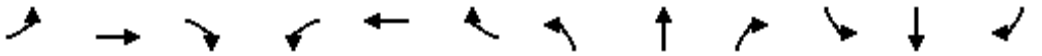
Splits and Phases: 16: Chartwell Rd & Cornwall Rd





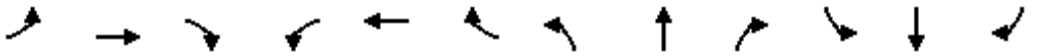
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	48	888	64	1074	165	165	69	69	53
v/c Ratio	0.21	0.45	0.21	0.54	0.47	0.33	0.21	0.14	0.12
Control Delay	9.7	8.1	8.9	9.2	25.4	18.9	21.0	19.6	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.7	8.1	8.9	9.2	25.4	18.9	21.0	19.6	7.4
Queue Length 50th (m)	2.2	24.2	2.9	32.1	14.6	12.0	5.7	5.6	0.0
Queue Length 95th (m)	9.3	49.4	11.0	64.1	40.6	34.5	18.9	18.1	8.1
Internal Link Dist (m)		585.1		130.4		189.6		431.7	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	370	3209	498	3227	734	1014	690	1017	869
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.28	0.13	0.33	0.22	0.16	0.10	0.07	0.06

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	735	100	60	925	85	155	110	45	65	65	50
Future Volume (vph)	45	735	100	60	925	85	155	110	45	65	65	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1768	3469		1802	3490		1764	1804		1805	1827	1523
Flt Permitted	0.21	1.00		0.28	1.00		0.71	1.00		0.65	1.00	1.00
Satd. Flow (perm)	399	3469		538	3490		1322	1804		1240	1827	1523
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	48	782	106	64	984	90	165	117	48	69	69	53
RTOR Reduction (vph)	0	11	0	0	7	0	0	16	0	0	0	39
Lane Group Flow (vph)	48	877	0	64	1067	0	165	149	0	69	69	14
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	32.7	32.7		32.7	32.7		14.6	14.6		14.6	14.6	14.6
Effective Green, g (s)	33.7	33.7		33.7	33.7		15.6	15.6		15.6	15.6	15.6
Actuated g/C Ratio	0.57	0.57		0.57	0.57		0.27	0.27		0.27	0.27	0.27
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	229	1991		308	2003		351	479		329	485	404
v/s Ratio Prot		0.25			c0.31			0.08			0.04	
v/s Ratio Perm	0.12			0.12			c0.12			0.06		0.01
v/c Ratio	0.21	0.44		0.21	0.53		0.47	0.31		0.21	0.14	0.03
Uniform Delay, d1	6.1	7.1		6.0	7.7		18.1	17.2		16.8	16.4	16.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.1	0.4		0.8	0.6		1.4	0.5		0.4	0.2	0.0
Delay (s)	7.2	7.5		6.9	8.2		19.4	17.8		17.2	16.6	16.0
Level of Service	A	A		A	A		B	B		B	B	B
Approach Delay (s)		7.5			8.2			18.6			16.7	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	58.7	Sum of lost time (s)	9.4
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

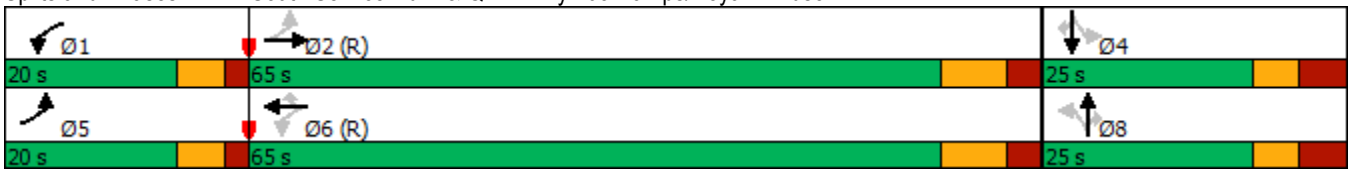


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	925	35	180	890	5	60	20	250	0	50	45
Future Volume (vph)	5	925	35	180	890	5	60	20	250	0	50	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	125.0		0.0	145.0		55.0	15.0		40.0	35.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												0.98
Frt		0.995				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3502	3386	0	1752	3505	1615	1656	1900	1599	1900	1712	1615
Flt Permitted	0.293			0.203			0.721					
Satd. Flow (perm)	1080	3386	0	374	3505	1615	1257	1900	1599	1900	1712	1585
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				107			275			113
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		232.7			227.3			1164.2			153.5	
Travel Time (s)		16.8			16.4			83.8			11.1	
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	6%	8%	3%	3%	0%	9%	0%	1%	0%	11%	0%
Adj. Flow (vph)	5	1016	38	198	978	5	66	22	275	0	55	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	1054	0	198	978	5	66	22	275	0	55	49
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

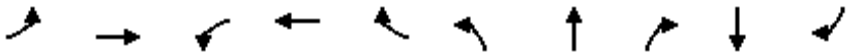
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	8.0	20.0		8.0	20.0	20.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	14.0	28.4		14.0	28.4	28.4	17.8	17.8	17.8	17.8	17.8	17.8
Total Split (s)	20.0	65.0		20.0	65.0	65.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	18.2%	59.1%		18.2%	59.1%	59.1%	22.7%	22.7%	22.7%	22.7%	22.7%	22.7%
Maximum Green (s)	14.0	56.6		14.0	56.6	56.6	17.2	17.2	17.2	17.2	17.2	17.2
Yellow Time (s)	4.0	5.4		4.0	5.4	5.4	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.0	3.0		2.0	3.0	3.0	4.1	4.1	4.1	4.1	4.1	4.1
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	76.5	65.1		85.1	79.9	79.9	13.1	13.1	13.1		13.1	13.1
Actuated g/C Ratio	0.70	0.59		0.77	0.73	0.73	0.12	0.12	0.12		0.12	0.12
v/c Ratio	0.01	0.53		0.44	0.38	0.00	0.44	0.10	0.64		0.27	0.17
Control Delay	4.0	15.3		6.6	7.2	0.0	54.0	42.8	12.4		46.7	1.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	4.0	15.3		6.6	7.2	0.0	54.0	42.8	12.4		46.7	1.3
LOS	A	B		A	A	A	D	D	B		D	A
Approach Delay		15.2			7.1			21.8			25.3	
Approach LOS		B			A			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 13.0		Intersection LOS: B	
Intersection Capacity Utilization 62.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr



17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	5	1054	198	978	5	66	22	275	55	49
v/c Ratio	0.01	0.53	0.44	0.38	0.00	0.44	0.10	0.64	0.27	0.17
Control Delay	4.0	15.3	6.6	7.2	0.0	54.0	42.8	12.4	46.7	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.0	15.3	6.6	7.2	0.0	54.0	42.8	12.4	46.7	1.3
Queue Length 50th (m)	0.1	67.6	8.9	32.2	0.0	14.2	4.5	0.0	11.6	0.0
Queue Length 95th (m)	0.6	104.8	18.3	78.4	0.0	27.5	11.7	24.0	23.4	0.0
Internal Link Dist (m)		208.7		203.3			1140.2		129.5	
Turn Bay Length (m)	125.0		145.0		55.0	15.0		40.0		
Base Capacity (vph)	1137	2008	481	2546	1202	207	314	494	283	356
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.52	0.41	0.38	0.00	0.32	0.07	0.56	0.19	0.14

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	925	35	180	890	5	60	20	250	0	50	45
Future Volume (vph)	5	925	35	180	890	5	60	20	250	0	50	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8		6.8	6.8
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	3502	3385		1752	3505	1615	1656	1900	1599		1712	1581
Flt Permitted	0.29	1.00		0.20	1.00	1.00	0.72	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1080	3385		375	3505	1615	1257	1900	1599		1712	1581
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	5	1016	38	198	978	5	66	22	275	0	55	49
RTOR Reduction (vph)	0	2	0	0	0	2	0	0	242	0	0	43
Lane Group Flow (vph)	5	1052	0	198	978	3	66	22	33	0	55	6
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	0%	6%	8%	3%	3%	0%	9%	0%	1%	0%	11%	0%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	65.6	64.0		81.7	74.1	74.1	12.1	12.1	12.1		12.1	12.1
Effective Green, g (s)	67.6	65.0		82.7	75.1	75.1	13.1	13.1	13.1		13.1	13.1
Actuated g/C Ratio	0.61	0.59		0.75	0.68	0.68	0.12	0.12	0.12		0.12	0.12
Clearance Time (s)	6.0	8.4		6.0	8.4	8.4	7.8	7.8	7.8		7.8	7.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	720	2000		440	2392	1102	149	226	190		203	188
v/s Ratio Prot	0.00	c0.31		c0.05	0.28			0.01			0.03	
v/s Ratio Perm	0.00			0.29		0.00	c0.05		0.02			0.00
v/c Ratio	0.01	0.53		0.45	0.41	0.00	0.44	0.10	0.17		0.27	0.03
Uniform Delay, d1	8.2	13.4		6.2	7.7	5.5	45.1	43.2	43.6		44.1	42.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	1.0		0.7	0.5	0.0	2.1	0.2	0.4		0.7	0.1
Delay (s)	8.2	14.3		6.9	8.2	5.6	47.2	43.4	44.0		44.8	42.9
Level of Service	A	B		A	A	A	D	D	D		D	D
Approach Delay (s)		14.3			8.0			44.5			43.9	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	60	0	85	120	0
Future Volume (vph)	50	60	0	85	120	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.926					
Flt Protected					0.950	
Satd. Flow (prot)	1725	0	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1725	0	0	1863	1770	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	64.3			219.4	105.4	
Travel Time (s)	4.6			15.8	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	65	0	92	130	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	119	0	0	92	130	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	50	60	0	85	120	0
Future Volume (Veh/h)	50	60	0	85	120	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	65	0	92	130	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			119		178	86
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			119		178	86
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		84	100
cM capacity (veh/h)			1469		811	972

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	119	92	130
Volume Left	0	0	130
Volume Right	65	0	0
cSH	1700	1469	811
Volume to Capacity	0.07	0.00	0.16
Queue Length 95th (m)	0.0	0.0	4.6
Control Delay (s)	0.0	0.0	10.3
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.3
Approach LOS			B

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		



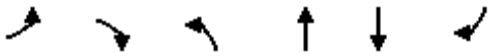
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	0	120	85	0	60
Future Volume (vph)	50	0	120	85	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.972		
Satd. Flow (prot)	1863	0	0	1811	1611	0
Flt Permitted				0.972		
Satd. Flow (perm)	1863	0	0	1811	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	53.7			64.3	43.5	
Travel Time (s)	3.9			4.6	3.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	0	130	92	0	65
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	0	222	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.2%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	50	0	120	85	0	60
Future Volume (Veh/h)	50	0	120	85	0	60
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	0	130	92	0	65
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			54		406	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			54		406	54
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		100	94
cM capacity (veh/h)			1551		551	1013

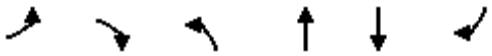
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	54	222	65
Volume Left	0	130	0
Volume Right	0	0	65
cSH	1700	1551	1013
Volume to Capacity	0.03	0.08	0.06
Queue Length 95th (m)	0.0	2.2	1.6
Control Delay (s)	0.0	4.7	8.8
Lane LOS		A	A
Approach Delay (s)	0.0	4.7	8.8
Approach LOS			A

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	28.2%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	70	130	120	60	0
Future Volume (vph)	0	70	130	120	60	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.975		
Satd. Flow (prot)	1611	0	0	1816	1863	0
Flt Permitted				0.975		
Satd. Flow (perm)	1611	0	0	1816	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	49.0			201.6	105.4	
Travel Time (s)	3.5			14.5	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	76	141	130	65	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	76	0	0	271	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	70	130	120	60	0
Future Volume (Veh/h)	0	70	130	120	60	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	76	141	130	65	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				201		
pX, platoon unblocked						
vC, conflicting volume	477	65	65			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	477	65	65			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	92	91			
cM capacity (veh/h)	497	999	1537			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	76	271	65
Volume Left	0	141	0
Volume Right	76	0	0
cSH	999	1537	1700
Volume to Capacity	0.08	0.09	0.04
Queue Length 95th (m)	2.0	2.4	0.0
Control Delay (s)	8.9	4.3	0.0
Lane LOS	A	A	
Approach Delay (s)	8.9	4.3	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	31.2%	ICU Level of Service	A
Analysis Period (min)	15		

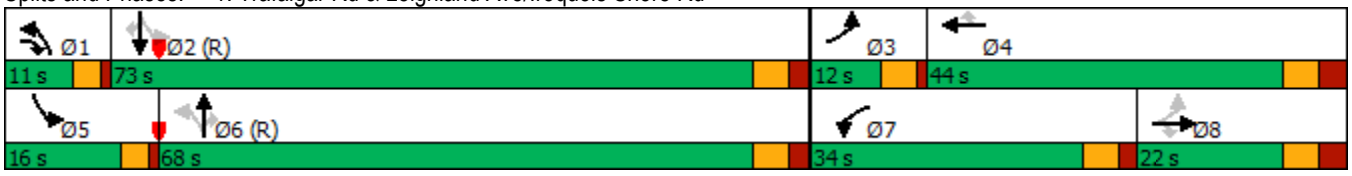
8) 2036 Future Total Traffic Conditions (Without Corridor Growth)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	100	335	685	55	120	145	1265	775	195	2085	50
Future Volume (vph)	35	100	335	685	55	120	145	1265	775	195	2085	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.96					0.95			0.97	1.00		0.93
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1863	1568	3367	1827	1553	1719	4988	1568	1787	5085	1524
Flt Permitted	0.720			0.950			0.062			0.134		
Satd. Flow (perm)	1277	1863	1568	3367	1827	1470	112	4988	1525	252	5085	1424
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136			123			702			142
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			521.8			275.4			339.2	
Travel Time (s)		27.7			37.6			19.8			24.4	
Confl. Peds. (#/hr)	35					35	35		10	10		35
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Adj. Flow (vph)	35	101	338	692	56	121	146	1278	783	197	2106	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	101	338	692	56	121	146	1278	783	197	2106	51
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

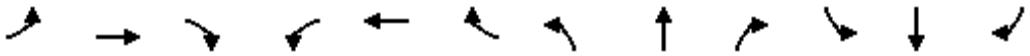
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	11.0	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	12.0	22.0	11.0	34.0	44.0	44.0	11.0	68.0	68.0	16.0	73.0	73.0
Total Split (%)	8.6%	15.7%	7.9%	24.3%	31.4%	31.4%	7.9%	48.6%	48.6%	11.4%	52.1%	52.1%
Maximum Green (s)	7.3	15.2	7.0	28.3	37.2	37.2	7.0	61.9	61.9	12.0	66.9	66.9
Yellow Time (s)	3.7	3.7	3.0	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	1.0	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					20	20		25	25		25	25
Act Effct Green (s)	24.1	13.8	30.0	29.3	38.3	38.3	78.4	65.9	65.9	81.5	67.9	67.9
Actuated g/C Ratio	0.17	0.10	0.21	0.21	0.27	0.27	0.56	0.47	0.47	0.58	0.48	0.48
v/c Ratio	0.14	0.55	0.76	0.98	0.11	0.25	0.80	0.54	0.72	0.70	0.85	0.07
Control Delay	32.6	71.4	42.8	84.7	39.7	7.4	63.8	19.1	12.6	28.7	36.1	0.2
Queue Delay	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.4	0.0
Total Delay	32.6	71.4	49.8	84.7	39.7	7.4	63.8	19.1	13.1	28.7	36.4	0.2
LOS	C	E	D	F	D	A	E	B	B	C	D	A
Approach Delay		53.1			71.1			19.9			35.0	
Approach LOS		D			E			B			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 36.1		Intersection LOS: D	
Intersection Capacity Utilization 92.1%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



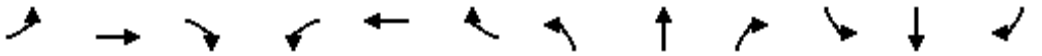
1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	35	101	338	692	56	121	146	1278	783	197	2106	51
v/c Ratio	0.14	0.55	0.76	0.98	0.11	0.25	0.80	0.54	0.72	0.70	0.85	0.07
Control Delay	32.6	71.4	42.8	84.7	39.7	7.4	63.8	19.1	12.6	28.7	36.1	0.2
Queue Delay	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.4	0.0
Total Delay	32.6	71.4	49.8	84.7	39.7	7.4	63.8	19.1	13.1	28.7	36.4	0.2
Queue Length 50th (m)	6.7	28.5	57.2	104.5	12.6	0.0	27.8	92.4	59.6	25.0	193.4	0.0
Queue Length 95th (m)	14.4	48.0	96.0	#145.7	23.9	15.4	#70.5	104.0	226.9	45.2	215.4	0.0
Internal Link Dist (m)		361.1			497.8			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	248	215	442	704	516	503	182	2348	1089	292	2466	763
Starvation Cap Reductn	0	0	0	0	0	0	0	0	72	0	0	0
Spillback Cap Reductn	0	0	68	0	0	0	0	0	0	0	79	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.47	0.90	0.98	0.11	0.24	0.80	0.54	0.77	0.67	0.88	0.07

Intersection Summary

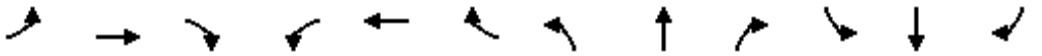
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	100	335	685	55	120	145	1265	775	195	2085	50
Future Volume (vph)	35	100	335	685	55	120	145	1265	775	195	2085	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.97	1.00	1.00	0.93
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1704	1863	1568	3367	1827	1470	1719	4988	1525	1787	5085	1424
Flt Permitted	0.72	1.00	1.00	0.95	1.00	1.00	0.06	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)	1293	1863	1568	3367	1827	1470	112	4988	1525	251	5085	1424
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	35	101	338	692	56	121	146	1278	783	197	2106	51
RTOR Reduction (vph)	0	0	112	0	0	88	0	0	377	0	0	27
Lane Group Flow (vph)	35	101	226	692	56	33	146	1278	406	197	2106	24
Confl. Peds. (#/hr)	35					35	35		10	10		35
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	19.6	13.8	23.2	28.3	37.3	37.3	73.3	63.9	63.9	77.3	65.9	65.9
Effective Green, g (s)	21.6	14.8	25.2	29.3	38.3	38.3	75.3	64.9	64.9	79.3	66.9	66.9
Actuated g/C Ratio	0.15	0.11	0.18	0.21	0.27	0.27	0.54	0.46	0.46	0.57	0.48	0.48
Clearance Time (s)	4.7	6.8	4.0	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	219	196	282	704	499	402	179	2312	706	278	2429	680
v/s Ratio Prot	0.01	0.05	c0.06	c0.21	0.03		c0.06	0.26		c0.06	c0.41	
v/s Ratio Perm	0.02		0.08			0.02	0.38		0.27	0.34		0.02
v/c Ratio	0.16	0.52	0.80	0.98	0.11	0.08	0.82	0.55	0.58	0.71	0.87	0.04
Uniform Delay, d1	51.1	59.2	55.0	55.1	38.1	37.8	36.2	27.1	27.5	18.8	32.6	19.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.28	0.68	2.53	1.00	1.00	1.00
Incremental Delay, d2	0.3	2.3	15.1	29.5	0.1	0.1	20.7	0.8	2.8	8.0	4.5	0.1
Delay (s)	51.5	61.5	70.1	84.6	38.2	37.9	67.1	19.3	72.4	26.8	37.1	19.5
Level of Service	D	E	E	F	D	D	E	B	E	C	D	B
Approach Delay (s)		66.9			75.1			41.3			35.8	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	46.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

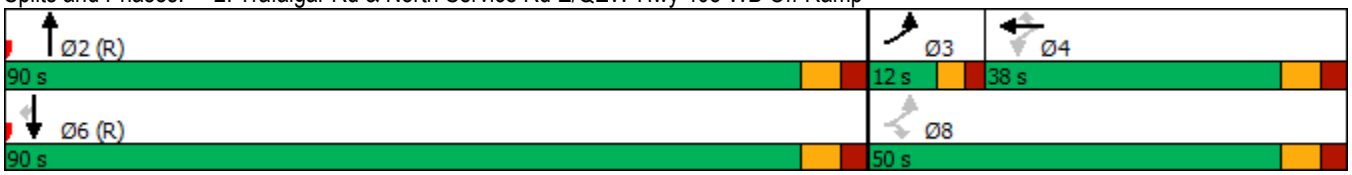


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	395	0	200	0	1995	0	0	3145	5
Future Volume (vph)	5	0	225	395	0	200	0	1995	0	0	3145	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.96
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.950							
Satd. Flow (prot)	1805	0	1599	1649	1649	1568	0	4988	0	0	5036	1615
Flt Permitted	0.324			0.950	0.950							
Satd. Flow (perm)	616	0	1599	1649	1649	1568	0	4988	0	0	5036	1543
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			90						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							10		5	5		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Adj. Flow (vph)	5	0	232	407	0	206	0	2057	0	0	3242	5
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	5	0	232	203	204	206	0	2057	0	0	3242	5
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

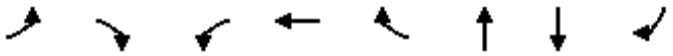
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	12.0		50.0	38.0	38.0	38.0		90.0			90.0	90.0
Total Split (%)	8.6%		35.7%	27.1%	27.1%	27.1%		64.3%			64.3%	64.3%
Maximum Green (s)	7.0		43.0	31.0	31.0	31.0		83.0			83.0	83.0
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		10			10	10
Act Effct Green (s)	28.8		26.8	24.4	24.4	24.4		101.2			101.2	101.2
Actuated g/C Ratio	0.21		0.19	0.17	0.17	0.17		0.72			0.72	0.72
v/c Ratio	0.03		0.70	0.71	0.71	0.59		0.57			0.89	0.00
Control Delay	37.6		55.6	67.2	67.4	35.6		8.0			25.2	0.0
Queue Delay	0.0		0.0	0.0	0.0	0.0		0.0			1.1	0.0
Total Delay	37.6		55.6	67.2	67.4	35.6		8.0			26.2	0.0
LOS	D		E	E	E	D		A			C	A
Approach Delay		55.2			56.7			8.0			26.2	
Approach LOS		E			E			A			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 24.3		Intersection LOS: C	
Intersection Capacity Utilization 100.6%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp



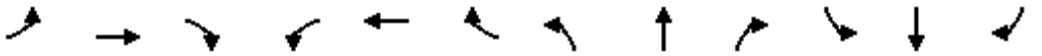
2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp



Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	5	232	203	204	206	2057	3242	5
v/c Ratio	0.03	0.70	0.71	0.71	0.59	0.57	0.89	0.00
Control Delay	37.6	55.6	67.2	67.4	35.6	8.0	25.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Total Delay	37.6	55.6	67.2	67.4	35.6	8.0	26.2	0.0
Queue Length 50th (m)	1.2	56.6	59.1	59.4	31.0	72.8	246.4	0.0
Queue Length 95th (m)	4.4	72.7	84.0	84.3	55.1	97.4	m#400.9	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	194	523	376	376	427	3604	3639	1134
Starvation Cap Reductn	0	0	0	0	0	0	188	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.44	0.54	0.54	0.48	0.57	0.94	0.00

Intersection Summary

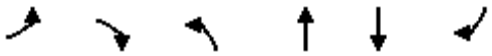
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



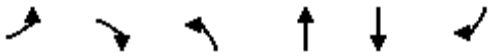
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	395	0	200	0	1995	0	0	3145	5
Future Volume (vph)	5	0	225	395	0	200	0	1995	0	0	3145	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.96
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1649	1649	1568		4988			5036	1543
Flt Permitted	0.32		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	615		1599	1649	1649	1568		4988			5036	1543
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	5	0	232	407	0	206	0	2057	0	0	3242	5
RTOR Reduction (vph)	0	0	24	0	0	74	0	0	0	0	0	2
Lane Group Flow (vph)	5	0	208	203	204	132	0	2057	0	0	3242	3
Confl. Peds. (#/hr)							10		5	5		10
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	29.8		29.8	23.4	23.4	23.4		96.2			96.2	96.2
Effective Green, g (s)	30.8		30.8	24.4	24.4	24.4		97.2			97.2	97.2
Actuated g/C Ratio	0.22		0.22	0.17	0.17	0.17		0.69			0.69	0.69
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	155		351	287	287	273		3463			3496	1071
v/s Ratio Prot	0.00							0.41			c0.64	
v/s Ratio Perm	0.01		c0.13	0.12	0.12	0.08						0.00
v/c Ratio	0.03		0.59	0.71	0.71	0.48		0.59			0.93	0.00
Uniform Delay, d1	43.4		49.0	54.4	54.5	52.1		11.1			18.4	6.6
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.71			1.43	1.00
Incremental Delay, d2	0.1		2.8	7.7	8.0	1.3		0.6			3.1	0.0
Delay (s)	43.5		51.8	62.2	62.5	53.5		8.5			29.3	6.6
Level of Service	D		D	E	E	D		A			C	A
Approach Delay (s)		51.6			59.4			8.5			29.2	
Approach LOS		D			E			A			C	

Intersection Summary			
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	100.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



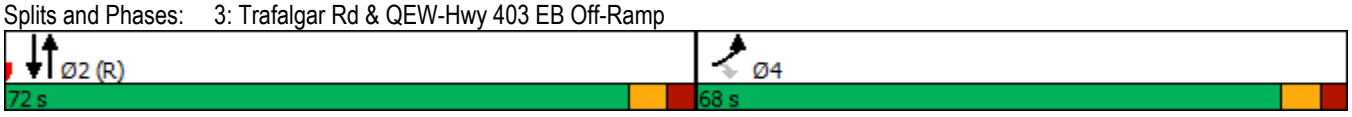
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	885	630	0	1595	2230	0
Future Volume (vph)	885	630	0	1595	2230	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3433	1583	0	4940	5036	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	*1800	0	4940	5036	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		1				
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			45.3	331.3	
Travel Time (s)	15.4			3.3	23.9	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Adj. Flow (vph)	903	643	0	1628	2276	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	903	643	0	1628	2276	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	68.0	68.0		72.0	72.0	
Total Split (%)	48.6%	48.6%		51.4%	51.4%	
Maximum Green (s)	61.0	61.0		65.0	65.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		10	10	
Act Effct Green (s)	56.8	56.8		71.2	71.2	
Actuated g/C Ratio	0.41	0.41		0.51	0.51	
v/c Ratio	0.65	0.88		0.65	0.89	
Control Delay	35.5	52.4		23.4	30.7	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	35.5	52.4		23.4	30.7	
LOS	D	D		C	C	
Approach Delay	42.5			23.4	30.7	
Approach LOS	D			C	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 31.9		Intersection LOS: C	
Intersection Capacity Utilization 92.1%		ICU Level of Service F	
Analysis Period (min) 15			
* User Entered Value			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



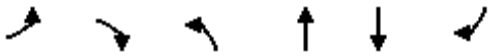
3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	903	643	1628	2276
v/c Ratio	0.65	0.88	0.65	0.89
Control Delay	35.5	52.4	23.4	30.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	35.5	52.4	23.4	30.7
Queue Length 50th (m)	105.4	166.8	88.9	190.2
Queue Length 95th (m)	122.8	215.2	m96.8	#245.5
Internal Link Dist (m)	190.2		21.3	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1520	797	2510	2559
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.59	0.81	0.65	0.89

Intersection Summary

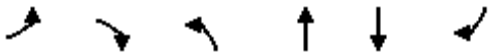
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	885	630	0	1595	2230	0
Future Volume (vph)	885	630	0	1595	2230	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	1583		4940	5036	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	1800		4940	5036	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	903	643	0	1628	2276	0
RTOR Reduction (vph)	0	1	0	0	0	0
Lane Group Flow (vph)	903	642	0	1628	2276	0
Confl. Peds. (#/hr)			10			10
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	55.8	55.8		70.2	70.2	
Effective Green, g (s)	56.8	56.8		71.2	71.2	
Actuated g/C Ratio	0.41	0.41		0.51	0.51	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1392	730		2512	2561	
v/s Ratio Prot	0.26			0.33	c0.45	
v/s Ratio Perm		c0.36				
v/c Ratio	0.65	0.88		0.65	0.89	
Uniform Delay, d1	33.6	38.5		25.2	30.8	
Progression Factor	1.00	1.00		0.86	0.87	
Incremental Delay, d2	1.1	12.0		0.8	2.8	
Delay (s)	34.6	50.4		22.5	29.5	
Level of Service	C	D		C	C	
Approach Delay (s)	41.2			22.5	29.5	
Approach LOS	D			C	C	

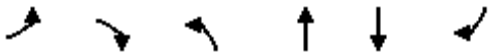
Intersection Summary			
HCM 2000 Control Delay	30.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	40	0	1865	2190	680
Future Volume (vph)	0	40	0	1865	2190	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.964	
Flt Protected						
Satd. Flow (prot)	0	1565	0	4940	4855	0
Flt Permitted						
Satd. Flow (perm)	0	1565	0	4940	4855	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	144.9			271.4	45.3	
Travel Time (s)	10.4			19.5	3.3	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	5%	0%	5%	3%	3%
Adj. Flow (vph)	0	43	0	2005	2355	731
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	43	0	2005	3086	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 67.7%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	40	0	1865	2190	680
Future Volume (Veh/h)	0	40	0	1865	2190	680
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	43	0	2005	2355	731
Pedestrians	10					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				271	45	
pX, platoon unblocked	0.68	0.59	0.59			
vC, conflicting volume	3399	1160	3096			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1146	0	2123			
tC, single (s)	6.8	7.0	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	93	100			
cM capacity (veh/h)	132	630	152			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	43	668	668	668	942	942	1202
Volume Left	0	0	0	0	0	0	0
Volume Right	43	0	0	0	0	0	731
cSH	630	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.07	0.39	0.39	0.39	0.55	0.55	0.71
Queue Length 95th (m)	1.8	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	11.1	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	11.1	0.0			0.0		
Approach LOS	B						

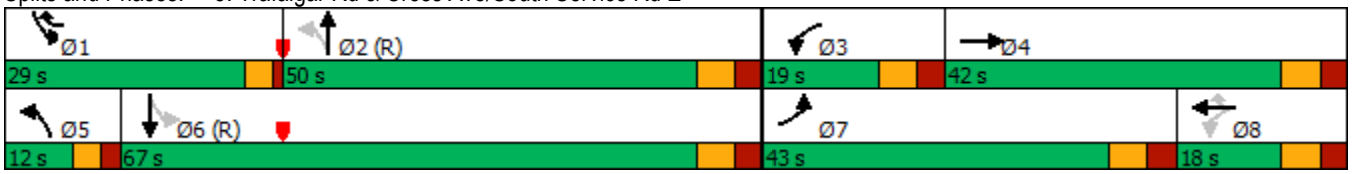
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	67.7%	ICU Level of Service		C
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	790	80	150	100	95	380	110	1180	40	225	1450	440
Future Volume (vph)	790	80	150	100	95	380	110	1180	40	225	1450	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		0.0	50.0		0.0	120.0		0.0	55.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.99		1.00				1.00			0.99	
Frt		0.902				0.850		0.995			0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3273	1600	0	1736	1810	1553	1671	5008	0	1736	4845	0
Flt Permitted	0.950			0.611			0.078			0.104		
Satd. Flow (perm)	3273	1600	0	1111	1810	1553	137	5008	0	190	4845	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		65				140		4			69	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		217.0			420.1			277.9			271.4	
Travel Time (s)		15.6			30.2			20.0			19.5	
Confl. Peds. (#/hr)			5	5			15		5	5		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Adj. Flow (vph)	814	82	155	103	98	392	113	1216	41	232	1495	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	814	237	0	103	98	392	113	1257	0	232	1949	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		12.0	10.0	7.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0		19.0	17.0	11.0	12.0	34.0		11.0	34.0	
Total Split (s)	43.0	42.0		19.0	18.0	29.0	12.0	50.0		29.0	67.0	
Total Split (%)	30.7%	30.0%		13.6%	12.9%	20.7%	8.6%	35.7%		20.7%	47.9%	
Maximum Green (s)	36.0	35.0		12.0	11.0	25.0	7.0	43.0		25.0	60.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	1.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0						7.0			7.0	
Flash Dont Walk (s)		28.0						20.0			20.0	
Pedestrian Calls (#/hr)		5						10			10	
Act Effct Green (s)	36.6	35.4		24.8	11.8	37.0	61.6	51.4		76.3	61.4	
Actuated g/C Ratio	0.26	0.25		0.18	0.08	0.26	0.44	0.37		0.54	0.44	
v/c Ratio	0.95	0.52		0.41	0.64	0.76	0.76	0.68		0.74	0.90	
Control Delay	71.5	36.7		36.2	81.5	39.8	52.3	40.4		46.0	42.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	71.5	36.7		36.2	81.5	39.8	52.3	40.4		46.0	42.7	
LOS	E	D		D	F	D	D	D		D	D	
Approach Delay		63.7			46.1			41.4			43.0	
Approach LOS		E			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 47.1		Intersection LOS: D	
Intersection Capacity Utilization 93.5%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 5: Trafalgar Rd & Cross Ave/South Service Rd E



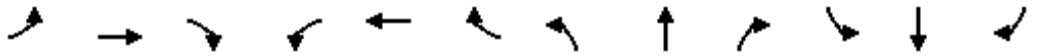
5: Trafalgar Rd & Cross Ave/South Service Rd E



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	814	237	103	98	392	113	1257	232	1949
v/c Ratio	0.95	0.52	0.41	0.64	0.76	0.76	0.68	0.74	0.90
Control Delay	71.5	36.7	36.2	81.5	39.8	52.3	40.4	46.0	42.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.5	36.7	36.2	81.5	39.8	52.3	40.4	46.0	42.7
Queue Length 50th (m)	120.3	43.0	19.2	28.1	69.9	22.8	92.8	51.2	152.7
Queue Length 95th (m)	#160.3	71.4	32.9	#51.7	103.9	m#32.5	m108.4	m62.3	175.2
Internal Link Dist (m)		193.0		396.1			253.9		247.4
Turn Bay Length (m)	130.0		50.0			120.0		55.0	
Base Capacity (vph)	865	459	254	155	582	149	1841	391	2162
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.52	0.41	0.63	0.67	0.76	0.68	0.59	0.90

Intersection Summary

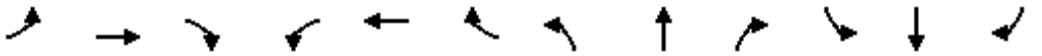
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	790	80	150	100	95	380	110	1180	40	225	1450	440
Future Volume (vph)	790	80	150	100	95	380	110	1180	40	225	1450	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.90		1.00	1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3273	1599		1731	1810	1553	1671	5008		1736	4846	
Flt Permitted	0.95	1.00		0.61	1.00	1.00	0.08	1.00		0.10	1.00	
Satd. Flow (perm)	3273	1599		1114	1810	1553	137	5008		190	4846	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	814	82	155	103	98	392	113	1216	41	232	1495	454
RTOR Reduction (vph)	0	49	0	0	0	109	0	3	0	0	39	0
Lane Group Flow (vph)	814	188	0	103	98	283	113	1254	0	232	1910	0
Confl. Peds. (#/hr)			5	5			15		5	5		15
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Actuated Green, G (s)	35.6	34.4		22.8	10.8	29.0	57.6	50.4		72.6	60.4	
Effective Green, g (s)	36.6	35.4		24.8	11.8	31.0	59.6	51.4		73.6	61.4	
Actuated g/C Ratio	0.26	0.25		0.18	0.08	0.22	0.43	0.37		0.53	0.44	
Clearance Time (s)	7.0	7.0		7.0	7.0	4.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	855	404		254	152	343	148	1838		311	2125	
v/s Ratio Prot	c0.25	0.12		0.04	0.05	c0.11	0.04	0.25		0.10	c0.39	
v/s Ratio Perm				0.03		0.07	0.28			0.29		
v/c Ratio	0.95	0.47		0.41	0.64	0.83	0.76	0.68		0.75	0.90	
Uniform Delay, d1	50.8	44.3		50.4	62.1	51.9	30.8	37.4		29.9	36.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.09	1.01		1.45	1.09	
Incremental Delay, d2	20.0	1.2		1.3	10.0	14.8	13.7	1.3		5.4	3.9	
Delay (s)	70.8	45.5		51.6	72.1	66.7	47.3	39.3		48.8	43.7	
Level of Service	E	D		D	E	E	D	D		D	D	
Approach Delay (s)		65.1			65.0			39.9			44.2	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	49.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

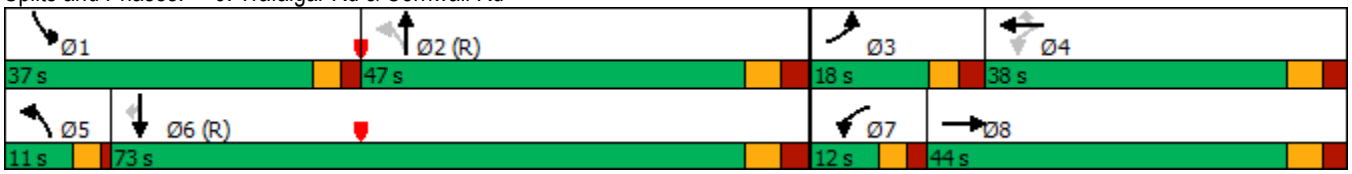


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	430	70	30	355	640	50	410	55	670	680	385
Future Volume (vph)	300	430	70	30	355	640	50	410	55	670	680	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.98	0.99		0.99		0.95	0.99	1.00		0.99		0.96
Frt		0.979				0.850		0.982				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3367	3322	0	1736	3438	1553	1770	3450	0	3400	1881	1553
Flt Permitted	0.950			0.448			0.256			0.950		
Satd. Flow (perm)	3299	3322	0	806	3438	1483	474	3450	0	3365	1881	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				484		10				308
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			277.9	
Travel Time (s)		41.4			45.2			10.0			20.0	
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Adj. Flow (vph)	313	448	73	31	370	667	52	427	57	698	708	401
Shared Lane Traffic (%)												
Lane Group Flow (vph)	313	521	0	31	370	667	52	484	0	698	708	401
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

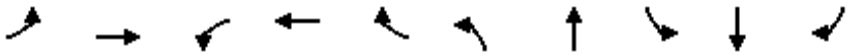
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	18.0	44.0		12.0	38.0	38.0	11.0	47.0		37.0	73.0	73.0
Total Split (%)	12.9%	31.4%		8.6%	27.1%	27.1%	7.9%	33.6%		26.4%	52.1%	52.1%
Maximum Green (s)	12.3	37.6		7.0	31.6	31.6	7.0	40.1		32.0	66.1	66.1
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		20			20	20		15			15	15
Act Effct Green (s)	16.1	42.3		38.5	28.9	28.9	53.4	42.5		32.5	70.2	70.2
Actuated g/C Ratio	0.12	0.30		0.28	0.21	0.21	0.38	0.30		0.23	0.50	0.50
v/c Ratio	0.81	0.51		0.11	0.52	0.97	0.20	0.46		0.89	0.75	0.44
Control Delay	77.9	47.4		29.2	51.5	41.8	18.6	41.1		78.8	31.5	9.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.1	0.0
Total Delay	77.9	47.4		29.2	51.5	41.8	18.6	41.1		78.8	31.6	9.5
LOS	E	D		C	D	D	B	D		E	C	A
Approach Delay		58.8			44.8			38.9			44.9	
Approach LOS		E			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 125			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 46.9		Intersection LOS: D	
Intersection Capacity Utilization 93.0%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd



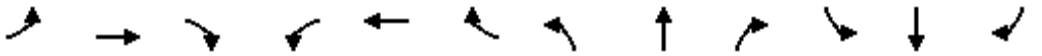
6: Trafalgar Rd & Cornwall Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	313	521	31	370	667	52	484	698	708	401
v/c Ratio	0.81	0.51	0.11	0.52	0.97	0.20	0.46	0.89	0.75	0.44
Control Delay	77.9	47.4	29.2	51.5	41.8	18.6	41.1	78.8	31.5	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total Delay	77.9	47.4	29.2	51.5	41.8	18.6	41.1	78.8	31.6	9.5
Queue Length 50th (m)	47.4	67.7	5.6	49.1	63.3	6.6	61.2	111.2	99.8	19.2
Queue Length 95th (m)	#80.3	90.6	13.1	65.6	#148.6	12.6	77.7	m125.2	m118.0	m29.0
Internal Link Dist (m)		551.4		604.3			115.4		253.9	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	387	1013	276	800	716	254	1088	806	959	914
Starvation Cap Reductn	0	0	0	0	0	0	0	0	15	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.51	0.11	0.46	0.93	0.20	0.44	0.87	0.75	0.44

Intersection Summary

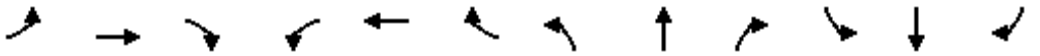
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	430	70	30	355	640	50	410	55	670	680	385
Future Volume (vph)	300	430	70	30	355	640	50	410	55	670	680	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.95	1.00	1.00		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3367	3322		1724	3438	1483	1767	3451		3400	1881	1498
Flt Permitted	0.95	1.00		0.45	1.00	1.00	0.26	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3367	3322		813	3438	1483	477	3451		3400	1881	1498
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	312	448	73	31	370	667	52	427	57	698	708	401
RTOR Reduction (vph)	0	9	0	0	0	377	0	7	0	0	0	160
Lane Group Flow (vph)	313	512	0	31	370	290	52	477	0	698	708	241
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	15.1	41.3		34.3	29.9	29.9	45.1	39.5		31.5	66.4	66.4
Effective Green, g (s)	16.1	42.3		36.3	30.9	30.9	47.1	40.5		32.5	67.4	67.4
Actuated g/C Ratio	0.12	0.30		0.26	0.22	0.22	0.34	0.29		0.23	0.48	0.48
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Lane Grp Cap (vph)	387	1003		245	758	327	221	998		789	905	721
v/s Ratio Prot	c0.09	0.15		0.00	0.11		0.01	0.14		c0.21	c0.38	
v/s Ratio Perm				0.03		c0.20	0.07					0.16
v/c Ratio	0.81	0.51		0.13	0.49	0.89	0.24	0.48		0.88	0.78	0.33
Uniform Delay, d1	60.4	40.3		39.1	47.6	52.8	32.5	41.0		51.9	30.2	22.4
Progression Factor	1.03	1.13		1.00	1.00	1.00	1.00	1.00		1.36	0.94	1.53
Incremental Delay, d2	11.5	0.4		0.3	0.5	23.7	0.6	1.6		7.1	3.8	0.7
Delay (s)	73.5	46.2		39.4	48.1	76.5	33.1	42.7		77.8	32.2	35.0
Level of Service	E	D		D	D	E	C	D		E	C	C
Approach Delay (s)		56.4			65.6			41.7			50.4	
Approach LOS		E			E			D			D	

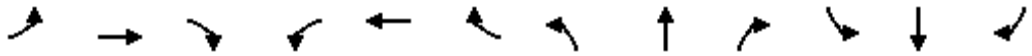
Intersection Summary			
HCM 2000 Control Delay	54.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	93.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	15	0	5	615	140	0	5	0	20	5	100
Future Volume (vph)	0	15	0	5	615	140	0	5	0	20	5	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.975						0.892	
Flt Protected											0.992	
Satd. Flow (prot)	0	1792	0	0	1813	0	0	1900	0	0	1480	0
Flt Permitted											0.992	
Satd. Flow (perm)	0	1792	0	0	1813	0	0	1900	0	0	1480	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		175.8			144.9			44.8			92.1	
Travel Time (s)		12.7			10.4			3.2			6.6	
Confl. Peds. (#/hr)			5	5					10	10		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	6%	0%	0%	2%	3%	0%	0%	0%	0%	0%	17%
Adj. Flow (vph)	0	17	0	6	691	157	0	6	0	22	6	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	17	0	0	854	0	0	6	0	0	140	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

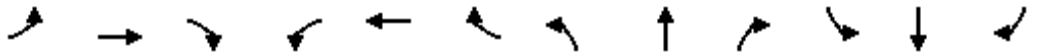
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	15	0	5	615	140	0	5	0	20	5	100
Future Volume (Veh/h)	0	15	0	5	615	140	0	5	0	20	5	100
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	17	0	6	691	157	0	6	0	22	6	112
Pedestrians					10			5				
Lane Width (m)					3.6			3.6				
Walking Speed (m/s)					1.2			1.2				
Percent Blockage					1			0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		355										
pX, platoon unblocked												
vC, conflicting volume	848			22			918	882	32	812	804	770
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	848			22			918	882	32	812	804	770
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.4
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.5
p0 queue free %	100			100			100	98	100	92	98	70
cM capacity (veh/h)	798			1600			174	285	1035	291	316	378

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	17	854	6	140
Volume Left	0	6	0	22
Volume Right	0	157	0	112
cSH	798	1600	285	358
Volume to Capacity	0.00	0.00	0.02	0.39
Queue Length 95th (m)	0.0	0.1	0.5	14.5
Control Delay (s)	0.0	0.1	17.9	21.4
Lane LOS		A	C	C
Approach Delay (s)	0.0	0.1	17.9	21.4
Approach LOS			C	C

Intersection Summary				
Average Delay	3.1			
Intersection Capacity Utilization	65.8%	ICU Level of Service	C	
Analysis Period (min)	15			

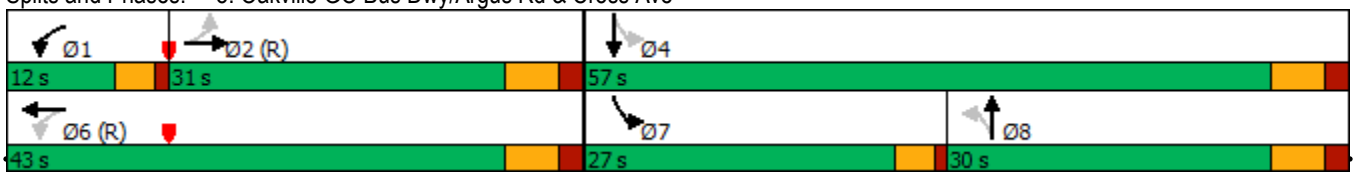


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	785	15	20	590	25	15	0	30	175	10	440
Future Volume (vph)	20	785	15	20	590	25	15	0	30	175	10	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	30.0			15.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		1.00	1.00			0.97		0.98	0.96	
Frt		0.997			0.994			0.909			0.853	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1719	3498	0	950	3537	0	0	845	0	1719	1528	0
Flt Permitted	0.411			0.245				0.783		0.727		
Satd. Flow (perm)	737	3498	0	244	3537	0	0	670	0	1285	1528	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			5			120			123	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		107.3			217.0			71.0			179.3	
Travel Time (s)		7.7			15.6			5.1			12.9	
Confl. Peds. (#/hr)	10		10	10		10	20		20	20		20
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	1%	100%	90%	1%	7%	100%	100%	94%	5%	100%	0%
Adj. Flow (vph)	21	809	15	21	608	26	15	0	31	180	10	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	824	0	21	634	0	0	46	0	180	464	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

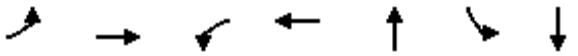
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	22.0	22.0		8.0	22.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	29.0	29.0		12.0	29.0		29.0	29.0		9.0	29.0	
Total Split (s)	31.0	31.0		12.0	43.0		30.0	30.0		27.0	57.0	
Total Split (%)	31.0%	31.0%		12.0%	43.0%		30.0%	30.0%		27.0%	57.0%	
Maximum Green (s)	25.0	25.0		8.0	37.0		24.0	24.0		23.0	51.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	5.0	5.0		2.5	5.0		4.0	4.0		3.0	4.0	
Recall Mode	C-Min	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	16.0	16.0			16.0		16.0	16.0			16.0	
Pedestrian Calls (#/hr)	10	10			10		20	20			20	
Act Effct Green (s)	51.9	51.9		58.8	56.8			17.1		35.2	33.2	
Actuated g/C Ratio	0.52	0.52		0.59	0.57			0.17		0.35	0.33	
v/c Ratio	0.05	0.45		0.10	0.32			0.22		0.34	0.79	
Control Delay	20.1	19.7		13.6	13.5			2.3		23.3	30.7	
Queue Delay	0.0	1.7		0.0	0.0			0.0		0.0	0.0	
Total Delay	20.1	21.4		13.6	13.5			2.3		23.3	30.7	
LOS	C	C		B	B			A		C	C	
Approach Delay		21.4			13.5			2.3			28.6	
Approach LOS		C			B			A			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 20.8		Intersection LOS: C	
Intersection Capacity Utilization 60.2%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: Oakville GO Bus Dwy/Argus Rd & Cross Ave



8: Oakville GO Bus Dwy/Argus Rd & Cross Ave

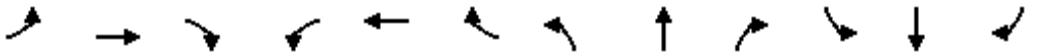


Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	21	824	21	634	46	180	464
v/c Ratio	0.05	0.45	0.10	0.32	0.22	0.34	0.79
Control Delay	20.1	19.7	13.6	13.5	2.3	23.3	30.7
Queue Delay	0.0	1.7	0.0	0.0	0.0	0.0	0.0
Total Delay	20.1	21.4	13.6	13.5	2.3	23.3	30.7
Queue Length 50th (m)	1.7	45.1	1.6	32.1	0.0	26.9	65.3
Queue Length 95th (m)	8.6	98.4	6.5	57.6	0.0	35.5	86.5
Internal Link Dist (m)		83.3		193.0	47.0		155.3
Turn Bay Length (m)	20.0		20.0			15.0	
Base Capacity (vph)	382	1817	207	2010	257	562	853
Starvation Cap Reductn	0	773	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.79	0.10	0.32	0.18	0.32	0.54

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	785	15	20	590	25	15	0	30	175	10	440
Future Volume (vph)	20	785	15	20	590	25	15	0	30	175	10	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.97		1.00	0.96	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00		0.98	1.00	
Frt	1.00	1.00		1.00	0.99			0.91		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1704	3499		949	3537			842		1691	1529	
Flt Permitted	0.41	1.00		0.25	1.00			0.78		0.73	1.00	
Satd. Flow (perm)	737	3499		245	3537			670		1295	1529	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	21	809	15	21	608	26	15	0	31	180	10	454
RTOR Reduction (vph)	0	1	0	0	2	0	0	39	0	0	81	0
Lane Group Flow (vph)	21	823	0	21	632	0	0	7	0	180	383	0
Confl. Peds. (#/hr)	10		10	10		10	20		20	20		20
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	5%	1%	100%	90%	1%	7%	100%	100%	94%	5%	100%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	47.3	47.3		54.5	54.5			14.1		33.5	33.5	
Effective Green, g (s)	48.3	48.3		55.5	55.5			15.1		34.5	34.5	
Actuated g/C Ratio	0.48	0.48		0.56	0.56			0.15		0.34	0.34	
Clearance Time (s)	6.0	6.0		4.0	6.0			6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0		2.5	5.0			4.0		3.0	4.0	
Lane Grp Cap (vph)	355	1690		165	1963			101		511	527	
v/s Ratio Prot		c0.24		0.01	c0.18					0.06	c0.25	
v/s Ratio Perm	0.03			0.07				0.01		0.06		
v/c Ratio	0.06	0.49		0.13	0.32			0.07		0.35	0.73	
Uniform Delay, d1	13.8	17.5		11.2	12.1			36.4		24.1	28.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.3	1.0		0.3	0.4			0.4		0.4	5.3	
Delay (s)	14.1	18.5		11.5	12.5			36.8		24.5	34.0	
Level of Service	B	B		B	B			D		C	C	
Approach Delay (s)		18.4			12.5			36.8			31.3	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	295	90	650	465	15	60	0	235	275	0	75
Future Volume (vph)	25	295	90	650	465	15	60	0	235	275	0	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00		1.00		0.97		0.99	
Frt		0.967			0.998				0.850		0.971	
Flt Protected		0.997			0.972		0.950				0.962	
Satd. Flow (prot)	0	3269	0	0	3416	0	1805	0	1615	0	1769	0
Flt Permitted		0.816			0.566		0.536				0.962	
Satd. Flow (perm)	0	2674	0	0	1989	0	1013	0	1570	0	1759	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27			2				255		51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		139.5			107.3			62.6			201.6	
Travel Time (s)		10.0			7.7			4.5			14.5	
Confl. Peds. (#/hr)	15					15	5		10	10		5
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	27	321	98	707	505	16	65	0	255	299	0	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	446	0	0	1228	0	65	0	255	0	381	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	100		100
Number of Detectors	1	2		1	2		1		1	1	2	
Detector Template	Left	Thru		Left	Thru		Left		Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0		2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0		2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4						9.4	
Detector 2 Size(m)		0.6			0.6						0.6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type	Perm	NA		custom	NA		Perm		Perm	custom	NA	
Protected Phases		2		1	1 6					7	7 4	

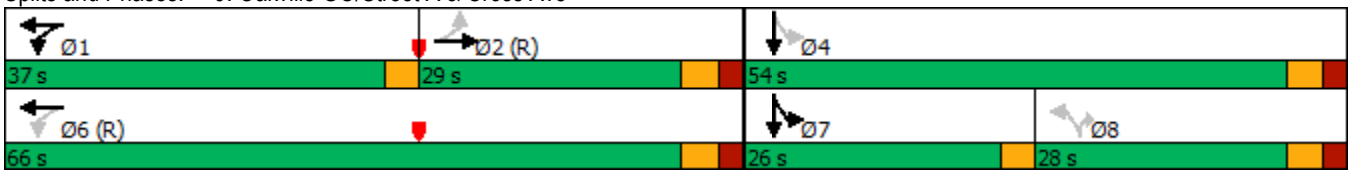
Lane Group	Ø4	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	4	6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			8		8	4		
Detector Phase	2	2		1	1 6		8		8	7	7 4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		8.0			10.0		10.0	8.0		
Minimum Split (s)	27.6	27.6		11.0			27.6		27.6	11.0		
Total Split (s)	29.0	29.0		37.0			28.0		28.0	26.0		
Total Split (%)	24.2%	24.2%		30.8%			23.3%		23.3%	21.7%		
Maximum Green (s)	23.4	23.4		34.0			22.4		22.4	23.0		
Yellow Time (s)	3.3	3.3		3.0			3.3		3.3	3.0		
All-Red Time (s)	2.3	2.3		0.0			2.3		2.3	0.0		
Lost Time Adjust (s)		-1.0					-1.0		-1.0			
Total Lost Time (s)		4.6					4.6		4.6			
Lead/Lag	Lag	Lag		Lead			Lag		Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes		
Vehicle Extension (s)	5.0	5.0		2.5			3.5		3.5	3.0		
Recall Mode	C-Min	C-Min		None			None		None	None		
Walk Time (s)	7.0	7.0					7.0		7.0			
Flash Dont Walk (s)	15.0	15.0					15.0		15.0			
Pedestrian Calls (#/hr)	10	10					10		10			
Act Effct Green (s)		35.9			72.9		15.5		15.5		43.1	
Actuated g/C Ratio		0.30			0.61		0.13		0.13		0.36	
v/c Ratio		0.54			0.98dl		0.50		0.60		0.57	
Control Delay		38.7			19.4		60.5		11.6		29.4	
Queue Delay		0.0			21.2		0.0		0.0		0.0	
Total Delay		38.7			40.7		60.5		11.6		29.4	
LOS		D			D		E		B		C	
Approach Delay		38.7			40.7			21.5			29.4	
Approach LOS		D			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 35.9		Intersection LOS: D	
Intersection Capacity Utilization 89.8%		ICU Level of Service E	
Analysis Period (min) 15			

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 9: Oakville GO/Street A & Cross Ave



Lane Group	Ø4	Ø6
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	10.0	20.0
Minimum Split (s)	27.6	27.6
Total Split (s)	54.0	66.0
Total Split (%)	45%	55%
Maximum Green (s)	48.4	60.4
Yellow Time (s)	3.3	3.3
All-Red Time (s)	2.3	2.3
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	5.0
Recall Mode	None	C-Min
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	15.0	15.0
Pedestrian Calls (#/hr)	10	10
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

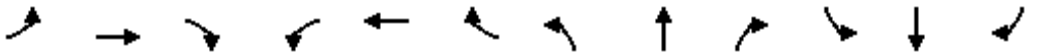
Intersection Summary



Lane Group	EBT	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	446	1228	65	255	381
v/c Ratio	0.54	0.98dl	0.50	0.60	0.57
Control Delay	38.7	19.4	60.5	11.6	29.4
Queue Delay	0.0	21.2	0.0	0.0	0.0
Total Delay	38.7	40.7	60.5	11.6	29.4
Queue Length 50th (m)	46.8	92.0	15.4	0.0	65.4
Queue Length 95th (m)	#73.6	135.8	28.6	22.9	86.2
Internal Link Dist (m)	115.5	83.3			177.6
Turn Bay Length (m)					
Base Capacity (vph)	819	1636	197	511	793
Starvation Cap Reductn	0	442	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.54	1.03	0.33	0.50	0.48

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

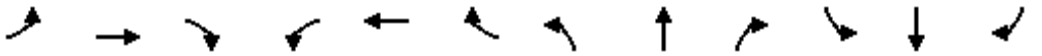


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	295	90	650	465	15	60	0	235	275	0	75
Future Volume (vph)	25	295	90	650	465	15	60	0	235	275	0	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6			2.0		4.6		4.6		2.0	
Lane Util. Factor		0.95			0.95		1.00		1.00		1.00	
Frpb, ped/bikes		1.00			1.00		1.00		0.97		1.00	
Flpb, ped/bikes		1.00			1.00		1.00		1.00		0.99	
Frt		0.97			1.00		1.00		0.85		0.97	
Flt Protected		1.00			0.97		0.95		1.00		0.96	
Satd. Flow (prot)		3267			3416		1796		1570		1757	
Flt Permitted		0.82			0.57		0.54		1.00		0.96	
Satd. Flow (perm)		2674			1990		1013		1570		1757	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	321	98	707	505	16	65	0	255	299	0	82
RTOR Reduction (vph)	0	19	0	0	1	0	0	0	222	0	34	0
Lane Group Flow (vph)	0	427	0	0	1227	0	65	0	33	0	347	0
Confl. Peds. (#/hr)	15					15	5		10	10		5
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	0%	9%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		custom	NA		Perm		Perm	custom	NA	
Protected Phases		2		1	1 6					7	7 4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)		35.0			69.3		14.5		14.5		39.5	
Effective Green, g (s)		36.0			70.3		15.5		15.5		40.5	
Actuated g/C Ratio		0.30			0.59		0.13		0.13		0.34	
Clearance Time (s)		5.6					5.6		5.6			
Vehicle Extension (s)		5.0					3.5		3.5			
Lane Grp Cap (vph)		802			1549		130		202		592	
v/s Ratio Prot					c0.21						c0.11	
v/s Ratio Perm		c0.16			0.25		0.06		0.02		0.09	
v/c Ratio		0.53			0.98dl		0.50		0.16		0.59	
Uniform Delay, d1		35.0			19.2		48.6		46.5		32.8	
Progression Factor		1.00			1.00		1.00		1.00		1.00	
Incremental Delay, d2		2.5			2.8		3.5		0.5		1.5	
Delay (s)		37.5			22.0		52.2		46.9		34.3	
Level of Service		D			C		D		D		C	
Approach Delay (s)		37.5			22.0			48.0			34.3	
Approach LOS		D			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	30.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		

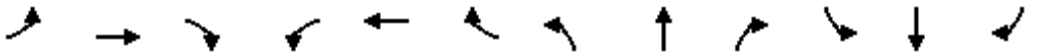
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	260	0	5	455	155	0	0	0	155	0	25
Future Volume (vph)	25	260	0	5	455	155	0	0	0	155	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (m)	25.0			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.962							0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1805	3312	0	0	3271	0	0	1900	0	1787	0	1509
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1805	3312	0	0	3271	0	0	1900	0	1787	0	1509
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		132.8			139.5			48.2			88.5	
Travel Time (s)		9.6			10.0			3.5			6.4	
Confl. Peds. (#/hr)	20		10	10		20						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	0%	0%	8%	1%	0%	0%	0%	1%	0%	7%
Adj. Flow (vph)	27	283	0	5	495	168	0	0	0	168	0	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	283	0	0	668	0	0	0	0	168	0	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

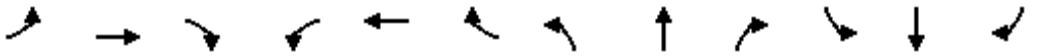
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	260	0	5	455	155	0	0	0	155	0	25
Future Volume (Veh/h)	25	260	0	5	455	155	0	0	0	155	0	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	283	0	5	495	168	0	0	0	168	0	27
Pedestrians								10			20	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			2	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		133			140							
pX, platoon unblocked												
vC, conflicting volume	683			293			632	1040	152	804	956	352
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	683			293			632	1040	152	804	956	352
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	7.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.4
p0 queue free %	97			100			100	100	100	35	100	96
cM capacity (veh/h)	904			1269			335	219	867	259	245	620

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	27	142	142	252	416	0	168	27
Volume Left	27	0	0	5	0	0	168	0
Volume Right	0	0	0	0	168	0	0	27
cSH	904	1700	1700	1269	1700	1700	259	620
Volume to Capacity	0.03	0.08	0.08	0.00	0.24	0.12	0.65	0.04
Queue Length 95th (m)	0.7	0.0	0.0	0.1	0.0	0.0	32.6	1.1
Control Delay (s)	9.1	0.0	0.0	0.2	0.0	0.0	41.3	11.1
Lane LOS	A			A		A	E	B
Approach Delay (s)	0.8			0.1		0.0	37.1	
Approach LOS						A	E	

Intersection Summary				
Average Delay	6.4			
Intersection Capacity Utilization	36.9%	ICU Level of Service		A
Analysis Period (min)	15			

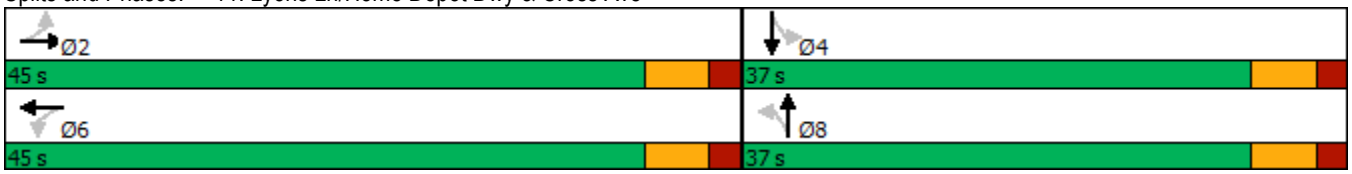


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	250	130	180	300	5	15	5	20	20	10	45
Future Volume (vph)	55	250	130	180	300	5	15	5	20	20	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	25.0		0.0	35.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99				1.00		0.99	0.99		0.99	0.99	
Frt		0.949			0.997			0.881			0.878	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3234	0	1787	3095	0	1805	1588	0	1703	1580	0
Flt Permitted	0.539			0.496			0.715			0.738		
Satd. Flow (perm)	1018	3234	0	933	3095	0	1352	1588	0	1316	1580	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		151			3			23			52	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		47.5			132.8			150.8			63.6	
Travel Time (s)		3.4			9.6			10.9			4.6	
Confl. Peds. (#/hr)	5					5	5		5	5		5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	9%	0%	1%	16%	29%	0%	0%	5%	6%	0%	5%
Adj. Flow (vph)	64	291	151	209	349	6	17	6	23	23	12	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	442	0	209	355	0	17	29	0	23	64	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

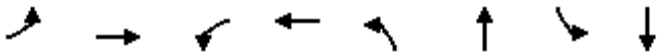
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		35.0	35.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	41.0	41.0		41.0	41.0		28.0	28.0		28.0	28.0	
Total Split (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Total Split (%)	54.9%	54.9%		54.9%	54.9%		45.1%	45.1%		45.1%	45.1%	
Maximum Green (s)	39.0	39.0		39.0	39.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	5	5		5	5		5	5		5	5	
Act Effct Green (s)	43.8	43.8		43.8	43.8		13.1	13.1		13.1	13.1	
Actuated g/C Ratio	0.76	0.76		0.76	0.76		0.23	0.23		0.23	0.23	
v/c Ratio	0.08	0.18		0.30	0.15		0.06	0.08		0.08	0.16	
Control Delay	6.1	3.6		7.7	5.0		17.7	9.7		18.1	8.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	6.1	3.6		7.7	5.0		17.7	9.7		18.1	8.4	
LOS	A	A		A	A		B	A		B	A	
Approach Delay		3.9			6.0			12.7			11.0	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 57.9			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.30			
Intersection Signal Delay: 5.7		Intersection LOS: A	
Intersection Capacity Utilization 80.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 11: Lyons Ln/Home Depot Dwy & Cross Ave

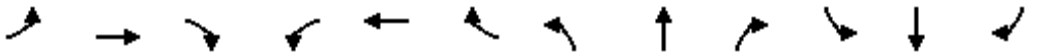


11: Lyons Ln/Home Depot Dwy & Cross Ave



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	442	209	355	17	29	23	64
v/c Ratio	0.08	0.18	0.30	0.15	0.06	0.08	0.08	0.16
Control Delay	6.1	3.6	7.7	5.0	17.7	9.7	18.1	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.1	3.6	7.7	5.0	17.7	9.7	18.1	8.4
Queue Length 50th (m)	2.3	5.5	9.0	7.0	1.5	0.6	2.1	1.1
Queue Length 95th (m)	9.5	16.2	30.4	18.6	5.3	5.3	6.5	8.0
Internal Link Dist (m)		23.5		108.8		126.8		39.6
Turn Bay Length (m)			25.0		35.0			
Base Capacity (vph)	811	2607	743	2466	755	896	734	905
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.17	0.28	0.14	0.02	0.03	0.03	0.07

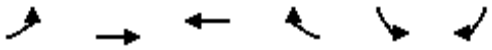
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	250	130	180	300	5	15	5	20	20	10	45
Future Volume (vph)	55	250	130	180	300	5	15	5	20	20	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	1.00		1.00	0.88		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1797	3233		1787	3097		1798	1590		1696	1582	
Flt Permitted	0.54	1.00		0.50	1.00		0.72	1.00		0.74	1.00	
Satd. Flow (perm)	1020	3233		933	3097		1354	1590		1318	1582	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	64	291	151	209	349	6	17	6	23	23	12	52
RTOR Reduction (vph)	0	47	0	0	1	0	0	20	0	0	44	0
Lane Group Flow (vph)	64	395	0	209	354	0	17	9	0	23	20	0
Confl. Peds. (#/hr)	5					5	5		5	5		5
Heavy Vehicles (%)	0%	9%	0%	1%	16%	29%	0%	0%	5%	6%	0%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	40.6	40.6		40.6	40.6		7.8	7.8		7.8	7.8	
Effective Green, g (s)	41.6	41.6		41.6	41.6		8.8	8.8		8.8	8.8	
Actuated g/C Ratio	0.69	0.69		0.69	0.69		0.15	0.15		0.15	0.15	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	702	2226		642	2133		197	231		192	230	
v/s Ratio Prot		0.12			0.11			0.01			0.01	
v/s Ratio Perm	0.06			c0.22			0.01			c0.02		
v/c Ratio	0.09	0.18		0.33	0.17		0.09	0.04		0.12	0.09	
Uniform Delay, d1	3.1	3.3		3.8	3.3		22.3	22.2		22.4	22.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.1		0.6	0.1		0.3	0.1		0.4	0.2	
Delay (s)	3.2	3.4		4.4	3.4		22.6	22.3		22.8	22.5	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		3.4			3.8			22.4			22.6	
Approach LOS		A			A			C			C	

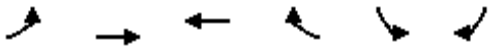
Intersection Summary			
HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	60.4	Sum of lost time (s)	10.0
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	390	355	5	50	30
Future Volume (vph)	10	390	355	5	50	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.998		0.950	
Flt Protected	0.950				0.970	
Satd. Flow (prot)	1805	3471	3250	0	1751	0
Flt Permitted	0.950				0.970	
Satd. Flow (perm)	1805	3471	3250	0	1751	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		443.3	47.5		121.4	
Travel Time (s)		31.9	3.4		8.7	
Confl. Peds. (#/hr)	5			5		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	4%	11%	0%	0%	0%
Adj. Flow (vph)	11	448	408	6	57	34
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	448	414	0	91	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

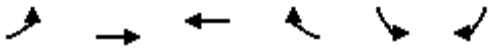
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.1%		ICU Level of Service A	
Analysis Period (min) 15			



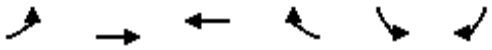
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	390	355	5	50	30
Future Volume (Veh/h)	10	390	355	5	50	30
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	11	448	408	6	57	34
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			48			
pX, platoon unblocked	0.98				0.98	0.98
vC, conflicting volume	419				662	212
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	359				608	147
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				86	96
cM capacity (veh/h)	1178				417	856

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	11	224	224	272	142	91
Volume Left	11	0	0	0	0	57
Volume Right	0	0	0	0	6	34
cSH	1178	1700	1700	1700	1700	516
Volume to Capacity	0.01	0.13	0.13	0.16	0.08	0.18
Queue Length 95th (m)	0.2	0.0	0.0	0.0	0.0	5.1
Control Delay (s)	8.1	0.0	0.0	0.0	0.0	13.5
Lane LOS	A					B
Approach Delay (s)	0.2			0.0		13.5
Approach LOS						B

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	22.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	325	755	605	35	105	315
Future Volume (vph)	325	755	605	35	105	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0			0.0	60.0	0.0
Storage Lanes	1			0	1	2
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.88
Ped Bike Factor	1.00		1.00			
Frt			0.992			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1703	3438	3414	0	1805	2561
Flt Permitted	0.355				0.950	
Satd. Flow (perm)	633	3438	3414	0	1805	2561
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			6			332
Link Speed (k/h)		50	50		50	
Link Distance (m)		209.5	575.4		443.3	
Travel Time (s)		15.1	41.4		31.9	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	5%	5%	0%	0%	11%
Adj. Flow (vph)	342	795	637	37	111	332
Shared Lane Traffic (%)						
Lane Group Flow (vph)	342	795	674	0	111	332
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		7.2	7.2		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			

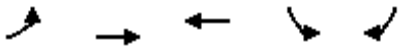


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	6.0	38.0	38.0		10.0	10.0
Minimum Split (s)	12.0	47.6	47.6		33.8	33.8
Total Split (s)	35.0	109.2	74.2		30.8	30.8
Total Split (%)	25.0%	78.0%	53.0%		22.0%	22.0%
Maximum Green (s)	29.0	102.6	67.6		25.0	25.0
Yellow Time (s)	4.0	3.7	3.7		3.3	3.3
All-Red Time (s)	2.0	2.9	2.9		2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.6	5.6		4.8	4.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Recall Mode	None	C-Min	C-Min		None	None
Walk Time (s)		10.0	10.0		10.0	10.0
Flash Dont Walk (s)		31.0	31.0		18.0	18.0
Pedestrian Calls (#/hr)		10	10		0	0
Act Effct Green (s)	115.0	114.4	95.8		15.2	15.2
Actuated g/C Ratio	0.82	0.82	0.68		0.11	0.11
v/c Ratio	0.55	0.28	0.29		0.57	0.58
Control Delay	6.5	3.5	8.3		70.1	9.7
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	6.5	3.5	8.3		70.1	9.7
LOS	A	A	A		E	A
Approach Delay		4.4	8.3		24.8	
Approach LOS		A	A		C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 9.6		Intersection LOS: A	
Intersection Capacity Utilization 73.3%		ICU Level of Service D	
Analysis Period (min) 15			

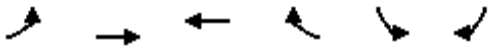
Splits and Phases: 13: Speers Rd/Cornwall Rd & Cross Ave





Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	342	795	674	111	332
v/c Ratio	0.55	0.28	0.29	0.57	0.58
Control Delay	6.5	3.5	8.3	70.1	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	6.5	3.5	8.3	70.1	9.7
Queue Length 50th (m)	17.8	23.3	33.8	31.3	0.0
Queue Length 95th (m)	32.2	36.3	42.0	50.3	15.6
Internal Link Dist (m)		185.5	551.4	419.3	
Turn Bay Length (m)	70.0			60.0	
Base Capacity (vph)	749	2809	2338	335	745
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.46	0.28	0.29	0.33	0.45

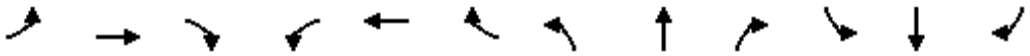
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	325	755	605	35	105	315
Future Volume (vph)	325	755	605	35	105	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		4.8	4.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1700	3438	3414		1805	2561
Flt Permitted	0.36	1.00	1.00		0.95	1.00
Satd. Flow (perm)	636	3438	3414		1805	2561
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	342	795	637	37	111	332
RTOR Reduction (vph)	0	0	2	0	0	296
Lane Group Flow (vph)	342	795	672	0	111	36
Confl. Peds. (#/hr)	15			15		
Heavy Vehicles (%)	6%	5%	5%	0%	0%	11%
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Actuated Green, G (s)	113.4	113.4	94.8		14.2	14.2
Effective Green, g (s)	114.4	114.4	95.8		15.2	15.2
Actuated g/C Ratio	0.82	0.82	0.68		0.11	0.11
Clearance Time (s)	6.0	6.6	6.6		5.8	5.8
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Lane Grp Cap (vph)	623	2809	2336		195	278
v/s Ratio Prot	c0.05	0.23	0.20			
v/s Ratio Perm	c0.40				c0.06	0.01
v/c Ratio	0.55	0.28	0.29		0.57	0.13
Uniform Delay, d1	3.7	3.0	8.7		59.3	56.4
Progression Factor	1.00	1.00	0.86		1.00	1.00
Incremental Delay, d2	1.1	0.3	0.3		3.8	0.2
Delay (s)	4.8	3.3	7.8		63.1	56.6
Level of Service	A	A	A		E	E
Approach Delay (s)		3.7	7.8		58.2	
Approach LOS		A	A		E	

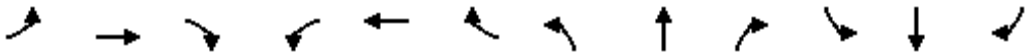
Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	140	0	5	0	175	110	10	430	0
Future Volume (vph)	0	0	0	140	0	5	0	175	110	10	430	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.995			0.942				
Flt Protected					0.954						0.999	
Satd. Flow (prot)	0	1900	0	0	1631	0	0	3302	0	0	3504	0
Flt Permitted					0.954						0.999	
Satd. Flow (perm)	0	1900	0	0	1631	0	0	3302	0	0	3504	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		33.6			249.8			420.1			134.0	
Travel Time (s)		2.4			18.0			30.2			9.6	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	11%	0%	0%	50%	3%	3%	0%	3%	0%
Adj. Flow (vph)	0	0	0	161	0	6	0	201	126	11	494	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	167	0	0	327	0	0	505	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	140	0	5	0	175	110	10	430	0
Future Volume (Veh/h)	0	0	0	140	0	5	0	175	110	10	430	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	0	0	161	0	6	0	201	126	11	494	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	622	843	247	533	780	164	494			327		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	622	843	247	533	780	164	494			327		
tC, single (s)	7.5	6.5	6.9	7.7	6.5	6.9	5.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.7			2.2		
p0 queue free %	100	100	100	61	100	99	100			99		
cM capacity (veh/h)	370	300	759	408	326	859	792			1244		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	167	100	226	258	247
Volume Left	0	161	0	0	11	0
Volume Right	0	6	0	126	0	0
cSH	1700	416	792	1700	1244	1700
Volume to Capacity	0.00	0.40	0.00	0.13	0.01	0.15
Queue Length 95th (m)	0.0	15.2	0.0	0.0	0.2	0.0
Control Delay (s)	0.0	19.4	0.0	0.0	0.4	0.0
Lane LOS	A	C			A	
Approach Delay (s)	0.0	19.4	0.0		0.2	
Approach LOS	A	C				

Intersection Summary				
Average Delay	3.3			
Intersection Capacity Utilization	33.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	95	95	95	150	75	20
Future Volume (vph)	95	95	95	150	75	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.932				0.972	
Flt Protected				0.981	0.962	
Satd. Flow (prot)	1711	0	0	1816	1745	0
Flt Permitted				0.981	0.962	
Satd. Flow (perm)	1711	0	0	1816	1745	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	632.0			1164.2	455.7	
Travel Time (s)	45.5			83.8	32.8	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	7%	0%	2%	3%	1%	5%
Adj. Flow (vph)	116	116	116	183	91	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	232	0	0	299	115	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

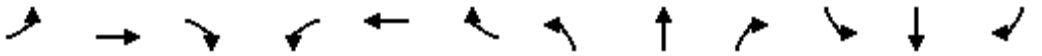
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	95	95	95	150	75	20
Future Volume (Veh/h)	95	95	95	150	75	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	116	116	116	183	91	24
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			232		589	174
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			232		589	174
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			91		79	97
cM capacity (veh/h)			1336		431	862

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	232	299	115
Volume Left	0	116	91
Volume Right	116	0	24
cSH	1700	1336	482
Volume to Capacity	0.14	0.09	0.24
Queue Length 95th (m)	0.0	2.3	7.4
Control Delay (s)	0.0	3.6	14.8
Lane LOS		A	B
Approach Delay (s)	0.0	3.6	14.8
Approach LOS			B

Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	39.3%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	645	205	40	525	35	230	65	60	55	95	25
Future Volume (vph)	25	645	205	40	525	35	230	65	60	55	95	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00		1.00	0.99		1.00		0.98
Frt		0.964			0.991			0.928				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	3338	0	1752	3436	0	1736	1732	0	1703	1881	1553
Flt Permitted	0.404			0.252			0.690			0.670		
Satd. Flow (perm)	701	3338	0	465	3436	0	1255	1732	0	1196	1881	1526
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		75			12			48				32
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			455.7	
Travel Time (s)		43.9			11.1			15.4			32.8	
Confl. Peds. (#/hr)	5					5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Adj. Flow (vph)	27	701	223	43	571	38	250	71	65	60	103	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	924	0	43	609	0	250	136	0	60	103	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	31.1	31.1		31.1	31.1		19.3	19.3		19.3	19.3	19.3
Actuated g/C Ratio	0.52	0.52		0.52	0.52		0.32	0.32		0.32	0.32	0.32
v/c Ratio	0.07	0.53		0.18	0.34		0.62	0.23		0.16	0.17	0.05
Control Delay	9.8	10.8		11.8	9.7		25.7	12.0		16.7	16.2	6.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	9.8	10.8		11.8	9.7		25.7	12.0		16.7	16.2	6.0
LOS	A	B		B	A		C	B		B	B	A
Approach Delay		10.7			9.9			20.9			14.9	
Approach LOS		B			A			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 60.2			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 12.6		Intersection LOS: B	
Intersection Capacity Utilization 68.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 16: Chartwell Rd & Cornwall Rd





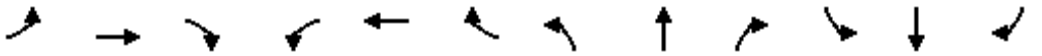
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	27	924	43	609	250	136	60	103	27
v/c Ratio	0.07	0.53	0.18	0.34	0.62	0.23	0.16	0.17	0.05
Control Delay	9.8	10.8	11.8	9.7	25.7	12.0	16.7	16.2	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.8	10.8	11.8	9.7	25.7	12.0	16.7	16.2	6.0
Queue Length 50th (m)	1.4	29.0	2.3	18.3	22.1	6.6	4.5	7.7	0.0
Queue Length 95th (m)	6.5	64.2	10.3	41.1	54.8	21.3	14.7	21.6	4.5
Internal Link Dist (m)		585.1		130.4		189.6		431.7	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	645	3079	428	3164	686	969	654	1029	849
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.30	0.10	0.19	0.36	0.14	0.09	0.10	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	645	205	40	525	35	230	65	60	55	95	25
Future Volume (vph)	25	645	205	40	525	35	230	65	60	55	95	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.99		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1652	3338		1752	3435		1731	1734		1698	1881	1529
Flt Permitted	0.40	1.00		0.25	1.00		0.69	1.00		0.67	1.00	1.00
Satd. Flow (perm)	702	3338		466	3435		1258	1734		1198	1881	1529
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	701	223	43	571	38	250	71	65	60	103	27
RTOR Reduction (vph)	0	36	0	0	6	0	0	33	0	0	0	18
Lane Group Flow (vph)	27	888	0	43	603	0	250	103	0	60	103	9
Confl. Peds. (#/hr)	5					5	5		5	5		5
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	30.0	30.0		30.0	30.0		18.2	18.2		18.2	18.2	18.2
Effective Green, g (s)	31.0	31.0		31.0	31.0		19.2	19.2		19.2	19.2	19.2
Actuated g/C Ratio	0.52	0.52		0.52	0.52		0.32	0.32		0.32	0.32	0.32
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	365	1736		242	1786		405	558		385	605	492
v/s Ratio Prot		c0.27			0.18			0.06			0.05	
v/s Ratio Perm	0.04			0.09			c0.20			0.05		0.01
v/c Ratio	0.07	0.51		0.18	0.34		0.62	0.19		0.16	0.17	0.02
Uniform Delay, d1	7.1	9.3		7.6	8.3		17.1	14.6		14.4	14.5	13.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.6		0.9	0.3		3.2	0.2		0.3	0.2	0.0
Delay (s)	7.3	9.9		8.4	8.6		20.3	14.8		14.7	14.7	13.8
Level of Service	A	A		A	A		C	B		B	B	B
Approach Delay (s)		9.9			8.6			18.3			14.5	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	59.6	Sum of lost time (s)	9.4
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

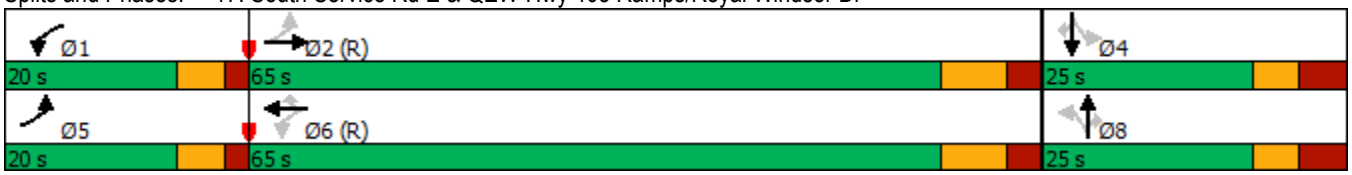


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	630	70	145	560	0	5	20	100	0	50	15
Future Volume (vph)	55	630	70	145	560	0	5	20	100	0	50	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	125.0		0.0	145.0		55.0	15.0		40.0	35.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985							0.850			0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3213	3364	0	1787	3312	1900	1805	1900	1455	1900	1863	1122
Flt Permitted	0.427			0.337			0.722					
Satd. Flow (perm)	1444	3364	0	634	3312	1900	1372	1900	1455	1900	1863	1122
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16							113			113
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		232.7			227.3			1164.2			153.5	
Travel Time (s)		16.8			16.4			83.8			11.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	9%	6%	3%	1%	9%	0%	0%	0%	11%	0%	2%	44%
Adj. Flow (vph)	59	670	74	154	596	0	5	21	106	0	53	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	744	0	154	596	0	5	21	106	0	53	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	8.0	20.0		8.0	20.0	20.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	14.0	28.4		14.0	28.4	28.4	17.8	17.8	17.8	17.8	17.8	17.8
Total Split (s)	20.0	65.0		20.0	65.0	65.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	18.2%	59.1%		18.2%	59.1%	59.1%	22.7%	22.7%	22.7%	22.7%	22.7%	22.7%
Maximum Green (s)	14.0	56.6		14.0	56.6	56.6	17.2	17.2	17.2	17.2	17.2	17.2
Yellow Time (s)	4.0	5.4		4.0	5.4	5.4	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.0	3.0		2.0	3.0	3.0	4.1	4.1	4.1	4.1	4.1	4.1
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	81.1	69.7		83.7	73.3		11.3	11.3	11.3		11.3	11.3
Actuated g/C Ratio	0.74	0.63		0.76	0.67		0.10	0.10	0.10		0.10	0.10
v/c Ratio	0.05	0.35		0.26	0.27		0.04	0.11	0.42		0.28	0.07
Control Delay	2.9	10.0		3.9	8.4		44.8	46.0	13.1		49.4	0.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	2.9	10.0		3.9	8.4		44.8	46.0	13.1		49.4	0.7
LOS	A	A		A	A		D	D	B		D	A
Approach Delay		9.5			7.5			19.5			38.1	
Approach LOS		A			A			B			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.42			
Intersection Signal Delay: 10.5		Intersection LOS: B	
Intersection Capacity Utilization 52.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	59	744	154	596	5	21	106	53	16
v/c Ratio	0.05	0.35	0.26	0.27	0.04	0.11	0.42	0.28	0.07
Control Delay	2.9	10.0	3.9	8.4	44.8	46.0	13.1	49.4	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.9	10.0	3.9	8.4	44.8	46.0	13.1	49.4	0.7
Queue Length 50th (m)	1.1	36.1	6.3	28.2	1.1	4.4	0.0	11.3	0.0
Queue Length 95th (m)	2.5	53.4	11.6	39.0	4.8	12.2	14.9	23.8	0.0
Internal Link Dist (m)		208.7		203.3		1140.2		129.5	
Turn Bay Length (m)	125.0		145.0		15.0		40.0		
Base Capacity (vph)	1375	2135	657	2206	227	314	335	308	279
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.35	0.23	0.27	0.02	0.07	0.32	0.17	0.06

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	630	70	145	560	0	5	20	100	0	50	15
Future Volume (vph)	55	630	70	145	560	0	5	20	100	0	50	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.4		5.0	7.4		6.8	6.8	6.8		6.8	6.8
Lane Util. Factor	0.97	0.95		1.00	0.95		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	3213	3364		1787	3312		1805	1900	1455		1863	1122
Flt Permitted	0.43	1.00		0.34	1.00		0.72	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1443	3364		635	3312		1373	1900	1455		1863	1122
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	59	670	74	154	596	0	5	21	106	0	53	16
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	95	0	0	14
Lane Group Flow (vph)	59	738	0	154	596	0	5	21	11	0	53	2
Heavy Vehicles (%)	9%	6%	3%	1%	9%	0%	0%	0%	11%	0%	2%	44%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	75.1	68.7		79.9	71.1		10.3	10.3	10.3		10.3	10.3
Effective Green, g (s)	77.1	69.7		81.9	72.1		11.3	11.3	11.3		11.3	11.3
Actuated g/C Ratio	0.70	0.63		0.74	0.66		0.10	0.10	0.10		0.10	0.10
Clearance Time (s)	6.0	8.4		6.0	8.4		7.8	7.8	7.8		7.8	7.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	1130	2131		575	2170		141	195	149		191	115
v/s Ratio Prot	0.00	c0.22		c0.02	0.18			0.01			c0.03	
v/s Ratio Perm	0.03			0.18			0.00		0.01			0.00
v/c Ratio	0.05	0.35		0.27	0.27		0.04	0.11	0.07		0.28	0.01
Uniform Delay, d1	5.0	9.5		4.2	8.0		44.4	44.8	44.6		45.6	44.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.4		0.3	0.3		0.1	0.2	0.2		0.8	0.0
Delay (s)	5.0	9.9		4.4	8.3		44.5	45.0	44.8		46.4	44.4
Level of Service	A	A		A	A		D	D	D		D	D
Approach Delay (s)		9.5			7.5			44.8			45.9	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	115	175	0	25	35	0
Future Volume (vph)	115	175	0	25	35	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.919					
Flt Protected					0.950	
Satd. Flow (prot)	1712	0	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1712	0	0	1863	1770	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	64.3			219.4	105.4	
Travel Time (s)	4.6			15.8	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	190	0	27	38	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	315	0	0	27	38	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	115	175	0	25	35	0
Future Volume (Veh/h)	115	175	0	25	35	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	125	190	0	27	38	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			315		247	220
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			315		247	220
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		95	100
cM capacity (veh/h)			1245		741	820

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	315	27	38
Volume Left	0	0	38
Volume Right	190	0	0
cSH	1700	1245	741
Volume to Capacity	0.19	0.00	0.05
Queue Length 95th (m)	0.0	0.0	1.3
Control Delay (s)	0.0	0.0	10.1
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.1
Approach LOS			B

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	26.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	115	0	35	25	0	175
Future Volume (vph)	115	0	35	25	0	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.972		
Satd. Flow (prot)	1863	0	0	1811	1611	0
Flt Permitted				0.972		
Satd. Flow (perm)	1863	0	0	1811	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	53.7			64.3	43.5	
Travel Time (s)	3.9			4.6	3.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	0	38	27	0	190
Shared Lane Traffic (%)						
Lane Group Flow (vph)	125	0	0	65	190	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	115	0	35	25	0	175
Future Volume (Veh/h)	115	0	35	25	0	175
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	125	0	38	27	0	190
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			125		228	125
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			125		228	125
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	79
cM capacity (veh/h)			1462		740	926

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	125	65	190
Volume Left	0	38	0
Volume Right	0	0	190
cSH	1700	1462	926
Volume to Capacity	0.07	0.03	0.21
Queue Length 95th (m)	0.0	0.6	6.1
Control Delay (s)	0.0	4.5	9.9
Lane LOS		A	A
Approach Delay (s)	0.0	4.5	9.9
Approach LOS			A

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	27.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	180	0	5	195	245	55
Future Volume (vph)	180	0	5	195	245	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.975	
Flt Protected				0.999	0.961	
Satd. Flow (prot)	1863	0	0	1861	1745	0
Flt Permitted				0.999	0.961	
Satd. Flow (perm)	1863	0	0	1861	1745	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	216.0			632.0	87.0	
Travel Time (s)	15.6			45.5	6.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	0	5	212	266	60
Shared Lane Traffic (%)						
Lane Group Flow (vph)	196	0	0	217	326	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

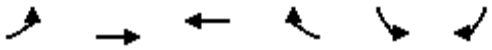
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	180	0	5	195	245	55
Future Volume (Veh/h)	180	0	5	195	245	55
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	196	0	5	212	266	60
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			196		418	196
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			196		418	196
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		55	93
cM capacity (veh/h)			1377		589	845

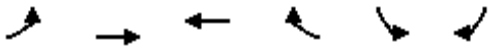
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	196	217	326
Volume Left	0	5	266
Volume Right	0	0	60
cSH	1700	1377	624
Volume to Capacity	0.12	0.00	0.52
Queue Length 95th (m)	0.0	0.1	24.3
Control Delay (s)	0.0	0.2	16.9
Lane LOS		A	C
Approach Delay (s)	0.0	0.2	16.9
Approach LOS			C

Intersection Summary			
Average Delay	7.5		
Intersection Capacity Utilization	37.9%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	25	30	150	5	30
Future Volume (vph)	25	25	30	150	5	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.888		0.883	
Flt Protected		0.976			0.993	
Satd. Flow (prot)	0	1818	1654	0	1633	0
Flt Permitted		0.976			0.993	
Satd. Flow (perm)	0	1818	1654	0	1633	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		249.8	119.8		103.6	
Travel Time (s)		18.0	8.6		7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	27	33	163	5	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	54	196	0	38	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.5%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	25	30	150	5	30
Future Volume (Veh/h)	25	25	30	150	5	30
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	27	33	163	5	33
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	196				196	114
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	196				196	114
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	96
cM capacity (veh/h)	1377				778	938

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	54	196	38
Volume Left	27	0	5
Volume Right	0	163	33
cSH	1377	1700	913
Volume to Capacity	0.02	0.12	0.04
Queue Length 95th (m)	0.5	0.0	1.0
Control Delay (s)	3.9	0.0	9.1
Lane LOS	A		A
Approach Delay (s)	3.9	0.0	9.1
Approach LOS			A

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	30	150	150	25	5	5
Future Volume (vph)	30	150	150	25	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.888		0.981			
Flt Protected	0.992					0.976
Satd. Flow (prot)	1641	0	1827	0	0	1818
Flt Permitted	0.992					0.976
Satd. Flow (perm)	1641	0	1827	0	0	1818
Link Speed (k/h)	50		50			50
Link Distance (m)	41.9		103.6			87.0
Travel Time (s)	3.0		7.5			6.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	163	163	27	5	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	196	0	190	0	0	10
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100		100	100	
Sign Control	Stop		Free			Free

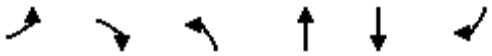
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	30	150	150	25	5	5
Future Volume (Veh/h)	30	150	150	25	5	5
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	163	163	27	5	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	192	176			190	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	192	176			190	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	81			100	
cM capacity (veh/h)	795	867			1384	

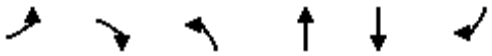
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	196	190	10
Volume Left	33	0	5
Volume Right	163	27	0
cSH	854	1700	1384
Volume to Capacity	0.23	0.11	0.00
Queue Length 95th (m)	7.1	0.0	0.1
Control Delay (s)	10.5	0.0	3.8
Lane LOS	B		A
Approach Delay (s)	10.5	0.0	3.8
Approach LOS	B		

Intersection Summary			
Average Delay		5.3	
Intersection Capacity Utilization		27.0%	ICU Level of Service A
Analysis Period (min)		15	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	175	35	35	175	0
Future Volume (vph)	0	175	35	35	175	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.976		
Satd. Flow (prot)	1611	0	0	1818	1863	0
Flt Permitted				0.976		
Satd. Flow (perm)	1611	0	0	1818	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	49.0			201.6	105.4	
Travel Time (s)	3.5			14.5	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	190	38	38	190	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	190	0	0	76	190	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

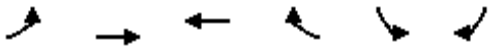
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	175	35	35	175	0
Future Volume (Veh/h)	0	175	35	35	175	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	190	38	38	190	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				201		
pX, platoon unblocked						
vC, conflicting volume	304	190	190			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	304	190	190			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	78	97			
cM capacity (veh/h)	669	852	1384			

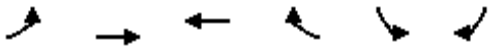
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	190	76	190
Volume Left	0	38	0
Volume Right	190	0	0
cSH	852	1384	1700
Volume to Capacity	0.22	0.03	0.11
Queue Length 95th (m)	6.8	0.7	0.0
Control Delay (s)	10.4	3.9	0.0
Lane LOS	B	A	
Approach Delay (s)	10.4	3.9	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	5.0		
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	30	0	0	0	0	180
Future Volume (vph)	30	0	0	0	0	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected		0.950				
Satd. Flow (prot)	0	1770	1863	0	1611	0
Flt Permitted		0.950				
Satd. Flow (perm)	0	1770	1863	0	1611	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		119.8	134.5		44.9	
Travel Time (s)		8.6	9.7		3.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	0	0	0	0	196
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	33	0	0	196	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	0	0	0	0	180
Future Volume (Veh/h)	30	0	0	0	0	180
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	0	0	0	0	196
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0				66	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				66	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	82
cM capacity (veh/h)	1623				920	1085

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	33	0	196
Volume Left	33	0	0
Volume Right	0	0	196
cSH	1623	1700	1085
Volume to Capacity	0.02	0.00	0.18
Queue Length 95th (m)	0.5	0.0	5.3
Control Delay (s)	7.3	0.0	9.0
Lane LOS	A		A
Approach Delay (s)	7.3	0.0	9.0
Approach LOS			A

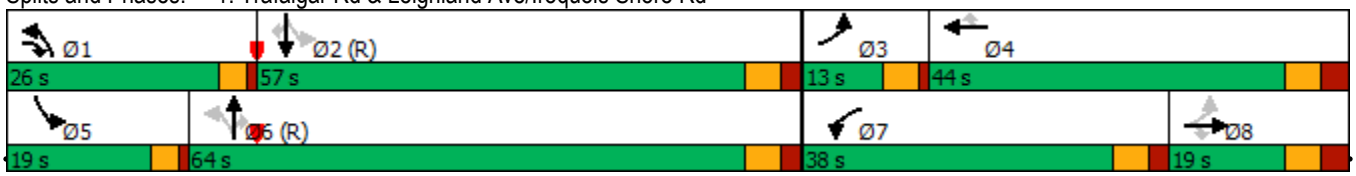
Intersection Summary			
Average Delay	8.8		
Intersection Capacity Utilization	21.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	115	280	765	150	285	295	1870	875	130	1360	115
Future Volume (vph)	100	115	280	765	150	285	295	1870	875	130	1360	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.95					0.92			0.97			0.87
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1881	1599	3467	1881	1615	1787	5136	1599	1805	5085	1615
Flt Permitted	0.659			0.950			0.076			0.075		
Satd. Flow (perm)	1185	1881	1599	3467	1881	1485	143	5136	1543	142	5085	1399
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			193			624			173
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			521.8			275.4			339.2	
Travel Time (s)		27.7			37.6			19.8			24.4	
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Adj. Flow (vph)	103	119	289	789	155	294	304	1928	902	134	1402	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	119	289	789	155	294	304	1928	902	134	1402	119
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

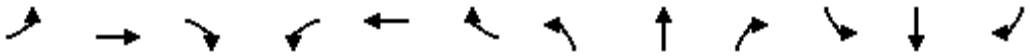
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	11.0	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	13.0	19.0	26.0	38.0	44.0	44.0	26.0	64.0	64.0	19.0	57.0	57.0
Total Split (%)	9.3%	13.6%	18.6%	27.1%	31.4%	31.4%	18.6%	45.7%	45.7%	13.6%	40.7%	40.7%
Maximum Green (s)	8.3	12.2	22.0	32.3	37.2	37.2	22.0	57.9	57.9	15.0	50.9	50.9
Yellow Time (s)	3.7	3.7	3.0	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	1.0	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					30	30		50	50		50	50
Act Effct Green (s)	24.0	12.8	40.6	33.3	38.0	38.0	80.4	63.1	63.1	67.7	53.3	53.3
Actuated g/C Ratio	0.17	0.09	0.29	0.24	0.27	0.27	0.57	0.45	0.45	0.48	0.38	0.38
v/c Ratio	0.42	0.70	0.54	0.96	0.30	0.54	0.89	0.83	0.87	0.63	0.72	0.19
Control Delay	37.6	82.8	29.6	75.1	42.5	18.6	61.3	19.7	13.8	40.0	40.1	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.3	0.0	0.0	0.0
Total Delay	37.6	82.8	29.6	75.1	42.5	18.6	61.3	19.7	26.1	40.0	40.1	1.4
LOS	D	F	C	E	D	B	E	B	C	D	D	A
Approach Delay		43.6			57.6			25.6			37.3	
Approach LOS		D			E			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 36.0		Intersection LOS: D	
Intersection Capacity Utilization 90.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd

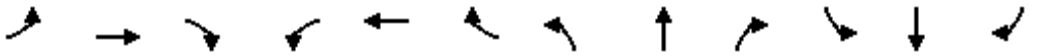


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	103	119	289	789	155	294	304	1928	902	134	1402	119
v/c Ratio	0.42	0.70	0.54	0.96	0.30	0.54	0.89	0.83	0.87	0.63	0.72	0.19
Control Delay	37.6	82.8	29.6	75.1	42.5	18.6	61.3	19.7	13.8	40.0	40.1	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.3	0.0	0.0	0.0
Total Delay	37.6	82.8	29.6	75.1	42.5	18.6	61.3	19.7	26.1	40.0	40.1	1.4
Queue Length 50th (m)	19.6	34.1	44.2	117.8	36.0	23.6	62.1	116.6	71.2	20.4	129.4	0.0
Queue Length 95th (m)	33.5	#60.7	74.6	#158.5	56.6	54.4	m78.7	175.8	m#267.0	42.4	148.0	3.0
Internal Link Dist (m)		361.1			497.8			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	245	177	548	824	513	545	352	2313	1037	262	1935	639
Starvation Cap Reductn	0	0	0	0	0	0	0	0	132	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.67	0.53	0.96	0.30	0.54	0.86	0.83	1.00	0.51	0.72	0.19

Intersection Summary

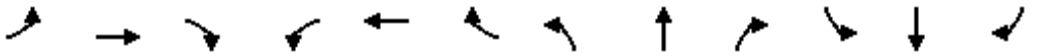
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	115	280	765	150	285	295	1870	875	130	1360	115
Future Volume (vph)	100	115	280	765	150	285	295	1870	875	130	1360	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.92	1.00	1.00	0.97	1.00	1.00	0.87
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1743	1881	1599	3467	1881	1485	1787	5136	1543	1805	5085	1399
Flt Permitted	0.66	1.00	1.00	0.95	1.00	1.00	0.08	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	1209	1881	1599	3467	1881	1485	142	5136	1543	143	5085	1399
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	103	119	289	789	155	294	304	1928	902	134	1402	119
RTOR Reduction (vph)	0	0	79	0	0	141	0	0	343	0	0	74
Lane Group Flow (vph)	103	119	210	789	155	153	304	1928	559	134	1402	45
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	19.9	11.8	32.9	32.3	37.0	37.0	77.3	62.0	62.0	63.5	52.2	52.2
Effective Green, g (s)	21.9	12.8	34.9	33.3	38.0	38.0	78.3	63.0	63.0	65.5	53.2	53.2
Actuated g/C Ratio	0.16	0.09	0.25	0.24	0.27	0.27	0.56	0.45	0.45	0.47	0.38	0.38
Clearance Time (s)	4.7	6.8	4.0	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	223	171	398	824	510	403	339	2311	694	212	1932	531
v/s Ratio Prot	0.03	c0.06	0.08	c0.23	0.08		c0.14	0.38		0.06	0.28	
v/s Ratio Perm	0.04		0.05			0.10	c0.36		0.36	0.24		0.03
v/c Ratio	0.46	0.70	0.53	0.96	0.30	0.38	0.90	0.83	0.81	0.63	0.73	0.09
Uniform Delay, d1	52.9	61.7	45.4	52.7	40.5	41.4	42.0	33.9	33.2	27.8	37.2	27.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.21	0.51	0.79	1.00	1.00	1.00
Incremental Delay, d2	1.5	11.6	1.3	21.4	0.3	0.6	13.6	1.8	4.7	6.0	2.4	0.3
Delay (s)	54.5	73.3	46.7	74.0	40.8	42.0	64.6	19.2	30.8	33.8	39.6	28.1
Level of Service	D	E	D	E	D	D	E	B	C	C	D	C
Approach Delay (s)		54.5			62.3			26.9			38.3	
Approach LOS		D			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	38.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

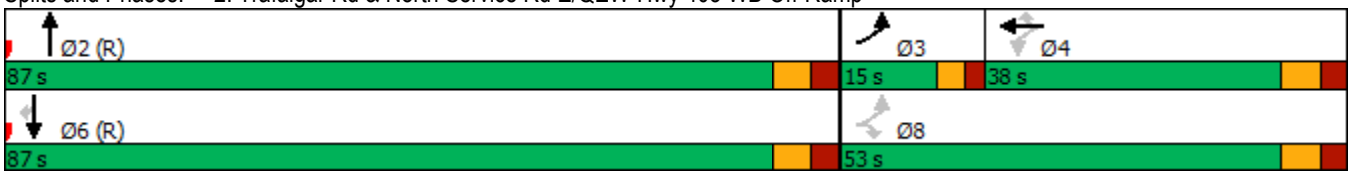


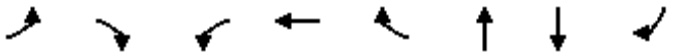
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	270	620	5	340	0	2690	0	0	2415	15
Future Volume (vph)	25	0	270	620	5	340	0	2690	0	0	2415	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.94
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.953							
Satd. Flow (prot)	1805	0	1599	1681	1687	1583	0	5136	0	0	5036	1524
Flt Permitted	0.170			0.950	0.953							
Satd. Flow (perm)	323	0	1599	1681	1687	1583	0	5136	0	0	5036	1437
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			93						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							15		10	10		15
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Adj. Flow (vph)	27	0	287	660	5	362	0	2862	0	0	2569	16
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	27	0	287	330	335	362	0	2862	0	0	2569	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	15.0		53.0	38.0	38.0	38.0		87.0			87.0	87.0
Total Split (%)	10.7%		37.9%	27.1%	27.1%	27.1%		62.1%			62.1%	62.1%
Maximum Green (s)	10.0		46.0	31.0	31.0	31.0		80.0			80.0	80.0
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		15			15	15
Act Effct Green (s)	41.9		39.9	31.4	31.4	31.4		88.1			88.1	88.1
Actuated g/C Ratio	0.30		0.28	0.22	0.22	0.22		0.63			0.63	0.63
v/c Ratio	0.14		0.60	0.88	0.89	0.85		0.89			0.81	0.02
Control Delay	32.7		42.6	76.0	77.4	57.0		17.7			29.5	0.1
Queue Delay	0.0		0.0	0.0	0.0	0.0		0.1			0.0	0.0
Total Delay	32.7		42.6	76.0	77.4	57.0		17.8			29.5	0.1
LOS	C		D	E	E	E		B			C	A
Approach Delay		41.8			69.7			17.8			29.4	
Approach LOS		D			E			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 31.2		Intersection LOS: C	
Intersection Capacity Utilization 95.7%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp

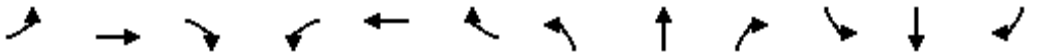




Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	27	287	330	335	362	2862	2569	16
v/c Ratio	0.14	0.60	0.88	0.89	0.85	0.89	0.81	0.02
Control Delay	32.7	42.6	76.0	77.4	57.0	17.7	29.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	32.7	42.6	76.0	77.4	57.0	17.8	29.5	0.1
Queue Length 50th (m)	5.2	59.8	96.3	98.1	76.1	276.4	213.3	0.0
Queue Length 95th (m)	12.3	89.6	#154.0	#156.7	#130.5	#231.0	m233.7	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	213	557	391	392	439	3232	3169	930
Starvation Cap Reductn	0	0	0	0	0	4	0	0
Spillback Cap Reductn	0	0	0	0	0	23	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.52	0.84	0.85	0.82	0.89	0.81	0.02

Intersection Summary

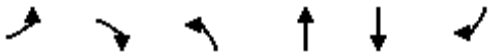
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



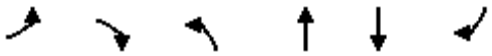
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	270	620	5	340	0	2690	0	0	2415	15
Future Volume (vph)	25	0	270	620	5	340	0	2690	0	0	2415	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.94
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1681	1687	1583		5136			5036	1437
Flt Permitted	0.17		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	323		1599	1681	1687	1583		5136			5036	1437
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	27	0	287	660	5	362	0	2862	0	0	2569	16
RTOR Reduction (vph)	0	0	22	0	0	72	0	0	0	0	0	6
Lane Group Flow (vph)	27	0	265	330	335	290	0	2862	0	0	2569	10
Confl. Peds. (#/hr)							15		10	10		15
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	40.9		40.9	30.4	30.4	30.4		85.1			85.1	85.1
Effective Green, g (s)	41.9		41.9	31.4	31.4	31.4		86.1			86.1	86.1
Actuated g/C Ratio	0.30		0.30	0.22	0.22	0.22		0.61			0.61	0.61
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	165		478	377	378	355		3158			3097	883
v/s Ratio Prot	0.01							c0.56			0.51	
v/s Ratio Perm	0.04		c0.17	0.20	0.20	0.18						0.01
v/c Ratio	0.16		0.55	0.88	0.89	0.82		0.91			0.83	0.01
Uniform Delay, d1	37.1		41.2	52.4	52.6	51.6		23.4			21.2	10.4
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.62			1.30	1.00
Incremental Delay, d2	0.8		1.5	19.7	21.2	13.5		3.3			1.8	0.0
Delay (s)	37.9		42.8	72.1	73.8	65.1		17.8			29.3	10.5
Level of Service	D		D	E	E	E		B			C	B
Approach Delay (s)		42.3			70.2			17.8			29.2	
Approach LOS		D			E			B			C	

Intersection Summary			
HCM 2000 Control Delay	31.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	95.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



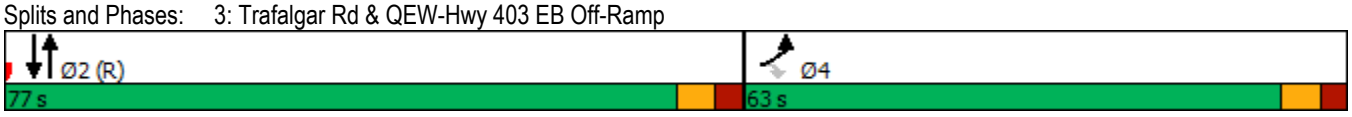
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1005	510	0	1970	2090	0
Future Volume (vph)	1005	510	0	1970	2090	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3467	1583	0	5085	5085	0
Flt Permitted	0.950					
Satd. Flow (perm)	3467	*1800	0	5085	5085	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		2				
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			45.3	331.3	
Travel Time (s)	15.4			3.3	23.9	
Confl. Peds. (#/hr)			25			25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Adj. Flow (vph)	1058	537	0	2074	2200	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1058	537	0	2074	2200	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	63.0	63.0		77.0	77.0	
Total Split (%)	45.0%	45.0%		55.0%	55.0%	
Maximum Green (s)	56.0	56.0		70.0	70.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		15	15	
Act Effct Green (s)	51.1	51.1		76.9	76.9	
Actuated g/C Ratio	0.36	0.36		0.55	0.55	
v/c Ratio	0.84	0.82		0.74	0.79	
Control Delay	47.0	50.6		27.4	24.6	
Queue Delay	0.0	0.0		0.1	0.0	
Total Delay	47.0	50.6		27.5	24.6	
LOS	D	D		C	C	
Approach Delay	48.2			27.5	24.6	
Approach LOS	D			C	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 32.1		Intersection LOS: C	
Intersection Capacity Utilization 82.0%		ICU Level of Service D	
Analysis Period (min) 15			
* User Entered Value			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



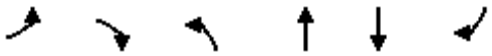
3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	1058	537	2074	2200
v/c Ratio	0.84	0.82	0.74	0.79
Control Delay	47.0	50.6	27.4	24.6
Queue Delay	0.0	0.0	0.1	0.0
Total Delay	47.0	50.6	27.5	24.6
Queue Length 50th (m)	143.5	139.5	118.7	129.1
Queue Length 95th (m)	161.1	176.5	m146.0	191.9
Internal Link Dist (m)	190.2		21.3	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1411	734	2793	2793
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	90	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.75	0.73	0.77	0.79

Intersection Summary

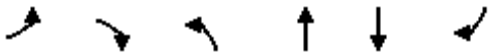
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1005	510	0	1970	2090	0
Future Volume (vph)	1005	510	0	1970	2090	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3467	1583		5085	5085	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3467	1800		5085	5085	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1058	537	0	2074	2200	0
RTOR Reduction (vph)	0	1	0	0	0	0
Lane Group Flow (vph)	1058	536	0	2074	2200	0
Confl. Peds. (#/hr)			25			25
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	50.1	50.1		75.9	75.9	
Effective Green, g (s)	51.1	51.1		76.9	76.9	
Actuated g/C Ratio	0.37	0.37		0.55	0.55	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1265	657		2793	2793	
v/s Ratio Prot	c0.31			0.41	c0.43	
v/s Ratio Perm		0.30				
v/c Ratio	0.84	0.82		0.74	0.79	
Uniform Delay, d1	40.6	40.2		24.0	25.1	
Progression Factor	1.00	1.00		1.06	0.89	
Incremental Delay, d2	5.0	7.7		0.9	1.4	
Delay (s)	45.6	47.9		26.4	23.7	
Level of Service	D	D		C	C	
Approach Delay (s)	46.4			26.4	23.7	
Approach LOS	D			C	C	

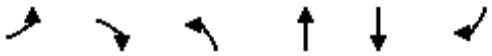
Intersection Summary			
HCM 2000 Control Delay	30.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	60	0	2070	1955	680
Future Volume (vph)	0	60	0	2070	1955	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.961	
Flt Protected						
Satd. Flow (prot)	0	1522	0	5085	4885	0
Flt Permitted						
Satd. Flow (perm)	0	1522	0	5085	4885	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	144.9			271.4	45.3	
Travel Time (s)	10.4			19.5	3.3	
Confl. Peds. (#/hr)			20			20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	8%	0%	2%	1%	5%
Adj. Flow (vph)	0	64	0	2202	2080	723
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	64	0	2202	2803	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

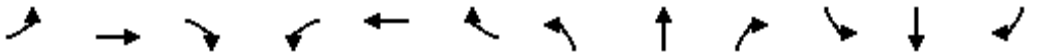
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.8%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	60	0	2070	1955	680
Future Volume (Veh/h)	0	60	0	2070	1955	680
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	64	0	2202	2080	723
Pedestrians	20					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	2					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				271	45	
pX, platoon unblocked	0.75	0.65	0.65			
vC, conflicting volume	3196	1075	2823			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1056	0	1931			
tC, single (s)	6.8	7.1	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	100	91	100			
cM capacity (veh/h)	164	684	198			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	64	734	734	734	832	832	1139
Volume Left	0	0	0	0	0	0	0
Volume Right	64	0	0	0	0	0	723
cSH	684	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.09	0.43	0.43	0.43	0.49	0.49	0.67
Queue Length 95th (m)	2.5	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	10.8	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.8	0.0			0.0		
Approach LOS	B						

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		

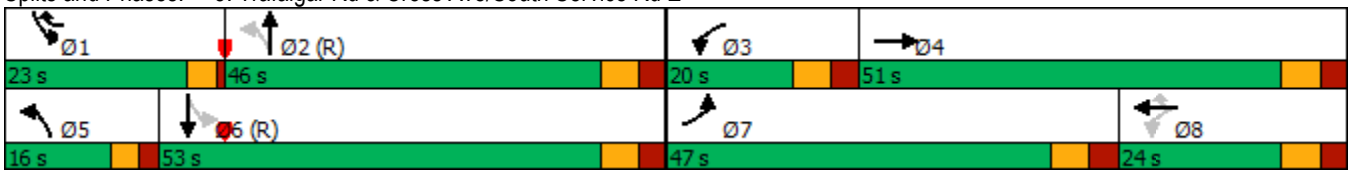


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	950	95	120	75	110	355	140	1085	55	320	1295	390
Future Volume (vph)	950	95	120	75	110	355	140	1085	55	320	1295	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		0.0	50.0		0.0	120.0		0.0	55.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.98		0.98				1.00			0.99	
Frt		0.916				0.850		0.993			0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	1651	0	1805	1900	1599	1719	5094	0	1752	4920	0
Flt Permitted	0.950			0.620			0.100			0.093		
Satd. Flow (perm)	3400	1651	0	1157	1900	1599	181	5094	0	172	4920	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		48				140		5			58	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		217.0			420.1			277.9			271.4	
Travel Time (s)		15.6			30.2			20.0			19.5	
Confl. Peds. (#/hr)			20	20			15		15	15		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Adj. Flow (vph)	979	98	124	77	113	366	144	1119	57	330	1335	402
Shared Lane Traffic (%)												
Lane Group Flow (vph)	979	222	0	77	113	366	144	1176	0	330	1737	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		12.0	10.0	7.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0		19.0	17.0	11.0	12.0	34.0		11.0	34.0	
Total Split (s)	47.0	51.0		20.0	24.0	23.0	16.0	46.0		23.0	53.0	
Total Split (%)	33.6%	36.4%		14.3%	17.1%	16.4%	11.4%	32.9%		16.4%	37.9%	
Maximum Green (s)	40.0	44.0		13.0	17.0	19.0	11.0	39.0		19.0	46.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	1.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0						7.0			7.0	
Flash Dont Walk (s)		28.0						20.0			20.0	
Pedestrian Calls (#/hr)		10						15			15	
Act Effct Green (s)	41.0	43.1		28.1	15.1	44.0	53.9	40.0		68.9	49.9	
Actuated g/C Ratio	0.29	0.31		0.20	0.11	0.31	0.38	0.29		0.49	0.36	
v/c Ratio	0.98	0.41		0.26	0.55	0.61	0.72	0.81		0.96	0.97	
Control Delay	73.8	31.7		28.8	69.1	29.4	49.0	49.3		83.3	58.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	73.8	31.7		28.8	69.1	29.4	49.0	49.3		83.3	58.1	
LOS	E	C		C	E	C	D	D		F	E	
Approach Delay		66.1			37.4			49.3			62.1	
Approach LOS		E			D			D			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 57.1		Intersection LOS: E	
Intersection Capacity Utilization 95.6%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 5: Trafalgar Rd & Cross Ave/South Service Rd E



5: Trafalgar Rd & Cross Ave/South Service Rd E



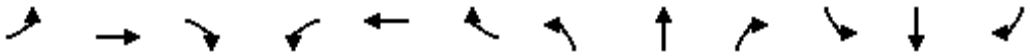
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	979	222	77	113	366	144	1176	330	1737
v/c Ratio	0.98	0.41	0.26	0.55	0.61	0.72	0.81	0.96	0.97
Control Delay	73.8	31.7	28.8	69.1	29.4	49.0	49.3	83.3	58.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.8	31.7	28.8	69.1	29.4	49.0	49.3	83.3	58.1
Queue Length 50th (m)	146.4	39.7	12.8	31.6	56.2	31.5	89.8	87.0	~167.3
Queue Length 95th (m)	#192.6	62.6	22.4	51.9	91.9	m42.8	m109.1	m#148.1	#221.3
Internal Link Dist (m)		193.0		396.1			253.9		247.4
Turn Bay Length (m)	130.0		50.0			120.0		55.0	
Base Capacity (vph)	995	567	305	244	598	207	1459	342	1791
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.39	0.25	0.46	0.61	0.70	0.81	0.96	0.97

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

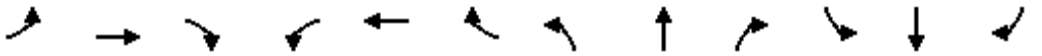
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	950	95	120	75	110	355	140	1085	55	320	1295	390
Future Volume (vph)	950	95	120	75	110	355	140	1085	55	320	1295	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.98		1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	1.00	0.85	1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3400	1651		1786	1900	1599	1719	5092		1752	4921	
Flt Permitted	0.95	1.00		0.62	1.00	1.00	0.10	1.00		0.09	1.00	
Satd. Flow (perm)	3400	1651		1165	1900	1599	181	5092		172	4921	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	979	98	124	77	113	366	144	1119	57	330	1335	402
RTOR Reduction (vph)	0	33	0	0	0	102	0	4	0	0	37	0
Lane Group Flow (vph)	979	189	0	77	113	264	144	1172	0	330	1700	0
Confl. Peds. (#/hr)			20	20			15		15	15		15
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Actuated Green, G (s)	40.0	42.1		26.1	14.1	36.0	49.9	39.0		64.9	49.0	
Effective Green, g (s)	41.0	43.1		28.1	15.1	38.0	51.9	40.0		65.9	50.0	
Actuated g/C Ratio	0.29	0.31		0.20	0.11	0.27	0.37	0.29		0.47	0.36	
Clearance Time (s)	7.0	7.0		7.0	7.0	4.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	995	508		291	204	434	197	1454		339	1757	
v/s Ratio Prot	c0.29	0.11		0.02	0.06	c0.10	0.06	0.23		c0.16	0.35	
v/s Ratio Perm				0.03		0.07	0.21			c0.30		
v/c Ratio	0.98	0.37		0.26	0.55	0.61	0.73	0.81		0.97	0.97	
Uniform Delay, d1	49.2	37.9		46.7	59.3	44.5	34.8	46.4		43.4	44.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.28	1.00		1.37	1.10	
Incremental Delay, d2	24.5	0.6		0.6	4.0	2.4	7.7	2.8		32.7	11.3	
Delay (s)	73.6	38.5		47.3	63.2	46.9	52.2	49.2		92.0	59.7	
Level of Service	E	D		D	E	D	D	D		F	E	
Approach Delay (s)		67.1			50.3			49.6			64.9	
Approach LOS		E			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	59.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



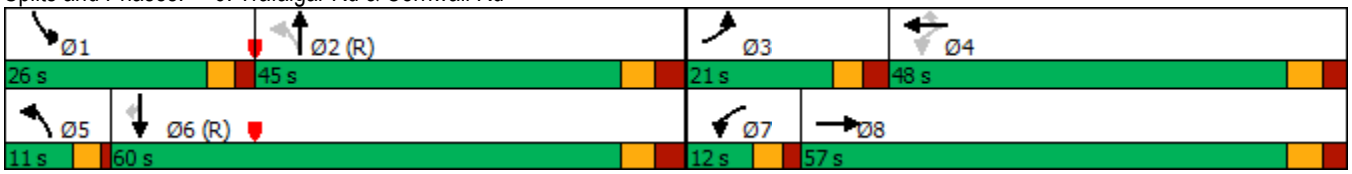
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	420	45	55	530	615	60	545	60	495	570	300
Future Volume (vph)	360	420	45	55	530	615	60	545	60	495	570	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.97	1.00		0.99		0.93	1.00	1.00		0.98		0.98
Frt		0.986				0.850		0.985				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	3482	0	1805	3539	1583	1770	3543	0	3433	1881	1553
Flt Permitted	0.950			0.478			0.227			0.950		
Satd. Flow (perm)	3368	3482	0	898	3539	1470	421	3543	0	3375	1881	1516
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9				321		8				242
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			277.9	
Travel Time (s)		41.4			45.2			10.0			20.0	
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Adj. Flow (vph)	371	433	46	57	546	634	62	562	62	510	588	309
Shared Lane Traffic (%)												
Lane Group Flow (vph)	371	479	0	57	546	634	62	624	0	510	588	309
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	21.0	57.0		12.0	48.0	48.0	11.0	45.0		26.0	60.0	60.0
Total Split (%)	15.0%	40.7%		8.6%	34.3%	34.3%	7.9%	32.1%		18.6%	42.9%	42.9%
Maximum Green (s)	15.3	50.6		7.0	41.6	41.6	7.0	38.1		21.0	53.1	53.1
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		30			30	30		15			15	15
Act Effct Green (s)	17.5	53.4		50.7	41.0	41.0	49.9	39.0		22.4	56.6	56.6
Actuated g/C Ratio	0.12	0.38		0.36	0.29	0.29	0.36	0.28		0.16	0.40	0.40
v/c Ratio	0.86	0.36		0.15	0.53	0.96	0.27	0.63		0.93	0.77	0.41
Control Delay	80.4	36.9		22.3	43.2	51.2	24.1	47.1		90.7	41.2	13.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	80.4	36.9		22.3	43.2	51.2	24.1	47.1		90.7	41.2	13.5
LOS	F	D		C	D	D	C	D		F	D	B
Approach Delay		55.9			46.3			45.0			53.1	
Approach LOS		E			D			D			D	

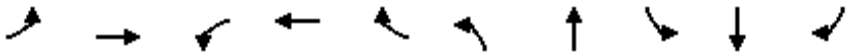
Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 50.3 Intersection LOS: D
Intersection Capacity Utilization 94.5% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd



6: Trafalgar Rd & Cornwall Rd

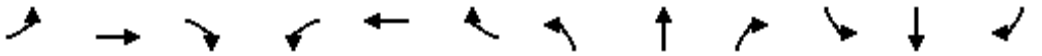


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	371	479	57	546	634	62	624	510	588	309
v/c Ratio	0.86	0.36	0.15	0.53	0.96	0.27	0.63	0.93	0.77	0.41
Control Delay	80.4	36.9	22.3	43.2	51.2	24.1	47.1	90.7	41.2	13.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.4	36.9	22.3	43.2	51.2	24.1	47.1	90.7	41.2	13.5
Queue Length 50th (m)	56.4	53.0	9.0	69.0	104.3	9.5	83.1	81.5	95.2	25.2
Queue Length 95th (m)	#87.2	75.6	17.6	87.8	#188.1	18.1	104.2	m#86.3	m101.0	m27.9
Internal Link Dist (m)		551.4		604.3			115.4		253.9	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	433	1335	378	1078	671	227	1017	550	773	766
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.36	0.15	0.51	0.94	0.27	0.61	0.93	0.76	0.40

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

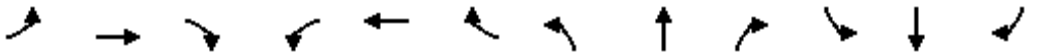
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	420	45	55	530	615	60	545	60	495	570	300
Future Volume (vph)	360	420	45	55	530	615	60	545	60	495	570	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.93	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3467	3481		1796	3539	1470	1768	3544		3433	1881	1516
Flt Permitted	0.95	1.00		0.48	1.00	1.00	0.23	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3467	3481		904	3539	1470	422	3544		3433	1881	1516
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	371	433	46	57	546	634	62	562	62	510	588	309
RTOR Reduction (vph)	0	6	0	0	0	225	0	6	0	0	0	147
Lane Group Flow (vph)	371	473	0	57	546	409	62	618	0	510	588	162
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	16.5	52.4		46.8	41.0	41.0	42.7	37.1		21.4	53.9	53.9
Effective Green, g (s)	17.5	53.4		48.8	42.0	42.0	44.7	38.1		22.4	54.9	54.9
Actuated g/C Ratio	0.12	0.38		0.35	0.30	0.30	0.32	0.27		0.16	0.39	0.39
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Lane Grp Cap (vph)	433	1327		358	1061	441	198	964		549	737	594
v/s Ratio Prot	c0.11	0.14		0.01	0.15		0.01	0.17		c0.15	c0.31	
v/s Ratio Perm				0.05		c0.28	0.09					0.11
v/c Ratio	0.86	0.36		0.16	0.51	0.93	0.31	0.64		0.93	0.80	0.27
Uniform Delay, d1	60.0	31.0		30.7	40.6	47.5	34.9	44.9		58.0	37.6	29.0
Progression Factor	1.03	1.17		1.00	1.00	1.00	1.00	1.00		1.37	0.99	1.75
Incremental Delay, d2	15.0	0.2		0.3	0.4	25.6	0.9	3.3		12.1	4.0	0.5
Delay (s)	76.8	36.4		31.0	41.0	73.2	35.9	48.2		91.3	41.4	51.1
Level of Service	E	D		C	D	E	D	D		F	D	D
Approach Delay (s)		54.0			57.0			47.1			61.6	
Approach LOS		D			E			D			E	

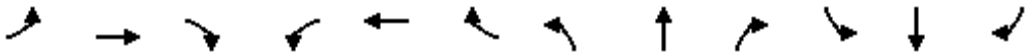
Intersection Summary			
HCM 2000 Control Delay	56.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	94.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	25	0	0	520	170	0	0	0	30	5	65
Future Volume (vph)	10	25	0	0	520	170	0	0	0	30	5	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.967						0.912	
Flt Protected		0.986									0.985	
Satd. Flow (prot)	0	1822	0	0	1745	0	0	1900	0	0	1707	0
Flt Permitted		0.986									0.985	
Satd. Flow (perm)	0	1822	0	0	1745	0	0	1900	0	0	1707	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		175.8			144.9			44.8			92.1	
Travel Time (s)		12.7			10.4			3.2			6.6	
Confl. Peds. (#/hr)			10	10					10	10		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	4%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	11	27	0	0	559	183	0	0	0	32	5	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	0	0	742	0	0	0	0	0	107	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

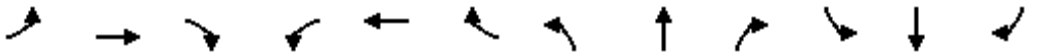
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 50.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	25	0	0	520	170	0	0	0	30	5	65
Future Volume (Veh/h)	10	25	0	0	520	170	0	0	0	30	5	65
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	11	27	0	0	559	183	0	0	0	32	5	70
Pedestrians					10			10				
Lane Width (m)					3.6			3.6				
Walking Speed (m/s)					1.2			1.2				
Percent Blockage					1			1				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		355										
pX, platoon unblocked												
vC, conflicting volume	742			37			782	801	47	710	710	650
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	742			37			782	801	47	710	710	650
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	91	99	85
cM capacity (veh/h)	874			1573			258	313	1011	343	354	472

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	38	742	0	107
Volume Left	11	0	0	32
Volume Right	0	183	0	70
cSH	874	1573	1700	419
Volume to Capacity	0.01	0.00	0.02	0.26
Queue Length 95th (m)	0.3	0.0	0.0	8.0
Control Delay (s)	2.7	0.0	0.0	16.5
Lane LOS	A		A	C
Approach Delay (s)	2.7	0.0	0.0	16.5
Approach LOS			A	C

Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	50.9%	ICU Level of Service	A	
Analysis Period (min)	15			

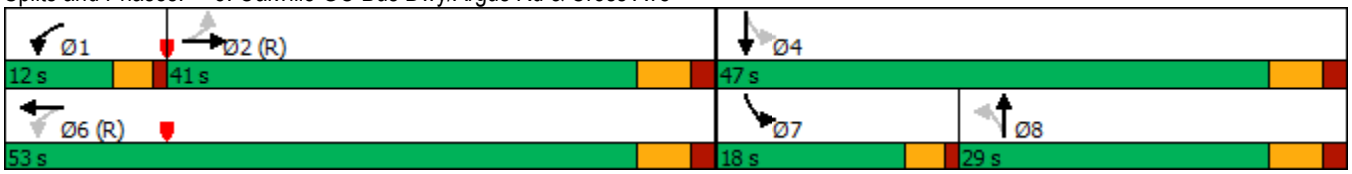


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	835	15	15	520	75	15	0	30	220	15	205
Future Volume (vph)	25	835	15	15	520	75	15	0	30	220	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	30.0			15.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		1.00	0.99			0.94		0.95	0.94	
Frt		0.997			0.981			0.910			0.860	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1805	3535	0	902	3488	0	0	831	0	1787	1437	0
Flt Permitted	0.409			0.206				0.851		0.725		
Satd. Flow (perm)	767	3535	0	195	3488	0	0	708	0	1294	1437	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			22			120			219	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		107.3			217.0			71.0			179.3	
Travel Time (s)		7.7			15.6			5.1			12.9	
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Adj. Flow (vph)	27	898	16	16	559	81	16	0	32	237	16	220
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	914	0	16	640	0	0	48	0	237	236	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

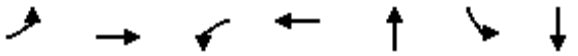
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	22.0	22.0		8.0	22.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	29.0	29.0		12.0	29.0		29.0	29.0		9.0	29.0	
Total Split (s)	41.0	41.0		12.0	53.0		29.0	29.0		18.0	47.0	
Total Split (%)	41.0%	41.0%		12.0%	53.0%		29.0%	29.0%		18.0%	47.0%	
Maximum Green (s)	35.0	35.0		8.0	47.0		23.0	23.0		14.0	41.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	5.0	5.0		2.5	5.0		4.0	4.0		3.0	4.0	
Recall Mode	C-Min	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	16.0	16.0			16.0		16.0	16.0			16.0	
Pedestrian Calls (#/hr)	15	15			15		45	45			45	
Act Effct Green (s)	51.1	51.1		57.9	55.9			18.8		36.1	34.1	
Actuated g/C Ratio	0.51	0.51		0.58	0.56			0.19		0.36	0.34	
v/c Ratio	0.07	0.51		0.09	0.33			0.21		0.44	0.37	
Control Delay	20.2	21.3		14.1	14.1			2.0		24.2	5.0	
Queue Delay	0.0	0.9		0.0	0.0			0.0		0.0	0.0	
Total Delay	20.2	22.1		14.1	14.1			2.0		24.2	5.0	
LOS	C	C		B	B			A		C	A	
Approach Delay		22.1			14.1			2.0			14.7	
Approach LOS		C			B			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 17.5		Intersection LOS: B	
Intersection Capacity Utilization 51.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: Oakville GO Bus Dwy/Argus Rd & Cross Ave

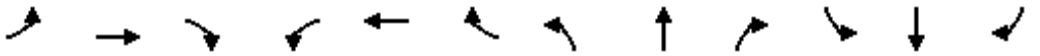


8: Oakville GO Bus Dwy/Argus Rd & Cross Ave



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	27	914	16	640	48	237	236
v/c Ratio	0.07	0.51	0.09	0.33	0.21	0.44	0.37
Control Delay	20.2	21.3	14.1	14.1	2.0	24.2	5.0
Queue Delay	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	22.1	14.1	14.1	2.0	24.2	5.0
Queue Length 50th (m)	3.0	70.1	1.7	43.0	0.0	28.7	1.9
Queue Length 95th (m)	10.0	106.8	5.2	54.1	0.0	48.4	16.6
Internal Link Dist (m)		83.3		193.0	47.0		155.3
Turn Bay Length (m)	20.0		20.0			15.0	
Base Capacity (vph)	391	1807	176	1978	261	550	737
Starvation Cap Reductn	0	557	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.73	0.09	0.32	0.18	0.43	0.32

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	835	15	15	520	75	15	0	30	220	15	205
Future Volume (vph)	25	835	15	15	520	75	15	0	30	220	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99			0.95		1.00	0.94	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			0.99		0.96	1.00	
Frt	1.00	1.00		1.00	0.98			0.91		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1781	3536		902	3488			819		1722	1437	
Flt Permitted	0.41	1.00		0.21	1.00			0.85		0.72	1.00	
Satd. Flow (perm)	766	3536		196	3488			708		1314	1437	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	27	898	16	16	559	81	16	0	32	237	16	220
RTOR Reduction (vph)	0	1	0	0	10	0	0	40	0	0	142	0
Lane Group Flow (vph)	27	913	0	16	630	0	0	8	0	237	94	0
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	46.5	46.5		53.7	53.7			15.8		34.3	34.3	
Effective Green, g (s)	47.5	47.5		54.7	54.7			16.8		35.3	35.3	
Actuated g/C Ratio	0.48	0.48		0.55	0.55			0.17		0.35	0.35	
Clearance Time (s)	6.0	6.0		4.0	6.0			6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0		2.5	5.0			4.0		3.0	4.0	
Lane Grp Cap (vph)	363	1679		136	1907			118		527	507	
v/s Ratio Prot		c0.26		0.00	c0.18					c0.07	0.07	
v/s Ratio Perm	0.04			0.06				0.01		c0.09		
v/c Ratio	0.07	0.54		0.12	0.33			0.07		0.45	0.19	
Uniform Delay, d1	14.3	18.6		12.0	12.5			35.0		24.3	22.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.4	1.3		0.3	0.5			0.3		0.6	0.2	
Delay (s)	14.7	19.8		12.3	13.0			35.3		24.9	22.6	
Level of Service	B	B		B	B			D		C	C	
Approach Delay (s)		19.7			13.0			35.3			23.8	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	51.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

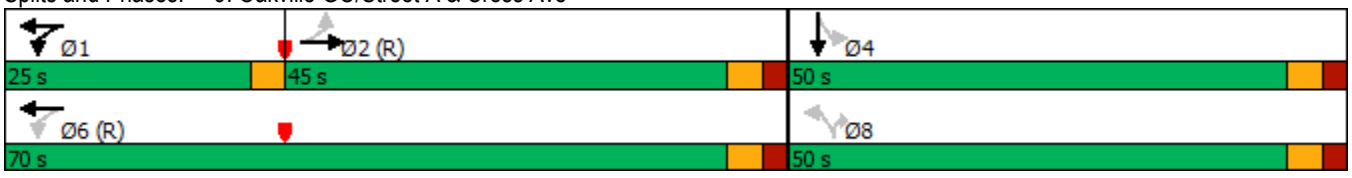
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	475	80	360	425	10	130	0	310	95	0	45
Future Volume (vph)	50	475	80	360	425	10	130	0	310	95	0	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00		0.99		0.97		0.98	
Frt		0.980			0.998				0.850		0.956	
Flt Protected		0.996			0.978		0.950				0.967	
Satd. Flow (prot)	0	3395	0	0	3430	0	1805	0	1615	0	1741	0
Flt Permitted		0.803			0.566		0.670				0.967	
Satd. Flow (perm)	0	2732	0	0	1979	0	1258	0	1570	0	1721	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			2				337		51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		139.5			107.3			62.6			201.6	
Travel Time (s)		10.0			7.7			4.5			14.5	
Confl. Peds. (#/hr)	30		10	10		30	10		10	10		10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	54	516	87	391	462	11	141	0	337	103	0	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	657	0	0	864	0	141	0	337	0	152	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1		1	1	2	
Detector Template	Left	Thru		Left	Thru		Left		Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0		2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0		2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4						9.4	
Detector 2 Size(m)		0.6			0.6						0.6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type	Perm	NA		custom	NA		Perm		Perm	Perm	NA	
Protected Phases		2		1	1 6						4	
Permitted Phases	2			6			8		8	4		

Lane Group	Ø6
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (k/h)	
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(m)	
Detector 2 Size(m)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	6
Permitted Phases	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		1	1 6		8		8	4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		8.0			10.0		10.0	10.0	10.0	
Minimum Split (s)	40.6	40.6		11.0			27.6		27.6	27.6	27.6	
Total Split (s)	45.0	45.0		25.0			50.0		50.0	50.0	50.0	
Total Split (%)	37.5%	37.5%		20.8%			41.7%		41.7%	41.7%	41.7%	
Maximum Green (s)	39.4	39.4		22.0			44.4		44.4	44.4	44.4	
Yellow Time (s)	3.3	3.3		3.0			3.3		3.3	3.3	3.3	
All-Red Time (s)	2.3	2.3		0.0			2.3		2.3	2.3	2.3	
Lost Time Adjust (s)		-1.0					-1.0		-1.0		-1.0	
Total Lost Time (s)		4.6					4.6		4.6		4.6	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	5.0	5.0		2.5			3.5		3.5	3.0	3.0	
Recall Mode	C-Min	C-Min		None			None		None	None	None	
Walk Time (s)	7.0	7.0					7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	15.0	15.0					15.0		15.0	15.0	15.0	
Pedestrian Calls (#/hr)	20	20					10		10	10	10	
Act Effct Green (s)		71.7			92.7		20.7		20.7		20.7	
Actuated g/C Ratio		0.60			0.77		0.17		0.17		0.17	
v/c Ratio		0.40			0.50		0.65		0.61		0.45	
Control Delay		15.2			5.8		59.4		9.3		32.0	
Queue Delay		0.0			0.9		0.0		0.0		0.0	
Total Delay		15.2			6.7		59.4		9.3		32.0	
LOS		B			A		E		A		C	
Approach Delay		15.2			6.7			24.1			32.0	
Approach LOS		B			A			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 14.9		Intersection LOS: B	
Intersection Capacity Utilization 78.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 9: Oakville GO/Street A & Cross Ave



Lane Group	Ø6
Detector Phase	
Switch Phase	
Minimum Initial (s)	35.0
Minimum Split (s)	40.6
Total Split (s)	70.0
Total Split (%)	58%
Maximum Green (s)	64.4
Yellow Time (s)	3.3
All-Red Time (s)	2.3
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	5.0
Recall Mode	C-Min
Walk Time (s)	7.0
Flash Dont Walk (s)	15.0
Pedestrian Calls (#/hr)	20
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary



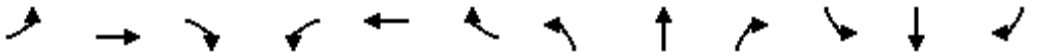
Lane Group	EBT	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	657	864	141	337	152
v/c Ratio	0.40	0.50	0.65	0.61	0.45
Control Delay	15.2	5.8	59.4	9.3	32.0
Queue Delay	0.0	0.9	0.0	0.0	0.0
Total Delay	15.2	6.7	59.4	9.3	32.0
Queue Length 50th (m)	41.1	28.4	33.0	0.0	22.3
Queue Length 95th (m)	74.7	50.5	51.0	24.1	39.8
Internal Link Dist (m)	115.5	83.3			177.6
Turn Bay Length (m)					
Base Capacity (vph)	1638	1808	475	803	682
Starvation Cap Reductn	0	613	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.40	0.72	0.30	0.42	0.22

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	475	80	360	425	10	130	0	310	95	0	45
Future Volume (vph)	50	475	80	360	425	10	130	0	310	95	0	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6			2.0		4.6		4.6		4.6	
Lane Util. Factor		0.95			0.95		1.00		1.00		1.00	
Frpb, ped/bikes		0.99			1.00		1.00		0.97		0.99	
Flpb, ped/bikes		1.00			1.00		0.99		1.00		0.99	
Frt		0.98			1.00		1.00		0.85		0.96	
Flt Protected		1.00			0.98		0.95		1.00		0.97	
Satd. Flow (prot)		3388			3423		1786		1570		1723	
Flt Permitted		0.80			0.57		0.67		1.00		0.97	
Satd. Flow (perm)		2731			1982		1259		1570		1723	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	516	87	391	462	11	141	0	337	103	0	49
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	279	0	42	0
Lane Group Flow (vph)	0	651	0	0	864	0	141	0	58	0	110	0
Confl. Peds. (#/hr)	30		10	10		30	10		10	10		10
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		custom	NA		Perm		Perm	Perm	NA	
Protected Phases		2		1	1 6						4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)		70.7			89.1		19.7		19.7		19.7	
Effective Green, g (s)		71.7			90.1		20.7		20.7		20.7	
Actuated g/C Ratio		0.60			0.75		0.17		0.17		0.17	
Clearance Time (s)		5.6					5.6		5.6		5.6	
Vehicle Extension (s)		5.0					3.5		3.5		3.0	
Lane Grp Cap (vph)		1631			1685		217		270		297	
v/s Ratio Prot					c0.07							
v/s Ratio Perm		c0.24			0.31		c0.11		0.04		0.06	
v/c Ratio		0.40			0.51		0.65		0.22		0.37	
Uniform Delay, d1		12.8			6.1		46.3		42.7		43.9	
Progression Factor		1.00			1.00		1.00		1.00		1.00	
Incremental Delay, d2		0.7			0.2		6.8		0.5		0.8	
Delay (s)		13.5			6.3		53.1		43.1		44.7	
Level of Service		B			A		D		D		D	
Approach Delay (s)		13.5			6.3			46.1			44.7	
Approach LOS		B			A			D			D	

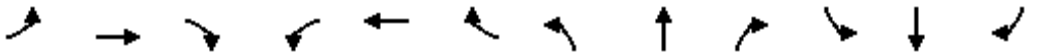
Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	400	0	0	470	130	0	0	80	120	0	95
Future Volume (vph)	40	400	0	0	470	130	0	0	80	120	0	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (m)	25.0			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.967			0.865				0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1805	3438	0	0	3378	0	0	1644	0	1805	0	1615
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1805	3438	0	0	3378	0	0	1644	0	1805	0	1615
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		132.8			139.5			48.2			88.5	
Travel Time (s)		9.6			10.0			3.5			6.4	
Confl. Peds. (#/hr)	15		10	10		15	5		5	5		5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	5%	0%	0%	4%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	45	455	0	0	534	148	0	0	91	136	0	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	455	0	0	682	0	0	91	0	136	0	108
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

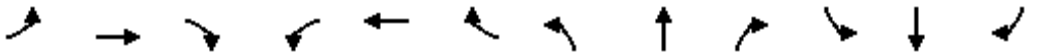
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	400	0	0	470	130	0	0	80	120	0	95
Future Volume (Veh/h)	40	400	0	0	470	130	0	0	80	120	0	95
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	45	455	0	0	534	148	0	0	91	136	0	108
Pedestrians		5			5			10			15	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		133			140							
pX, platoon unblocked												
vC, conflicting volume	697			465			935	1252	242	1036	1178	361
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	697			465			935	1252	242	1036	1178	361
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			100			100	100	88	12	100	83
cM capacity (veh/h)	897			1098			173	162	755	154	179	631

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	45	228	228	356	326	91	136	108
Volume Left	45	0	0	0	0	0	136	0
Volume Right	0	0	0	0	148	91	0	108
cSH	897	1700	1700	1700	1700	755	154	631
Volume to Capacity	0.05	0.13	0.13	0.21	0.19	0.12	0.88	0.17
Queue Length 95th (m)	1.3	0.0	0.0	0.0	0.0	3.3	48.7	4.9
Control Delay (s)	9.2	0.0	0.0	0.0	0.0	10.4	101.6	11.9
Lane LOS	A					B	F	B
Approach Delay (s)	0.8			0.0		10.4	61.9	
Approach LOS						B	F	

Intersection Summary				
Average Delay	10.9			
Intersection Capacity Utilization	44.1%	ICU Level of Service		A
Analysis Period (min)	15			

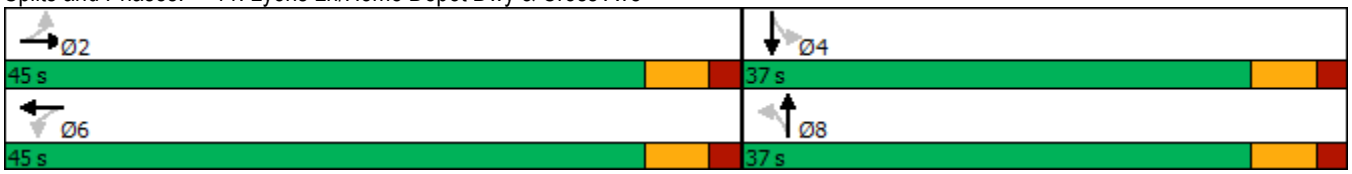


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	335	30	20	520	15	140	5	85	25	5	95
Future Volume (vph)	70	335	30	20	520	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	25.0		0.0	35.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		0.99	1.00		1.00	0.98		0.99	0.98	
Frt		0.988			0.996			0.858			0.858	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3372	0	1805	3455	0	1805	1595	0	1805	1588	0
Flt Permitted	0.404			0.502			0.681			0.689		
Satd. Flow (perm)	757	3372	0	949	3455	0	1288	1595	0	1296	1588	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			5			100			112	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		47.5			132.8			150.8			63.6	
Travel Time (s)		3.4			9.6			10.9			4.6	
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	82	394	35	24	612	18	165	6	100	29	6	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	429	0	24	630	0	165	106	0	29	118	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

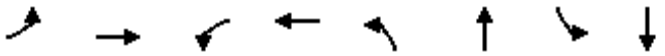
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		35.0	35.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	41.0	41.0		41.0	41.0		28.0	28.0		28.0	28.0	
Total Split (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Total Split (%)	54.9%	54.9%		54.9%	54.9%		45.1%	45.1%		45.1%	45.1%	
Maximum Green (s)	39.0	39.0		39.0	39.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	15	15		15	15		10	10		10	10	
Act Effct Green (s)	36.2	36.2		36.2	36.2		15.5	15.5		15.5	15.5	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
v/c Ratio	0.19	0.22		0.04	0.31		0.51	0.22		0.09	0.25	
Control Delay	8.6	6.8		7.2	7.6		25.5	6.1		17.5	5.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	8.6	6.8		7.2	7.6		25.5	6.1		17.5	5.9	
LOS	A	A		A	A		C	A		B	A	
Approach Delay		7.1			7.6			17.9			8.2	
Approach LOS		A			A			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 61.7			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 9.2		Intersection LOS: A	
Intersection Capacity Utilization 82.0%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 11: Lyons Ln/Home Depot Dwy & Cross Ave

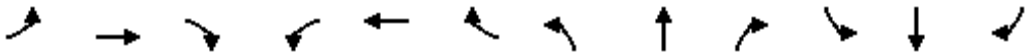


11: Lyons Ln/Home Depot Dwy & Cross Ave



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	82	429	24	630	165	106	29	118
v/c Ratio	0.19	0.22	0.04	0.31	0.51	0.22	0.09	0.25
Control Delay	8.6	6.8	7.2	7.6	25.5	6.1	17.5	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.6	6.8	7.2	7.6	25.5	6.1	17.5	5.9
Queue Length 50th (m)	3.8	10.3	1.0	16.7	16.8	0.5	2.7	0.5
Queue Length 95th (m)	12.4	21.1	4.5	32.0	30.4	8.9	7.5	9.3
Internal Link Dist (m)		23.5		108.8		126.8		39.6
Turn Bay Length (m)			25.0		35.0			
Base Capacity (vph)	493	2202	618	2253	671	879	675	881
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.19	0.04	0.28	0.25	0.12	0.04	0.13

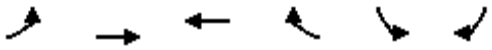
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	335	30	20	520	15	140	5	85	25	5	95
Future Volume (vph)	70	335	30	20	520	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1784	3372		1798	3455		1799	1600		1792	1589	
Flt Permitted	0.40	1.00		0.50	1.00		0.68	1.00		0.69	1.00	
Satd. Flow (perm)	760	3372		950	3455		1290	1600		1299	1589	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	82	394	35	24	612	18	165	6	100	29	6	112
RTOR Reduction (vph)	0	7	0	0	2	0	0	75	0	0	84	0
Lane Group Flow (vph)	82	422	0	24	628	0	165	31	0	29	34	0
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.2	35.2		35.2	35.2		14.4	14.4		14.4	14.4	
Effective Green, g (s)	36.2	36.2		36.2	36.2		15.4	15.4		15.4	15.4	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	446	1981		558	2030		322	400		324	397	
v/s Ratio Prot		0.13			c0.18			0.02			0.02	
v/s Ratio Perm	0.11			0.03			c0.13			0.02		
v/c Ratio	0.18	0.21		0.04	0.31		0.51	0.08		0.09	0.09	
Uniform Delay, d1	5.9	6.0		5.4	6.4		19.9	17.7		17.7	17.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.1		0.1	0.2		1.8	0.1		0.2	0.1	
Delay (s)	6.3	6.1		5.4	6.6		21.7	17.8		17.9	17.8	
Level of Service	A	A		A	A		C	B		B	B	
Approach Delay (s)		6.1			6.5			20.2			17.8	
Approach LOS		A			A			C			B	

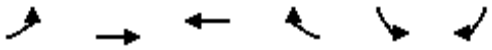
Intersection Summary			
HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	61.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	430	725	30	20	25
Future Volume (vph)	25	430	725	30	20	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.994		0.926	
Flt Protected	0.950				0.978	
Satd. Flow (prot)	1805	3471	3488	0	1721	0
Flt Permitted	0.950				0.978	
Satd. Flow (perm)	1805	3471	3488	0	1721	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		443.3	47.5		121.4	
Travel Time (s)		31.9	3.4		8.7	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	4%	3%	0%	0%	0%
Adj. Flow (vph)	27	473	797	33	22	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	473	830	0	49	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

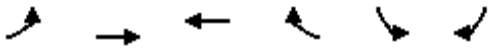
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.1%		ICU Level of Service A	
Analysis Period (min) 15			



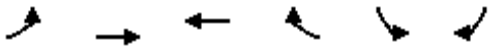
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	430	725	30	20	25
Future Volume (Veh/h)	25	430	725	30	20	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	27	473	797	33	22	27
Pedestrians					15	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			48			
pX, platoon unblocked	0.92				0.92	0.92
vC, conflicting volume	845				1119	430
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	652				950	199
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				90	96
cM capacity (veh/h)	856				230	738

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	27	236	236	531	299	49
Volume Left	27	0	0	0	0	22
Volume Right	0	0	0	0	33	27
cSH	856	1700	1700	1700	1700	370
Volume to Capacity	0.03	0.14	0.14	0.31	0.18	0.13
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0	3.6
Control Delay (s)	9.3	0.0	0.0	0.0	0.0	16.2
Lane LOS	A					C
Approach Delay (s)	0.5			0.0		16.2
Approach LOS						C

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	31.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	350	680	895	100	110	630
Future Volume (vph)	350	680	895	100	110	630
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0			0.0	60.0	0.0
Storage Lanes	1			0	1	2
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.88
Ped Bike Factor	1.00		1.00			
Frt			0.985			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1719	3574	3515	0	1805	2760
Flt Permitted	0.203				0.950	
Satd. Flow (perm)	367	3574	3515	0	1805	2760
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			12			669
Link Speed (k/h)		50	50		50	
Link Distance (m)		209.5	575.4		443.3	
Travel Time (s)		15.1	41.4		31.9	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Adj. Flow (vph)	372	723	952	106	117	670
Shared Lane Traffic (%)						
Lane Group Flow (vph)	372	723	1058	0	117	670
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		7.2	7.2		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			

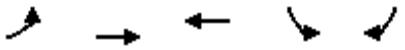


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	6.0	38.0	38.0		10.0	10.0
Minimum Split (s)	12.0	47.6	47.6		33.8	33.8
Total Split (s)	35.0	109.2	74.2		30.8	30.8
Total Split (%)	25.0%	78.0%	53.0%		22.0%	22.0%
Maximum Green (s)	29.0	102.6	67.6		25.0	25.0
Yellow Time (s)	4.0	3.7	3.7		3.3	3.3
All-Red Time (s)	2.0	2.9	2.9		2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.6	5.6		4.8	4.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Recall Mode	None	C-Min	C-Min		None	None
Walk Time (s)		10.0	10.0		10.0	10.0
Flash Dont Walk (s)		31.0	31.0		18.0	18.0
Pedestrian Calls (#/hr)		10	10		0	0
Act Effct Green (s)	114.3	113.7	87.2		15.9	15.9
Actuated g/C Ratio	0.82	0.81	0.62		0.11	0.11
v/c Ratio	0.74	0.25	0.48		0.57	0.74
Control Delay	17.4	3.6	14.9		69.0	9.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	17.4	3.6	14.9		69.0	9.3
LOS	B	A	B		E	A
Approach Delay		8.3	14.9		18.2	
Approach LOS		A	B		B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 13.3		Intersection LOS: B	
Intersection Capacity Utilization 74.7%		ICU Level of Service D	
Analysis Period (min) 15			

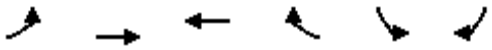
Splits and Phases: 13: Speers Rd/Cornwall Rd & Cross Ave





Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	372	723	1058	117	670
v/c Ratio	0.74	0.25	0.48	0.57	0.74
Control Delay	17.4	3.6	14.9	69.0	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.4	3.6	14.9	69.0	9.3
Queue Length 50th (m)	21.7	21.0	41.4	33.0	0.1
Queue Length 95th (m)	63.6	34.0	170.7	51.8	19.0
Internal Link Dist (m)		185.5	551.4	419.3	
Turn Bay Length (m)	70.0			60.0	
Base Capacity (vph)	596	2901	2194	335	1057
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.62	0.25	0.48	0.35	0.63

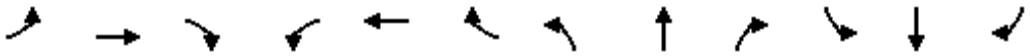
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	350	680	895	100	110	630
Future Volume (vph)	350	680	895	100	110	630
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		4.8	4.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1718	3574	3514		1805	2760
Flt Permitted	0.20	1.00	1.00		0.95	1.00
Satd. Flow (perm)	367	3574	3514		1805	2760
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	372	723	952	106	117	670
RTOR Reduction (vph)	0	0	5	0	0	593
Lane Group Flow (vph)	372	723	1053	0	117	77
Confl. Peds. (#/hr)	15			15		
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Actuated Green, G (s)	112.7	112.7	86.3		14.9	14.9
Effective Green, g (s)	113.7	113.7	87.3		15.9	15.9
Actuated g/C Ratio	0.81	0.81	0.62		0.11	0.11
Clearance Time (s)	6.0	6.6	6.6		5.8	5.8
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Lane Grp Cap (vph)	504	2902	2191		204	313
v/s Ratio Prot	c0.11	0.20	0.30			
v/s Ratio Perm	c0.49				c0.06	0.03
v/c Ratio	0.74	0.25	0.48		0.57	0.25
Uniform Delay, d1	11.3	3.1	14.2		58.8	56.6
Progression Factor	1.00	1.00	0.88		1.00	1.00
Incremental Delay, d2	5.8	0.2	0.7		3.9	0.4
Delay (s)	17.1	3.3	13.2		62.7	57.0
Level of Service	B	A	B		E	E
Approach Delay (s)		8.0	13.2		57.8	
Approach LOS		A	B		E	

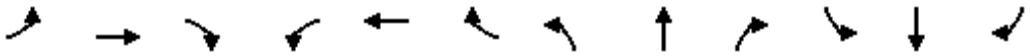
Intersection Summary			
HCM 2000 Control Delay	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	74.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	125	0	15	0	170	315	20	400	0
Future Volume (vph)	0	0	0	125	0	15	0	170	315	20	400	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.985			0.903				
Flt Protected					0.957						0.998	
Satd. Flow (prot)	0	1900	0	0	1760	0	0	3226	0	0	3603	0
Flt Permitted					0.957						0.998	
Satd. Flow (perm)	0	1900	0	0	1760	0	0	3226	0	0	3603	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		33.6			249.8			420.1			134.0	
Travel Time (s)		2.4			18.0			30.2			9.6	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	0%	3%	0%	0%	0%	0%
Adj. Flow (vph)	0	0	0	147	0	18	0	200	371	24	471	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	165	0	0	571	0	0	495	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	40.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	125	0	15	0	170	315	20	400	0
Future Volume (Veh/h)	0	0	0	125	0	15	0	170	315	20	400	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	147	0	18	0	200	371	24	471	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	637	1090	236	669	904	286	471			571		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	637	1090	236	669	904	286	471			571		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	56	100	97	100			98		
cM capacity (veh/h)	350	212	772	337	272	717	1101			1012		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	165	100	471	260	236
Volume Left	0	147	0	0	24	0
Volume Right	0	18	0	371	0	0
cSH	1700	358	1101	1700	1012	1700
Volume to Capacity	0.00	0.46	0.00	0.28	0.02	0.14
Queue Length 95th (m)	0.0	18.7	0.0	0.0	0.6	0.0
Control Delay (s)	0.0	23.4	0.0	0.0	1.0	0.0
Lane LOS	A	C			A	
Approach Delay (s)	0.0	23.4	0.0		0.5	
Approach LOS	A	C				

Intersection Summary				
Average Delay	3.4			
Intersection Capacity Utilization	40.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	120	80	75	140	175	115
Future Volume (vph)	120	80	75	140	175	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.946				0.947	
Flt Protected				0.983	0.971	
Satd. Flow (prot)	1766	0	0	1868	1730	0
Flt Permitted				0.983	0.971	
Satd. Flow (perm)	1766	0	0	1868	1730	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	632.0			1164.2	455.7	
Travel Time (s)	45.5			83.8	32.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	3%	0%	0%	1%	1%
Adj. Flow (vph)	135	90	84	157	197	129
Shared Lane Traffic (%)						
Lane Group Flow (vph)	225	0	0	241	326	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

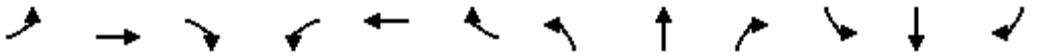
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	120	80	75	140	175	115
Future Volume (Veh/h)	120	80	75	140	175	115
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	135	90	84	157	197	129
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			225		505	180
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			225		505	180
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			94		60	85
cM capacity (veh/h)			1356		496	865

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	225	241	326
Volume Left	0	84	197
Volume Right	90	0	129
cSH	1700	1356	597
Volume to Capacity	0.13	0.06	0.55
Queue Length 95th (m)	0.0	1.6	26.3
Control Delay (s)	0.0	3.1	18.1
Lane LOS		A	C
Approach Delay (s)	0.0	3.1	18.1
Approach LOS			C

Intersection Summary			
Average Delay	8.4		
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	555	100	60	700	95	155	90	45	70	55	50
Future Volume (vph)	45	555	100	60	700	95	155	90	45	70	55	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		0.99					0.98
Frt		0.977			0.982			0.950				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3447	0	1805	3467	0	1770	1793	0	1805	1827	1553
Flt Permitted	0.300			0.372			0.719			0.665		
Satd. Flow (perm)	557	3447	0	704	3467	0	1332	1793	0	1264	1827	1520
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			26			26				53
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			455.7	
Travel Time (s)		43.9			11.1			15.4			32.8	
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Adj. Flow (vph)	48	590	106	64	745	101	165	96	48	74	59	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	696	0	64	846	0	165	144	0	74	59	53
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	27.7	27.7		27.7	27.7		14.1	14.1		14.1	14.1	14.1
Actuated g/C Ratio	0.54	0.54		0.54	0.54		0.27	0.27		0.27	0.27	0.27
v/c Ratio	0.16	0.37		0.17	0.45		0.45	0.28		0.21	0.12	0.12
Control Delay	8.4	7.4		8.1	8.2		20.6	14.4		16.9	15.3	6.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	8.4	7.4		8.1	8.2		20.6	14.4		16.9	15.3	6.1
LOS	A	A		A	A		C	B		B	B	A
Approach Delay		7.5			8.2			17.7			13.3	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 51.4			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.45			
Intersection Signal Delay: 9.7		Intersection LOS: A	
Intersection Capacity Utilization 77.2%		ICU Level of Service D	
Analysis Period (min) 15			

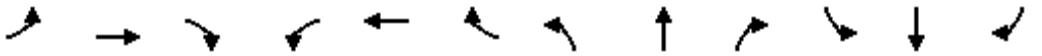
Splits and Phases: 16: Chartwell Rd & Cornwall Rd





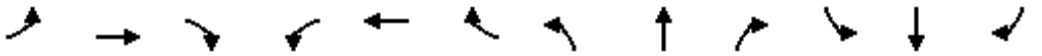
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	48	696	64	846	165	144	74	59	53
v/c Ratio	0.16	0.37	0.17	0.45	0.45	0.28	0.21	0.12	0.12
Control Delay	8.4	7.4	8.1	8.2	20.6	14.4	16.9	15.3	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.4	7.4	8.1	8.2	20.6	14.4	16.9	15.3	6.1
Queue Length 50th (m)	2.0	15.8	2.6	20.8	11.9	8.0	5.0	3.9	0.0
Queue Length 95th (m)	8.0	32.6	9.6	41.9	32.1	23.5	15.9	12.9	6.8
Internal Link Dist (m)		585.1		130.4		189.6		431.7	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	547	3385	691	3404	831	1129	789	1140	968
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.21	0.09	0.25	0.20	0.13	0.09	0.05	0.05

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	555	100	60	700	95	155	90	45	70	55	50
Future Volume (vph)	45	555	100	60	700	95	155	90	45	70	55	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.98		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1767	3450		1802	3470		1765	1793		1805	1827	1524
Flt Permitted	0.30	1.00		0.37	1.00		0.72	1.00		0.67	1.00	1.00
Satd. Flow (perm)	558	3450		705	3470		1335	1793		1264	1827	1524
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	48	590	106	64	745	101	165	96	48	74	59	53
RTOR Reduction (vph)	0	17	0	0	12	0	0	19	0	0	0	38
Lane Group Flow (vph)	48	679	0	64	834	0	165	125	0	74	59	15
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	26.7	26.7		26.7	26.7		13.1	13.1		13.1	13.1	13.1
Effective Green, g (s)	27.7	27.7		27.7	27.7		14.1	14.1		14.1	14.1	14.1
Actuated g/C Ratio	0.54	0.54		0.54	0.54		0.28	0.28		0.28	0.28	0.28
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	301	1866		381	1877		367	493		348	503	419
v/s Ratio Prot		0.20			c0.24			0.07			0.03	
v/s Ratio Perm	0.09			0.09			c0.12			0.06		0.01
v/c Ratio	0.16	0.36		0.17	0.44		0.45	0.25		0.21	0.12	0.03
Uniform Delay, d1	5.9	6.7		5.9	7.1		15.3	14.5		14.3	13.9	13.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.6	0.3		0.5	0.4		1.2	0.4		0.4	0.1	0.0
Delay (s)	6.5	7.0		6.4	7.5		16.5	14.8		14.7	14.0	13.6
Level of Service	A	A		A	A		B	B		B	B	B
Approach Delay (s)		7.0			7.4			15.7			14.2	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	51.2	Sum of lost time (s)	9.4
Intersection Capacity Utilization	77.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

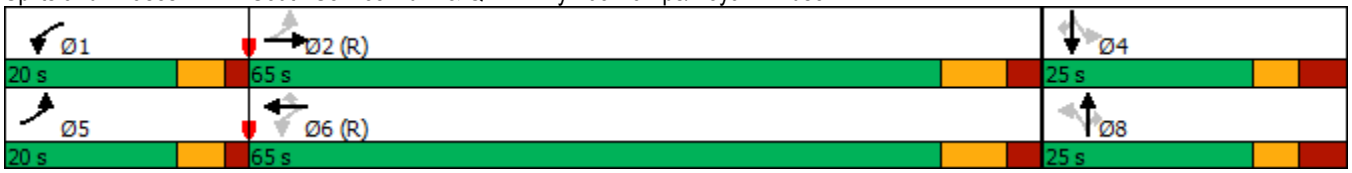


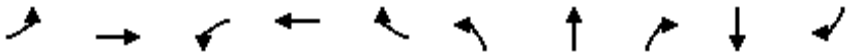
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	680	25	150	655	5	45	15	195	0	40	35
Future Volume (vph)	5	680	25	150	655	5	45	15	195	0	40	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	125.0		0.0	145.0		55.0	15.0		40.0	35.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												0.98
Frt		0.995				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3502	3386	0	1752	3505	1615	1656	1900	1599	1900	1712	1615
Flt Permitted	0.378			0.311			0.728					
Satd. Flow (perm)	1393	3386	0	574	3505	1615	1269	1900	1599	1900	1712	1585
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				107			214			113
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		232.7			227.3			1164.2			153.5	
Travel Time (s)		16.8			16.4			83.8			11.1	
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	6%	8%	3%	3%	0%	9%	0%	1%	0%	11%	0%
Adj. Flow (vph)	5	747	27	165	720	5	49	16	214	0	44	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	774	0	165	720	5	49	16	214	0	44	38
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	8.0	20.0		8.0	20.0	20.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	14.0	28.4		14.0	28.4	28.4	17.8	17.8	17.8	17.8	17.8	17.8
Total Split (s)	20.0	65.0		20.0	65.0	65.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	18.2%	59.1%		18.2%	59.1%	59.1%	22.7%	22.7%	22.7%	22.7%	22.7%	22.7%
Maximum Green (s)	14.0	56.6		14.0	56.6	56.6	17.2	17.2	17.2	17.2	17.2	17.2
Yellow Time (s)	4.0	5.4		4.0	5.4	5.4	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.0	3.0		2.0	3.0	3.0	4.1	4.1	4.1	4.1	4.1	4.1
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	79.8	68.4		86.0	80.9	80.9	12.1	12.1	12.1		12.1	12.1
Actuated g/C Ratio	0.73	0.62		0.78	0.74	0.74	0.11	0.11	0.11		0.11	0.11
v/c Ratio	0.00	0.37		0.30	0.28	0.00	0.36	0.08	0.59		0.24	0.14
Control Delay	3.2	11.1		4.4	5.9	0.0	52.4	44.0	13.0		47.4	1.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	3.2	11.1		4.4	5.9	0.0	52.4	44.0	13.0		47.4	1.1
LOS	A	B		A	A	A	D	D	B		D	A
Approach Delay		11.1			5.6			21.7			25.9	
Approach LOS		B			A			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 10.7		Intersection LOS: B	
Intersection Capacity Utilization 53.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr





Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	5	774	165	720	5	49	16	214	44	38
v/c Ratio	0.00	0.37	0.30	0.28	0.00	0.36	0.08	0.59	0.24	0.14
Control Delay	3.2	11.1	4.4	5.9	0.0	52.4	44.0	13.0	47.4	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.2	11.1	4.4	5.9	0.0	52.4	44.0	13.0	47.4	1.1
Queue Length 50th (m)	0.1	38.6	6.8	20.4	0.0	10.5	3.3	0.0	9.3	0.0
Queue Length 95th (m)	0.5	62.0	13.9	50.6	0.0	22.4	10.0	21.9	19.9	0.0
Internal Link Dist (m)		208.7		203.3			1140.2		129.5	
Turn Bay Length (m)	125.0		145.0		55.0	15.0		40.0		
Base Capacity (vph)	1366	2108	610	2579	1216	209	314	443	283	356
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.37	0.27	0.28	0.00	0.23	0.05	0.48	0.16	0.11

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	680	25	150	655	5	45	15	195	0	40	35
Future Volume (vph)	5	680	25	150	655	5	45	15	195	0	40	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8		6.8	6.8
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	3502	3386		1752	3505	1615	1656	1900	1599		1712	1579
Flt Permitted	0.38	1.00		0.31	1.00	1.00	0.73	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1393	3386		573	3505	1615	1270	1900	1599		1712	1579
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	5	747	27	165	720	5	49	16	214	0	44	38
RTOR Reduction (vph)	0	2	0	0	0	2	0	0	190	0	0	34
Lane Group Flow (vph)	5	772	0	165	720	3	49	16	24	0	44	4
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	0%	6%	8%	3%	3%	0%	9%	0%	1%	0%	11%	0%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	69.0	67.4		82.7	75.1	75.1	11.1	11.1	11.1		11.1	11.1
Effective Green, g (s)	71.0	68.4		83.7	76.1	76.1	12.1	12.1	12.1		12.1	12.1
Actuated g/C Ratio	0.65	0.62		0.76	0.69	0.69	0.11	0.11	0.11		0.11	0.11
Clearance Time (s)	6.0	8.4		6.0	8.4	8.4	7.8	7.8	7.8		7.8	7.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	948	2105		546	2424	1117	139	209	175		188	173
v/s Ratio Prot	0.00	c0.23		c0.03	0.21			0.01			0.03	
v/s Ratio Perm	0.00			0.20		0.00	c0.04		0.01			0.00
v/c Ratio	0.01	0.37		0.30	0.30	0.00	0.35	0.08	0.13		0.23	0.02
Uniform Delay, d1	6.9	10.2		4.0	6.6	5.2	45.3	43.9	44.2		44.7	43.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.5		0.3	0.3	0.0	1.5	0.2	0.4		0.6	0.1
Delay (s)	6.9	10.7		4.4	6.9	5.2	46.9	44.1	44.6		45.4	43.7
Level of Service	A	B		A	A	A	D	D	D		D	D
Approach Delay (s)		10.7			6.4			44.9			44.6	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	60	0	85	120	0
Future Volume (vph)	50	60	0	85	120	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.926					
Flt Protected					0.950	
Satd. Flow (prot)	1725	0	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1725	0	0	1863	1770	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	64.3			219.4	105.4	
Travel Time (s)	4.6			15.8	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	65	0	92	130	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	119	0	0	92	130	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	50	60	0	85	120	0
Future Volume (Veh/h)	50	60	0	85	120	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	65	0	92	130	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			119		178	86
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			119		178	86
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		84	100
cM capacity (veh/h)			1469		811	972

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	119	92	130
Volume Left	0	0	130
Volume Right	65	0	0
cSH	1700	1469	811
Volume to Capacity	0.07	0.00	0.16
Queue Length 95th (m)	0.0	0.0	4.6
Control Delay (s)	0.0	0.0	10.3
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.3
Approach LOS			B

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	0	120	85	0	60
Future Volume (vph)	50	0	120	85	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.972		
Satd. Flow (prot)	1863	0	0	1811	1611	0
Flt Permitted				0.972		
Satd. Flow (perm)	1863	0	0	1811	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	53.7			64.3	43.5	
Travel Time (s)	3.9			4.6	3.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	0	130	92	0	65
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	0	222	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	50	0	120	85	0	60
Future Volume (Veh/h)	50	0	120	85	0	60
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	0	130	92	0	65
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			54		406	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			54		406	54
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		100	94
cM capacity (veh/h)			1551		551	1013

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	54	222	65
Volume Left	0	130	0
Volume Right	0	0	65
cSH	1700	1551	1013
Volume to Capacity	0.03	0.08	0.06
Queue Length 95th (m)	0.0	2.2	1.6
Control Delay (s)	0.0	4.7	8.8
Lane LOS		A	A
Approach Delay (s)	0.0	4.7	8.8
Approach LOS			A

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	28.2%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	170	0	40	340	80	15
Future Volume (vph)	170	0	40	340	80	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.979	
Flt Protected				0.995	0.959	
Satd. Flow (prot)	1863	0	0	1853	1749	0
Flt Permitted				0.995	0.959	
Satd. Flow (perm)	1863	0	0	1853	1749	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	216.0			632.0	87.0	
Travel Time (s)	15.6			45.5	6.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	0	43	370	87	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	185	0	0	413	103	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

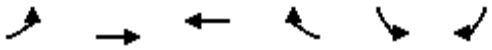
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	170	0	40	340	80	15
Future Volume (Veh/h)	170	0	40	340	80	15
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	185	0	43	370	87	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			185		641	185
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			185		641	185
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		80	98
cM capacity (veh/h)			1390		425	857

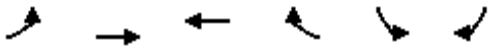
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	185	413	103
Volume Left	0	43	87
Volume Right	0	0	16
cSH	1700	1390	462
Volume to Capacity	0.11	0.03	0.22
Queue Length 95th (m)	0.0	0.8	6.8
Control Delay (s)	0.0	1.1	15.0
Lane LOS		A	C
Approach Delay (s)	0.0	1.1	15.0
Approach LOS			C

Intersection Summary			
Average Delay		2.8	
Intersection Capacity Utilization		44.4%	ICU Level of Service
Analysis Period (min)		15	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	120	110	10	50	30	10
Future Volume (vph)	120	110	10	50	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.888		0.966	
Flt Protected		0.975			0.964	
Satd. Flow (prot)	0	1816	1654	0	1735	0
Flt Permitted		0.975			0.964	
Satd. Flow (perm)	0	1816	1654	0	1735	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		249.8	119.8		103.6	
Travel Time (s)		18.0	8.6		7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	120	11	54	33	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	250	65	0	44	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	120	110	10	50	30	10
Future Volume (Veh/h)	120	110	10	50	30	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	130	120	11	54	33	11
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	65				418	38
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	65				418	38
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				94	99
cM capacity (veh/h)	1537				541	1034

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	250	65	44
Volume Left	130	0	33
Volume Right	0	54	11
cSH	1537	1700	615
Volume to Capacity	0.08	0.04	0.07
Queue Length 95th (m)	2.2	0.0	1.8
Control Delay (s)	4.3	0.0	11.3
Lane LOS	A		B
Approach Delay (s)	4.3	0.0	11.3
Approach LOS			B

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	29.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	20	50	50	120	20	20
Future Volume (vph)	20	50	50	120	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.904		0.905			
Flt Protected	0.986					0.976
Satd. Flow (prot)	1660	0	1686	0	0	1818
Flt Permitted	0.986					0.976
Satd. Flow (perm)	1660	0	1686	0	0	1818
Link Speed (k/h)	50		50			50
Link Distance (m)	41.9		103.6			87.0
Travel Time (s)	3.0		7.5			6.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	54	54	130	22	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	76	0	184	0	0	44
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100		100	100	
Sign Control	Stop		Free			Free

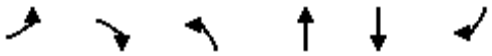
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.5%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	20	50	50	120	20	20
Future Volume (Veh/h)	20	50	50	120	20	20
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	54	54	130	22	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	185	119			184	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	185	119			184	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	94			98	
cM capacity (veh/h)	792	933			1391	

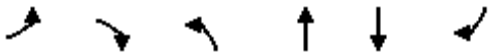
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	76	184	44
Volume Left	22	0	22
Volume Right	54	130	0
cSH	887	1700	1391
Volume to Capacity	0.09	0.11	0.02
Queue Length 95th (m)	2.2	0.0	0.4
Control Delay (s)	9.4	0.0	3.9
Lane LOS	A		A
Approach Delay (s)	9.4	0.0	3.9
Approach LOS	A		

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	70	130	120	60	0
Future Volume (vph)	0	70	130	120	60	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.975		
Satd. Flow (prot)	1611	0	0	1816	1863	0
Flt Permitted				0.975		
Satd. Flow (perm)	1611	0	0	1816	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	49.0			201.6	105.4	
Travel Time (s)	3.5			14.5	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	76	141	130	65	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	76	0	0	271	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

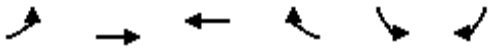
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	70	130	120	60	0
Future Volume (Veh/h)	0	70	130	120	60	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	76	141	130	65	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				201		
pX, platoon unblocked						
vC, conflicting volume	477	65	65			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	477	65	65			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	92	91			
cM capacity (veh/h)	497	999	1537			

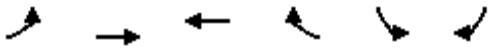
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	76	271	65
Volume Left	0	141	0
Volume Right	76	0	0
cSH	999	1537	1700
Volume to Capacity	0.08	0.09	0.04
Queue Length 95th (m)	2.0	2.4	0.0
Control Delay (s)	8.9	4.3	0.0
Lane LOS	A	A	
Approach Delay (s)	8.9	4.3	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	31.2%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	135	0	0	0	5	65
Future Volume (vph)	135	0	0	0	5	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.874	
Flt Protected		0.950			0.997	
Satd. Flow (prot)	0	1770	1863	0	1623	0
Flt Permitted		0.950			0.997	
Satd. Flow (perm)	0	1770	1863	0	1623	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		119.8	134.5		44.9	
Travel Time (s)		8.6	9.7		3.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	147	0	0	0	5	71
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	147	0	0	76	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	135	0	0	0	5	65
Future Volume (Veh/h)	135	0	0	0	5	65
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	147	0	0	0	5	71
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0				294	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				294	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				99	93
cM capacity (veh/h)	1623				634	1085

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	147	0	76
Volume Left	147	0	5
Volume Right	0	0	71
cSH	1623	1700	1036
Volume to Capacity	0.09	0.00	0.07
Queue Length 95th (m)	2.4	0.0	1.9
Control Delay (s)	7.4	0.0	8.7
Lane LOS	A		A
Approach Delay (s)	7.4	0.0	8.7
Approach LOS			A

Intersection Summary			
Average Delay	7.9		
Intersection Capacity Utilization	18.4%	ICU Level of Service	A
Analysis Period (min)	15		

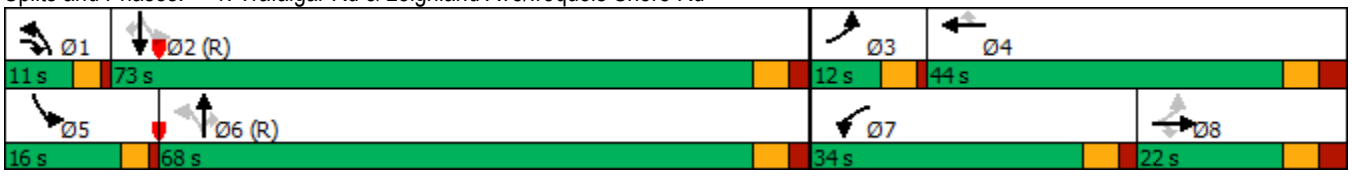
9) 2036 Future Total Traffic Conditions (With Corridor Growth)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	135	335	685	75	120	145	1590	775	195	2770	50
Future Volume (vph)	35	135	335	685	75	120	145	1590	775	195	2770	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.96					0.95			0.97			0.93
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1863	1568	3367	1827	1553	1719	4988	1568	1787	5085	1524
Flt Permitted	0.708			0.950			0.063			0.068		
Satd. Flow (perm)	1257	1863	1568	3367	1827	1470	114	4988	1525	128	5085	1424
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136			123			651			142
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			521.8			275.4			339.2	
Travel Time (s)		27.7			37.6			19.8			24.4	
Confl. Peds. (#/hr)	35					35	35		10	10		35
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Adj. Flow (vph)	35	136	338	692	76	121	146	1606	783	197	2798	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	136	338	692	76	121	146	1606	783	197	2798	51
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

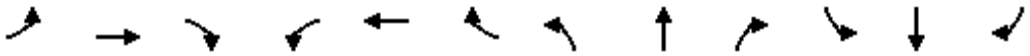
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	11.0	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	12.0	22.0	11.0	34.0	44.0	44.0	11.0	68.0	68.0	16.0	73.0	73.0
Total Split (%)	8.6%	15.7%	7.9%	24.3%	31.4%	31.4%	7.9%	48.6%	48.6%	11.4%	52.1%	52.1%
Maximum Green (s)	7.3	15.2	7.0	28.3	37.2	37.2	7.0	61.9	61.9	12.0	66.9	66.9
Yellow Time (s)	3.7	3.7	3.0	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	1.0	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					20	20		25	25		25	25
Act Effct Green (s)	25.0	14.8	30.0	29.3	39.2	39.2	75.7	64.2	64.2	81.5	67.9	67.9
Actuated g/C Ratio	0.18	0.11	0.21	0.21	0.28	0.28	0.54	0.46	0.46	0.58	0.48	0.48
v/c Ratio	0.14	0.69	0.76	0.98	0.15	0.24	0.86	0.70	0.75	0.86	1.13	0.07
Control Delay	32.1	78.9	42.8	84.7	39.6	7.3	64.2	19.9	10.7	63.3	100.5	0.2
Queue Delay	0.0	0.0	62.6	41.2	0.0	0.0	0.0	0.0	0.8	0.0	0.1	0.0
Total Delay	32.1	78.9	105.4	126.0	39.6	7.3	64.2	19.9	11.5	63.3	100.5	0.2
LOS	C	E	F	F	D	A	E	B	B	E	F	A
Approach Delay		93.3			102.4			19.8			96.5	
Approach LOS		F			F			B			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.13			
Intersection Signal Delay: 69.2		Intersection LOS: E	
Intersection Capacity Utilization 105.8%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



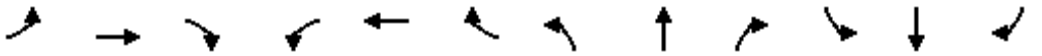
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	35	136	338	692	76	121	146	1606	783	197	2798	51
v/c Ratio	0.14	0.69	0.76	0.98	0.15	0.24	0.86	0.70	0.75	0.86	1.13	0.07
Control Delay	32.1	78.9	42.8	84.7	39.6	7.3	64.2	19.9	10.7	63.3	100.5	0.2
Queue Delay	0.0	0.0	62.6	41.2	0.0	0.0	0.0	0.0	0.8	0.0	0.1	0.0
Total Delay	32.1	78.9	105.4	126.0	39.6	7.3	64.2	19.9	11.5	63.3	100.5	0.2
Queue Length 50th (m)	6.5	38.4	57.2	104.5	16.9	0.0	24.7	126.7	48.1	37.8	~346.5	0.0
Queue Length 95th (m)	14.4	62.0	96.0	#145.7	30.8	15.4	m#54.5	116.6	227.7	#83.3	#372.5	0.0
Internal Link Dist (m)		361.1			497.8			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	255	215	442	704	516	503	170	2287	1051	233	2466	763
Starvation Cap Reductn	0	0	0	0	0	0	0	0	81	0	0	0
Spillback Cap Reductn	0	0	254	280	0	0	0	0	0	0	79	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.63	1.80	1.63	0.15	0.24	0.86	0.70	0.81	0.85	1.17	0.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

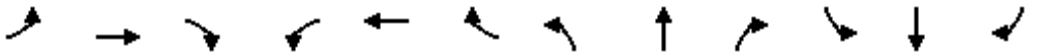
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	135	335	685	75	120	145	1590	775	195	2770	50
Future Volume (vph)	35	135	335	685	75	120	145	1590	775	195	2770	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.97	1.00	1.00	0.93
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1707	1863	1568	3367	1827	1470	1719	4988	1525	1787	5085	1424
Flt Permitted	0.71	1.00	1.00	0.95	1.00	1.00	0.06	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	1271	1863	1568	3367	1827	1470	114	4988	1525	128	5085	1424
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	35	136	338	692	76	121	146	1606	783	197	2798	51
RTOR Reduction (vph)	0	0	112	0	0	87	0	0	357	0	0	27
Lane Group Flow (vph)	35	136	226	692	76	34	146	1606	426	197	2798	24
Confl. Peds. (#/hr)	35					35	35		10	10		35
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	20.5	14.7	23.1	28.3	38.2	38.2	70.7	62.3	62.3	78.1	66.0	66.0
Effective Green, g (s)	22.5	15.7	25.1	29.3	39.2	39.2	72.7	63.3	63.3	79.4	67.0	67.0
Actuated g/C Ratio	0.16	0.11	0.18	0.21	0.28	0.28	0.52	0.45	0.45	0.57	0.48	0.48
Clearance Time (s)	4.7	6.8	4.0	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	225	208	281	704	511	411	166	2255	689	227	2433	681
v/s Ratio Prot	0.01	0.07	c0.05	c0.21	0.04		0.06	0.32		c0.08	c0.55	
v/s Ratio Perm	0.02		0.09			0.02	0.39		0.28	0.41		0.02
v/c Ratio	0.16	0.65	0.81	0.98	0.15	0.08	0.88	0.71	0.62	0.87	1.15	0.04
Uniform Delay, d1	50.3	59.5	55.1	55.1	37.9	37.1	38.6	31.0	29.2	37.2	36.5	19.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.15	0.61	1.43	1.00	1.00	1.00
Incremental Delay, d2	0.3	7.2	15.4	29.5	0.1	0.1	26.8	1.2	2.7	27.6	72.8	0.1
Delay (s)	50.7	66.7	70.5	84.6	38.0	37.2	70.9	20.1	44.3	64.8	109.3	19.5
Level of Service	D	E	E	F	D	D	E	C	D	E	F	B
Approach Delay (s)		68.1			74.1			30.5			104.9	
Approach LOS		E			E			C			F	

Intersection Summary			
HCM 2000 Control Delay	71.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	105.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

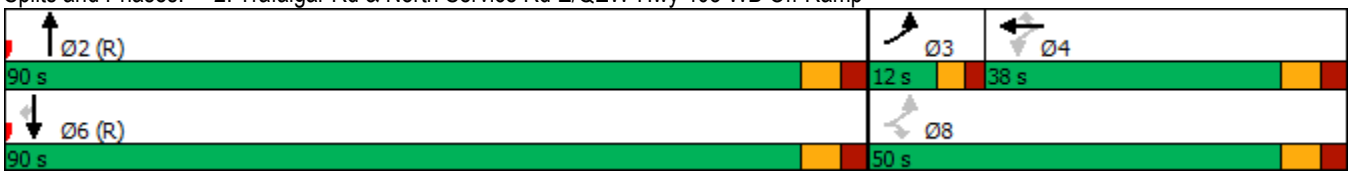


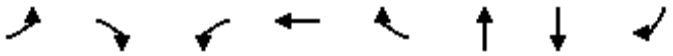
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	520	0	270	0	2570	0	0	4205	5
Future Volume (vph)	5	0	225	520	0	270	0	2570	0	0	4205	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.96
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.950							
Satd. Flow (prot)	1805	0	1599	1649	1649	1568	0	4988	0	0	5036	1615
Flt Permitted	0.247			0.950	0.950							
Satd. Flow (perm)	469	0	1599	1649	1649	1568	0	4988	0	0	5036	1543
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			83						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							10		5	5		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Adj. Flow (vph)	5	0	232	536	0	278	0	2649	0	0	4335	5
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	5	0	232	268	268	278	0	2649	0	0	4335	5
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	12.0		50.0	38.0	38.0	38.0		90.0			90.0	90.0
Total Split (%)	8.6%		35.7%	27.1%	27.1%	27.1%		64.3%			64.3%	64.3%
Maximum Green (s)	7.0		43.0	31.0	31.0	31.0		83.0			83.0	83.0
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		10			10	10
Act Effct Green (s)	32.8		30.8	28.4	28.4	28.4		97.2			97.2	97.2
Actuated g/C Ratio	0.23		0.22	0.20	0.20	0.20		0.69			0.69	0.69
v/c Ratio	0.03		0.62	0.80	0.80	0.73		0.76			1.24	0.00
Control Delay	35.8		48.5	71.1	71.1	47.0		11.5			136.9	0.0
Queue Delay	0.0		0.0	0.0	0.0	0.0		0.1			0.0	0.0
Total Delay	35.8		48.5	71.1	71.1	47.0		11.6			137.0	0.0
LOS	D		D	E	E	D		B			F	A
Approach Delay		48.2			62.9			11.6			136.8	
Approach LOS		D			E			B			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.24			
Intersection Signal Delay: 85.5		Intersection LOS: F	
Intersection Capacity Utilization 124.6%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp





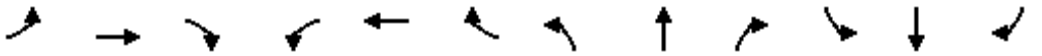
Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	5	232	268	268	278	2649	4335	5
v/c Ratio	0.03	0.62	0.80	0.80	0.73	0.76	1.24	0.00
Control Delay	35.8	48.5	71.1	71.1	47.0	11.5	136.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	35.8	48.5	71.1	71.1	47.0	11.6	137.0	0.0
Queue Length 50th (m)	1.2	54.0	78.1	78.1	53.6	113.1	~564.7	0.0
Queue Length 95th (m)	4.4	72.7	111.8	111.8	85.5	177.5	m#554.2	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	186	523	381	381	426	3464	3497	1093
Starvation Cap Reductn	0	0	0	0	0	78	99	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.44	0.70	0.70	0.65	0.78	1.28	0.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

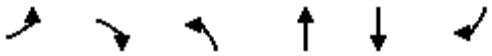
m Volume for 95th percentile queue is metered by upstream signal.



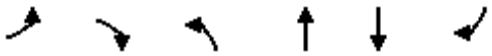
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	520	0	270	0	2570	0	0	4205	5
Future Volume (vph)	5	0	225	520	0	270	0	2570	0	0	4205	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.96
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1649	1649	1568		4988			5036	1543
Flt Permitted	0.25		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	470		1599	1649	1649	1568		4988			5036	1543
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	5	0	232	536	0	278	0	2649	0	0	4335	5
RTOR Reduction (vph)	0	0	23	0	0	66	0	0	0	0	0	2
Lane Group Flow (vph)	5	0	209	268	268	212	0	2649	0	0	4335	3
Confl. Peds. (#/hr)							10		5	5		10
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	33.8		33.8	27.4	27.4	27.4		92.2			92.2	92.2
Effective Green, g (s)	34.8		34.8	28.4	28.4	28.4		93.2			93.2	93.2
Actuated g/C Ratio	0.25		0.25	0.20	0.20	0.20		0.67			0.67	0.67
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	139		397	334	334	318		3320			3352	1027
v/s Ratio Prot	0.00							0.53			c0.86	
v/s Ratio Perm	0.01		c0.13	c0.16	0.16	0.14						0.00
v/c Ratio	0.04		0.53	0.80	0.80	0.67		0.80			1.29	0.00
Uniform Delay, d1	40.9		45.5	53.1	53.1	51.4		16.7			23.4	7.8
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.68			1.38	1.00
Incremental Delay, d2	0.2		1.4	13.0	13.0	5.2		1.1			132.7	0.0
Delay (s)	41.1		46.9	66.1	66.1	56.6		12.4			165.0	7.8
Level of Service	D		D	E	E	E		B			F	A
Approach Delay (s)		46.8			62.9			12.4			164.9	
Approach LOS		D			E			B			F	

Intersection Summary			
HCM 2000 Control Delay	100.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	124.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



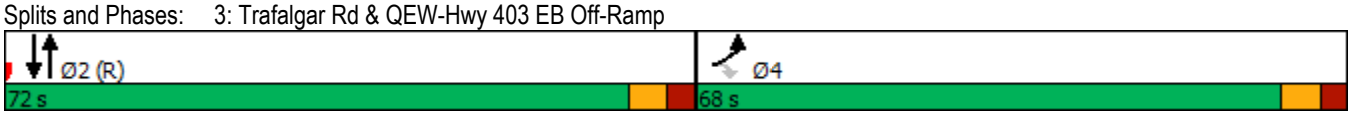
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1200	835	0	1990	2950	0
Future Volume (vph)	1200	835	0	1990	2950	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3433	1583	0	4940	5036	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	*1800	0	4940	5036	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			45.3	331.3	
Travel Time (s)	15.4			3.3	23.9	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Adj. Flow (vph)	1224	852	0	2031	3010	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1224	852	0	2031	3010	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	68.0	68.0		72.0	72.0	
Total Split (%)	48.6%	48.6%		51.4%	51.4%	
Maximum Green (s)	61.0	61.0		65.0	65.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		10	10	
Act Effct Green (s)	62.0	62.0		66.0	66.0	
Actuated g/C Ratio	0.44	0.44		0.47	0.47	
v/c Ratio	0.81	1.07		0.87	1.27	
Control Delay	38.9	89.6		26.1	153.4	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	38.9	89.6		26.2	153.4	
LOS	D	F		C	F	
Approach Delay	59.7			26.2	153.4	
Approach LOS	E			C	F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.27			
Intersection Signal Delay: 89.8		Intersection LOS: F	
Intersection Capacity Utilization 118.7%		ICU Level of Service H	
Analysis Period (min) 15			
* User Entered Value			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp



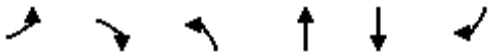
Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	1224	852	2031	3010
v/c Ratio	0.81	1.07	0.87	1.27
Control Delay	38.9	89.6	26.1	153.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	38.9	89.6	26.2	153.4
Queue Length 50th (m)	156.9	~274.2	114.2	~404.2
Queue Length 95th (m)	186.8	#355.2	m105.3	m#295.3
Internal Link Dist (m)	190.2		21.3	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1520	797	2328	2374
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	2	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.81	1.07	0.87	1.27

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

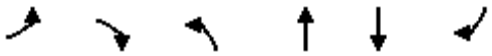
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1200	835	0	1990	2950	0
Future Volume (vph)	1200	835	0	1990	2950	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	1583		4940	5036	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	1800		4940	5036	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1224	852	0	2031	3010	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1224	852	0	2031	3010	0
Confl. Peds. (#/hr)			10			10
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	61.0	61.0		65.0	65.0	
Effective Green, g (s)	62.0	62.0		66.0	66.0	
Actuated g/C Ratio	0.44	0.44		0.47	0.47	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1520	797		2328	2374	
v/s Ratio Prot	0.36			0.41	c0.60	
v/s Ratio Perm		c0.47				
v/c Ratio	0.81	1.07		0.87	1.27	
Uniform Delay, d1	33.8	39.0		33.2	37.0	
Progression Factor	1.00	1.00		0.71	0.98	
Incremental Delay, d2	3.2	52.0		2.3	120.9	
Delay (s)	37.0	91.0		25.9	157.1	
Level of Service	D	F		C	F	
Approach Delay (s)	59.1			25.9	157.1	
Approach LOS	E			C	F	

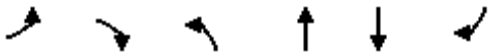
Intersection Summary			
HCM 2000 Control Delay	91.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	118.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	40	0	2260	2910	680
Future Volume (vph)	0	40	0	2260	2910	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.972	
Flt Protected						
Satd. Flow (prot)	0	1565	0	4940	4895	0
Flt Permitted						
Satd. Flow (perm)	0	1565	0	4940	4895	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	144.9			271.4	45.3	
Travel Time (s)	10.4			19.5	3.3	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	5%	0%	5%	3%	3%
Adj. Flow (vph)	0	43	0	2430	3129	731
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	43	0	2430	3860	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	81.6%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	40	0	2260	2910	680
Future Volume (Veh/h)	0	40	0	2260	2910	680
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	43	0	2430	3129	731
Pedestrians	10					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				271	45	
pX, platoon unblocked	0.67	0.53	0.53			
vC, conflicting volume	4314	1418	3870			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1380	0	3316			
tC, single (s)	6.8	7.0	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	92	100			
cM capacity (veh/h)	92	567	46			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	43	810	810	810	1252	1252	1357
Volume Left	0	0	0	0	0	0	0
Volume Right	43	0	0	0	0	0	731
cSH	567	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.08	0.48	0.48	0.48	0.74	0.74	0.80
Queue Length 95th (m)	2.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	11.9	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	11.9	0.0			0.0		
Approach LOS	B						

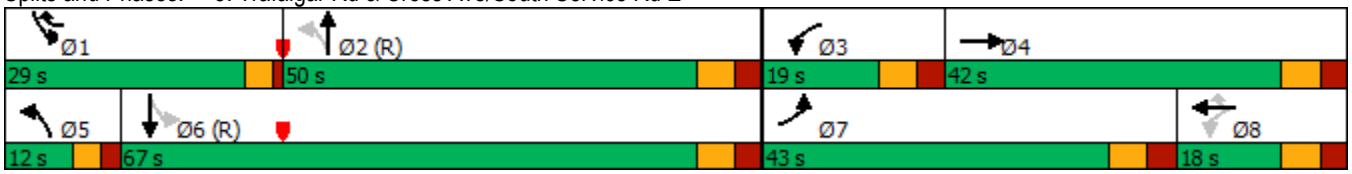
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	81.6%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	790	95	150	100	115	380	110	1560	40	225	1930	440
Future Volume (vph)	790	95	150	100	115	380	110	1560	40	225	1930	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		0.0	50.0		0.0	120.0		0.0	55.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.99		1.00				1.00			0.99	
Frt		0.908				0.850		0.996			0.972	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3273	1617	0	1736	1810	1553	1671	5013	0	1736	4893	0
Flt Permitted	0.950			0.602			0.078			0.074		
Satd. Flow (perm)	3273	1617	0	1095	1810	1553	137	5013	0	135	4893	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		55				140		3			47	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		217.0			420.1			277.9			271.4	
Travel Time (s)		15.6			30.2			20.0			19.5	
Confl. Peds. (#/hr)			5	5			15		5	5		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Adj. Flow (vph)	814	98	155	103	119	392	113	1608	41	232	1990	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	814	253	0	103	119	392	113	1649	0	232	2444	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		12.0	10.0	7.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0		19.0	17.0	11.0	12.0	34.0		11.0	34.0	
Total Split (s)	43.0	42.0		19.0	18.0	29.0	12.0	50.0		29.0	67.0	
Total Split (%)	30.7%	30.0%		13.6%	12.9%	20.7%	8.6%	35.7%		20.7%	47.9%	
Maximum Green (s)	36.0	35.0		12.0	11.0	25.0	7.0	43.0		25.0	60.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	1.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0						7.0			7.0	
Flash Dont Walk (s)		28.0						20.0			20.0	
Pedestrian Calls (#/hr)		5						10			10	
Act Effct Green (s)	36.6	35.6		25.0	12.0	37.1	61.4	51.2		76.1	61.2	
Actuated g/C Ratio	0.26	0.25		0.18	0.09	0.26	0.44	0.37		0.54	0.44	
v/c Ratio	0.95	0.56		0.40	0.77	0.76	0.76	0.90		0.79	1.13	
Control Delay	71.5	40.4		36.2	93.0	39.6	53.0	45.0		43.8	100.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.1	
Total Delay	71.5	40.4		36.2	93.0	39.6	53.0	45.0		43.8	101.0	
LOS	E	D		D	F	D	D	D		D	F	
Approach Delay		64.1			49.4			45.5			96.0	
Approach LOS		E			D			D			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.13			
Intersection Signal Delay: 71.2		Intersection LOS: E	
Intersection Capacity Utilization 102.7%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 5: Trafalgar Rd & Cross Ave/South Service Rd E



5: Trafalgar Rd & Cross Ave/South Service Rd E



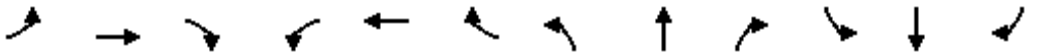
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	814	253	103	119	392	113	1649	232	2444
v/c Ratio	0.95	0.56	0.40	0.77	0.76	0.76	0.90	0.79	1.13
Control Delay	71.5	40.4	36.2	93.0	39.6	53.0	45.0	43.8	100.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	71.5	40.4	36.2	93.0	39.6	53.0	45.0	43.8	101.0
Queue Length 50th (m)	120.3	50.2	19.2	34.6	69.9	22.0	122.3	55.2	~221.5
Queue Length 95th (m)	#160.3	80.1	32.9	#67.4	103.9	m#32.1	m#207.2	m43.8	m138.0
Internal Link Dist (m)		193.0		396.1			253.9		247.4
Turn Bay Length (m)	130.0		50.0			120.0		55.0	
Base Capacity (vph)	865	456	255	155	584	149	1835	370	2166
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	56
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.55	0.40	0.77	0.67	0.76	0.90	0.63	1.16

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

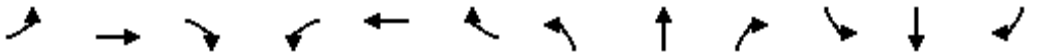
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	790	95	150	100	115	380	110	1560	40	225	1930	440
Future Volume (vph)	790	95	150	100	115	380	110	1560	40	225	1930	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3273	1617		1731	1810	1553	1671	5015		1736	4894	
Flt Permitted	0.95	1.00		0.60	1.00	1.00	0.08	1.00		0.07	1.00	
Satd. Flow (perm)	3273	1617		1098	1810	1553	137	5015		135	4894	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	814	98	155	103	119	392	113	1608	41	232	1990	454
RTOR Reduction (vph)	0	41	0	0	0	109	0	2	0	0	26	0
Lane Group Flow (vph)	814	212	0	103	119	283	113	1647	0	232	2418	0
Confl. Peds. (#/hr)			5	5			15		5	5		15
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Actuated Green, G (s)	35.6	34.6		23.0	11.0	29.2	57.4	50.2		72.4	60.2	
Effective Green, g (s)	36.6	35.6		25.0	12.0	31.2	59.4	51.2		73.4	61.2	
Actuated g/C Ratio	0.26	0.25		0.18	0.09	0.22	0.42	0.37		0.52	0.44	
Clearance Time (s)	7.0	7.0		7.0	7.0	4.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	855	411		254	155	346	147	1834		290	2139	
v/s Ratio Prot	c0.25	0.13		0.04	0.07	c0.11	0.04	0.33		0.11	c0.49	
v/s Ratio Perm				0.03		0.07	0.28			0.31		
v/c Ratio	0.95	0.52		0.41	0.77	0.82	0.77	0.90		0.80	1.13	
Uniform Delay, d1	50.8	44.8		50.2	62.6	51.7	33.4	41.9		40.1	39.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.07	0.93		1.23	1.21	
Incremental Delay, d2	20.0	1.5		1.3	21.2	13.9	14.9	5.2		1.5	59.3	
Delay (s)	70.8	46.3		51.5	83.8	65.7	50.5	44.3		50.8	106.8	
Level of Service	E	D		D	F	E	D	D		D	F	
Approach Delay (s)		65.0			66.8			44.7			101.9	
Approach LOS		E			E			D			F	

Intersection Summary			
HCM 2000 Control Delay	75.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	102.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

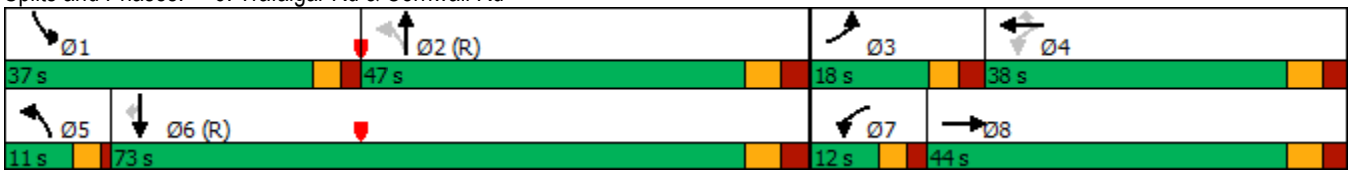


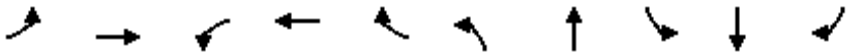
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	555	70	30	470	640	50	540	55	670	880	385
Future Volume (vph)	300	555	70	30	470	640	50	540	55	670	880	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.98	0.99		0.99		0.95		1.00		0.99		0.96
Frt		0.983				0.850		0.986				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3367	3338	0	1736	3438	1553	1770	3470	0	3400	1881	1553
Flt Permitted	0.950			0.297			0.097			0.950		
Satd. Flow (perm)	3309	3338	0	537	3438	1483	181	3470	0	3371	1881	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				447		8				238
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			277.9	
Travel Time (s)		41.4			45.2			10.0			20.0	
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Adj. Flow (vph)	313	578	73	31	490	667	52	563	57	698	917	401
Shared Lane Traffic (%)												
Lane Group Flow (vph)	313	651	0	31	490	667	52	620	0	698	917	401
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	18.0	44.0		12.0	38.0	38.0	11.0	47.0		37.0	73.0	73.0
Total Split (%)	12.9%	31.4%		8.6%	27.1%	27.1%	7.9%	33.6%		26.4%	52.1%	52.1%
Maximum Green (s)	12.3	37.6		7.0	31.6	31.6	7.0	40.1		32.0	66.1	66.1
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		20			20	20		15			15	15
Act Effct Green (s)	13.3	42.1		40.7	31.3	31.3	54.0	43.1		32.3	70.6	70.6
Actuated g/C Ratio	0.10	0.30		0.29	0.22	0.22	0.39	0.31		0.23	0.50	0.50
v/c Ratio	0.98	0.64		0.14	0.64	0.98	0.32	0.58		0.89	0.97	0.46
Control Delay	107.2	51.7		30.1	53.2	48.3	23.4	43.3		77.4	34.0	12.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	1.8	0.0
Total Delay	107.2	51.7		30.1	53.2	48.3	23.4	43.3		77.4	35.8	12.0
LOS	F	D		C	D	D	C	D		E	D	B
Approach Delay		69.7			49.9			41.8			45.5	
Approach LOS		E			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 135			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 50.9		Intersection LOS: D	
Intersection Capacity Utilization 97.6%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd





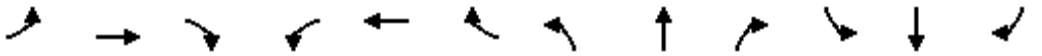
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	313	651	31	490	667	52	620	698	917	401
v/c Ratio	0.98	0.64	0.14	0.64	0.98	0.32	0.58	0.89	0.97	0.46
Control Delay	107.2	51.7	30.1	53.2	48.3	23.4	43.3	77.4	34.0	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0
Total Delay	107.2	51.7	30.1	53.2	48.3	23.4	43.3	77.4	35.8	12.0
Queue Length 50th (m)	48.0	93.3	5.8	67.7	79.4	6.3	80.8	111.7	~133.1	29.2
Queue Length 95th (m)	#80.3	119.2	13.1	87.5	#166.3	12.6	101.9	m102.7	m117.6	m26.2
Internal Link Dist (m)		551.4		604.3			115.4		253.9	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	319	1010	224	800	688	161	1074	801	948	873
Starvation Cap Reductn	0	0	0	0	0	0	0	0	11	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.64	0.14	0.61	0.97	0.32	0.58	0.87	0.98	0.46

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

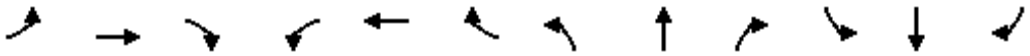
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	555	70	30	470	640	50	540	55	670	880	385
Future Volume (vph)	300	555	70	30	470	640	50	540	55	670	880	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.95	1.00	1.00		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3367	3339		1730	3438	1483	1770	3470		3400	1881	1498
Flt Permitted	0.95	1.00		0.30	1.00	1.00	0.10	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3367	3339		542	3438	1483	181	3470		3400	1881	1498
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	312	578	73	31	490	667	52	562	57	698	917	401
RTOR Reduction (vph)	0	7	0	0	0	341	0	6	0	0	0	123
Lane Group Flow (vph)	313	644	0	31	490	326	52	614	0	698	917	278
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	12.3	41.1		36.5	32.3	32.3	45.7	40.1		31.3	66.8	66.8
Effective Green, g (s)	13.3	42.1		38.5	33.3	33.3	47.7	41.1		32.3	67.8	67.8
Actuated g/C Ratio	0.10	0.30		0.28	0.24	0.24	0.34	0.29		0.23	0.48	0.48
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Lane Grp Cap (vph)	319	1004		193	817	352	136	1018		784	910	725
v/s Ratio Prot	c0.09	0.19		0.01	0.14		0.02	0.18		c0.21	c0.49	
v/s Ratio Perm				0.04		c0.22	0.11					0.19
v/c Ratio	0.98	0.64		0.16	0.60	0.93	0.38	0.60		0.89	1.01	0.38
Uniform Delay, d1	63.2	42.4		37.8	47.4	52.2	36.4	42.5		52.1	36.1	22.9
Progression Factor	1.00	1.14		1.00	1.00	1.00	1.00	1.00		1.46	0.84	1.29
Incremental Delay, d2	43.7	1.3		0.5	1.2	29.7	1.8	2.7		1.4	10.9	0.1
Delay (s)	107.2	49.7		38.3	48.6	81.9	38.2	45.1		77.7	41.4	29.5
Level of Service	F	D		D	D	F	D	D		E	D	C
Approach Delay (s)		68.3			67.0			44.6			51.6	
Approach LOS		E			E			D			D	

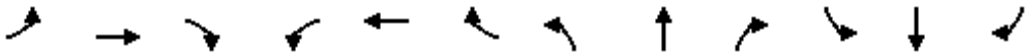
Intersection Summary			
HCM 2000 Control Delay	57.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	97.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	15	0	5	615	140	0	5	0	20	5	100
Future Volume (vph)	0	15	0	5	615	140	0	5	0	20	5	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.975						0.892	
Flt Protected											0.992	
Satd. Flow (prot)	0	1792	0	0	1813	0	0	1900	0	0	1480	0
Flt Permitted											0.992	
Satd. Flow (perm)	0	1792	0	0	1813	0	0	1900	0	0	1480	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		175.8			144.9			44.8			92.1	
Travel Time (s)		12.7			10.4			3.2			6.6	
Confl. Peds. (#/hr)			5	5					10	10		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	6%	0%	0%	2%	3%	0%	0%	0%	0%	0%	17%
Adj. Flow (vph)	0	17	0	6	691	157	0	6	0	22	6	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	17	0	0	854	0	0	6	0	0	140	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

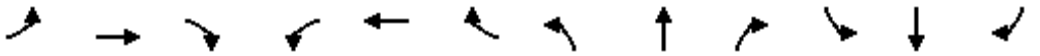
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	15	0	5	615	140	0	5	0	20	5	100
Future Volume (Veh/h)	0	15	0	5	615	140	0	5	0	20	5	100
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	17	0	6	691	157	0	6	0	22	6	112
Pedestrians					10			5				
Lane Width (m)					3.6			3.6				
Walking Speed (m/s)					1.2			1.2				
Percent Blockage					1			0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		355										
pX, platoon unblocked												
vC, conflicting volume	848			22			918	882	32	812	804	770
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	848			22			918	882	32	812	804	770
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.4
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.5
p0 queue free %	100			100			100	98	100	92	98	70
cM capacity (veh/h)	798			1600			174	285	1035	291	316	378

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	17	854	6	140
Volume Left	0	6	0	22
Volume Right	0	157	0	112
cSH	798	1600	285	358
Volume to Capacity	0.00	0.00	0.02	0.39
Queue Length 95th (m)	0.0	0.1	0.5	14.5
Control Delay (s)	0.0	0.1	17.9	21.4
Lane LOS		A	C	C
Approach Delay (s)	0.0	0.1	17.9	21.4
Approach LOS			C	C

Intersection Summary				
Average Delay	3.1			
Intersection Capacity Utilization	65.8%	ICU Level of Service	C	
Analysis Period (min)	15			

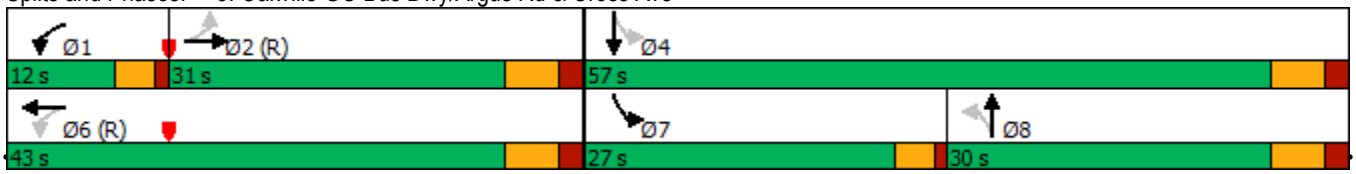


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	935	15	20	775	25	15	0	30	175	10	440
Future Volume (vph)	20	935	15	20	775	25	15	0	30	175	10	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	30.0			15.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00			1.00			0.97		0.98	0.96	
Frt		0.998			0.995			0.909			0.853	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1719	3512	0	950	3545	0	0	845	0	1719	1528	0
Flt Permitted	0.320			0.172				0.798		0.727		
Satd. Flow (perm)	575	3512	0	172	3545	0	0	682	0	1285	1528	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			4			120			61	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		107.3			217.0			71.0			179.3	
Travel Time (s)		7.7			15.6			5.1			12.9	
Confl. Peds. (#/hr)	10		10	10		10	20		20	20		20
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	1%	100%	90%	1%	7%	100%	100%	94%	5%	100%	0%
Adj. Flow (vph)	21	964	15	21	799	26	15	0	31	180	10	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	979	0	21	825	0	0	46	0	180	464	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

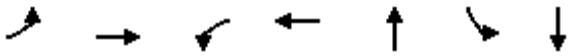
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	22.0	22.0		8.0	22.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	29.0	29.0		12.0	29.0		29.0	29.0		9.0	29.0	
Total Split (s)	31.0	31.0		12.0	43.0		30.0	30.0		27.0	57.0	
Total Split (%)	31.0%	31.0%		12.0%	43.0%		30.0%	30.0%		27.0%	57.0%	
Maximum Green (s)	25.0	25.0		8.0	37.0		24.0	24.0		23.0	51.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	5.0	5.0		2.5	5.0		4.0	4.0		3.0	4.0	
Recall Mode	C-Min	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	16.0	16.0			16.0		16.0	16.0			16.0	
Pedestrian Calls (#/hr)	10	10			10		20	20			20	
Act Effct Green (s)	49.0	49.0		55.9	53.9			19.6		38.1	36.1	
Actuated g/C Ratio	0.49	0.49		0.56	0.54			0.20		0.38	0.36	
v/c Ratio	0.07	0.57		0.13	0.43			0.20		0.32	0.79	
Control Delay	21.9	23.4		15.2	16.2			2.0		21.2	33.6	
Queue Delay	0.0	3.9		0.0	0.0			0.0		0.0	0.0	
Total Delay	21.9	27.2		15.2	16.2			2.0		21.2	33.6	
LOS	C	C		B	B			A		C	C	
Approach Delay		27.1			16.2			2.0			30.1	
Approach LOS		C			B			A			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 23.8		Intersection LOS: C	
Intersection Capacity Utilization 64.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 8: Oakville GO Bus Dwy/Argus Rd & Cross Ave



8: Oakville GO Bus Dwy/Argus Rd & Cross Ave



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	21	979	21	825	46	180	464
v/c Ratio	0.07	0.57	0.13	0.43	0.20	0.32	0.79
Control Delay	21.9	23.4	15.2	16.2	2.0	21.2	33.6
Queue Delay	0.0	3.9	0.0	0.0	0.0	0.0	0.0
Total Delay	21.9	27.2	15.2	16.2	2.0	21.2	33.6
Queue Length 50th (m)	2.0	63.8	1.8	50.4	0.0	24.9	73.1
Queue Length 95th (m)	9.3	#139.4	6.8	82.2	0.0	33.6	94.1
Internal Link Dist (m)		83.3		193.0	47.0		155.3
Turn Bay Length (m)	20.0		20.0			15.0	
Base Capacity (vph)	281	1721	166	1912	263	595	823
Starvation Cap Reductn	0	638	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.90	0.13	0.43	0.17	0.30	0.56

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	935	15	20	775	25	15	0	30	175	10	440
Future Volume (vph)	20	935	15	20	775	25	15	0	30	175	10	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.97		1.00	0.96	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00		0.98	1.00	
Frt	1.00	1.00		1.00	1.00			0.91		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1708	3511		950	3546			842		1691	1529	
Flt Permitted	0.32	1.00		0.17	1.00			0.80		0.73	1.00	
Satd. Flow (perm)	576	3511		172	3546			683		1295	1529	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	21	964	15	21	799	26	15	0	31	180	10	454
RTOR Reduction (vph)	0	1	0	0	2	0	0	38	0	0	38	0
Lane Group Flow (vph)	21	978	0	21	823	0	0	8	0	180	426	0
Confl. Peds. (#/hr)	10		10	10		10	20		20	20		20
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	5%	1%	100%	90%	1%	7%	100%	100%	94%	5%	100%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	44.4	44.4		51.7	51.7			16.6		36.3	36.3	
Effective Green, g (s)	45.4	45.4		52.7	52.7			17.6		37.3	37.3	
Actuated g/C Ratio	0.45	0.45		0.53	0.53			0.18		0.37	0.37	
Clearance Time (s)	6.0	6.0		4.0	6.0			6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0		2.5	5.0			4.0		3.0	4.0	
Lane Grp Cap (vph)	261	1593		124	1868			120		549	570	
v/s Ratio Prot		c0.28		0.01	c0.23					0.05	c0.28	
v/s Ratio Perm	0.04			0.08				0.01		0.07		
v/c Ratio	0.08	0.61		0.17	0.44			0.07		0.33	0.75	
Uniform Delay, d1	15.5	20.7		13.6	14.6			34.4		22.0	27.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.6	1.8		0.5	0.8			0.3		0.4	5.6	
Delay (s)	16.1	22.5		14.0	15.3			34.7		22.4	32.9	
Level of Service	B	C		B	B			C		C	C	
Approach Delay (s)		22.3			15.3			34.7			30.0	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	375	90	650	585	15	60	0	235	275	0	75
Future Volume (vph)	25	375	90	650	585	15	60	0	235	275	0	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00		1.00		0.97		0.99	
Frt		0.972			0.998				0.850		0.971	
Flt Protected		0.997			0.975		0.950				0.962	
Satd. Flow (prot)	0	3273	0	0	3415	0	1805	0	1615	0	1769	0
Flt Permitted		0.812			0.542		0.536				0.962	
Satd. Flow (perm)	0	2665	0	0	1899	0	1013	0	1570	0	1759	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			1				255		51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		139.5			107.3			62.6			201.6	
Travel Time (s)		10.0			7.7			4.5			14.5	
Confl. Peds. (#/hr)	15					15	5		10	10		5
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	27	408	98	707	636	16	65	0	255	299	0	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	533	0	0	1359	0	65	0	255	0	381	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	100		100
Number of Detectors	1	2		1	2		1		1	1	2	
Detector Template	Left	Thru		Left	Thru		Left		Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0		2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0		2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4						9.4	
Detector 2 Size(m)		0.6			0.6						0.6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type	Perm	NA		custom	NA		Perm		Perm	custom	NA	
Protected Phases		2		1	1 6					7	7 4	

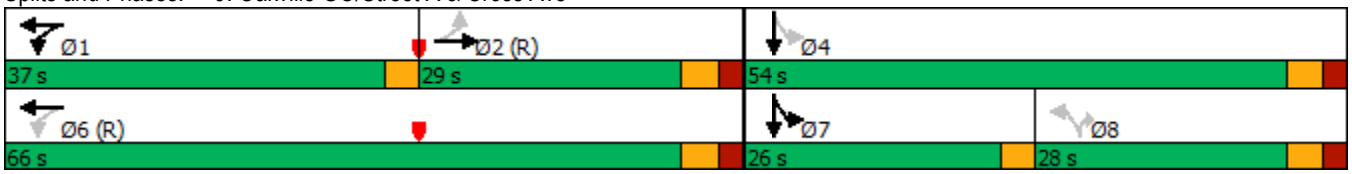
Lane Group	Ø4	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	4	6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			8		8	4		
Detector Phase	2	2		1	1 6		8		8	7	7 4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		8.0			10.0		10.0	8.0		
Minimum Split (s)	27.6	27.6		11.0			27.6		27.6	11.0		
Total Split (s)	29.0	29.0		37.0			28.0		28.0	26.0		
Total Split (%)	24.2%	24.2%		30.8%			23.3%		23.3%	21.7%		
Maximum Green (s)	23.4	23.4		34.0			22.4		22.4	23.0		
Yellow Time (s)	3.3	3.3		3.0			3.3		3.3	3.0		
All-Red Time (s)	2.3	2.3		0.0			2.3		2.3	0.0		
Lost Time Adjust (s)		-1.0					-1.0		-1.0			
Total Lost Time (s)		4.6					4.6		4.6			
Lead/Lag	Lag	Lag		Lead			Lag		Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes		
Vehicle Extension (s)	5.0	5.0		2.5			3.5		3.5	3.0		
Recall Mode	C-Min	C-Min		None			None		None	None		
Walk Time (s)	7.0	7.0					7.0		7.0			
Flash Dont Walk (s)	15.0	15.0					15.0		15.0			
Pedestrian Calls (#/hr)	10	10					10		10			
Act Effct Green (s)		31.6			72.9		15.5		15.5		43.1	
Actuated g/C Ratio		0.26			0.61		0.13		0.13		0.36	
v/c Ratio		0.74			1.00dl		0.50		0.60		0.57	
Control Delay		48.4			22.6		60.5		11.6		29.4	
Queue Delay		0.0			47.9		0.0		0.0		0.0	
Total Delay		48.4			70.5		60.5		11.6		29.4	
LOS		D			E		E		B		C	
Approach Delay		48.4			70.5			21.5			29.4	
Approach LOS		D			E			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 53.9		Intersection LOS: D	
Intersection Capacity Utilization 89.8%		ICU Level of Service E	
Analysis Period (min) 15			

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 9: Oakville GO/Street A & Cross Ave



Lane Group	Ø4	Ø6
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	10.0	20.0
Minimum Split (s)	27.6	27.6
Total Split (s)	54.0	66.0
Total Split (%)	45%	55%
Maximum Green (s)	48.4	60.4
Yellow Time (s)	3.3	3.3
All-Red Time (s)	2.3	2.3
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	5.0
Recall Mode	None	C-Min
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	15.0	15.0
Pedestrian Calls (#/hr)	10	10
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

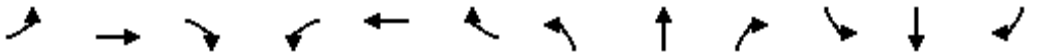
Intersection Summary



Lane Group	EBT	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	533	1359	65	255	381
v/c Ratio	0.74	1.00dl	0.50	0.60	0.57
Control Delay	48.4	22.6	60.5	11.6	29.4
Queue Delay	0.0	47.9	0.0	0.0	0.0
Total Delay	48.4	70.5	60.5	11.6	29.4
Queue Length 50th (m)	65.9	108.5	15.4	0.0	65.4
Queue Length 95th (m)	#103.6	#173.3	28.6	22.9	86.2
Internal Link Dist (m)	115.5	83.3			177.6
Turn Bay Length (m)					
Base Capacity (vph)	716	1634	197	511	793
Starvation Cap Reductn	0	429	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.74	1.13	0.33	0.50	0.48

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

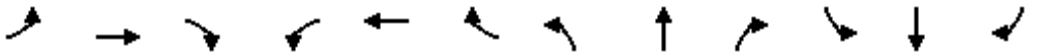


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	375	90	650	585	15	60	0	235	275	0	75
Future Volume (vph)	25	375	90	650	585	15	60	0	235	275	0	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6			2.0		4.6		4.6		2.0	
Lane Util. Factor		0.95			0.95		1.00		1.00		1.00	
Frpb, ped/bikes		1.00			1.00		1.00		0.97		1.00	
Flpb, ped/bikes		1.00			1.00		1.00		1.00		0.99	
Frt		0.97			1.00		1.00		0.85		0.97	
Flt Protected		1.00			0.97		0.95		1.00		0.96	
Satd. Flow (prot)		3275			3415		1796		1570		1757	
Flt Permitted		0.81			0.54		0.54		1.00		0.96	
Satd. Flow (perm)		2665			1900		1013		1570		1757	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	408	98	707	636	16	65	0	255	299	0	82
RTOR Reduction (vph)	0	15	0	0	0	0	0	0	222	0	34	0
Lane Group Flow (vph)	0	518	0	0	1359	0	65	0	33	0	347	0
Confl. Peds. (#/hr)	15					15	5		10	10		5
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	0%	9%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		custom	NA		Perm		Perm	custom	NA	
Protected Phases		2		1	1 6					7	7 4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)		30.6			69.3		14.5		14.5		39.5	
Effective Green, g (s)		31.6			70.3		15.5		15.5		40.5	
Actuated g/C Ratio		0.26			0.59		0.13		0.13		0.34	
Clearance Time (s)		5.6					5.6		5.6			
Vehicle Extension (s)		5.0					3.5		3.5			
Lane Grp Cap (vph)		701			1576		130		202		592	
v/s Ratio Prot					c0.26						c0.11	
v/s Ratio Perm		c0.19			0.24		0.06		0.02		0.09	
v/c Ratio		0.74			1.00dl		0.50		0.16		0.59	
Uniform Delay, d1		40.4			20.8		48.6		46.5		32.8	
Progression Factor		1.00			1.00		1.00		1.00		1.00	
Incremental Delay, d2		6.9			5.1		3.5		0.5		1.5	
Delay (s)		47.3			25.9		52.2		46.9		34.3	
Level of Service		D			C		D		D		C	
Approach Delay (s)		47.3			25.9			48.0			34.3	
Approach LOS		D			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	34.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		

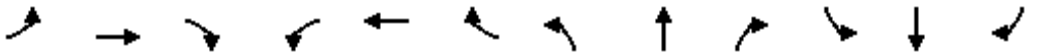
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	325	0	5	545	155	0	0	0	155	0	25
Future Volume (vph)	25	325	0	5	545	155	0	0	0	155	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (m)	25.0			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.967							0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1805	3312	0	0	3281	0	0	1900	0	1787	0	1509
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1805	3312	0	0	3281	0	0	1900	0	1787	0	1509
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		132.8			139.5			48.2			88.5	
Travel Time (s)		9.6			10.0			3.5			6.4	
Confl. Peds. (#/hr)	20		10	10		20						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	0%	0%	8%	1%	0%	0%	0%	1%	0%	7%
Adj. Flow (vph)	27	353	0	5	592	168	0	0	0	168	0	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	353	0	0	765	0	0	0	0	168	0	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

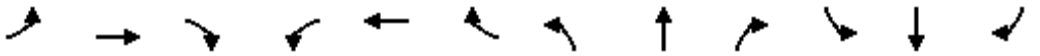
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	325	0	5	545	155	0	0	0	155	0	25
Future Volume (Veh/h)	25	325	0	5	545	155	0	0	0	155	0	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	353	0	5	592	168	0	0	0	168	0	27
Pedestrians								10			20	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			2	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		133			140							
pX, platoon unblocked												
vC, conflicting volume	780			363			750	1207	186	936	1123	400
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	780			363			750	1207	186	936	1123	400
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	7.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.4
p0 queue free %	97			100			100	100	100	19	100	95
cM capacity (veh/h)	832			1197			274	174	823	207	195	576

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	27	176	176	301	464	0	168	27
Volume Left	27	0	0	5	0	0	168	0
Volume Right	0	0	0	0	168	0	0	27
cSH	832	1700	1700	1197	1700	1700	207	576
Volume to Capacity	0.03	0.10	0.10	0.00	0.27	0.12	0.81	0.05
Queue Length 95th (m)	0.8	0.0	0.0	0.1	0.0	0.0	46.8	1.2
Control Delay (s)	9.5	0.0	0.0	0.2	0.0	0.0	69.9	11.6
Lane LOS	A			A		A	F	B
Approach Delay (s)	0.7			0.1		0.0	61.8	
Approach LOS						A	F	

Intersection Summary				
Average Delay	9.2			
Intersection Capacity Utilization	39.3%	ICU Level of Service	A	
Analysis Period (min)	15			

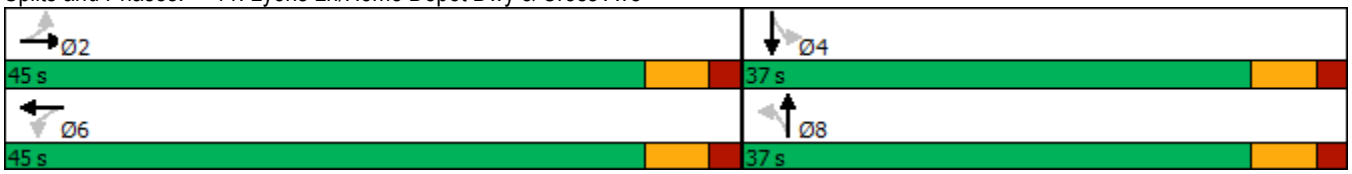


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	310	130	180	340	5	15	5	20	20	10	45
Future Volume (vph)	55	310	130	180	340	5	15	5	20	20	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	25.0		0.0	35.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99				1.00		0.99	0.99		0.99	0.99	
Frt		0.956			0.998			0.881			0.878	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3245	0	1787	3099	0	1805	1588	0	1703	1580	0
Flt Permitted	0.516			0.464			0.715			0.738		
Satd. Flow (perm)	975	3245	0	873	3099	0	1352	1588	0	1316	1580	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		110			3			23			52	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		47.5			132.8			150.8			63.6	
Travel Time (s)		3.4			9.6			10.9			4.6	
Confl. Peds. (#/hr)	5					5	5		5	5		5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	9%	0%	1%	16%	29%	0%	0%	5%	6%	0%	5%
Adj. Flow (vph)	64	360	151	209	395	6	17	6	23	23	12	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	511	0	209	401	0	17	29	0	23	64	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

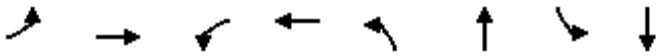
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		35.0	35.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	41.0	41.0		41.0	41.0		28.0	28.0		28.0	28.0	
Total Split (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Total Split (%)	54.9%	54.9%		54.9%	54.9%		45.1%	45.1%		45.1%	45.1%	
Maximum Green (s)	39.0	39.0		39.0	39.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	5	5		5	5		5	5		5	5	
Act Effct Green (s)	44.2	44.2		44.2	44.2		13.1	13.1		13.1	13.1	
Actuated g/C Ratio	0.76	0.76		0.76	0.76		0.23	0.23		0.23	0.23	
v/c Ratio	0.09	0.21		0.32	0.17		0.06	0.08		0.08	0.16	
Control Delay	6.1	4.1		8.0	5.0		18.1	9.9		18.4	8.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	6.1	4.1		8.0	5.0		18.1	9.9		18.4	8.6	
LOS	A	A		A	A		B	A		B	A	
Approach Delay		4.3			6.0			12.9			11.2	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 58.2			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.32			
Intersection Signal Delay: 5.8		Intersection LOS: A	
Intersection Capacity Utilization 80.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 11: Lyons Ln/Home Depot Dwy & Cross Ave

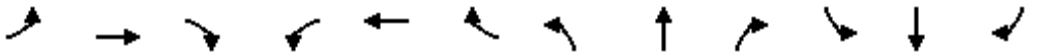


11: Lyons Ln/Home Depot Dwy & Cross Ave



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	511	209	401	17	29	23	64
v/c Ratio	0.09	0.21	0.32	0.17	0.06	0.08	0.08	0.16
Control Delay	6.1	4.1	8.0	5.0	18.1	9.9	18.4	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.1	4.1	8.0	5.0	18.1	9.9	18.4	8.6
Queue Length 50th (m)	2.3	8.0	9.2	8.0	1.5	0.6	2.1	1.1
Queue Length 95th (m)	9.5	21.3	31.3	20.8	5.5	5.3	6.6	8.2
Internal Link Dist (m)		23.5		108.8		126.8		39.6
Turn Bay Length (m)			25.0		35.0			
Base Capacity (vph)	774	2601	693	2462	752	894	732	902
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.20	0.30	0.16	0.02	0.03	0.03	0.07

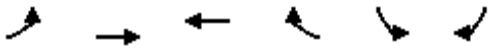
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	310	130	180	340	5	15	5	20	20	10	45
Future Volume (vph)	55	310	130	180	340	5	15	5	20	20	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	1.00		1.00	0.88		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1798	3244		1787	3099		1798	1590		1696	1582	
Flt Permitted	0.52	1.00		0.46	1.00		0.72	1.00		0.74	1.00	
Satd. Flow (perm)	976	3244		872	3099		1354	1590		1318	1582	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	64	360	151	209	395	6	17	6	23	23	12	52
RTOR Reduction (vph)	0	34	0	0	1	0	0	20	0	0	45	0
Lane Group Flow (vph)	64	477	0	209	400	0	17	9	0	23	19	0
Confl. Peds. (#/hr)	5					5	5		5	5		5
Heavy Vehicles (%)	0%	9%	0%	1%	16%	29%	0%	0%	5%	6%	0%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	40.9	40.9		40.9	40.9		7.7	7.7		7.7	7.7	
Effective Green, g (s)	41.9	41.9		41.9	41.9		8.7	8.7		8.7	8.7	
Actuated g/C Ratio	0.69	0.69		0.69	0.69		0.14	0.14		0.14	0.14	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	674	2242		602	2142		194	228		189	227	
v/s Ratio Prot		0.15			0.13			0.01			0.01	
v/s Ratio Perm	0.07			c0.24			0.01			c0.02		
v/c Ratio	0.09	0.21		0.35	0.19		0.09	0.04		0.12	0.09	
Uniform Delay, d1	3.1	3.4		3.8	3.3		22.5	22.4		22.6	22.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.1		0.7	0.1		0.3	0.1		0.4	0.2	
Delay (s)	3.2	3.5		4.5	3.4		22.8	22.5		23.0	22.7	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		3.5			3.8			22.6			22.8	
Approach LOS		A			A			C			C	

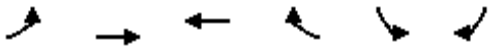
Intersection Summary					
HCM 2000 Control Delay	5.6	HCM 2000 Level of Service	A		
HCM 2000 Volume to Capacity ratio	0.31				
Actuated Cycle Length (s)	60.6	Sum of lost time (s)	10.0		
Intersection Capacity Utilization	80.7%	ICU Level of Service	D		
Analysis Period (min)	15				

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	515	415	5	50	30
Future Volume (vph)	10	515	415	5	50	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.998		0.950	
Flt Protected	0.950				0.970	
Satd. Flow (prot)	1805	3471	3250	0	1751	0
Flt Permitted	0.950				0.970	
Satd. Flow (perm)	1805	3471	3250	0	1751	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		443.3	47.5		121.4	
Travel Time (s)		31.9	3.4		8.7	
Confl. Peds. (#/hr)	5			5		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	4%	11%	0%	0%	0%
Adj. Flow (vph)	11	592	477	6	57	34
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	592	483	0	91	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

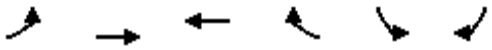
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.5%		ICU Level of Service A	
Analysis Period (min) 15			



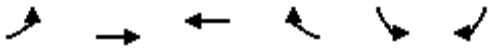
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	515	415	5	50	30
Future Volume (Veh/h)	10	515	415	5	50	30
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	11	592	477	6	57	34
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			48			
pX, platoon unblocked	0.97				0.97	0.97
vC, conflicting volume	488				803	246
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	409				734	160
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				83	96
cM capacity (veh/h)	1121				344	833

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	11	296	296	318	165	91
Volume Left	11	0	0	0	0	57
Volume Right	0	0	0	0	6	34
cSH	1121	1700	1700	1700	1700	440
Volume to Capacity	0.01	0.17	0.17	0.19	0.10	0.21
Queue Length 95th (m)	0.2	0.0	0.0	0.0	0.0	6.1
Control Delay (s)	8.2	0.0	0.0	0.0	0.0	15.3
Lane LOS	A					C
Approach Delay (s)	0.2			0.0		15.3
Approach LOS						C

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	25.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	430	1015	805	40	105	385
Future Volume (vph)	430	1015	805	40	105	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0			0.0	60.0	0.0
Storage Lanes	1			0	1	2
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.88
Ped Bike Factor	1.00		1.00			
Frt			0.993			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1703	3438	3417	0	1805	2561
Flt Permitted	0.255				0.950	
Satd. Flow (perm)	456	3438	3417	0	1805	2561
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			5			405
Link Speed (k/h)		50	50		50	
Link Distance (m)		209.5	575.4		443.3	
Travel Time (s)		15.1	41.4		31.9	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	5%	5%	0%	0%	11%
Adj. Flow (vph)	453	1068	847	42	111	405
Shared Lane Traffic (%)						
Lane Group Flow (vph)	453	1068	889	0	111	405
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		7.2	7.2		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			

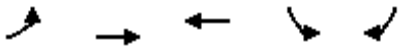


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	6.0	38.0	38.0		10.0	10.0
Minimum Split (s)	12.0	47.6	47.6		33.8	33.8
Total Split (s)	35.0	109.2	74.2		30.8	30.8
Total Split (%)	25.0%	78.0%	53.0%		22.0%	22.0%
Maximum Green (s)	29.0	102.6	67.6		25.0	25.0
Yellow Time (s)	4.0	3.7	3.7		3.3	3.3
All-Red Time (s)	2.0	2.9	2.9		2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.6	5.6		4.8	4.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Recall Mode	None	C-Min	C-Min		None	None
Walk Time (s)		10.0	10.0		10.0	10.0
Flash Dont Walk (s)		31.0	31.0		18.0	18.0
Pedestrian Calls (#/hr)		10	10		0	0
Act Effct Green (s)	115.0	114.4	85.9		15.2	15.2
Actuated g/C Ratio	0.82	0.82	0.61		0.11	0.11
v/c Ratio	0.78	0.38	0.42		0.57	0.63
Control Delay	16.9	4.0	15.4		70.1	9.8
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	16.9	4.0	15.4		70.1	9.8
LOS	B	A	B		E	A
Approach Delay		7.9	15.4		22.7	
Approach LOS		A	B		C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 12.8		Intersection LOS: B	
Intersection Capacity Utilization 79.2%		ICU Level of Service D	
Analysis Period (min) 15			

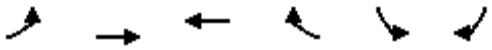
Splits and Phases: 13: Speers Rd/Cornwall Rd & Cross Ave





Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	453	1068	889	111	405
v/c Ratio	0.78	0.38	0.42	0.57	0.63
Control Delay	16.9	4.0	15.4	70.1	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	16.9	4.0	15.4	70.1	9.8
Queue Length 50th (m)	25.7	35.0	41.6	31.3	0.0
Queue Length 95th (m)	72.1	53.4	146.6	50.3	16.7
Internal Link Dist (m)		185.5	551.4	419.3	
Turn Bay Length (m)	70.0			60.0	
Base Capacity (vph)	656	2809	2109	335	805
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.69	0.38	0.42	0.33	0.50

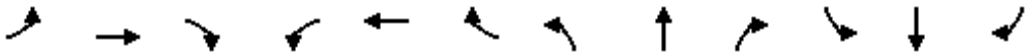
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	430	1015	805	40	105	385
Future Volume (vph)	430	1015	805	40	105	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		4.8	4.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1702	3438	3417		1805	2561
Flt Permitted	0.26	1.00	1.00		0.95	1.00
Satd. Flow (perm)	457	3438	3417		1805	2561
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	453	1068	847	42	111	405
RTOR Reduction (vph)	0	0	2	0	0	361
Lane Group Flow (vph)	453	1068	887	0	111	44
Confl. Peds. (#/hr)	15			15		
Heavy Vehicles (%)	6%	5%	5%	0%	0%	11%
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Actuated Green, G (s)	113.4	113.4	84.9		14.2	14.2
Effective Green, g (s)	114.4	114.4	85.9		15.2	15.2
Actuated g/C Ratio	0.82	0.82	0.61		0.11	0.11
Clearance Time (s)	6.0	6.6	6.6		5.8	5.8
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Lane Grp Cap (vph)	582	2809	2096		195	278
v/s Ratio Prot	c0.13	0.31	0.26			
v/s Ratio Perm	c0.50				c0.06	0.02
v/c Ratio	0.78	0.38	0.42		0.57	0.16
Uniform Delay, d1	9.0	3.4	14.1		59.3	56.6
Progression Factor	1.00	1.00	0.91		1.00	1.00
Incremental Delay, d2	6.7	0.4	0.5		3.8	0.3
Delay (s)	15.7	3.8	13.4		63.1	56.9
Level of Service	B	A	B		E	E
Approach Delay (s)		7.3	13.4		58.2	
Approach LOS		A	B		E	

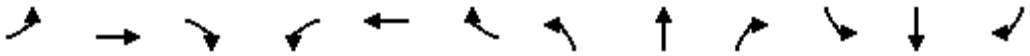
Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	140	0	5	0	225	110	10	495	0
Future Volume (vph)	0	0	0	140	0	5	0	225	110	10	495	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.995			0.951				
Flt Protected					0.954						0.999	
Satd. Flow (prot)	0	1900	0	0	1631	0	0	3333	0	0	3503	0
Flt Permitted					0.954						0.999	
Satd. Flow (perm)	0	1900	0	0	1631	0	0	3333	0	0	3503	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		33.6			249.8			420.1			134.0	
Travel Time (s)		2.4			18.0			30.2			9.6	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	11%	0%	0%	50%	3%	3%	0%	3%	0%
Adj. Flow (vph)	0	0	0	161	0	6	0	259	126	11	569	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	167	0	0	385	0	0	580	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.5%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	140	0	5	0	225	110	10	495	0
Future Volume (Veh/h)	0	0	0	140	0	5	0	225	110	10	495	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	0	0	161	0	6	0	259	126	11	569	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	726	976	284	628	913	192	569			385		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	726	976	284	628	913	192	569			385		
tC, single (s)	7.5	6.5	6.9	7.7	6.5	6.9	5.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.7			2.2		
p0 queue free %	100	100	100	54	100	99	100			99		
cM capacity (veh/h)	311	251	718	347	273	823	732			1185		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	167	130	256	296	284
Volume Left	0	161	0	0	11	0
Volume Right	0	6	0	126	0	0
cSH	1700	354	732	1700	1185	1700
Volume to Capacity	0.00	0.47	0.00	0.15	0.01	0.17
Queue Length 95th (m)	0.0	19.4	0.0	0.0	0.2	0.0
Control Delay (s)	0.0	23.9	0.0	0.0	0.4	0.0
Lane LOS	A	C			A	
Approach Delay (s)	0.0	23.9	0.0		0.2	
Approach LOS	A	C				

Intersection Summary				
Average Delay	3.6			
Intersection Capacity Utilization	35.5%	ICU Level of Service		A
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	95	115	130	200	100	25
Future Volume (vph)	95	115	130	200	100	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.926				0.973	
Flt Protected				0.981	0.961	
Satd. Flow (prot)	1705	0	0	1817	1745	0
Flt Permitted				0.981	0.961	
Satd. Flow (perm)	1705	0	0	1817	1745	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	632.0			1164.2	455.7	
Travel Time (s)	45.5			83.8	32.8	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	7%	0%	2%	3%	1%	5%
Adj. Flow (vph)	116	140	159	244	122	30
Shared Lane Traffic (%)						
Lane Group Flow (vph)	256	0	0	403	152	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

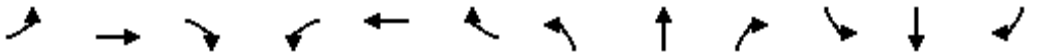
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 46.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	95	115	130	200	100	25
Future Volume (Veh/h)	95	115	130	200	100	25
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	116	140	159	244	122	30
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			256		748	186
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			256		748	186
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			88		64	96
cM capacity (veh/h)			1309		335	849

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	256	403	152
Volume Left	0	159	122
Volume Right	140	0	30
cSH	1700	1309	381
Volume to Capacity	0.15	0.12	0.40
Queue Length 95th (m)	0.0	3.3	15.0
Control Delay (s)	0.0	3.9	20.6
Lane LOS		A	C
Approach Delay (s)	0.0	3.9	20.6
Approach LOS			C

Intersection Summary			
Average Delay	5.8		
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	850	205	40	705	35	230	85	60	55	120	25
Future Volume (vph)	25	850	205	40	705	35	230	85	60	55	120	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00		1.00	0.99		1.00		0.98
Frt		0.971			0.993			0.938				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	3364	0	1752	3444	0	1736	1755	0	1703	1881	1553
Flt Permitted	0.307			0.180			0.674			0.652		
Satd. Flow (perm)	534	3364	0	332	3444	0	1226	1755	0	1164	1881	1526
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		52			9			37				32
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			455.7	
Travel Time (s)		43.9			11.1			15.4			32.8	
Confl. Peds. (#/hr)	5					5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Adj. Flow (vph)	27	924	223	43	766	38	250	92	65	60	130	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	1147	0	43	804	0	250	157	0	60	130	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	39.7	39.7		39.7	39.7		21.8	21.8		21.8	21.8	21.8
Actuated g/C Ratio	0.56	0.56		0.56	0.56		0.30	0.30		0.30	0.30	0.30
v/c Ratio	0.09	0.61		0.23	0.42		0.67	0.28		0.17	0.23	0.06
Control Delay	9.4	12.0		13.1	10.2		33.9	18.0		22.4	22.1	7.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	9.4	12.0		13.1	10.2		33.9	18.0		22.4	22.1	7.6
LOS	A	B		B	B		C	B		C	C	A
Approach Delay		12.0			10.3			27.8			20.3	
Approach LOS		B			B			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 71.5			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 14.6		Intersection LOS: B	
Intersection Capacity Utilization 68.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 16: Chartwell Rd & Cornwall Rd





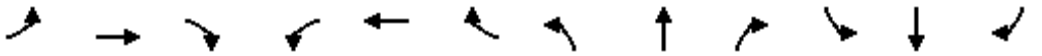
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	27	1147	43	804	250	157	60	130	27
v/c Ratio	0.09	0.61	0.23	0.42	0.67	0.28	0.17	0.23	0.06
Control Delay	9.4	12.0	13.1	10.2	33.9	18.0	22.4	22.1	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.4	12.0	13.1	10.2	33.9	18.0	22.4	22.1	7.6
Queue Length 50th (m)	1.6	48.2	2.8	30.3	29.2	12.0	5.9	13.0	0.0
Queue Length 95th (m)	6.4	86.3	10.7	55.1	70.9	33.9	18.7	33.7	5.4
Internal Link Dist (m)		585.1		130.4		189.6		431.7	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	443	2802	275	2861	577	846	548	886	736
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.41	0.16	0.28	0.43	0.19	0.11	0.15	0.04

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	850	205	40	705	35	230	85	60	55	120	25
Future Volume (vph)	25	850	205	40	705	35	230	85	60	55	120	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.99		1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1652	3364		1752	3444		1730	1756		1697	1881	1528
Flt Permitted	0.31	1.00		0.18	1.00		0.67	1.00		0.65	1.00	1.00
Satd. Flow (perm)	534	3364		332	3444		1227	1756		1165	1881	1528
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	924	223	43	766	38	250	92	65	60	130	27
RTOR Reduction (vph)	0	23	0	0	4	0	0	26	0	0	0	19
Lane Group Flow (vph)	27	1124	0	43	800	0	250	131	0	60	130	8
Confl. Peds. (#/hr)	5					5	5		5	5		5
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	38.6	38.6		38.6	38.6		20.7	20.7		20.7	20.7	20.7
Effective Green, g (s)	39.6	39.6		39.6	39.6		21.7	21.7		21.7	21.7	21.7
Actuated g/C Ratio	0.56	0.56		0.56	0.56		0.31	0.31		0.31	0.31	0.31
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	299	1884		185	1929		376	538		357	577	468
v/s Ratio Prot		c0.33			0.23			0.07			0.07	
v/s Ratio Perm	0.05			0.13			c0.20			0.05		0.01
v/c Ratio	0.09	0.60		0.23	0.41		0.66	0.24		0.17	0.23	0.02
Uniform Delay, d1	7.2	10.3		7.9	8.9		21.3	18.4		17.9	18.2	17.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.3	0.9		1.6	0.4		4.8	0.3		0.3	0.3	0.0
Delay (s)	7.5	11.1		9.4	9.3		26.2	18.7		18.2	18.5	17.1
Level of Service	A	B		A	A		C	B		B	B	B
Approach Delay (s)		11.1			9.3			23.3			18.3	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	70.7	Sum of lost time (s)	9.4
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

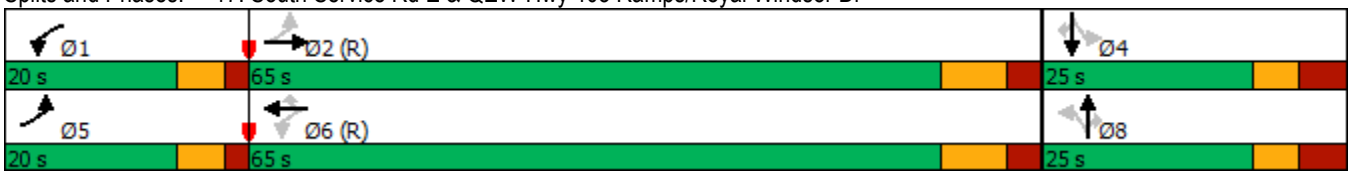


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	855	95	195	760	0	5	25	120	0	65	20
Future Volume (vph)	75	855	95	195	760	0	5	25	120	0	65	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	125.0		0.0	145.0		55.0	15.0		40.0	35.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985							0.850			0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3213	3364	0	1787	3312	1900	1805	1900	1455	1900	1863	1122
Flt Permitted	0.346			0.219			0.712					
Satd. Flow (perm)	1170	3364	0	412	3312	1900	1353	1900	1455	1900	1863	1122
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16							128			113
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		232.7			227.3			1164.2			153.5	
Travel Time (s)		16.8			16.4			83.8			11.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	9%	6%	3%	1%	9%	0%	0%	0%	11%	0%	2%	44%
Adj. Flow (vph)	80	910	101	207	809	0	5	27	128	0	69	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	1011	0	207	809	0	5	27	128	0	69	21
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	8.0	20.0		8.0	20.0	20.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	14.0	28.4		14.0	28.4	28.4	17.8	17.8	17.8	17.8	17.8	17.8
Total Split (s)	20.0	65.0		20.0	65.0	65.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	18.2%	59.1%		18.2%	59.1%	59.1%	22.7%	22.7%	22.7%	22.7%	22.7%	22.7%
Maximum Green (s)	14.0	56.6		14.0	56.6	56.6	17.2	17.2	17.2	17.2	17.2	17.2
Yellow Time (s)	4.0	5.4		4.0	5.4	5.4	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.0	3.0		2.0	3.0	3.0	4.1	4.1	4.1	4.1	4.1	4.1
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	77.4	66.0		85.5	72.8		11.8	11.8	11.8		11.8	11.8
Actuated g/C Ratio	0.70	0.60		0.78	0.66		0.11	0.11	0.11		0.11	0.11
v/c Ratio	0.08	0.50		0.43	0.37		0.03	0.13	0.48		0.35	0.10
Control Delay	3.5	14.0		5.8	9.6		43.8	45.6	14.1		50.4	0.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	3.5	14.0		5.8	9.6		43.8	45.6	14.1		50.4	0.8
LOS	A	B		A	A		D	D	B		D	A
Approach Delay		13.3			8.8			20.3			38.8	
Approach LOS		B			A			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay: 12.8		Intersection LOS: B	
Intersection Capacity Utilization 61.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	80	1011	207	809	5	27	128	69	21
v/c Ratio	0.08	0.50	0.43	0.37	0.03	0.13	0.48	0.35	0.10
Control Delay	3.5	14.0	5.8	9.6	43.8	45.6	14.1	50.4	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.5	14.0	5.8	9.6	43.8	45.6	14.1	50.4	0.8
Queue Length 50th (m)	1.5	61.4	8.7	41.5	1.1	5.7	0.0	14.8	0.0
Queue Length 95th (m)	3.5	93.4	16.3	57.9	4.7	14.1	17.6	28.4	0.0
Internal Link Dist (m)		208.7		203.3		1140.2		129.5	
Turn Bay Length (m)	125.0		145.0		15.0		40.0		
Base Capacity (vph)	1163	2024	518	2193	223	314	347	308	279
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.50	0.40	0.37	0.02	0.09	0.37	0.22	0.08

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	855	95	195	760	0	5	25	120	0	65	20
Future Volume (vph)	75	855	95	195	760	0	5	25	120	0	65	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.4		5.0	7.4		6.8	6.8	6.8		6.8	6.8
Lane Util. Factor	0.97	0.95		1.00	0.95		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	3213	3364		1787	3312		1805	1900	1455		1863	1122
Flt Permitted	0.35	1.00		0.22	1.00		0.71	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1171	3364		412	3312		1353	1900	1455		1863	1122
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	80	910	101	207	809	0	5	27	128	0	69	21
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	114	0	0	19
Lane Group Flow (vph)	80	1005	0	207	809	0	5	27	14	0	69	2
Heavy Vehicles (%)	9%	6%	3%	1%	9%	0%	0%	0%	11%	0%	2%	44%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	71.3	64.9		82.7	70.6		10.8	10.8	10.8		10.8	10.8
Effective Green, g (s)	73.3	65.9		84.0	71.6		11.8	11.8	11.8		11.8	11.8
Actuated g/C Ratio	0.67	0.60		0.76	0.65		0.11	0.11	0.11		0.11	0.11
Clearance Time (s)	6.0	8.4		6.0	8.4		7.8	7.8	7.8		7.8	7.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	917	2015		478	2155		145	203	156		199	120
v/s Ratio Prot	0.01	c0.30		c0.05	0.24			0.01			c0.04	
v/s Ratio Perm	0.05			0.28			0.00		0.01			0.00
v/c Ratio	0.09	0.50		0.43	0.38		0.03	0.13	0.09		0.35	0.02
Uniform Delay, d1	6.3	12.6		5.4	8.9		44.0	44.5	44.3		45.5	43.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.9		0.6	0.5		0.1	0.3	0.2		1.1	0.1
Delay (s)	6.3	13.5		6.0	9.4		44.1	44.8	44.5		46.6	44.0
Level of Service	A	B		A	A		D	D	D		D	D
Approach Delay (s)		13.0			8.7			44.5			46.0	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	61.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	115	175	0	25	35	0
Future Volume (vph)	115	175	0	25	35	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.919					
Flt Protected					0.950	
Satd. Flow (prot)	1712	0	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1712	0	0	1863	1770	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	64.3			219.4	105.4	
Travel Time (s)	4.6			15.8	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	190	0	27	38	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	315	0	0	27	38	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	115	175	0	25	35	0
Future Volume (Veh/h)	115	175	0	25	35	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	125	190	0	27	38	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			315		247	220
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			315		247	220
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		95	100
cM capacity (veh/h)			1245		741	820

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	315	27	38
Volume Left	0	0	38
Volume Right	190	0	0
cSH	1700	1245	741
Volume to Capacity	0.19	0.00	0.05
Queue Length 95th (m)	0.0	0.0	1.3
Control Delay (s)	0.0	0.0	10.1
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.1
Approach LOS			B

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	26.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	115	0	35	25	0	175
Future Volume (vph)	115	0	35	25	0	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.972		
Satd. Flow (prot)	1863	0	0	1811	1611	0
Flt Permitted				0.972		
Satd. Flow (perm)	1863	0	0	1811	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	53.7			64.3	43.5	
Travel Time (s)	3.9			4.6	3.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	0	38	27	0	190
Shared Lane Traffic (%)						
Lane Group Flow (vph)	125	0	0	65	190	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	115	0	35	25	0	175
Future Volume (Veh/h)	115	0	35	25	0	175
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	125	0	38	27	0	190
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			125		228	125
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			125		228	125
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	79
cM capacity (veh/h)			1462		740	926

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	125	65	190
Volume Left	0	38	0
Volume Right	0	0	190
cSH	1700	1462	926
Volume to Capacity	0.07	0.03	0.21
Queue Length 95th (m)	0.0	0.6	6.1
Control Delay (s)	0.0	4.5	9.9
Lane LOS		A	A
Approach Delay (s)	0.0	4.5	9.9
Approach LOS			A

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	27.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	230	0	5	260	245	55
Future Volume (vph)	230	0	5	260	245	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.975	
Flt Protected				0.999	0.961	
Satd. Flow (prot)	1863	0	0	1861	1745	0
Flt Permitted				0.999	0.961	
Satd. Flow (perm)	1863	0	0	1861	1745	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	216.0			632.0	87.0	
Travel Time (s)	15.6			45.5	6.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	250	0	5	283	266	60
Shared Lane Traffic (%)						
Lane Group Flow (vph)	250	0	0	288	326	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

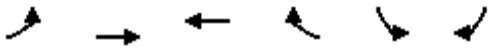
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	41.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	230	0	5	260	245	55
Future Volume (Veh/h)	230	0	5	260	245	55
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	250	0	5	283	266	60
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			250		543	250
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			250		543	250
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		47	92
cM capacity (veh/h)			1316		499	789

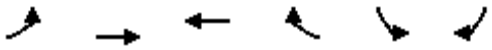
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	250	288	326
Volume Left	0	5	266
Volume Right	0	0	60
cSH	1700	1316	535
Volume to Capacity	0.15	0.00	0.61
Queue Length 95th (m)	0.0	0.1	32.4
Control Delay (s)	0.0	0.2	21.7
Lane LOS		A	C
Approach Delay (s)	0.0	0.2	21.7
Approach LOS			C

Intersection Summary			
Average Delay	8.2		
Intersection Capacity Utilization	41.3%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	25	30	150	5	30
Future Volume (vph)	25	25	30	150	5	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.888		0.883	
Flt Protected		0.976			0.993	
Satd. Flow (prot)	0	1818	1654	0	1633	0
Flt Permitted		0.976			0.993	
Satd. Flow (perm)	0	1818	1654	0	1633	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		249.8	119.8		103.6	
Travel Time (s)		18.0	8.6		7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	27	33	163	5	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	54	196	0	38	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.5%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	25	30	150	5	30
Future Volume (Veh/h)	25	25	30	150	5	30
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	27	33	163	5	33
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	196				196	114
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	196				196	114
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	96
cM capacity (veh/h)	1377				778	938

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	54	196	38
Volume Left	27	0	5
Volume Right	0	163	33
cSH	1377	1700	913
Volume to Capacity	0.02	0.12	0.04
Queue Length 95th (m)	0.5	0.0	1.0
Control Delay (s)	3.9	0.0	9.1
Lane LOS	A		A
Approach Delay (s)	3.9	0.0	9.1
Approach LOS			A

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	30	150	150	25	5	5
Future Volume (vph)	30	150	150	25	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.888		0.981			
Flt Protected	0.992					0.976
Satd. Flow (prot)	1641	0	1827	0	0	1818
Flt Permitted	0.992					0.976
Satd. Flow (perm)	1641	0	1827	0	0	1818
Link Speed (k/h)	50		50			50
Link Distance (m)	41.9		103.6			87.0
Travel Time (s)	3.0		7.5			6.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	163	163	27	5	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	196	0	190	0	0	10
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100		100	100	
Sign Control	Stop		Free			Free

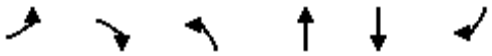
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	30	150	150	25	5	5
Future Volume (Veh/h)	30	150	150	25	5	5
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	163	163	27	5	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	192	176			190	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	192	176			190	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	81			100	
cM capacity (veh/h)	795	867			1384	

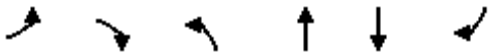
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	196	190	10
Volume Left	33	0	5
Volume Right	163	27	0
cSH	854	1700	1384
Volume to Capacity	0.23	0.11	0.00
Queue Length 95th (m)	7.1	0.0	0.1
Control Delay (s)	10.5	0.0	3.8
Lane LOS	B		A
Approach Delay (s)	10.5	0.0	3.8
Approach LOS	B		

Intersection Summary			
Average Delay		5.3	
Intersection Capacity Utilization		27.0%	ICU Level of Service A
Analysis Period (min)		15	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	175	35	35	175	0
Future Volume (vph)	0	175	35	35	175	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.976		
Satd. Flow (prot)	1611	0	0	1818	1863	0
Flt Permitted				0.976		
Satd. Flow (perm)	1611	0	0	1818	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	49.0			201.6	105.4	
Travel Time (s)	3.5			14.5	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	190	38	38	190	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	190	0	0	76	190	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

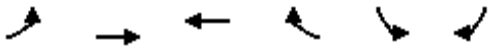
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	175	35	35	175	0
Future Volume (Veh/h)	0	175	35	35	175	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	190	38	38	190	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				201		
pX, platoon unblocked						
vC, conflicting volume	304	190	190			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	304	190	190			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	78	97			
cM capacity (veh/h)	669	852	1384			

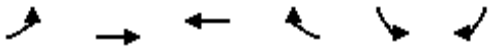
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	190	76	190
Volume Left	0	38	0
Volume Right	190	0	0
cSH	852	1384	1700
Volume to Capacity	0.22	0.03	0.11
Queue Length 95th (m)	6.8	0.7	0.0
Control Delay (s)	10.4	3.9	0.0
Lane LOS	B	A	
Approach Delay (s)	10.4	3.9	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	5.0		
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	30	0	0	0	0	180
Future Volume (vph)	30	0	0	0	0	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected		0.950				
Satd. Flow (prot)	0	1770	1863	0	1611	0
Flt Permitted		0.950				
Satd. Flow (perm)	0	1770	1863	0	1611	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		119.8	134.5		44.9	
Travel Time (s)		8.6	9.7		3.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	0	0	0	0	196
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	33	0	0	196	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

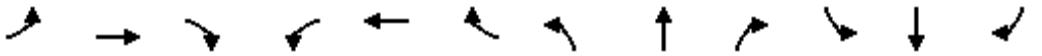
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	0	0	0	0	180
Future Volume (Veh/h)	30	0	0	0	0	180
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	0	0	0	0	196
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0				66	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				66	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	82
cM capacity (veh/h)	1623				920	1085

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	33	0	196
Volume Left	33	0	0
Volume Right	0	0	196
cSH	1623	1700	1085
Volume to Capacity	0.02	0.00	0.18
Queue Length 95th (m)	0.5	0.0	5.3
Control Delay (s)	7.3	0.0	9.0
Lane LOS	A		A
Approach Delay (s)	7.3	0.0	9.0
Approach LOS			A

Intersection Summary			
Average Delay	8.8		
Intersection Capacity Utilization	21.1%	ICU Level of Service	A
Analysis Period (min)	15		

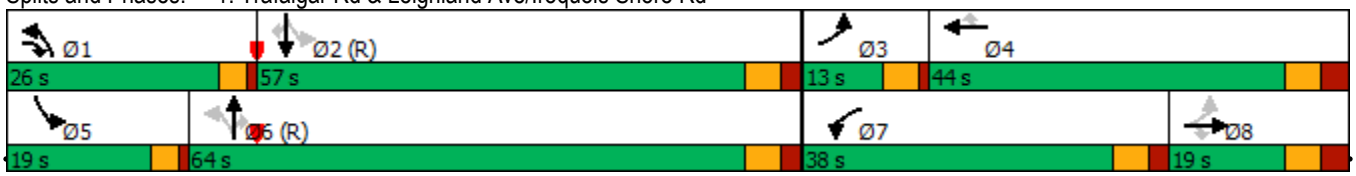


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	155	280	765	200	285	295	2465	875	130	1750	115
Future Volume (vph)	100	155	280	765	200	285	295	2465	875	130	1750	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.95					0.92			0.97			0.87
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1881	1599	3467	1881	1615	1787	5136	1599	1805	5085	1615
Flt Permitted	0.629			0.950			0.072			0.076		
Satd. Flow (perm)	1136	1881	1599	3467	1881	1485	135	5136	1543	144	5085	1399
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			145			473			173
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			521.8			275.4			339.2	
Travel Time (s)		27.7			37.6			19.8			24.4	
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Adj. Flow (vph)	103	160	289	789	206	294	304	2541	902	134	1804	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	160	289	789	206	294	304	2541	902	134	1804	119
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

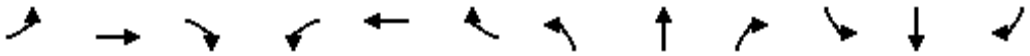
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	11.0	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	13.0	19.0	26.0	38.0	44.0	44.0	26.0	64.0	64.0	19.0	57.0	57.0
Total Split (%)	9.3%	13.6%	18.6%	27.1%	31.4%	31.4%	18.6%	45.7%	45.7%	13.6%	40.7%	40.7%
Maximum Green (s)	8.3	12.2	22.0	32.3	37.2	37.2	22.0	57.9	57.9	15.0	50.9	50.9
Yellow Time (s)	3.7	3.7	3.0	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	1.0	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					30	30		50	50		50	50
Act Effct Green (s)	24.4	13.2	41.1	33.3	38.4	38.4	80.0	62.6	62.6	67.2	52.8	52.8
Actuated g/C Ratio	0.17	0.09	0.29	0.24	0.27	0.27	0.57	0.45	0.45	0.48	0.38	0.38
v/c Ratio	0.43	0.90	0.53	0.96	0.40	0.57	0.90	1.11	0.95	0.63	0.94	0.19
Control Delay	37.6	108.5	29.5	75.1	44.3	26.5	54.5	70.1	11.2	39.7	52.9	1.5
Queue Delay	0.0	0.0	61.9	4.5	0.0	0.0	0.0	0.0	27.7	0.0	5.9	0.0
Total Delay	37.6	108.5	91.3	79.5	44.3	26.5	54.5	70.1	38.9	39.7	58.8	1.5
LOS	D	F	F	E	D	C	D	E	D	D	E	A
Approach Delay		86.3			61.8			61.3			54.2	
Approach LOS		F			E			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.11			
Intersection Signal Delay: 61.3		Intersection LOS: E	
Intersection Capacity Utilization 102.6%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



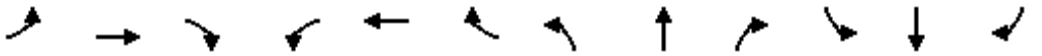
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	103	160	289	789	206	294	304	2541	902	134	1804	119
v/c Ratio	0.43	0.90	0.53	0.96	0.40	0.57	0.90	1.11	0.95	0.63	0.94	0.19
Control Delay	37.6	108.5	29.5	75.1	44.3	26.5	54.5	70.1	11.2	39.7	52.9	1.5
Queue Delay	0.0	0.0	61.9	4.5	0.0	0.0	0.0	0.0	27.7	0.0	5.9	0.0
Total Delay	37.6	108.5	91.3	79.5	44.3	26.5	54.5	70.1	38.9	39.7	58.8	1.5
Queue Length 50th (m)	19.6	47.0	44.2	117.8	49.3	37.2	64.3	~304.8	78.8	20.2	186.8	0.0
Queue Length 95th (m)	33.5	#90.9	74.6	#158.5	73.9	69.2	m44.9	m175.6	m34.2	42.1	#221.3	3.0
Internal Link Dist (m)		361.1			497.8			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	244	177	553	824	516	512	348	2296	951	262	1919	635
Starvation Cap Reductn	0	0	0	0	0	0	0	0	100	0	0	0
Spillback Cap Reductn	0	0	316	23	0	0	0	0	0	0	100	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.90	1.22	0.99	0.40	0.57	0.87	1.11	1.06	0.51	0.99	0.19

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

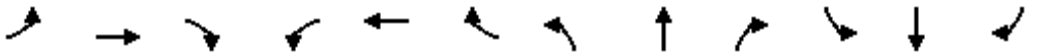
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	155	280	765	200	285	295	2465	875	130	1750	115
Future Volume (vph)	100	155	280	765	200	285	295	2465	875	130	1750	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.92	1.00	1.00	0.97	1.00	1.00	0.87
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1750	1881	1599	3467	1881	1485	1787	5136	1543	1805	5085	1399
Flt Permitted	0.63	1.00	1.00	0.95	1.00	1.00	0.07	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	1159	1881	1599	3467	1881	1485	135	5136	1543	144	5085	1399
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	103	160	289	789	206	294	304	2541	902	134	1804	119
RTOR Reduction (vph)	0	0	79	0	0	105	0	0	262	0	0	74
Lane Group Flow (vph)	103	160	210	789	206	189	304	2541	640	134	1804	45
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	20.3	12.2	33.3	32.3	37.4	37.4	76.9	61.6	61.6	63.1	51.8	51.8
Effective Green, g (s)	22.3	13.2	35.3	33.3	38.4	38.4	77.9	62.6	62.6	65.1	52.8	52.8
Actuated g/C Ratio	0.16	0.09	0.25	0.24	0.27	0.27	0.56	0.45	0.45	0.46	0.38	0.38
Clearance Time (s)	4.7	6.8	4.0	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	223	177	403	824	515	407	335	2296	689	212	1917	527
v/s Ratio Prot	0.03	c0.09	0.08	c0.23	0.11		c0.14	c0.49		0.06	0.35	
v/s Ratio Perm	0.04		0.05			0.13	0.36		0.42	0.24		0.03
v/c Ratio	0.46	0.90	0.52	0.96	0.40	0.46	0.91	1.11	0.93	0.63	0.94	0.09
Uniform Delay, d1	52.6	62.8	45.1	52.7	41.4	42.2	44.4	38.7	36.6	30.8	42.1	28.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.30	0.50	0.36	1.00	1.00	1.00
Incremental Delay, d2	1.5	41.2	1.2	21.4	0.5	0.8	3.7	48.7	2.8	6.0	10.7	0.3
Delay (s)	54.1	103.9	46.3	74.0	41.9	43.1	61.3	68.0	16.0	36.8	52.8	28.4
Level of Service	D	F	D	E	D	D	E	E	B	D	D	C
Approach Delay (s)		64.5			61.8			54.9			50.3	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	55.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	102.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

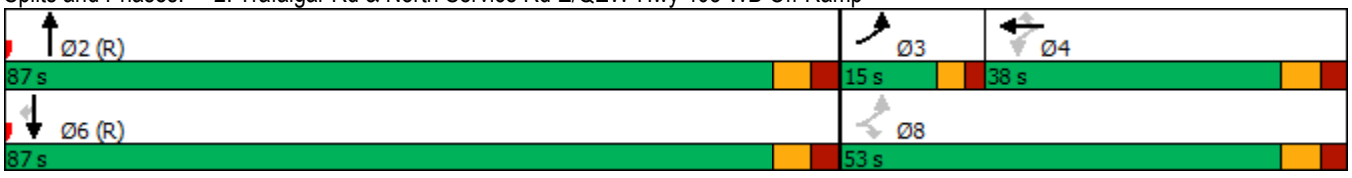


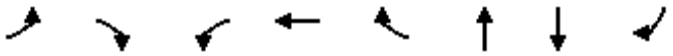
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	270	765	5	460	0	3570	0	0	3185	15
Future Volume (vph)	25	0	270	765	5	460	0	3570	0	0	3185	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.94
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.953							
Satd. Flow (prot)	1805	0	1599	1681	1687	1583	0	5136	0	0	5036	1524
Flt Permitted	0.148			0.950	0.953							
Satd. Flow (perm)	281	0	1599	1681	1687	1583	0	5136	0	0	5036	1437
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			91						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							15		10	10		15
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Adj. Flow (vph)	27	0	287	814	5	489	0	3798	0	0	3388	16
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	27	0	287	407	412	489	0	3798	0	0	3388	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	15.0		53.0	38.0	38.0	38.0		87.0			87.0	87.0
Total Split (%)	10.7%		37.9%	27.1%	27.1%	27.1%		62.1%			62.1%	62.1%
Maximum Green (s)	10.0		46.0	31.0	31.0	31.0		80.0			80.0	80.0
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		15			15	15
Act Effct Green (s)	49.0		47.0	38.5	38.5	38.5		81.0			81.0	81.0
Actuated g/C Ratio	0.35		0.34	0.28	0.28	0.28		0.58			0.58	0.58
v/c Ratio	0.14		0.52	0.88	0.89	0.98		1.28			1.16	0.02
Control Delay	31.7		37.0	70.2	71.1	75.6		149.6			111.4	0.0
Queue Delay	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	31.7		37.0	70.2	71.1	75.6		149.6			111.4	0.0
LOS	C		D	E	E	E		F			F	A
Approach Delay		36.5			72.5			149.6			110.9	
Approach LOS		D			E			F			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.28			
Intersection Signal Delay: 119.2		Intersection LOS: F	
Intersection Capacity Utilization 114.6%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp





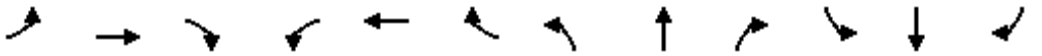
Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	27	287	407	412	489	3798	3388	16
v/c Ratio	0.14	0.52	0.88	0.89	0.98	1.28	1.16	0.02
Control Delay	31.7	37.0	70.2	71.1	75.6	149.6	111.4	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.7	37.0	70.2	71.1	75.6	149.6	111.4	0.0
Queue Length 50th (m)	5.2	59.8	~127.0	~130.4	~138.4	~511.5	~421.9	0.0
Queue Length 95th (m)	12.3	89.6	#207.4	#210.2	#215.5	m#478.6	#445.2	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	218	557	462	464	501	2971	2913	860
Starvation Cap Reductn	0	0	0	0	0	4	0	0
Spillback Cap Reductn	0	0	0	0	0	26	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.52	0.88	0.89	0.98	1.29	1.16	0.02

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

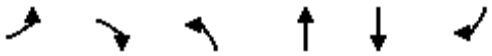
m Volume for 95th percentile queue is metered by upstream signal.



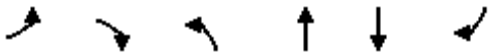
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	270	765	5	460	0	3570	0	0	3185	15
Future Volume (vph)	25	0	270	765	5	460	0	3570	0	0	3185	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.94
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1681	1687	1583		5136			5036	1437
Flt Permitted	0.15		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	280		1599	1681	1687	1583		5136			5036	1437
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	27	0	287	814	5	489	0	3798	0	0	3388	16
RTOR Reduction (vph)	0	0	20	0	0	66	0	0	0	0	0	7
Lane Group Flow (vph)	27	0	267	407	412	423	0	3798	0	0	3388	9
Confl. Peds. (#/hr)							15		10	10		15
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	48.0		48.0	37.5	37.5	37.5		78.0			78.0	78.0
Effective Green, g (s)	49.0		49.0	38.5	38.5	38.5		79.0			79.0	79.0
Actuated g/C Ratio	0.35		0.35	0.28	0.28	0.28		0.56			0.56	0.56
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	168		559	462	463	435		2898			2841	810
v/s Ratio Prot	0.01							c0.74			0.67	
v/s Ratio Perm	0.05		c0.17	0.24	0.24	c0.27						0.01
v/c Ratio	0.16		0.48	0.88	0.89	0.97		1.31			1.19	0.01
Uniform Delay, d1	33.4		35.5	48.6	48.7	50.2		30.5			30.5	13.4
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.77			1.29	1.00
Incremental Delay, d2	0.8		0.8	17.5	18.5	35.8		140.0			89.0	0.0
Delay (s)	34.2		36.3	66.1	67.2	86.0		163.5			128.4	13.4
Level of Service	C		D	E	E	F		F			F	B
Approach Delay (s)		36.1			73.9			163.5			127.9	
Approach LOS		D			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	131.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	114.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



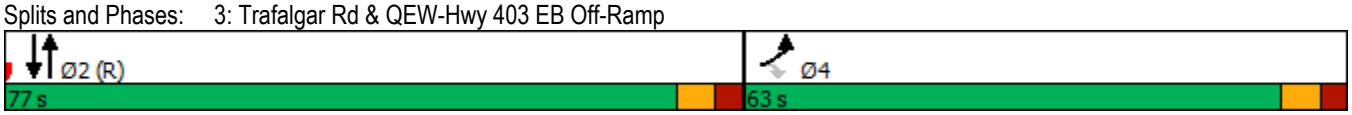
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1365	640	0	2580	2655	0
Future Volume (vph)	1365	640	0	2580	2655	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3467	1583	0	5085	5085	0
Flt Permitted	0.950					
Satd. Flow (perm)	3467	*1800	0	5085	5085	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			45.3	331.3	
Travel Time (s)	15.4			3.3	23.9	
Confl. Peds. (#/hr)			25			25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Adj. Flow (vph)	1437	674	0	2716	2795	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1437	674	0	2716	2795	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	63.0	63.0		77.0	77.0	
Total Split (%)	45.0%	45.0%		55.0%	55.0%	
Maximum Green (s)	56.0	56.0		70.0	70.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		15	15	
Act Effct Green (s)	57.0	57.0		71.0	71.0	
Actuated g/C Ratio	0.41	0.41		0.51	0.51	
v/c Ratio	1.02	0.92		1.05	1.08	
Control Delay	69.6	58.5		56.9	70.9	
Queue Delay	0.0	0.0		20.7	0.0	
Total Delay	69.6	58.5		77.6	70.9	
LOS	E	E		E	E	
Approach Delay	66.0			77.6	70.9	
Approach LOS	E			E	E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 71.9		Intersection LOS: E	
Intersection Capacity Utilization 100.9%		ICU Level of Service G	
Analysis Period (min) 15			
* User Entered Value			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp





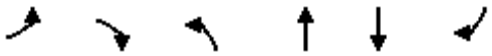
Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	1437	674	2716	2795
v/c Ratio	1.02	0.92	1.05	1.08
Control Delay	69.6	58.5	56.9	70.9
Queue Delay	0.0	0.0	20.7	0.0
Total Delay	69.6	58.5	77.6	70.9
Queue Length 50th (m)	~227.9	184.3	~319.1	~331.6
Queue Length 95th (m)	#271.8	#263.4	m#309.8	m231.7
Internal Link Dist (m)	190.2		21.3	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1411	732	2578	2578
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	957	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.02	0.92	1.68	1.08

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

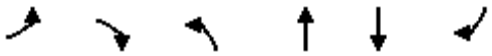
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1365	640	0	2580	2655	0
Future Volume (vph)	1365	640	0	2580	2655	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3467	1583		5085	5085	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3467	1800		5085	5085	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1437	674	0	2716	2795	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1437	674	0	2716	2795	0
Confl. Peds. (#/hr)			25			25
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	56.0	56.0		70.0	70.0	
Effective Green, g (s)	57.0	57.0		71.0	71.0	
Actuated g/C Ratio	0.41	0.41		0.51	0.51	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1411	732		2578	2578	
v/s Ratio Prot	c0.41			0.53	c0.55	
v/s Ratio Perm		0.37				
v/c Ratio	1.02	0.92		1.05	1.08	
Uniform Delay, d1	41.5	39.4		34.5	34.5	
Progression Factor	1.00	1.00		0.85	0.95	
Incremental Delay, d2	28.7	16.9		27.6	38.7	
Delay (s)	70.2	56.3		56.8	71.5	
Level of Service	E	E		E	E	
Approach Delay (s)	65.7			56.8	71.5	
Approach LOS	E			E	E	

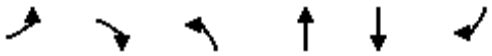
Intersection Summary			
HCM 2000 Control Delay	64.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	100.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	60	0	2680	2535	680
Future Volume (vph)	0	60	0	2680	2535	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.968	
Flt Protected						
Satd. Flow (prot)	0	1522	0	5085	4930	0
Flt Permitted						
Satd. Flow (perm)	0	1522	0	5085	4930	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	144.9			271.4	45.3	
Travel Time (s)	10.4			19.5	3.3	
Confl. Peds. (#/hr)			20			20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	8%	0%	2%	1%	5%
Adj. Flow (vph)	0	64	0	2851	2697	723
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	64	0	2851	3420	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	60	0	2680	2535	680
Future Volume (Veh/h)	0	60	0	2680	2535	680
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	64	0	2851	2697	723
Pedestrians	20					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	2					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				271	45	
pX, platoon unblocked	0.63	0.50	0.50			
vC, conflicting volume	4029	1280	3440			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	854	0	2364			
tC, single (s)	6.8	7.1	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	100	88	100			
cM capacity (veh/h)	187	520	102			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	64	950	950	950	1079	1079	1262
Volume Left	0	0	0	0	0	0	0
Volume Right	64	0	0	0	0	0	723
cSH	520	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.12	0.56	0.56	0.56	0.63	0.63	0.74
Queue Length 95th (m)	3.3	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	12.9	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	12.9	0.0			0.0		
Approach LOS	B						

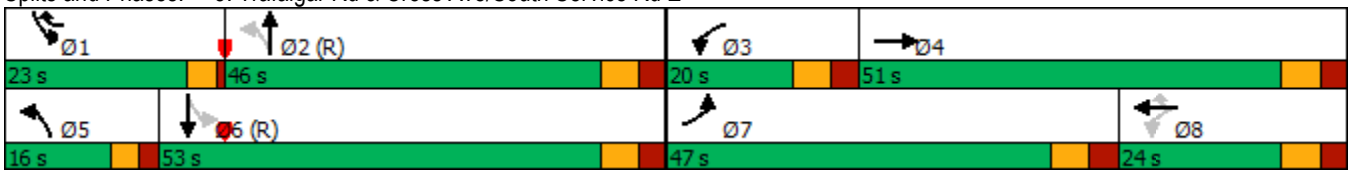
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	74.9%	ICU Level of Service		D
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	950	115	120	75	135	355	140	1440	55	320	1720	390
Future Volume (vph)	950	115	120	75	135	355	140	1440	55	320	1720	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		0.0	50.0		0.0	120.0		0.0	55.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.98		0.98				1.00			0.99	
Frt		0.923				0.850		0.994			0.972	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	1671	0	1805	1900	1599	1719	5100	0	1752	4973	0
Flt Permitted	0.950			0.608			0.100			0.093		
Satd. Flow (perm)	3400	1671	0	1135	1900	1599	181	5100	0	172	4973	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		39				140		4			39	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		217.0			420.1			277.9			271.4	
Travel Time (s)		15.6			30.2			20.0			19.5	
Confl. Peds. (#/hr)			20	20			15		15	15		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Adj. Flow (vph)	979	119	124	77	139	366	144	1485	57	330	1773	402
Shared Lane Traffic (%)												
Lane Group Flow (vph)	979	243	0	77	139	366	144	1542	0	330	2175	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		12.0	10.0	7.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0		19.0	17.0	11.0	12.0	34.0		11.0	34.0	
Total Split (s)	47.0	51.0		20.0	24.0	23.0	16.0	46.0		23.0	53.0	
Total Split (%)	33.6%	36.4%		14.3%	17.1%	16.4%	11.4%	32.9%		16.4%	37.9%	
Maximum Green (s)	40.0	44.0		13.0	17.0	19.0	11.0	39.0		19.0	46.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	1.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0						7.0			7.0	
Flash Dont Walk (s)		28.0						20.0			20.0	
Pedestrian Calls (#/hr)		10						15			15	
Act Effct Green (s)	41.0	44.1		29.1	16.1	44.0	53.6	40.0		67.9	49.3	
Actuated g/C Ratio	0.29	0.32		0.21	0.12	0.31	0.38	0.29		0.48	0.35	
v/c Ratio	0.98	0.44		0.26	0.64	0.61	0.73	1.06		1.00	1.23	
Control Delay	73.8	34.1		28.3	72.4	29.4	48.9	82.1		63.8	147.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	73.8	34.1		28.3	72.4	29.4	48.9	82.1		63.8	147.5	
LOS	E	C		C	E	C	D	F		E	F	
Approach Delay		65.9			39.5			79.2			136.5	
Approach LOS		E			D			E			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.23			
Intersection Signal Delay: 96.6		Intersection LOS: F	
Intersection Capacity Utilization 103.7%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 5: Trafalgar Rd & Cross Ave/South Service Rd E



5: Trafalgar Rd & Cross Ave/South Service Rd E



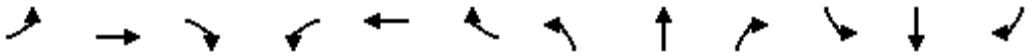
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	979	243	77	139	366	144	1542	330	2175
v/c Ratio	0.98	0.44	0.26	0.64	0.61	0.73	1.06	1.00	1.23
Control Delay	73.8	34.1	28.3	72.4	29.4	48.9	82.1	63.8	147.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.8	34.1	28.3	72.4	29.4	48.9	82.1	63.8	147.5
Queue Length 50th (m)	146.4	46.4	12.4	38.9	56.2	32.1	~174.7	~88.7	~288.5
Queue Length 95th (m)	#192.6	72.1	22.4	61.9	91.9	m37.6	m#200.9	m#83.3	m#265.6
Internal Link Dist (m)		193.0		396.1			253.9		247.4
Turn Bay Length (m)	130.0		50.0			120.0		55.0	
Base Capacity (vph)	995	569	310	244	598	203	1460	330	1775
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.43	0.25	0.57	0.61	0.71	1.06	1.00	1.23

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

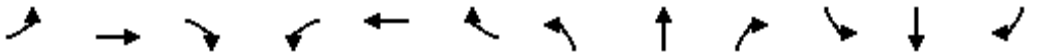
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	950	115	120	75	135	355	140	1440	55	320	1720	390
Future Volume (vph)	950	115	120	75	135	355	140	1440	55	320	1720	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.98		1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	1.00	0.85	1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3400	1672		1787	1900	1599	1719	5102		1752	4974	
Flt Permitted	0.95	1.00		0.61	1.00	1.00	0.10	1.00		0.09	1.00	
Satd. Flow (perm)	3400	1672		1143	1900	1599	181	5102		172	4974	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	979	119	124	77	139	366	144	1485	57	330	1773	402
RTOR Reduction (vph)	0	27	0	0	0	102	0	3	0	0	25	0
Lane Group Flow (vph)	979	216	0	77	139	264	144	1539	0	330	2150	0
Confl. Peds. (#/hr)			20	20			15		15	15		15
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Turn Type	Prot	NA		pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				8		8	2			6		
Actuated Green, G (s)	40.0	43.1		27.1	15.1	36.0	49.6	39.0		63.9	48.3	
Effective Green, g (s)	41.0	44.1		29.1	16.1	38.0	51.6	40.0		64.9	49.3	
Actuated g/C Ratio	0.29	0.32		0.21	0.12	0.27	0.37	0.29		0.46	0.35	
Clearance Time (s)	7.0	7.0		7.0	7.0	4.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0		3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	995	526		297	218	434	194	1457		326	1751	
v/s Ratio Prot	c0.29	0.13		0.02	c0.07	0.10	0.06	0.30		c0.16	c0.43	
v/s Ratio Perm				0.03		0.07	0.21			0.31		
v/c Ratio	0.98	0.41		0.26	0.64	0.61	0.74	1.06		1.01	1.23	
Uniform Delay, d1	49.2	37.7		45.9	59.2	44.5	35.5	50.0		44.8	45.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.32	1.03		1.27	1.25	
Incremental Delay, d2	24.5	0.7		0.6	6.7	2.4	6.7	33.2		18.1	103.0	
Delay (s)	73.6	38.4		46.5	65.9	46.9	53.7	84.8		75.1	159.8	
Level of Service	E	D		D	E	D	D	F		E	F	
Approach Delay (s)		66.6			51.4			82.2			148.6	
Approach LOS		E			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	103.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	103.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

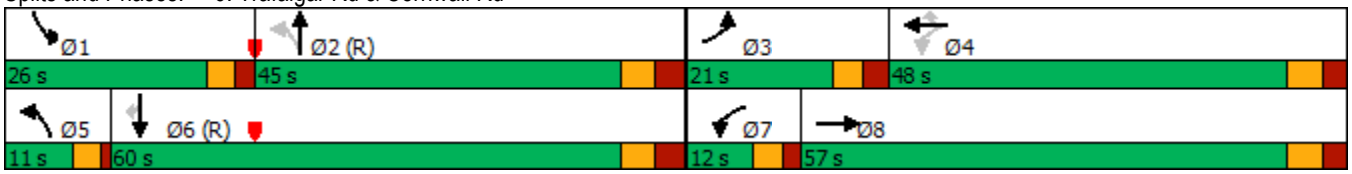


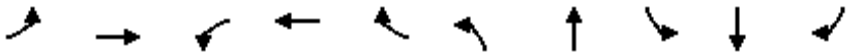
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	550	45	55	695	615	60	710	60	495	750	300
Future Volume (vph)	360	550	45	55	695	615	60	710	60	495	750	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.98	1.00		0.99		0.93		1.00		0.99		0.98
Frt		0.989				0.850		0.988				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	3494	0	1805	3539	1583	1770	3557	0	3433	1881	1553
Flt Permitted	0.950			0.391			0.105			0.950		
Satd. Flow (perm)	3389	3494	0	736	3539	1470	196	3557	0	3387	1881	1516
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				301		6				184
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			277.9	
Travel Time (s)		41.4			45.2			10.0			20.0	
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Adj. Flow (vph)	371	567	46	57	716	634	62	732	62	510	773	309
Shared Lane Traffic (%)												
Lane Group Flow (vph)	371	613	0	57	716	634	62	794	0	510	773	309
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	21.0	57.0		12.0	48.0	48.0	11.0	45.0		26.0	60.0	60.0
Total Split (%)	15.0%	40.7%		8.6%	34.3%	34.3%	7.9%	32.1%		18.6%	42.9%	42.9%
Maximum Green (s)	15.3	50.6		7.0	41.6	41.6	7.0	38.1		21.0	53.1	53.1
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		30			30	30		15			15	15
Act Effct Green (s)	16.3	53.9		51.9	42.5	42.5	50.0	39.1		22.1	56.4	56.4
Actuated g/C Ratio	0.12	0.38		0.37	0.30	0.30	0.36	0.28		0.16	0.40	0.40
v/c Ratio	0.92	0.45		0.17	0.67	0.97	0.39	0.80		0.94	1.02	0.43
Control Delay	85.2	35.2		22.8	46.2	53.3	28.6	53.4		85.3	55.0	17.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	85.2	35.2		22.8	46.2	53.3	28.6	53.4		85.3	55.0	17.4
LOS	F	D		C	D	D	C	D		F	E	B
Approach Delay		54.0			48.5			51.6			57.4	
Approach LOS		D			D			D			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 135			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 53.1		Intersection LOS: D	
Intersection Capacity Utilization 96.6%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd





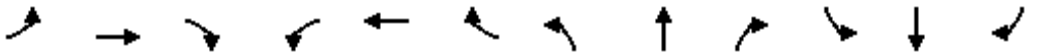
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	371	613	57	716	634	62	794	510	773	309
v/c Ratio	0.92	0.45	0.17	0.67	0.97	0.39	0.80	0.94	1.02	0.43
Control Delay	85.2	35.2	22.8	46.2	53.3	28.6	53.4	85.3	55.0	17.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.2	35.2	22.8	46.2	53.3	28.6	53.4	85.3	55.0	17.4
Queue Length 50th (m)	56.5	75.0	9.0	96.0	111.9	9.4	112.5	81.7	~237.3	29.4
Queue Length 95th (m)	#87.0	93.8	17.6	118.6	#196.8	18.1	138.0	m69.7	m103.9	m24.5
Internal Link Dist (m)		551.4		604.3			115.4		253.9	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	403	1349	333	1076	656	159	997	542	757	720
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.45	0.17	0.67	0.97	0.39	0.80	0.94	1.02	0.43

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

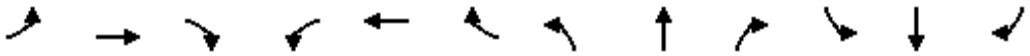
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	550	45	55	695	615	60	710	60	495	750	300
Future Volume (vph)	360	550	45	55	695	615	60	710	60	495	750	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.93	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3467	3493		1799	3539	1470	1770	3558		3433	1881	1516
Flt Permitted	0.95	1.00		0.39	1.00	1.00	0.10	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3467	3493		740	3539	1470	196	3558		3433	1881	1516
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	371	567	46	57	716	634	62	732	62	510	773	309
RTOR Reduction (vph)	0	4	0	0	0	207	0	4	0	0	0	112
Lane Group Flow (vph)	371	609	0	57	716	427	62	790	0	510	773	197
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	15.3	52.9		48.1	42.5	42.5	42.7	37.1		21.1	53.6	53.6
Effective Green, g (s)	16.3	53.9		50.1	43.5	43.5	44.7	38.1		22.1	54.6	54.6
Actuated g/C Ratio	0.12	0.38		0.36	0.31	0.31	0.32	0.27		0.16	0.39	0.39
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		4.0	3.0	3.0	3.0	5.0		4.0	5.0	5.0
Lane Grp Cap (vph)	403	1344		314	1099	456	136	968		541	733	591
v/s Ratio Prot	c0.11	0.17		0.01	0.20		0.02	0.22		c0.15	c0.41	
v/s Ratio Perm				0.06		c0.29	0.12					0.13
v/c Ratio	0.92	0.45		0.18	0.65	0.94	0.46	0.82		0.94	1.05	0.33
Uniform Delay, d1	61.2	32.1		29.8	41.7	46.9	37.9	47.7		58.3	42.7	29.9
Progression Factor	0.94	1.05		1.00	1.00	1.00	1.00	1.00		1.42	0.94	1.41
Incremental Delay, d2	25.2	0.2		0.4	1.4	26.5	2.4	7.5		3.9	28.3	0.1
Delay (s)	82.8	33.8		30.2	43.1	73.4	40.3	55.2		87.0	68.5	42.3
Level of Service	F	C		C	D	E	D	E		F	E	D
Approach Delay (s)		52.3			56.2			54.1			69.3	
Approach LOS		D			E			D			E	

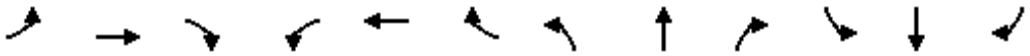
Intersection Summary			
HCM 2000 Control Delay	59.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	25	0	0	520	170	0	0	0	30	5	65
Future Volume (vph)	10	25	0	0	520	170	0	0	0	30	5	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.967						0.912	
Flt Protected		0.986									0.985	
Satd. Flow (prot)	0	1822	0	0	1745	0	0	1900	0	0	1707	0
Flt Permitted		0.986									0.985	
Satd. Flow (perm)	0	1822	0	0	1745	0	0	1900	0	0	1707	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		175.8			144.9			44.8			92.1	
Travel Time (s)		12.7			10.4			3.2			6.6	
Confl. Peds. (#/hr)			10	10					10	10		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	4%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	11	27	0	0	559	183	0	0	0	32	5	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	0	0	742	0	0	0	0	0	107	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

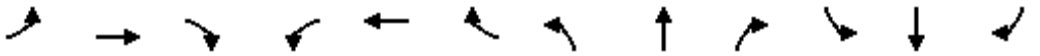
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 50.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	25	0	0	520	170	0	0	0	30	5	65
Future Volume (Veh/h)	10	25	0	0	520	170	0	0	0	30	5	65
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	11	27	0	0	559	183	0	0	0	32	5	70
Pedestrians					10			10				
Lane Width (m)					3.6			3.6				
Walking Speed (m/s)					1.2			1.2				
Percent Blockage					1			1				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		355										
pX, platoon unblocked												
vC, conflicting volume	742			37			782	801	47	710	710	650
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	742			37			782	801	47	710	710	650
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	91	99	85
cM capacity (veh/h)	874			1573			258	313	1011	343	354	472

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	38	742	0	107
Volume Left	11	0	0	32
Volume Right	0	183	0	70
cSH	874	1573	1700	419
Volume to Capacity	0.01	0.00	0.02	0.26
Queue Length 95th (m)	0.3	0.0	0.0	8.0
Control Delay (s)	2.7	0.0	0.0	16.5
Lane LOS	A		A	C
Approach Delay (s)	2.7	0.0	0.0	16.5
Approach LOS			A	C

Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	50.9%	ICU Level of Service	A	
Analysis Period (min)	15			

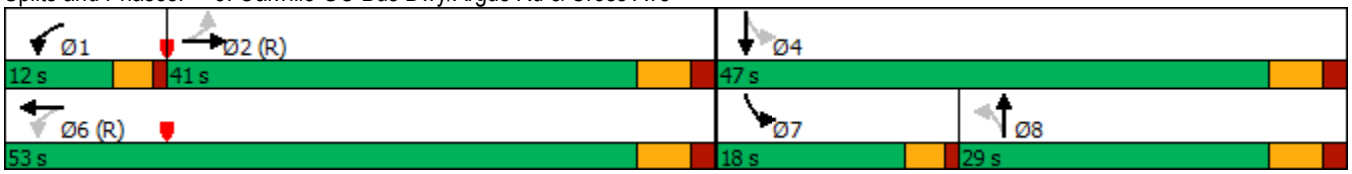


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1070	15	15	680	75	15	0	30	220	15	205
Future Volume (vph)	25	1070	15	15	680	75	15	0	30	220	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	30.0			15.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00			0.99			0.94		0.95	0.94	
Frt		0.998			0.985			0.910			0.860	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1805	3552	0	902	3506	0	0	831	0	1787	1437	0
Flt Permitted	0.333			0.124				0.851		0.725		
Satd. Flow (perm)	626	3552	0	118	3506	0	0	708	0	1294	1437	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			16			120			134	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		107.3			217.0			71.0			179.3	
Travel Time (s)		7.7			15.6			5.1			12.9	
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Adj. Flow (vph)	27	1151	16	16	731	81	16	0	32	237	16	220
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	1167	0	16	812	0	0	48	0	237	236	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

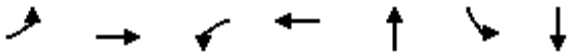
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	22.0	22.0		8.0	22.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	29.0	29.0		12.0	29.0		29.0	29.0		9.0	29.0	
Total Split (s)	41.0	41.0		12.0	53.0		29.0	29.0		18.0	47.0	
Total Split (%)	41.0%	41.0%		12.0%	53.0%		29.0%	29.0%		18.0%	47.0%	
Maximum Green (s)	35.0	35.0		8.0	47.0		23.0	23.0		14.0	41.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	5.0	5.0		2.5	5.0		4.0	4.0		3.0	4.0	
Recall Mode	C-Min	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	16.0	16.0			16.0		16.0	16.0			16.0	
Pedestrian Calls (#/hr)	15	15			15		45	45			45	
Act Effct Green (s)	51.7	51.7		58.5	56.5			18.8		35.5	33.5	
Actuated g/C Ratio	0.52	0.52		0.58	0.56			0.19		0.36	0.34	
v/c Ratio	0.08	0.64		0.12	0.41			0.21		0.44	0.41	
Control Delay	20.5	23.8		14.5	14.9			2.0		24.7	11.1	
Queue Delay	0.0	3.3		0.0	0.0			0.0		0.0	0.0	
Total Delay	20.5	27.1		14.5	14.9			2.0		24.7	11.1	
LOS	C	C		B	B			A		C	B	
Approach Delay		27.0			14.9			2.0			17.9	
Approach LOS		C			B			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 20.9		Intersection LOS: C	
Intersection Capacity Utilization 57.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: Oakville GO Bus Dwy/Argus Rd & Cross Ave



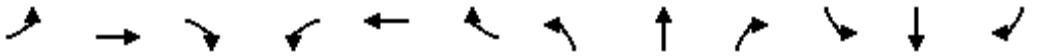
8: Oakville GO Bus Dwy/Argus Rd & Cross Ave



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	27	1167	16	812	48	237	236
v/c Ratio	0.08	0.64	0.12	0.41	0.21	0.44	0.41
Control Delay	20.5	23.8	14.5	14.9	2.0	24.7	11.1
Queue Delay	0.0	3.3	0.0	0.0	0.0	0.0	0.0
Total Delay	20.5	27.1	14.5	14.9	2.0	24.7	11.1
Queue Length 50th (m)	2.9	93.4	1.6	55.5	0.0	30.4	12.7
Queue Length 95th (m)	10.2	#160.6	5.2	72.2	0.0	48.4	30.5
Internal Link Dist (m)		83.3		193.0	47.0		155.3
Turn Bay Length (m)	20.0		20.0			15.0	
Base Capacity (vph)	323	1836	139	1986	261	540	681
Starvation Cap Reductn	0	551	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.91	0.12	0.41	0.18	0.44	0.35

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1070	15	15	680	75	15	0	30	220	15	205
Future Volume (vph)	25	1070	15	15	680	75	15	0	30	220	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99			0.95		1.00	0.94	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			0.99		0.96	1.00	
Frt	1.00	1.00		1.00	0.99			0.91		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1787	3552		902	3506			819		1722	1437	
Flt Permitted	0.33	1.00		0.12	1.00			0.85		0.72	1.00	
Satd. Flow (perm)	626	3552		118	3506			708		1314	1437	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	27	1151	16	16	731	81	16	0	32	237	16	220
RTOR Reduction (vph)	0	1	0	0	7	0	0	40	0	0	88	0
Lane Group Flow (vph)	27	1166	0	16	805	0	0	8	0	237	148	0
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	47.1	47.1		54.3	54.3			15.8		33.7	33.7	
Effective Green, g (s)	48.1	48.1		55.3	55.3			16.8		34.7	34.7	
Actuated g/C Ratio	0.48	0.48		0.55	0.55			0.17		0.35	0.35	
Clearance Time (s)	6.0	6.0		4.0	6.0			6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0		2.5	5.0			4.0		3.0	4.0	
Lane Grp Cap (vph)	301	1708		98	1938			118		516	498	
v/s Ratio Prot		c0.33		0.01	c0.23					c0.07	0.10	
v/s Ratio Perm	0.04			0.08				0.01		c0.09		
v/c Ratio	0.09	0.68		0.16	0.42			0.07		0.46	0.30	
Uniform Delay, d1	14.1	20.1		13.5	13.0			35.0		24.8	23.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.6	2.2		0.6	0.7			0.3		0.7	0.5	
Delay (s)	14.7	22.3		14.1	13.6			35.3		25.4	24.2	
Level of Service	B	C		B	B			D		C	C	
Approach Delay (s)		22.1			13.6			35.3			24.8	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

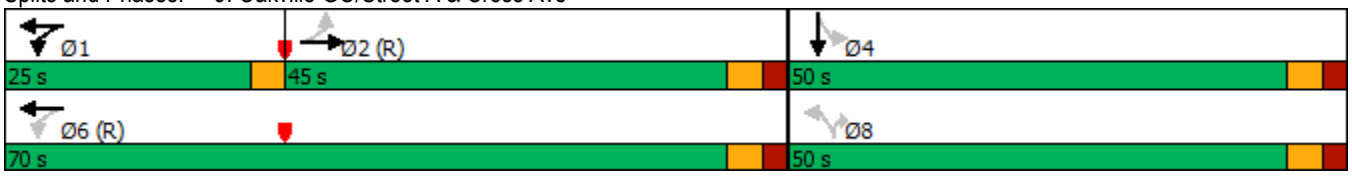
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	615	80	360	535	10	130	0	310	95	0	45
Future Volume (vph)	50	615	80	360	535	10	130	0	310	95	0	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00		0.99		0.97		0.98	
Frt		0.984			0.998				0.850		0.956	
Flt Protected		0.997			0.981		0.950				0.967	
Satd. Flow (prot)	0	3411	0	0	3431	0	1805	0	1615	0	1741	0
Flt Permitted		0.803			0.541		0.670				0.967	
Satd. Flow (perm)	0	2744	0	0	1892	0	1258	0	1570	0	1721	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			2				337		51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		139.5			107.3			62.6			201.6	
Travel Time (s)		10.0			7.7			4.5			14.5	
Confl. Peds. (#/hr)	30		10	10		30	10		10	10		10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	54	668	87	391	582	11	141	0	337	103	0	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	809	0	0	984	0	141	0	337	0	152	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	100		100
Number of Detectors	1	2		1	2		1		1	1	2	
Detector Template	Left	Thru		Left	Thru		Left		Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0		2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0		2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4						9.4	
Detector 2 Size(m)		0.6			0.6						0.6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type	Perm	NA		custom	NA		Perm		Perm	Perm	NA	
Protected Phases		2		1	1 6						4	
Permitted Phases	2			6			8		8	4		

Lane Group	Ø6
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (k/h)	
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(m)	
Detector 2 Size(m)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	6
Permitted Phases	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		1	1 6		8		8	4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		8.0			10.0		10.0	10.0	10.0	
Minimum Split (s)	40.6	40.6		11.0			27.6		27.6	27.6	27.6	
Total Split (s)	45.0	45.0		25.0			50.0		50.0	50.0	50.0	
Total Split (%)	37.5%	37.5%		20.8%			41.7%		41.7%	41.7%	41.7%	
Maximum Green (s)	39.4	39.4		22.0			44.4		44.4	44.4	44.4	
Yellow Time (s)	3.3	3.3		3.0			3.3		3.3	3.3	3.3	
All-Red Time (s)	2.3	2.3		0.0			2.3		2.3	2.3	2.3	
Lost Time Adjust (s)		-1.0					-1.0		-1.0		-1.0	
Total Lost Time (s)		4.6					4.6		4.6		4.6	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	5.0	5.0		2.5			3.5		3.5	3.0	3.0	
Recall Mode	C-Min	C-Min		None			None		None	None	None	
Walk Time (s)	7.0	7.0					7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	15.0	15.0					15.0		15.0	15.0	15.0	
Pedestrian Calls (#/hr)	20	20					10		10	10	10	
Act Effct Green (s)		69.6			92.7		20.7		20.7		20.7	
Actuated g/C Ratio		0.58			0.77		0.17		0.17		0.17	
v/c Ratio		0.51			0.58		0.65		0.61		0.45	
Control Delay		18.5			6.4		59.4		9.3		32.0	
Queue Delay		0.0			1.1		0.0		0.0		0.0	
Total Delay		18.5			7.6		59.4		9.3		32.0	
LOS		B			A		E		A		C	
Approach Delay		18.5			7.6			24.1			32.0	
Approach LOS		B			A			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 16.0		Intersection LOS: B	
Intersection Capacity Utilization 81.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 9: Oakville GO/Street A & Cross Ave



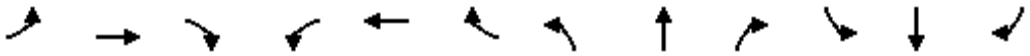
Lane Group	Ø6
Detector Phase	
Switch Phase	
Minimum Initial (s)	35.0
Minimum Split (s)	40.6
Total Split (s)	70.0
Total Split (%)	58%
Maximum Green (s)	64.4
Yellow Time (s)	3.3
All-Red Time (s)	2.3
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	5.0
Recall Mode	C-Min
Walk Time (s)	7.0
Flash Dont Walk (s)	15.0
Pedestrian Calls (#/hr)	20
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary



Lane Group	EBT	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	809	984	141	337	152
v/c Ratio	0.51	0.58	0.65	0.61	0.45
Control Delay	18.5	6.4	59.4	9.3	32.0
Queue Delay	0.0	1.1	0.0	0.0	0.0
Total Delay	18.5	7.6	59.4	9.3	32.0
Queue Length 50th (m)	57.3	33.9	33.0	0.0	22.3
Queue Length 95th (m)	105.4	59.7	51.0	24.1	39.8
Internal Link Dist (m)	115.5	83.3			177.6
Turn Bay Length (m)					
Base Capacity (vph)	1596	1769	475	803	682
Starvation Cap Reductn	0	510	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.51	0.78	0.30	0.42	0.22

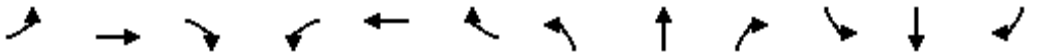
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	615	80	360	535	10	130	0	310	95	0	45
Future Volume (vph)	50	615	80	360	535	10	130	0	310	95	0	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6			2.0		4.6		4.6		4.6	
Lane Util. Factor		0.95			0.95		1.00		1.00		1.00	
Frpb, ped/bikes		0.99			1.00		1.00		0.97		0.99	
Flpb, ped/bikes		1.00			1.00		0.99		1.00		0.99	
Frt		0.98			1.00		1.00		0.85		0.96	
Flt Protected		1.00			0.98		0.95		1.00		0.97	
Satd. Flow (prot)		3405			3426		1786		1570		1723	
Flt Permitted		0.80			0.54		0.67		1.00		0.97	
Satd. Flow (perm)		2742			1892		1259		1570		1723	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	668	87	391	582	11	141	0	337	103	0	49
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	279	0	42	0
Lane Group Flow (vph)	0	804	0	0	984	0	141	0	58	0	110	0
Confl. Peds. (#/hr)	30		10	10		30	10		10	10		10
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		custom	NA		Perm		Perm	Perm	NA	
Protected Phases		2		1	1 6						4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)		68.6			89.1		19.7		19.7		19.7	
Effective Green, g (s)		69.6			90.1		20.7		20.7		20.7	
Actuated g/C Ratio		0.58			0.75		0.17		0.17		0.17	
Clearance Time (s)		5.6					5.6		5.6		5.6	
Vehicle Extension (s)		5.0					3.5		3.5		3.0	
Lane Grp Cap (vph)		1590			1657		217		270		297	
v/s Ratio Prot					c0.09							
v/s Ratio Perm		c0.29			0.35		c0.11		0.04		0.06	
v/c Ratio		0.51			0.59		0.65		0.22		0.37	
Uniform Delay, d1		15.0			6.7		46.3		42.7		43.9	
Progression Factor		1.00			1.00		1.00		1.00		1.00	
Incremental Delay, d2		1.2			0.5		6.8		0.5		0.8	
Delay (s)		16.1			7.2		53.1		43.1		44.7	
Level of Service		B			A		D		D		D	
Approach Delay (s)		16.1			7.2			46.1			44.7	
Approach LOS		B			A			D			D	

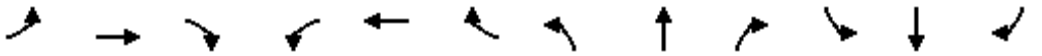
Intersection Summary			
HCM 2000 Control Delay	20.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	500	0	0	590	130	0	0	80	120	0	95
Future Volume (vph)	40	500	0	0	590	130	0	0	80	120	0	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (m)	25.0			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.973			0.865				0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1805	3438	0	0	3395	0	0	1644	0	1805	0	1615
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1805	3438	0	0	3395	0	0	1644	0	1805	0	1615
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		132.8			139.5			48.2			88.5	
Travel Time (s)		9.6			10.0			3.5			6.4	
Confl. Peds. (#/hr)	15		10	10		15	5		5	5		5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	5%	0%	0%	4%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	45	568	0	0	670	148	0	0	91	136	0	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	568	0	0	818	0	0	91	0	136	0	108
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 47.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	500	0	0	590	130	0	0	80	120	0	95
Future Volume (Veh/h)	40	500	0	0	590	130	0	0	80	120	0	95
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	45	568	0	0	670	148	0	0	91	136	0	108
Pedestrians		5			5			10			15	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		133			140							
pX, platoon unblocked				0.97			0.97	0.97	0.97	0.97	0.97	
vC, conflicting volume	833			578			1116	1501	299	1229	1427	429
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	833			510			1063	1459	223	1179	1383	429
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	94			100			100	100	88	0	100	81
cM capacity (veh/h)	798			1028			132	117	756	117	130	570

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	45	284	284	447	371	91	136	108
Volume Left	45	0	0	0	0	0	136	0
Volume Right	0	0	0	0	148	91	0	108
cSH	798	1700	1700	1700	1700	756	117	570
Volume to Capacity	0.06	0.17	0.17	0.26	0.22	0.12	1.16	0.19
Queue Length 95th (m)	1.4	0.0	0.0	0.0	0.0	3.3	67.2	5.5
Control Delay (s)	9.8	0.0	0.0	0.0	0.0	10.4	202.6	12.8
Lane LOS	A					B	F	B
Approach Delay (s)	0.7			0.0		10.4	118.6	
Approach LOS						B	F	

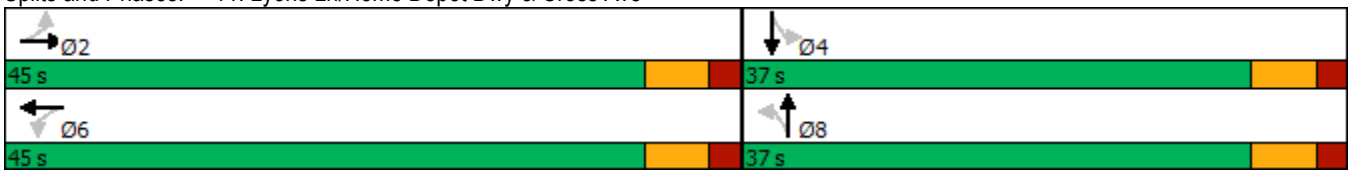
Intersection Summary				
Average Delay	17.2			
Intersection Capacity Utilization	47.4%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	410	30	20	655	15	140	5	85	25	5	95
Future Volume (vph)	70	410	30	20	655	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	25.0		0.0	35.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		1.00	1.00		1.00	0.98		0.99	0.98	
Frt		0.990			0.997			0.858			0.858	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3378	0	1805	3459	0	1805	1595	0	1805	1588	0
Flt Permitted	0.328			0.461			0.681			0.689		
Satd. Flow (perm)	617	3378	0	872	3459	0	1288	1595	0	1296	1588	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			4			100			112	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		47.5			132.8			150.8			63.6	
Travel Time (s)		3.4			9.6			10.9			4.6	
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	82	482	35	24	771	18	165	6	100	29	6	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	517	0	24	789	0	165	106	0	29	118	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

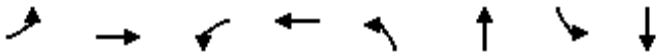
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		35.0	35.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	41.0	41.0		41.0	41.0		28.0	28.0		28.0	28.0	
Total Split (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Total Split (%)	54.9%	54.9%		54.9%	54.9%		45.1%	45.1%		45.1%	45.1%	
Maximum Green (s)	39.0	39.0		39.0	39.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	15	15		15	15		10	10		10	10	
Act Effct Green (s)	36.2	36.2		36.2	36.2		15.5	15.5		15.5	15.5	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
v/c Ratio	0.23	0.26		0.05	0.39		0.51	0.22		0.09	0.25	
Control Delay	9.5	7.2		7.3	8.2		25.5	6.1		17.5	5.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	9.5	7.2		7.3	8.2		25.5	6.1		17.5	5.9	
LOS	A	A		A	A		C	A		B	A	
Approach Delay		7.5			8.1			17.9			8.2	
Approach LOS		A			A			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 61.7			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 9.4		Intersection LOS: A	
Intersection Capacity Utilization 82.0%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 11: Lyons Ln/Home Depot Dwy & Cross Ave

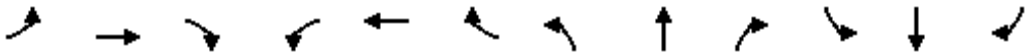


11: Lyons Ln/Home Depot Dwy & Cross Ave



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	82	517	24	789	165	106	29	118
v/c Ratio	0.23	0.26	0.05	0.39	0.51	0.22	0.09	0.25
Control Delay	9.5	7.2	7.3	8.2	25.5	6.1	17.5	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.5	7.2	7.3	8.2	25.5	6.1	17.5	5.9
Queue Length 50th (m)	3.9	12.9	1.0	22.2	16.8	0.5	2.7	0.5
Queue Length 95th (m)	13.2	25.6	4.6	41.4	30.4	8.9	7.5	9.3
Internal Link Dist (m)		23.5		108.8		126.8		39.6
Turn Bay Length (m)			25.0		35.0			
Base Capacity (vph)	401	2205	568	2255	671	879	675	881
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.23	0.04	0.35	0.25	0.12	0.04	0.13

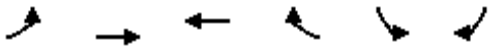
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	410	30	20	655	15	140	5	85	25	5	95
Future Volume (vph)	70	410	30	20	655	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	3378		1799	3459		1799	1600		1792	1589	
Flt Permitted	0.33	1.00		0.46	1.00		0.68	1.00		0.69	1.00	
Satd. Flow (perm)	617	3378		873	3459		1290	1600		1299	1589	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	82	482	35	24	771	18	165	6	100	29	6	112
RTOR Reduction (vph)	0	5	0	0	2	0	0	75	0	0	84	0
Lane Group Flow (vph)	82	512	0	24	787	0	165	31	0	29	34	0
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.2	35.2		35.2	35.2		14.4	14.4		14.4	14.4	
Effective Green, g (s)	36.2	36.2		36.2	36.2		15.4	15.4		15.4	15.4	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	362	1985		513	2032		322	400		324	397	
v/s Ratio Prot		0.15			c0.23			0.02			0.02	
v/s Ratio Perm	0.13			0.03			c0.13			0.02		
v/c Ratio	0.23	0.26		0.05	0.39		0.51	0.08		0.09	0.09	
Uniform Delay, d1	6.0	6.2		5.4	6.8		19.9	17.7		17.7	17.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.1		0.1	0.3		1.8	0.1		0.2	0.1	
Delay (s)	6.7	6.3		5.5	7.0		21.7	17.8		17.9	17.8	
Level of Service	A	A		A	A		C	B		B	B	
Approach Delay (s)		6.4			7.0			20.2			17.8	
Approach LOS		A			A			C			B	

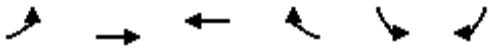
Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	61.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	540	940	30	20	25
Future Volume (vph)	25	540	940	30	20	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.995		0.926	
Flt Protected	0.950				0.978	
Satd. Flow (prot)	1805	3471	3490	0	1721	0
Flt Permitted	0.950				0.978	
Satd. Flow (perm)	1805	3471	3490	0	1721	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		443.3	47.5		121.4	
Travel Time (s)		31.9	3.4		8.7	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	4%	3%	0%	0%	0%
Adj. Flow (vph)	27	593	1033	33	22	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	593	1066	0	49	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

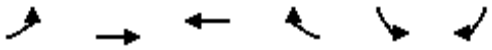
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.0%		ICU Level of Service A	
Analysis Period (min) 15			



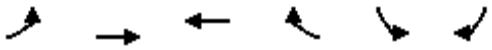
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	540	940	30	20	25
Future Volume (Veh/h)	25	540	940	30	20	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	27	593	1033	33	22	27
Pedestrians					15	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			48			
pX, platoon unblocked	0.88				0.88	0.88
vC, conflicting volume	1081				1415	548
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	823				1202	218
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				85	96
cM capacity (veh/h)	710				151	690

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	27	296	296	689	377	49
Volume Left	27	0	0	0	0	22
Volume Right	0	0	0	0	33	27
cSH	710	1700	1700	1700	1700	265
Volume to Capacity	0.04	0.17	0.17	0.41	0.22	0.18
Queue Length 95th (m)	0.9	0.0	0.0	0.0	0.0	5.3
Control Delay (s)	10.3	0.0	0.0	0.0	0.0	21.6
Lane LOS	B					C
Approach Delay (s)	0.4			0.0		21.6
Approach LOS						C

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	37.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	440	910	1200	120	125	835
Future Volume (vph)	440	910	1200	120	125	835
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0			0.0	60.0	0.0
Storage Lanes	1			0	1	2
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.88
Ped Bike Factor			1.00			
Frt			0.986			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1719	3574	3519	0	1805	2760
Flt Permitted	0.056				0.950	
Satd. Flow (perm)	101	3574	3519	0	1805	2760
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			11			613
Link Speed (k/h)		50	50		50	
Link Distance (m)		209.5	575.4		443.3	
Travel Time (s)		15.1	41.4		31.9	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Adj. Flow (vph)	468	968	1277	128	133	888
Shared Lane Traffic (%)						
Lane Group Flow (vph)	468	968	1405	0	133	888
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		7.2	7.2		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			

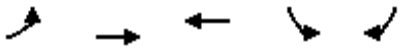


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	6.0	38.0	38.0		10.0	10.0
Minimum Split (s)	12.0	47.6	47.6		33.8	33.8
Total Split (s)	35.0	109.2	74.2		30.8	30.8
Total Split (%)	25.0%	78.0%	53.0%		22.0%	22.0%
Maximum Green (s)	29.0	102.6	67.6		25.0	25.0
Yellow Time (s)	4.0	3.7	3.7		3.3	3.3
All-Red Time (s)	2.0	2.9	2.9		2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.6	5.6		4.8	4.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Recall Mode	None	C-Min	C-Min		None	None
Walk Time (s)		10.0	10.0		10.0	10.0
Flash Dont Walk (s)		31.0	31.0		18.0	18.0
Pedestrian Calls (#/hr)		10	10		0	0
Act Effct Green (s)	107.8	107.2	66.2		22.4	22.4
Actuated g/C Ratio	0.77	0.77	0.47		0.16	0.16
v/c Ratio	0.95	0.35	0.84		0.46	0.93
Control Delay	71.7	6.1	43.0		57.6	33.7
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	71.7	6.1	43.0		57.6	33.7
LOS	E	A	D		E	C
Approach Delay		27.4	43.0		36.8	
Approach LOS		C	D		D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 35.6		Intersection LOS: D	
Intersection Capacity Utilization 82.7%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 13: Speers Rd/Cornwall Rd & Cross Ave



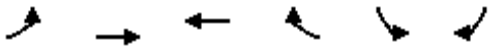


Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	468	968	1405	133	888
v/c Ratio	0.95	0.35	0.84	0.46	0.93
Control Delay	71.7	6.1	43.0	57.6	33.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	71.7	6.1	43.0	57.6	33.7
Queue Length 50th (m)	~139.2	47.2	203.5	34.5	48.5
Queue Length 95th (m)	#209.7	56.9	226.8	55.8	#84.7
Internal Link Dist (m)		185.5	551.4	419.3	
Turn Bay Length (m)	70.0			60.0	
Base Capacity (vph)	493	2736	1729	335	1011
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.95	0.35	0.81	0.40	0.88

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

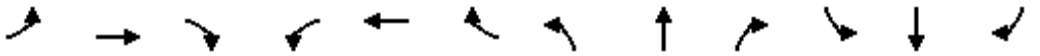
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	440	910	1200	120	125	835
Future Volume (vph)	440	910	1200	120	125	835
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		4.8	4.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1719	3574	3520		1805	2760
Flt Permitted	0.06	1.00	1.00		0.95	1.00
Satd. Flow (perm)	102	3574	3520		1805	2760
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	468	968	1277	128	133	888
RTOR Reduction (vph)	0	0	6	0	0	515
Lane Group Flow (vph)	468	968	1399	0	133	373
Confl. Peds. (#/hr)	15			15		
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Actuated Green, G (s)	106.2	106.2	65.2		21.4	21.4
Effective Green, g (s)	107.2	107.2	66.2		22.4	22.4
Actuated g/C Ratio	0.77	0.77	0.47		0.16	0.16
Clearance Time (s)	6.0	6.6	6.6		5.8	5.8
Vehicle Extension (s)	3.5	5.0	5.0		3.0	3.0
Lane Grp Cap (vph)	493	2736	1664		288	441
v/s Ratio Prot	c0.24	0.27	0.40			
v/s Ratio Perm	c0.48				0.07	c0.14
v/c Ratio	0.95	0.35	0.84		0.46	0.85
Uniform Delay, d1	44.4	5.3	32.3		53.3	57.1
Progression Factor	1.00	1.00	1.19		1.00	1.00
Incremental Delay, d2	28.1	0.4	4.9		1.2	13.9
Delay (s)	72.4	5.6	43.3		54.5	71.0
Level of Service	E	A	D		D	E
Approach Delay (s)		27.4	43.3		68.9	
Approach LOS		C	D		E	

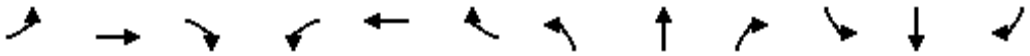
Intersection Summary			
HCM 2000 Control Delay	44.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	125	0	15	0	225	315	20	500	0
Future Volume (vph)	0	0	0	125	0	15	0	225	315	20	500	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.985			0.912				
Flt Protected					0.957						0.998	
Satd. Flow (prot)	0	1900	0	0	1760	0	0	3252	0	0	3603	0
Flt Permitted					0.957						0.998	
Satd. Flow (perm)	0	1900	0	0	1760	0	0	3252	0	0	3603	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		33.6			249.8			420.1			134.0	
Travel Time (s)		2.4			18.0			30.2			9.6	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	0%	3%	0%	0%	0%	0%
Adj. Flow (vph)	0	0	0	147	0	18	0	265	371	24	588	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	165	0	0	636	0	0	612	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	125	0	15	0	225	315	20	500	0
Future Volume (Veh/h)	0	0	0	125	0	15	0	225	315	20	500	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	0	147	0	18	0	265	371	24	588	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	786	1272	294	792	1086	318	588			636		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	786	1272	294	792	1086	318	588			636		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	46	100	97	100			97		
cM capacity (veh/h)	273	165	708	274	212	684	997			957		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	0	165	132	504	318	294
Volume Left	0	147	0	0	24	0
Volume Right	0	18	0	371	0	0
cSH	1700	293	997	1700	957	1700
Volume to Capacity	0.00	0.56	0.00	0.30	0.03	0.17
Queue Length 95th (m)	0.0	25.7	0.0	0.0	0.6	0.0
Control Delay (s)	0.0	32.0	0.0	0.0	0.9	0.0
Lane LOS	A	D			A	
Approach Delay (s)	0.0	32.0	0.0		0.5	
Approach LOS	A	D				

Intersection Summary				
Average Delay	3.9			
Intersection Capacity Utilization	43.0%	ICU Level of Service		A
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	120	105	100	175	225	155
Future Volume (vph)	120	105	100	175	225	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.937				0.945	
Flt Protected				0.982	0.971	
Satd. Flow (prot)	1747	0	0	1866	1726	0
Flt Permitted				0.982	0.971	
Satd. Flow (perm)	1747	0	0	1866	1726	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	632.0			1164.2	455.7	
Travel Time (s)	45.5			83.8	32.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	3%	0%	0%	1%	1%
Adj. Flow (vph)	135	118	112	197	253	174
Shared Lane Traffic (%)						
Lane Group Flow (vph)	253	0	0	309	427	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 59.4%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	120	105	100	175	225	155
Future Volume (Veh/h)	120	105	100	175	225	155
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	135	118	112	197	253	174
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			253		615	194
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			253		615	194
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		39	80
cM capacity (veh/h)			1324		418	850

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	253	309	427
Volume Left	0	112	253
Volume Right	118	0	174
cSH	1700	1324	527
Volume to Capacity	0.15	0.08	0.81
Queue Length 95th (m)	0.0	2.2	62.9
Control Delay (s)	0.0	3.4	34.8
Lane LOS		A	D
Approach Delay (s)	0.0	3.4	34.8
Approach LOS			D

Intersection Summary			
Average Delay	16.1		
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	735	100	60	925	95	155	120	45	70	70	50
Future Volume (vph)	45	735	100	60	925	95	155	120	45	70	70	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		0.99					0.98
Frt		0.982			0.986			0.959				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3467	0	1805	3483	0	1770	1809	0	1805	1827	1553
Flt Permitted	0.211			0.283			0.709			0.637		
Satd. Flow (perm)	392	3467	0	536	3483	0	1314	1809	0	1210	1827	1520
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26			19			20				53
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			455.7	
Travel Time (s)		43.9			11.1			15.4			32.8	
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Adj. Flow (vph)	48	782	106	64	984	101	165	128	48	74	74	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	888	0	64	1085	0	165	176	0	74	74	53
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	34.3	34.3		34.3	34.3		16.0	16.0		16.0	16.0	16.0
Actuated g/C Ratio	0.57	0.57		0.57	0.57		0.27	0.27		0.27	0.27	0.27
v/c Ratio	0.22	0.45		0.21	0.54		0.47	0.36		0.23	0.15	0.12
Control Delay	10.0	8.2		9.1	9.3		25.7	19.7		21.7	20.0	7.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	10.0	8.2		9.1	9.3		25.7	19.7		21.7	20.0	7.4
LOS	A	A		A	A		C	B		C	B	A
Approach Delay		8.3			9.3			22.6			17.3	
Approach LOS		A			A			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 60.2			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 11.3		Intersection LOS: B	
Intersection Capacity Utilization 80.5%		ICU Level of Service D	
Analysis Period (min) 15			

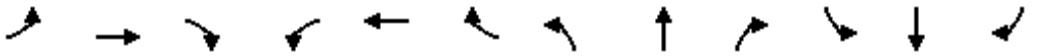
Splits and Phases: 16: Chartwell Rd & Cornwall Rd





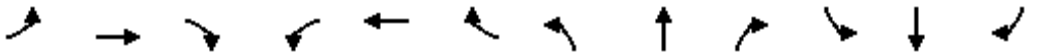
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	48	888	64	1085	165	176	74	74	53
v/c Ratio	0.22	0.45	0.21	0.54	0.47	0.36	0.23	0.15	0.12
Control Delay	10.0	8.2	9.1	9.3	25.7	19.7	21.7	20.0	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.0	8.2	9.1	9.3	25.7	19.7	21.7	20.0	7.4
Queue Length 50th (m)	2.2	24.3	2.9	32.6	14.7	13.3	6.1	6.0	0.0
Queue Length 95th (m)	9.8	51.5	11.4	67.7	41.6	37.9	20.7	19.7	8.2
Internal Link Dist (m)		585.1		130.4		189.6		431.7	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	360	3186	492	3200	724	1007	667	1007	862
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.28	0.13	0.34	0.23	0.17	0.11	0.07	0.06

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	735	100	60	925	95	155	120	45	70	70	50
Future Volume (vph)	45	735	100	60	925	95	155	120	45	70	70	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1768	3469		1802	3485		1764	1809		1805	1827	1523
Flt Permitted	0.21	1.00		0.28	1.00		0.71	1.00		0.64	1.00	1.00
Satd. Flow (perm)	392	3469		537	3485		1316	1809		1210	1827	1523
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	48	782	106	64	984	101	165	128	48	74	74	53
RTOR Reduction (vph)	0	11	0	0	8	0	0	15	0	0	0	39
Lane Group Flow (vph)	48	877	0	64	1077	0	165	161	0	74	74	14
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	33.2	33.2		33.2	33.2		14.9	14.9		14.9	14.9	14.9
Effective Green, g (s)	34.2	34.2		34.2	34.2		15.9	15.9		15.9	15.9	15.9
Actuated g/C Ratio	0.57	0.57		0.57	0.57		0.27	0.27		0.27	0.27	0.27
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	225	1993		308	2003		351	483		323	488	406
v/s Ratio Prot		0.25			c0.31			0.09			0.04	
v/s Ratio Perm	0.12			0.12			c0.13			0.06		0.01
v/c Ratio	0.21	0.44		0.21	0.54		0.47	0.33		0.23	0.15	0.03
Uniform Delay, d1	6.1	7.2		6.1	7.8		18.3	17.5		17.0	16.6	16.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.2	0.4		0.8	0.6		1.4	0.6		0.5	0.2	0.0
Delay (s)	7.3	7.6		6.9	8.4		19.6	18.1		17.5	16.8	16.2
Level of Service	A	A		A	A		B	B		B	B	B
Approach Delay (s)		7.6			8.3			18.8			16.9	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	59.5	Sum of lost time (s)	9.4
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

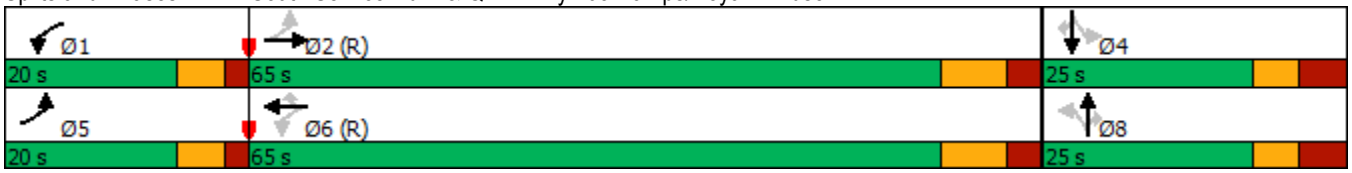


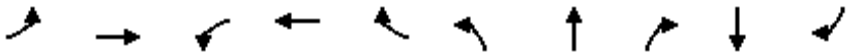
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	925	35	190	890	5	60	20	255	0	50	45
Future Volume (vph)	5	925	35	190	890	5	60	20	255	0	50	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	125.0		0.0	145.0		55.0	15.0		40.0	35.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												0.98
Frt		0.995				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3502	3386	0	1752	3505	1615	1656	1900	1599	1900	1712	1615
Flt Permitted	0.293			0.201			0.721					
Satd. Flow (perm)	1080	3386	0	371	3505	1615	1257	1900	1599	1900	1712	1585
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				107			280			113
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		232.7			227.3			1164.2			153.5	
Travel Time (s)		16.8			16.4			83.8			11.1	
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	6%	8%	3%	3%	0%	9%	0%	1%	0%	11%	0%
Adj. Flow (vph)	5	1016	38	209	978	5	66	22	280	0	55	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	1054	0	209	978	5	66	22	280	0	55	49
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Detector Phase	5	2		1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	8.0	20.0		8.0	20.0	20.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	14.0	28.4		14.0	28.4	28.4	17.8	17.8	17.8	17.8	17.8	17.8
Total Split (s)	20.0	65.0		20.0	65.0	65.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	18.2%	59.1%		18.2%	59.1%	59.1%	22.7%	22.7%	22.7%	22.7%	22.7%	22.7%
Maximum Green (s)	14.0	56.6		14.0	56.6	56.6	17.2	17.2	17.2	17.2	17.2	17.2
Yellow Time (s)	4.0	5.4		4.0	5.4	5.4	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.0	3.0		2.0	3.0	3.0	4.1	4.1	4.1	4.1	4.1	4.1
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	Min	Min	Min	Min	Min	Min
Act Effct Green (s)	75.8	64.4		85.1	79.9	79.9	13.1	13.1	13.1		13.1	13.1
Actuated g/C Ratio	0.69	0.59		0.77	0.73	0.73	0.12	0.12	0.12		0.12	0.12
v/c Ratio	0.01	0.53		0.46	0.38	0.00	0.44	0.10	0.64		0.27	0.17
Control Delay	4.2	15.8		6.9	7.2	0.0	54.0	42.8	12.4		46.7	1.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	4.2	15.8		6.9	7.2	0.0	54.0	42.8	12.4		46.7	1.3
LOS	A	B		A	A	A	D	D	B		D	A
Approach Delay		15.7			7.1			21.7			25.3	
Approach LOS		B			A			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 13.1		Intersection LOS: B	
Intersection Capacity Utilization 63.2%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 17: South Service Rd E & QEW-Hwy 403 Ramps/Royal Windsor Dr





Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	5	1054	209	978	5	66	22	280	55	49
v/c Ratio	0.01	0.53	0.46	0.38	0.00	0.44	0.10	0.64	0.27	0.17
Control Delay	4.2	15.8	6.9	7.2	0.0	54.0	42.8	12.4	46.7	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.2	15.8	6.9	7.2	0.0	54.0	42.8	12.4	46.7	1.3
Queue Length 50th (m)	0.1	69.1	9.5	32.2	0.0	14.2	4.5	0.0	11.6	0.0
Queue Length 95th (m)	0.6	106.6	19.3	78.4	0.0	27.5	11.7	24.0	23.4	0.0
Internal Link Dist (m)		208.7		203.3			1140.2		129.5	
Turn Bay Length (m)	125.0		145.0		55.0	15.0		40.0		
Base Capacity (vph)	1131	1993	482	2546	1202	207	314	498	283	356
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.53	0.43	0.38	0.00	0.32	0.07	0.56	0.19	0.14

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	925	35	190	890	5	60	20	255	0	50	45
Future Volume (vph)	5	925	35	190	890	5	60	20	255	0	50	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.4		5.0	7.4	7.4	6.8	6.8	6.8		6.8	6.8
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	3502	3385		1752	3505	1615	1656	1900	1599		1712	1581
Flt Permitted	0.29	1.00		0.20	1.00	1.00	0.72	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1080	3385		372	3505	1615	1257	1900	1599		1712	1581
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	5	1016	38	209	978	5	66	22	280	0	55	49
RTOR Reduction (vph)	0	2	0	0	0	2	0	0	247	0	0	43
Lane Group Flow (vph)	5	1052	0	209	978	3	66	22	33	0	55	6
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	0%	6%	8%	3%	3%	0%	9%	0%	1%	0%	11%	0%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	65.0	63.4		81.7	74.1	74.1	12.1	12.1	12.1		12.1	12.1
Effective Green, g (s)	67.0	64.4		82.7	75.1	75.1	13.1	13.1	13.1		13.1	13.1
Actuated g/C Ratio	0.61	0.59		0.75	0.68	0.68	0.12	0.12	0.12		0.12	0.12
Clearance Time (s)	6.0	8.4		6.0	8.4	8.4	7.8	7.8	7.8		7.8	7.8
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	715	1981		446	2392	1102	149	226	190		203	188
v/s Ratio Prot	0.00	c0.31		c0.06	0.28			0.01			0.03	
v/s Ratio Perm	0.00			0.30		0.00	c0.05		0.02			0.00
v/c Ratio	0.01	0.53		0.47	0.41	0.00	0.44	0.10	0.18		0.27	0.03
Uniform Delay, d1	8.4	13.7		6.3	7.7	5.5	45.1	43.2	43.6		44.1	42.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	1.0		0.8	0.5	0.0	2.1	0.2	0.4		0.7	0.1
Delay (s)	8.4	14.7		7.1	8.2	5.6	47.2	43.4	44.0		44.8	42.9
Level of Service	A	B		A	A	A	D	D	D		D	D
Approach Delay (s)		14.7			8.0			44.6			43.9	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.2
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	60	0	85	120	0
Future Volume (vph)	50	60	0	85	120	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.926					
Flt Protected					0.950	
Satd. Flow (prot)	1725	0	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1725	0	0	1863	1770	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	64.3			219.4	105.4	
Travel Time (s)	4.6			15.8	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	65	0	92	130	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	119	0	0	92	130	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 19.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	50	60	0	85	120	0
Future Volume (Veh/h)	50	60	0	85	120	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	65	0	92	130	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			119		178	86
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			119		178	86
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		84	100
cM capacity (veh/h)			1469		811	972

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	119	92	130
Volume Left	0	0	130
Volume Right	65	0	0
cSH	1700	1469	811
Volume to Capacity	0.07	0.00	0.16
Queue Length 95th (m)	0.0	0.0	4.6
Control Delay (s)	0.0	0.0	10.3
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.3
Approach LOS			B

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	0	120	85	0	60
Future Volume (vph)	50	0	120	85	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.972		
Satd. Flow (prot)	1863	0	0	1811	1611	0
Flt Permitted				0.972		
Satd. Flow (perm)	1863	0	0	1811	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	53.7			64.3	43.5	
Travel Time (s)	3.9			4.6	3.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	0	130	92	0	65
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	0	222	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	50	0	120	85	0	60
Future Volume (Veh/h)	50	0	120	85	0	60
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	0	130	92	0	65
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			54		406	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			54		406	54
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		100	94
cM capacity (veh/h)			1551		551	1013

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	54	222	65
Volume Left	0	130	0
Volume Right	0	0	65
cSH	1700	1551	1013
Volume to Capacity	0.03	0.08	0.06
Queue Length 95th (m)	0.0	2.2	1.6
Control Delay (s)	0.0	4.7	8.8
Lane LOS		A	A
Approach Delay (s)	0.0	4.7	8.8
Approach LOS			A

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	28.2%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	225	0	40	440	80	15
Future Volume (vph)	225	0	40	440	80	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.979	
Flt Protected				0.996	0.959	
Satd. Flow (prot)	1863	0	0	1855	1749	0
Flt Permitted				0.996	0.959	
Satd. Flow (perm)	1863	0	0	1855	1749	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	216.0			632.0	87.0	
Travel Time (s)	15.6			45.5	6.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	245	0	43	478	87	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	245	0	0	521	103	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

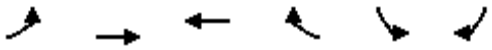
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 52.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	225	0	40	440	80	15
Future Volume (Veh/h)	225	0	40	440	80	15
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	245	0	43	478	87	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			245		809	245
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			245		809	245
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		74	98
cM capacity (veh/h)			1321		338	794

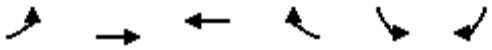
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	245	521	103
Volume Left	0	43	87
Volume Right	0	0	16
cSH	1700	1321	372
Volume to Capacity	0.14	0.03	0.28
Queue Length 95th (m)	0.0	0.8	8.9
Control Delay (s)	0.0	1.0	18.4
Lane LOS		A	C
Approach Delay (s)	0.0	1.0	18.4
Approach LOS			C

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	120	110	10	50	30	10
Future Volume (vph)	120	110	10	50	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.888		0.966	
Flt Protected		0.975			0.964	
Satd. Flow (prot)	0	1816	1654	0	1735	0
Flt Permitted		0.975			0.964	
Satd. Flow (perm)	0	1816	1654	0	1735	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		249.8	119.8		103.6	
Travel Time (s)		18.0	8.6		7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	120	11	54	33	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	250	65	0	44	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	120	110	10	50	30	10
Future Volume (Veh/h)	120	110	10	50	30	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	130	120	11	54	33	11
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	65				418	38
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	65				418	38
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				94	99
cM capacity (veh/h)	1537				541	1034

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	250	65	44
Volume Left	130	0	33
Volume Right	0	54	11
cSH	1537	1700	615
Volume to Capacity	0.08	0.04	0.07
Queue Length 95th (m)	2.2	0.0	1.8
Control Delay (s)	4.3	0.0	11.3
Lane LOS	A		B
Approach Delay (s)	4.3	0.0	11.3
Approach LOS			B

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	29.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	20	50	50	120	20	20
Future Volume (vph)	20	50	50	120	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.904		0.905			
Flt Protected	0.986					0.976
Satd. Flow (prot)	1660	0	1686	0	0	1818
Flt Permitted	0.986					0.976
Satd. Flow (perm)	1660	0	1686	0	0	1818
Link Speed (k/h)	50		50			50
Link Distance (m)	41.9		103.6			87.0
Travel Time (s)	3.0		7.5			6.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	54	54	130	22	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	76	0	184	0	0	44
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100		100	100	
Sign Control	Stop		Free			Free

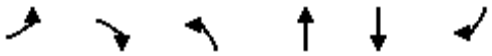
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.5%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	20	50	50	120	20	20
Future Volume (Veh/h)	20	50	50	120	20	20
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	54	54	130	22	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	185	119			184	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	185	119			184	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	94			98	
cM capacity (veh/h)	792	933			1391	

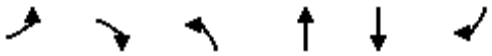
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	76	184	44
Volume Left	22	0	22
Volume Right	54	130	0
cSH	887	1700	1391
Volume to Capacity	0.09	0.11	0.02
Queue Length 95th (m)	2.2	0.0	0.4
Control Delay (s)	9.4	0.0	3.9
Lane LOS	A		A
Approach Delay (s)	9.4	0.0	3.9
Approach LOS	A		

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	70	130	120	60	0
Future Volume (vph)	0	70	130	120	60	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.975		
Satd. Flow (prot)	1611	0	0	1816	1863	0
Flt Permitted				0.975		
Satd. Flow (perm)	1611	0	0	1816	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	49.0			201.6	105.4	
Travel Time (s)	3.5			14.5	7.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	76	141	130	65	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	76	0	0	271	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

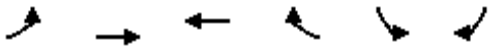
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	70	130	120	60	0
Future Volume (Veh/h)	0	70	130	120	60	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	76	141	130	65	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				201		
pX, platoon unblocked						
vC, conflicting volume	477	65	65			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	477	65	65			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	92	91			
cM capacity (veh/h)	497	999	1537			

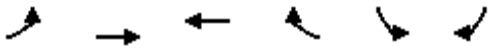
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	76	271	65
Volume Left	0	141	0
Volume Right	76	0	0
cSH	999	1537	1700
Volume to Capacity	0.08	0.09	0.04
Queue Length 95th (m)	2.0	2.4	0.0
Control Delay (s)	8.9	4.3	0.0
Lane LOS	A	A	
Approach Delay (s)	8.9	4.3	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	31.2%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	135	0	0	0	5	65
Future Volume (vph)	135	0	0	0	5	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.874	
Flt Protected		0.950			0.997	
Satd. Flow (prot)	0	1770	1863	0	1623	0
Flt Permitted		0.950			0.997	
Satd. Flow (perm)	0	1770	1863	0	1623	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		119.8	134.5		44.9	
Travel Time (s)		8.6	9.7		3.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	147	0	0	0	5	71
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	147	0	0	76	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.4%		ICU Level of Service A	
Analysis Period (min) 15			

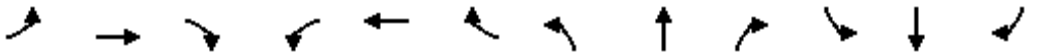


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	135	0	0	0	5	65
Future Volume (Veh/h)	135	0	0	0	5	65
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	147	0	0	0	5	71
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0				294	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				294	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				99	93
cM capacity (veh/h)	1623				634	1085

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	147	0	76
Volume Left	147	0	5
Volume Right	0	0	71
cSH	1623	1700	1036
Volume to Capacity	0.09	0.00	0.07
Queue Length 95th (m)	2.4	0.0	1.9
Control Delay (s)	7.4	0.0	8.7
Lane LOS	A		A
Approach Delay (s)	7.4	0.0	8.7
Approach LOS			A

Intersection Summary			
Average Delay	7.9		
Intersection Capacity Utilization	18.4%	ICU Level of Service	A
Analysis Period (min)	15		

10) 2046 Future Background Traffic Conditions (Without Corridor Growth)

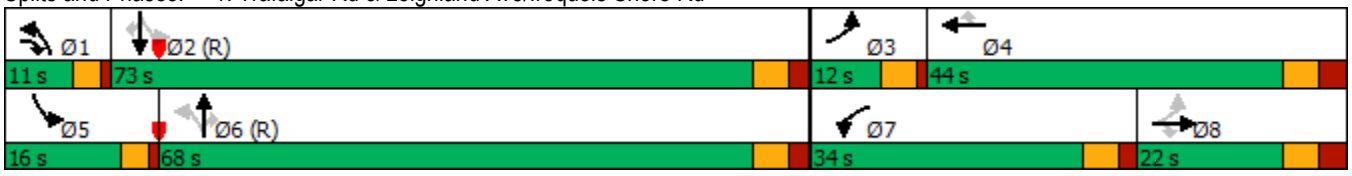


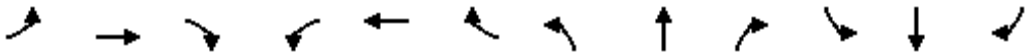
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	100	335	685	55	275	145	1085	775	225	2050	50
Future Volume (vph)	35	100	335	685	55	275	145	1085	775	225	2050	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.96					0.95			0.97	1.00		0.93
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1863	1568	3367	1827	1553	1719	4988	1568	1787	5085	1524
Flt Permitted	0.720			0.950			0.062			0.177		
Satd. Flow (perm)	1277	1863	1568	3367	1827	1470	112	4988	1525	332	5085	1424
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136			221			701			142
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			301.7			275.4			339.2	
Travel Time (s)		27.7			21.7			19.8			24.4	
Confl. Peds. (#/hr)	35					35	35		10	10		35
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Adj. Flow (vph)	35	101	338	692	56	278	146	1096	783	227	2071	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	101	338	692	56	278	146	1096	783	227	2071	51
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	11.0	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	12.0	22.0	11.0	34.0	44.0	44.0	11.0	68.0	68.0	16.0	73.0	73.0
Total Split (%)	8.6%	15.7%	7.9%	24.3%	31.4%	31.4%	7.9%	48.6%	48.6%	11.4%	52.1%	52.1%
Maximum Green (s)	7.3	15.2	7.0	28.3	37.2	37.2	7.0	61.9	61.9	12.0	66.9	66.9
Yellow Time (s)	3.7	3.7	3.0	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	1.0	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					20	20		25	25		25	25
Act Effct Green (s)	24.1	13.8	30.0	29.3	38.3	38.3	77.9	65.4	65.4	81.8	67.9	67.9
Actuated g/C Ratio	0.17	0.10	0.21	0.21	0.27	0.27	0.56	0.47	0.47	0.58	0.48	0.48
v/c Ratio	0.14	0.55	0.76	0.98	0.11	0.49	0.81	0.47	0.72	0.69	0.84	0.07
Control Delay	32.6	71.4	42.8	84.7	39.7	13.1	63.3	18.0	12.4	25.0	35.3	0.2
Queue Delay	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.2	0.0
Total Delay	32.6	71.4	47.8	84.7	39.7	13.1	63.3	18.0	12.8	25.0	35.5	0.2
LOS	C	E	D	F	D	B	E	B	B	C	D	A
Approach Delay		51.7			62.9			19.3			33.8	
Approach LOS		D			E			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 35.3		Intersection LOS: D	
Intersection Capacity Utilization 91.4%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd

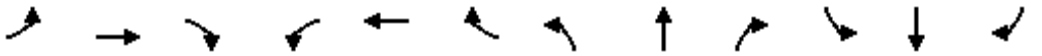




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	35	101	338	692	56	278	146	1096	783	227	2071	51
v/c Ratio	0.14	0.55	0.76	0.98	0.11	0.49	0.81	0.47	0.72	0.69	0.84	0.07
Control Delay	32.6	71.4	42.8	84.7	39.7	13.1	63.3	18.0	12.4	25.0	35.3	0.2
Queue Delay	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.2	0.0
Total Delay	32.6	71.4	47.8	84.7	39.7	13.1	63.3	18.0	12.8	25.0	35.5	0.2
Queue Length 50th (m)	6.7	28.5	57.2	104.5	12.6	12.9	28.1	70.4	53.5	29.3	188.0	0.0
Queue Length 95th (m)	14.4	48.0	96.0	#145.7	23.9	40.1	#72.1	86.1	218.7	45.6	209.6	0.0
Internal Link Dist (m)		361.1			277.7			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	248	215	442	704	516	573	181	2328	1085	334	2466	763
Starvation Cap Reductn	0	0	0	0	0	0	0	0	61	0	0	0
Spillback Cap Reductn	0	0	58	0	0	0	0	0	0	0	64	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.47	0.88	0.98	0.11	0.49	0.81	0.47	0.76	0.68	0.86	0.07

Intersection Summary

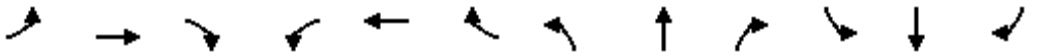
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	100	335	685	55	275	145	1085	775	225	2050	50
Future Volume (vph)	35	100	335	685	55	275	145	1085	775	225	2050	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.97	1.00	1.00	0.93
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1704	1863	1568	3367	1827	1470	1719	4988	1525	1787	5085	1424
Flt Permitted	0.72	1.00	1.00	0.95	1.00	1.00	0.06	1.00	1.00	0.18	1.00	1.00
Satd. Flow (perm)	1293	1863	1568	3367	1827	1470	112	4988	1525	334	5085	1424
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	35	101	338	692	56	278	146	1096	783	227	2071	51
RTOR Reduction (vph)	0	0	112	0	0	161	0	0	379	0	0	27
Lane Group Flow (vph)	35	101	226	692	56	117	146	1096	404	227	2071	24
Confl. Peds. (#/hr)	35					35	35		10	10		35
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	19.6	13.8	23.2	28.3	37.3	37.3	72.8	63.4	63.4	77.8	65.9	65.9
Effective Green, g (s)	21.6	14.8	25.2	29.3	38.3	38.3	74.8	64.4	64.4	79.8	66.9	66.9
Actuated g/C Ratio	0.15	0.11	0.18	0.21	0.27	0.27	0.53	0.46	0.46	0.57	0.48	0.48
Clearance Time (s)	4.7	6.8	4.0	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	219	196	282	704	499	402	179	2294	701	324	2429	680
v/s Ratio Prot	0.01	0.05	c0.06	c0.21	0.03		c0.06	0.22		c0.06	c0.41	
v/s Ratio Perm	0.02		0.08			0.08	0.37		0.27	0.34		0.02
v/c Ratio	0.16	0.52	0.80	0.98	0.11	0.29	0.82	0.48	0.58	0.70	0.85	0.04
Uniform Delay, d1	51.1	59.2	55.0	55.1	38.1	40.1	35.7	26.2	27.8	17.4	32.2	19.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.20	0.67	2.37	1.00	1.00	1.00
Incremental Delay, d2	0.3	2.3	15.1	29.5	0.1	0.4	21.4	0.6	3.0	6.7	4.0	0.1
Delay (s)	51.5	61.5	70.1	84.6	38.2	40.6	64.1	18.2	69.0	24.1	36.2	19.5
Level of Service	D	E	E	F	D	D	E	B	E	C	D	B
Approach Delay (s)		66.9			70.1			41.1			34.7	
Approach LOS		E			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	45.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	91.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

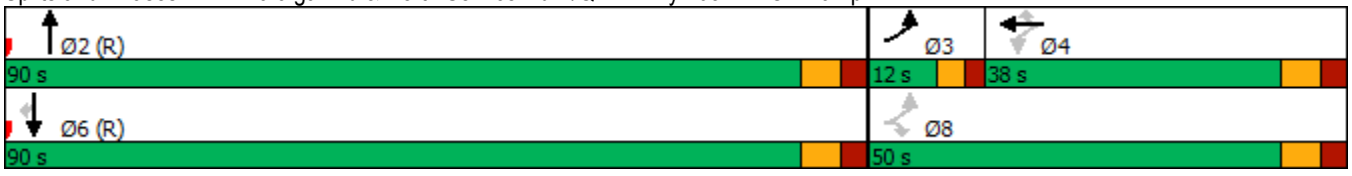


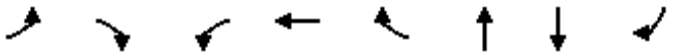
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	365	0	200	0	1815	0	0	3110	5
Future Volume (vph)	5	0	225	365	0	200	0	1815	0	0	3110	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.96
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.950							
Satd. Flow (prot)	1805	0	1599	1649	1649	1568	0	4988	0	0	5036	1615
Flt Permitted	0.357			0.950	0.950							
Satd. Flow (perm)	678	0	1599	1649	1649	1568	0	4988	0	0	5036	1543
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			95						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							10		5	5		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Adj. Flow (vph)	5	0	232	376	0	206	0	1871	0	0	3206	5
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	5	0	232	188	188	206	0	1871	0	0	3206	5
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	12.0		50.0	38.0	38.0	38.0		90.0			90.0	90.0
Total Split (%)	8.6%		35.7%	27.1%	27.1%	27.1%		64.3%			64.3%	64.3%
Maximum Green (s)	7.0		43.0	31.0	31.0	31.0		83.0			83.0	83.0
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		10			10	10
Act Effct Green (s)	28.6		26.6	24.2	24.2	24.2		101.4			101.4	101.4
Actuated g/C Ratio	0.20		0.19	0.17	0.17	0.17		0.72			0.72	0.72
v/c Ratio	0.02		0.71	0.66	0.66	0.59		0.52			0.88	0.00
Control Delay	38.0		56.2	64.6	64.6	34.4		7.7			24.3	0.0
Queue Delay	0.0		0.0	0.0	0.0	0.0		0.0			0.8	0.0
Total Delay	38.0		56.2	64.6	64.6	34.4		7.7			25.1	0.0
LOS	D		E	E	E	C		A			C	A
Approach Delay		55.8			53.9			7.7			25.1	
Approach LOS		E			D			A			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 23.6		Intersection LOS: C	
Intersection Capacity Utilization 99.1%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp

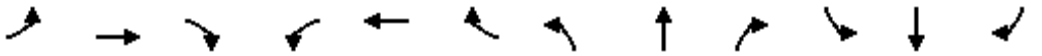




Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	5	232	188	188	206	1871	3206	5
v/c Ratio	0.02	0.71	0.66	0.66	0.59	0.52	0.88	0.00
Control Delay	38.0	56.2	64.6	64.6	34.4	7.7	24.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0
Total Delay	38.0	56.2	64.6	64.6	34.4	7.7	25.1	0.0
Queue Length 50th (m)	1.2	56.5	54.2	54.2	29.5	66.7	240.4	0.0
Queue Length 95th (m)	4.4	74.0	78.9	78.9	54.5	88.9	m#386.5	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	202	523	376	376	431	3612	3646	1136
Starvation Cap Reductn	0	0	0	0	0	0	186	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.44	0.50	0.50	0.48	0.52	0.93	0.00

Intersection Summary

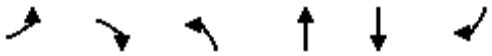
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



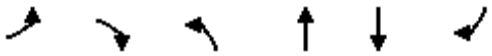
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	365	0	200	0	1815	0	0	3110	5
Future Volume (vph)	5	0	225	365	0	200	0	1815	0	0	3110	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.96
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1649	1649	1568		4988			5036	1543
Flt Permitted	0.36		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	678		1599	1649	1649	1568		4988			5036	1543
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	5	0	232	376	0	206	0	1871	0	0	3206	5
RTOR Reduction (vph)	0	0	24	0	0	79	0	0	0	0	0	2
Lane Group Flow (vph)	5	0	208	188	188	127	0	1871	0	0	3206	3
Confl. Peds. (#/hr)							10		5	5		10
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	29.6		29.6	23.2	23.2	23.2		96.4			96.4	96.4
Effective Green, g (s)	30.6		30.6	24.2	24.2	24.2		97.4			97.4	97.4
Actuated g/C Ratio	0.22		0.22	0.17	0.17	0.17		0.70			0.70	0.70
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	167		349	285	285	271		3470			3503	1073
v/s Ratio Prot	0.00							0.38			c0.64	
v/s Ratio Perm	0.01		c0.13	c0.11	0.11	0.08						0.00
v/c Ratio	0.03		0.60	0.66	0.66	0.47		0.54			0.92	0.00
Uniform Delay, d1	43.4		49.1	54.1	54.1	52.1		10.4			17.8	6.5
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.75			1.41	1.00
Incremental Delay, d2	0.1		2.9	5.4	5.4	1.3		0.5			2.7	0.0
Delay (s)	43.5		52.0	59.5	59.5	53.4		8.2			27.9	6.5
Level of Service	D		D	E	E	D		A			C	A
Approach Delay (s)		51.8			57.3			8.2			27.8	
Approach LOS		D			E			A			C	

Intersection Summary			
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	99.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



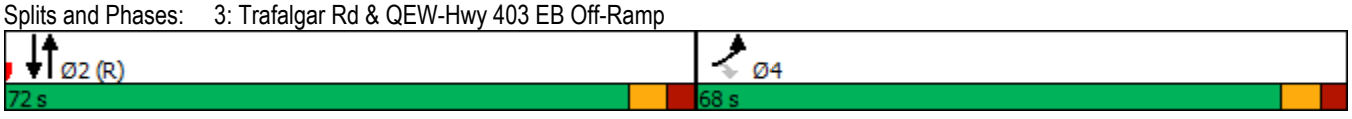
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	885	655	0	1470	2165	0
Future Volume (vph)	885	655	0	1470	2165	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3433	1583	0	4940	5036	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	1583	0	4940	5036	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		1				
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			80.8	331.3	
Travel Time (s)	15.4			5.8	23.9	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Adj. Flow (vph)	903	668	0	1500	2209	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	903	668	0	1500	2209	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	68.0	68.0		72.0	72.0	
Total Split (%)	48.6%	48.6%		51.4%	51.4%	
Maximum Green (s)	61.0	61.0		65.0	65.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		10	10	
Act Effct Green (s)	61.2	61.2		66.8	66.8	
Actuated g/C Ratio	0.44	0.44		0.48	0.48	
v/c Ratio	0.60	0.97		0.64	0.92	
Control Delay	32.0	65.0		24.4	34.7	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	32.0	65.0		24.4	34.7	
LOS	C	E		C	C	
Approach Delay	46.0			24.4	34.7	
Approach LOS	D			C	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 35.1		Intersection LOS: D	
Intersection Capacity Utilization 92.4%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp

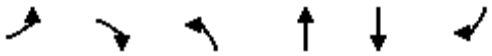




Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	903	668	1500	2209
v/c Ratio	0.60	0.97	0.64	0.92
Control Delay	32.0	65.0	24.4	34.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	32.0	65.0	24.4	34.7
Queue Length 50th (m)	101.1	184.7	66.4	191.8
Queue Length 95th (m)	122.8	#269.9	74.3	216.0
Internal Link Dist (m)	190.2		56.8	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1520	701	2355	2401
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.59	0.95	0.64	0.92

Intersection Summary

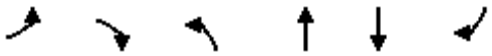
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	885	655	0	1470	2165	0
Future Volume (vph)	885	655	0	1470	2165	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	1583		4940	5036	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	1583		4940	5036	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	903	668	0	1500	2209	0
RTOR Reduction (vph)	0	1	0	0	0	0
Lane Group Flow (vph)	903	667	0	1500	2209	0
Confl. Peds. (#/hr)			10			10
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	60.2	60.2		65.8	65.8	
Effective Green, g (s)	61.2	61.2		66.8	66.8	
Actuated g/C Ratio	0.44	0.44		0.48	0.48	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1500	691		2357	2402	
v/s Ratio Prot	0.26			0.30	c0.44	
v/s Ratio Perm		c0.42				
v/c Ratio	0.60	0.97		0.64	0.92	
Uniform Delay, d1	30.1	38.4		27.5	34.1	
Progression Factor	1.00	1.00		0.84	0.88	
Incremental Delay, d2	0.7	25.8		0.9	4.2	
Delay (s)	30.8	64.2		24.1	34.2	
Level of Service	C	E		C	C	
Approach Delay (s)	45.0			24.1	34.2	
Approach LOS	D			C	C	

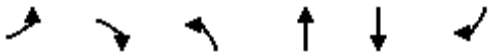
Intersection Summary			
HCM 2000 Control Delay	34.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	145	0	1530	2155	675
Future Volume (vph)	0	145	0	1530	2155	675
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.964	
Flt Protected						
Satd. Flow (prot)	0	1565	0	4940	4855	0
Flt Permitted						
Satd. Flow (perm)	0	1565	0	4940	4855	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	100.6			198.2	80.8	
Travel Time (s)	7.2			14.3	5.8	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	5%	0%	5%	3%	3%
Adj. Flow (vph)	0	156	0	1645	2317	726
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	156	0	1645	3043	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

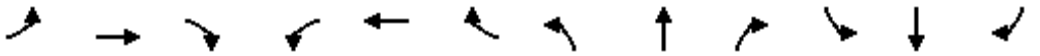
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 72.6%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	145	0	1530	2155	675
Future Volume (Veh/h)	0	145	0	1530	2155	675
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	156	0	1645	2317	726
Pedestrians	10					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				198	81	
pX, platoon unblocked	0.68	0.59	0.59			
vC, conflicting volume	3238	1145	3053			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	798	0	2032			
tC, single (s)	6.8	7.0	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	75	100			
cM capacity (veh/h)	220	625	164			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	156	548	548	548	927	927	1189
Volume Left	0	0	0	0	0	0	0
Volume Right	156	0	0	0	0	0	726
cSH	625	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.25	0.32	0.32	0.32	0.55	0.55	0.70
Queue Length 95th (m)	7.9	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	12.7	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	12.7	0.0			0.0		
Approach LOS	B						

Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	72.6%	ICU Level of Service		C
Analysis Period (min)	15			



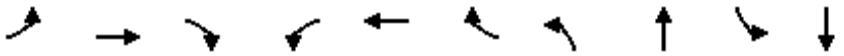
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	690	675	235	65	140	145	125	1180	35	295	1450	440
Future Volume (vph)	690	675	235	65	140	145	125	1180	35	295	1450	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		50.0	50.0		50.0	120.0		0.0	55.0		0.0
Storage Lanes	2		1	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor			0.98	1.00				1.00			0.99	
Frt			0.850			0.850		0.996			0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3273	3610	1482	1736	3438	1553	1671	5013	0	1736	4845	0
Flt Permitted	0.950			0.387			0.084			0.091		
Satd. Flow (perm)	3273	3610	1455	705	3438	1553	148	5013	0	166	4845	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			166			140		3			69	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		121.1			182.4			316.1			198.2	
Travel Time (s)		8.7			13.1			22.8			14.3	
Confl. Peds. (#/hr)			5	5			15		5	5		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Adj. Flow (vph)	711	696	242	67	144	149	129	1216	36	304	1495	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	711	696	242	67	144	149	129	1252	0	304	1949	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4	8		8	2			6		
Detector Phase	7	4	4	3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	12.0	10.0	7.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0	42.0	19.0	17.0	11.0	12.0	34.0		11.0	34.0	
Total Split (s)	43.0	42.0	42.0	19.0	18.0	29.0	12.0	50.0		29.0	67.0	
Total Split (%)	30.7%	30.0%	30.0%	13.6%	12.9%	20.7%	8.6%	35.7%		20.7%	47.9%	
Maximum Green (s)	36.0	35.0	35.0	12.0	11.0	25.0	7.0	43.0		25.0	60.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	1.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0	4.0	3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0	7.0					7.0			7.0	
Flash Dont Walk (s)		28.0	28.0					20.0			20.0	
Pedestrian Calls (#/hr)		5	5					10			10	
Act Effct Green (s)	34.7	37.5	37.5	24.9	11.9	41.3	60.1	48.9		78.3	62.2	
Actuated g/C Ratio	0.25	0.27	0.27	0.18	0.08	0.30	0.43	0.35		0.56	0.44	
v/c Ratio	0.88	0.72	0.47	0.30	0.49	0.27	0.80	0.71		0.86	0.89	
Control Delay	63.2	52.1	17.6	34.7	67.2	7.6	55.2	41.7		57.0	42.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.1	
Total Delay	63.2	52.1	17.6	34.7	67.2	7.6	55.2	41.7		57.0	42.7	
LOS	E	D	B	C	E	A	E	D		E	D	
Approach Delay		51.8			36.5			43.0			44.7	
Approach LOS		D			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 45.8		Intersection LOS: D	
Intersection Capacity Utilization 92.9%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 5: Trafalgar Rd & Cross Ave

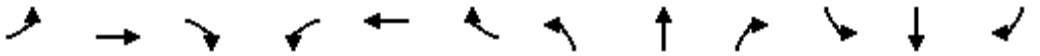




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	711	696	242	67	144	149	129	1252	304	1949
v/c Ratio	0.88	0.72	0.47	0.30	0.49	0.27	0.80	0.71	0.86	0.89
Control Delay	63.2	52.1	17.6	34.7	67.2	7.6	55.2	41.7	57.0	42.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	63.2	52.1	17.6	34.7	67.2	7.6	55.2	41.7	57.0	42.7
Queue Length 50th (m)	101.5	98.8	17.5	12.2	21.3	1.8	27.3	95.8	73.0	153.9
Queue Length 95th (m)	125.6	122.3	44.9	23.1	33.5	18.2	m#39.6	m108.1	m82.3	m169.3
Internal Link Dist (m)		97.1			158.4			292.1		174.2
Turn Bay Length (m)	130.0		50.0	50.0		50.0	120.0		55.0	
Base Capacity (vph)	865	982	516	221	297	583	162	1754	384	2191
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	11
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.71	0.47	0.30	0.48	0.26	0.80	0.71	0.79	0.89

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	690	675	235	65	140	145	125	1180	35	295	1450	440
Future Volume (vph)	690	675	235	65	140	145	125	1180	35	295	1450	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3273	3610	1455	1734	3438	1553	1671	5011		1736	4846	
Flt Permitted	0.95	1.00	1.00	0.39	1.00	1.00	0.08	1.00		0.09	1.00	
Satd. Flow (perm)	3273	3610	1455	706	3438	1553	148	5011		167	4846	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	711	696	242	67	144	149	129	1216	36	304	1495	454
RTOR Reduction (vph)	0	0	122	0	0	103	0	2	0	0	39	0
Lane Group Flow (vph)	711	696	120	67	144	46	129	1250	0	304	1910	0
Confl. Peds. (#/hr)			5	5			15		5	5		15
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Turn Type	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4	8		8	2			6		
Actuated Green, G (s)	33.7	36.5	36.5	22.0	12.4	34.8	54.6	46.5		72.9	59.8	
Effective Green, g (s)	34.7	37.5	37.5	24.0	13.4	36.8	56.6	47.5		73.9	60.8	
Actuated g/C Ratio	0.25	0.27	0.27	0.17	0.10	0.26	0.40	0.34		0.53	0.43	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	4.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0	4.0	3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	811	966	389	198	329	408	158	1700		350	2104	
v/s Ratio Prot	c0.22	c0.19		0.03	0.04	0.02	0.05	0.25		c0.15	c0.39	
v/s Ratio Perm			0.08	0.03		0.01	0.28			0.31		
v/c Ratio	0.88	0.72	0.31	0.34	0.44	0.11	0.82	0.74		0.87	0.91	
Uniform Delay, d1	50.6	46.5	40.9	50.0	59.7	39.2	32.2	40.7		39.3	37.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.05	0.99		1.25	1.13	
Incremental Delay, d2	10.5	2.9	0.6	1.2	1.3	0.1	18.2	1.8		11.9	4.1	
Delay (s)	61.1	49.4	41.5	51.2	61.0	39.3	51.8	42.0		60.9	45.8	
Level of Service	E	D	D	D	E	D	D	D		E	D	
Approach Delay (s)		53.3			50.2			42.9			47.8	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	48.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	92.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	450	70	30	360	640	50	420	55	675	730	385
Future Volume (vph)	300	450	70	30	360	640	50	420	55	675	730	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.98	0.99		0.99		0.95	0.99	1.00		0.99		0.96
Frt		0.980				0.850		0.983				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3367	3326	0	1736	3438	1553	1770	3454	0	3400	1881	1553
Flt Permitted	0.950			0.429			0.186			0.950		
Satd. Flow (perm)	3299	3326	0	773	3438	1483	344	3454	0	3366	1881	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12				480		10				287
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			316.1	
Travel Time (s)		41.4			45.2			10.0			22.8	
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Adj. Flow (vph)	313	469	73	31	375	667	52	438	57	703	760	401
Shared Lane Traffic (%)												
Lane Group Flow (vph)	313	542	0	31	375	667	52	495	0	703	760	401
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

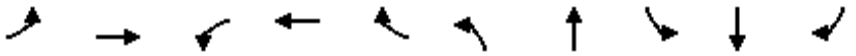
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	18.0	44.0		12.0	38.0	38.0	11.0	47.0		37.0	73.0	73.0
Total Split (%)	12.9%	31.4%		8.6%	27.1%	27.1%	7.9%	33.6%		26.4%	52.1%	52.1%
Maximum Green (s)	12.3	37.6		7.0	31.6	31.6	7.0	40.1		32.0	66.1	66.1
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		20			20	20		15			15	15
Act Effct Green (s)	16.0	42.6		38.5	29.1	29.1	53.7	42.8		32.1	70.1	70.1
Actuated g/C Ratio	0.11	0.30		0.28	0.21	0.21	0.38	0.31		0.23	0.50	0.50
v/c Ratio	0.82	0.53		0.12	0.52	0.97	0.24	0.47		0.90	0.81	0.45
Control Delay	79.1	47.0		29.3	51.4	42.6	19.8	41.0		79.9	35.3	11.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	79.1	47.0		29.3	51.4	42.6	19.8	41.0		79.9	35.3	11.8
LOS	E	D		C	D	D	B	D		E	D	B
Approach Delay		58.7			45.3			39.0			47.0	
Approach LOS		E			D			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 47.9 Intersection LOS: D
Intersection Capacity Utilization 93.0% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd





Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	313	542	31	375	667	52	495	703	760	401
v/c Ratio	0.82	0.53	0.12	0.52	0.97	0.24	0.47	0.90	0.81	0.45
Control Delay	79.1	47.0	29.3	51.4	42.6	19.8	41.0	79.9	35.3	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.1	47.0	29.3	51.4	42.6	19.8	41.0	79.9	35.3	11.8
Queue Length 50th (m)	47.6	69.1	5.7	49.9	65.0	6.5	62.4	111.5	113.2	23.8
Queue Length 95th (m)	#80.4	93.6	13.1	66.6	#150.5	12.6	79.5	m127.5	m138.5	m34.4
Internal Link Dist (m)		551.4		604.3			115.4		292.1	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	384	1020	267	800	713	213	1092	801	958	904
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.53	0.12	0.47	0.94	0.24	0.45	0.88	0.79	0.44

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	450	70	30	360	640	50	420	55	675	730	385
Future Volume (vph)	300	450	70	30	360	640	50	420	55	675	730	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.95	1.00	1.00		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3367	3326		1725	3438	1483	1768	3453		3400	1881	1498
Flt Permitted	0.95	1.00		0.43	1.00	1.00	0.19	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3367	3326		779	3438	1483	345	3453		3400	1881	1498
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	312	469	73	31	375	667	52	438	57	703	760	401
RTOR Reduction (vph)	0	8	0	0	0	373	0	7	0	0	0	149
Lane Group Flow (vph)	313	534	0	31	375	294	52	488	0	703	760	252
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	15.0	41.6		34.3	30.1	30.1	45.4	39.8		31.1	66.3	66.3
Effective Green, g (s)	16.0	42.6		36.3	31.1	31.1	47.4	40.8		32.1	67.3	67.3
Actuated g/C Ratio	0.11	0.30		0.26	0.22	0.22	0.34	0.29		0.23	0.48	0.48
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	384	1012		237	763	329	183	1006		779	904	720
v/s Ratio Prot	c0.09	0.16		0.00	0.11		0.01	0.14		c0.21	c0.40	
v/s Ratio Perm				0.03		c0.20	0.08					0.17
v/c Ratio	0.82	0.53		0.13	0.49	0.89	0.28	0.49		0.90	0.84	0.35
Uniform Delay, d1	60.6	40.4		39.1	47.5	52.8	33.2	40.9		52.4	31.7	22.7
Progression Factor	1.03	1.12		1.00	1.00	1.00	1.00	1.00		1.34	0.97	1.62
Incremental Delay, d2	12.2	0.5		0.3	0.5	24.8	0.9	1.7		8.9	5.8	0.8
Delay (s)	74.7	45.5		39.4	48.0	77.6	34.1	42.6		79.0	36.6	37.6
Level of Service	E	D		D	D	E	C	D		E	D	D
Approach Delay (s)		56.2			66.2			41.8			52.8	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	55.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	93.0%	ICU Level of Service	F
Analysis Period (min)	15		

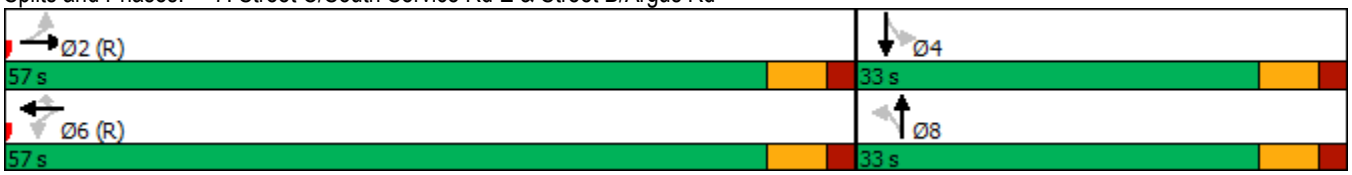
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	85	5	20	610	195	0	35	60	75	5	220
Future Volume (vph)	0	85	5	20	610	195	0	35	60	75	5	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.97		0.98		
Frt		0.992				0.850		0.915			0.854	
Flt Protected					0.998					0.950		
Satd. Flow (prot)	0	1781	0	0	1860	1568	0	1692	0	1805	1392	0
Flt Permitted					0.991					0.689		
Satd. Flow (perm)	0	1781	0	0	1847	1568	0	1692	0	1284	1392	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				219		67			232	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		48.3			119.5			83.7			163.9	
Travel Time (s)		3.5			8.6			6.0			11.8	
Confl. Peds. (#/hr)			5	5					10	10		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	6%	0%	0%	2%	3%	0%	0%	0%	0%	0%	17%
Adj. Flow (vph)	0	96	6	22	685	219	0	39	67	84	6	247
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	102	0	0	707	219	0	106	0	84	253	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA		Perm	NA	Perm		NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	26.0	26.0		26.0	26.0	
Total Split (s)	57.0	57.0		57.0	57.0	57.0	33.0	33.0		33.0	33.0	
Total Split (%)	63.3%	63.3%		63.3%	63.3%	63.3%	36.7%	36.7%		36.7%	36.7%	
Maximum Green (s)	51.0	51.0		51.0	51.0	51.0	27.0	27.0		27.0	27.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0		-1.0		-1.0	-1.0	
Total Lost Time (s)		5.0			5.0	5.0		5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min	C-Min	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		66.7			66.7	66.7		13.3		13.3	13.3	
Actuated g/C Ratio		0.74			0.74	0.74		0.15		0.15	0.15	
v/c Ratio		0.08			0.52	0.18		0.35		0.44	0.63	
Control Delay		3.6			15.3	3.9		17.7		41.9	13.7	
Queue Delay		0.0			34.1	0.0		0.0		0.0	0.0	
Total Delay		3.6			49.3	3.9		17.7		41.9	13.7	
LOS		A			D	A		B		D	B	
Approach Delay		3.6			38.6			17.7			20.8	
Approach LOS		A			D			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 30.6		Intersection LOS: C	
Intersection Capacity Utilization 62.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 7: Street C/South Service Rd E & Street B/Argus Rd





Lane Group	EBT	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	102	707	219	106	84	253
v/c Ratio	0.08	0.52	0.18	0.35	0.44	0.63
Control Delay	3.6	15.3	3.9	17.7	41.9	13.7
Queue Delay	0.0	34.1	0.0	0.0	0.0	0.0
Total Delay	3.6	49.3	3.9	17.7	41.9	13.7
Queue Length 50th (m)	3.7	117.4	8.4	6.4	14.4	3.4
Queue Length 95th (m)	9.6	151.1	m15.4	19.5	26.7	23.9
Internal Link Dist (m)	24.3	95.5		59.7		139.9
Turn Bay Length (m)						
Base Capacity (vph)	1321	1369	1219	572	399	592
Starvation Cap Reductn	0	697	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	1.05	0.18	0.19	0.21	0.43

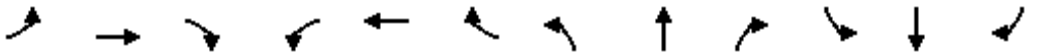
Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	85	5	20	610	195	0	35	60	75	5	220
Future Volume (vph)	0	85	5	20	610	195	0	35	60	75	5	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	5.0		5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Frpb, ped/bikes		1.00			1.00	1.00		0.97		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00		0.98	1.00	
Frt		0.99			1.00	0.85		0.91		1.00	0.85	
Flt Protected		1.00			1.00	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1781			1860	1568		1692		1770	1391	
Flt Permitted		1.00			0.99	1.00		1.00		0.69	1.00	
Satd. Flow (perm)		1781			1847	1568		1692		1283	1391	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	96	6	22	685	219	0	39	67	84	6	247
RTOR Reduction (vph)	0	2	0	0	0	57	0	57	0	0	198	0
Lane Group Flow (vph)	0	100	0	0	707	162	0	49	0	84	55	0
Confl. Peds. (#/hr)			5	5					10	10		
Heavy Vehicles (%)	0%	6%	0%	0%	2%	3%	0%	0%	0%	0%	0%	17%
Turn Type		NA		Perm	NA	Perm		NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		65.7			65.7	65.7		12.3		12.3	12.3	
Effective Green, g (s)		66.7			66.7	66.7		13.3		13.3	13.3	
Actuated g/C Ratio		0.74			0.74	0.74		0.15		0.15	0.15	
Clearance Time (s)		6.0			6.0	6.0		6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		1319			1368	1162		250		189	205	
v/s Ratio Prot		0.06						0.03			0.04	
v/s Ratio Perm					c0.38	0.10				c0.07		
v/c Ratio		0.08			0.52	0.14		0.20		0.44	0.27	
Uniform Delay, d1		3.2			4.9	3.4		33.7		35.0	34.0	
Progression Factor		1.00			2.56	5.38		1.00		1.00	1.00	
Incremental Delay, d2		0.1			1.1	0.2		0.4		1.7	0.7	
Delay (s)		3.3			13.6	18.3		34.0		36.6	34.8	
Level of Service		A			B	B		C		D	C	
Approach Delay (s)		3.3			14.7			34.0			35.2	
Approach LOS		A			B			C			D	

Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

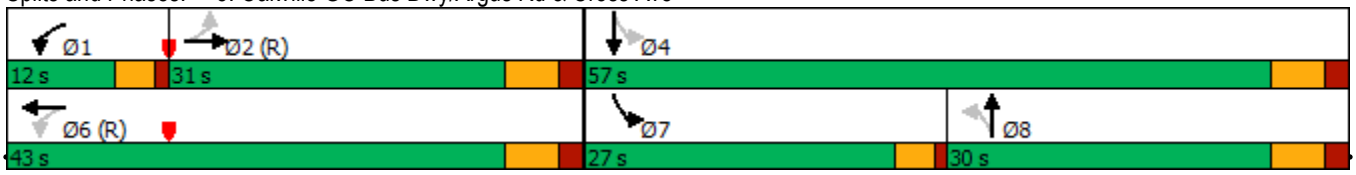


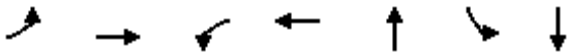
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	950	15	20	660	15	15	0	30	610	10	440
Future Volume (vph)	25	950	15	20	660	15	15	0	30	610	10	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	30.0			15.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00			1.00			0.97		0.98	0.96	
Frt		0.998			0.997			0.909			0.853	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1719	3513	0	950	3557	0	0	845	0	1719	1528	0
Flt Permitted	0.380			0.146				0.776		0.726		
Satd. Flow (perm)	684	3513	0	146	3557	0	0	664	0	1284	1528	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			2			120			94	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		126.2			104.6			107.0			123.1	
Travel Time (s)		9.1			7.5			7.7			8.9	
Confl. Peds. (#/hr)	10		10	10		10	20		20	20		20
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	1%	100%	90%	1%	7%	100%	100%	94%	5%	100%	0%
Adj. Flow (vph)	26	979	15	21	680	15	15	0	31	629	10	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	994	0	21	695	0	0	46	0	629	464	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	22.0	22.0		8.0	22.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	29.0	29.0		12.0	29.0		29.0	29.0		9.0	29.0	
Total Split (s)	31.0	31.0		12.0	43.0		30.0	30.0		27.0	57.0	
Total Split (%)	31.0%	31.0%		12.0%	43.0%		30.0%	30.0%		27.0%	57.0%	
Maximum Green (s)	25.0	25.0		8.0	37.0		24.0	24.0		23.0	51.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	5.0	5.0		2.5	5.0		4.0	4.0		3.0	4.0	
Recall Mode	C-Min	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	16.0	16.0			16.0		16.0	16.0			16.0	
Pedestrian Calls (#/hr)	10	10			10		20	20			20	
Act Effct Green (s)	45.1	45.1		52.0	50.0			16.2		42.0	40.0	
Actuated g/C Ratio	0.45	0.45		0.52	0.50			0.16		0.42	0.40	
v/c Ratio	0.08	0.63		0.14	0.39			0.22		0.98	0.70	
Control Delay	25.5	28.1		18.5	18.5			2.5		56.8	24.0	
Queue Delay	0.0	3.3		0.0	0.0			0.0		0.0	0.0	
Total Delay	25.5	31.4		18.5	18.5			2.5		56.8	24.0	
LOS	C	C		B	B			A		E	C	
Approach Delay		31.3			18.5			2.5			42.9	
Approach LOS		C			B			A			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 32.0		Intersection LOS: C	
Intersection Capacity Utilization 75.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 8: Oakville GO Bus Dwy/Argus Rd & Cross Ave



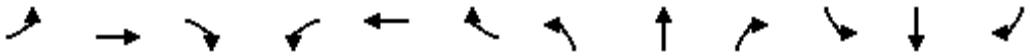


Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	26	994	21	695	46	629	464
v/c Ratio	0.08	0.63	0.14	0.39	0.22	0.98	0.70
Control Delay	25.5	28.1	18.5	18.5	2.5	56.8	24.0
Queue Delay	0.0	3.3	0.0	0.0	0.0	0.0	0.0
Total Delay	25.5	31.4	18.5	18.5	2.5	56.8	24.0
Queue Length 50th (m)	2.5	68.1	1.9	42.3	0.0	~122.6	64.3
Queue Length 95th (m)	11.3	#160.7	7.4	72.8	0.0	#134.5	79.8
Internal Link Dist (m)		102.2		80.6	83.0		99.1
Turn Bay Length (m)	20.0		20.0			15.0	
Base Capacity (vph)	308	1584	149	1779	256	643	839
Starvation Cap Reductn	0	474	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.90	0.14	0.39	0.18	0.98	0.55

Intersection Summary

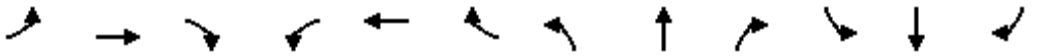
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	950	15	20	660	15	15	0	30	610	10	440
Future Volume (vph)	25	950	15	20	660	15	15	0	30	610	10	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.97		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		0.98	1.00	
Frt	1.00	1.00		1.00	1.00			0.91		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1711	3512		950	3556			842		1691	1529	
Flt Permitted	0.38	1.00		0.15	1.00			0.78		0.73	1.00	
Satd. Flow (perm)	685	3512		146	3556			664		1292	1529	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	26	979	15	21	680	15	15	0	31	629	10	454
RTOR Reduction (vph)	0	1	0	0	1	0	0	39	0	0	55	0
Lane Group Flow (vph)	26	993	0	21	694	0	0	7	0	629	409	0
Confl. Peds. (#/hr)	10		10	10		10	20		20	20		20
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	5%	1%	100%	90%	1%	7%	100%	100%	94%	5%	100%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	40.5	40.5		47.8	47.8			13.2		40.2	40.2	
Effective Green, g (s)	41.5	41.5		48.8	48.8			14.2		41.2	41.2	
Actuated g/C Ratio	0.42	0.42		0.49	0.49			0.14		0.41	0.41	
Clearance Time (s)	6.0	6.0		4.0	6.0			6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0		2.5	5.0			4.0		3.0	4.0	
Lane Grp Cap (vph)	284	1457		105	1735			94		628	629	
v/s Ratio Prot		c0.28		0.01	c0.20					c0.24	0.27	
v/s Ratio Perm	0.04			0.09				0.01		c0.17		
v/c Ratio	0.09	0.68		0.20	0.40			0.07		1.00	0.65	
Uniform Delay, d1	17.8	23.9		16.0	16.3			37.2		28.6	23.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.6	2.6		0.7	0.7			0.4		36.3	2.6	
Delay (s)	18.4	26.5		16.7	17.0			37.6		64.9	26.2	
Level of Service	B	C		B	B			D		E	C	
Approach Delay (s)		26.3			17.0			37.6			48.5	
Approach LOS		C			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	32.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



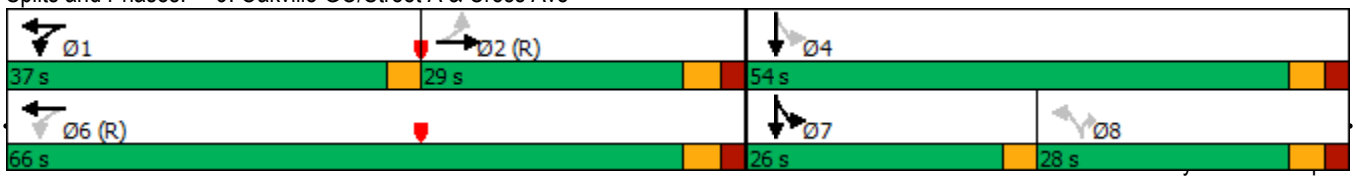
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	300	90	650	480	70	60	0	235	445	0	135
Future Volume (vph)	35	300	90	650	480	70	60	0	235	445	0	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	100.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99				1.00		1.00		0.97		0.99	
Frt		0.965			0.991				0.850		0.969	
Flt Protected	0.950				0.974		0.950				0.963	
Satd. Flow (prot)	1805	3258	0	0	3395	0	1805	0	1615	0	1767	0
Flt Permitted	0.211				0.562		0.482				0.963	
Satd. Flow (perm)	398	3258	0	0	1959	0	913	0	1570	0	1757	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			8				255		51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		120.6			126.2			63.3			76.3	
Travel Time (s)		8.7			9.1			4.6			5.5	
Confl. Peds. (#/hr)	15					15	5		10	10		5
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	38	326	98	707	522	76	65	0	255	484	0	147
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	424	0	0	1305	0	65	0	255	0	631	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	100		100
Number of Detectors	1	2		1	2		1		1	1	2	
Detector Template	Left	Thru		Left	Thru		Left		Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0		2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0		2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4						9.4	
Detector 2 Size(m)		0.6			0.6						0.6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												

Lane Group	Ø4	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type	Perm	NA		custom	NA		Perm		Perm	custom	NA	
Protected Phases		2		1	1 6					7	7 4	
Permitted Phases	2			6			8		8	4		
Detector Phase	2	2		1	1 6		8		8	7	7 4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		8.0			10.0		10.0	8.0		
Minimum Split (s)	27.6	27.6		11.0			27.6		27.6	11.0		
Total Split (s)	29.0	29.0		37.0			28.0		28.0	26.0		
Total Split (%)	24.2%	24.2%		30.8%			23.3%		23.3%	21.7%		
Maximum Green (s)	23.4	23.4		34.0			22.4		22.4	23.0		
Yellow Time (s)	3.3	3.3		3.0			3.3		3.3	3.0		
All-Red Time (s)	2.3	2.3		0.0			2.3		2.3	0.0		
Lost Time Adjust (s)	-1.0	-1.0					-1.0		-1.0			
Total Lost Time (s)	4.6	4.6					4.6		4.6			
Lead/Lag	Lag	Lag		Lead			Lag		Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes		
Vehicle Extension (s)	5.0	5.0		2.5			3.5		3.5	3.0		
Recall Mode	C-Min	C-Min		None			None		None	None		
Walk Time (s)	7.0	7.0					7.0		7.0			
Flash Dont Walk (s)	15.0	15.0					15.0		15.0			
Pedestrian Calls (#/hr)	10	10					10		10			
Act Effct Green (s)	28.4	28.4			67.5		18.5		18.5		48.5	
Actuated g/C Ratio	0.24	0.24			0.56		0.15		0.15		0.40	
v/c Ratio	0.40	0.53			1.02dl		0.46		0.56		0.85	
Control Delay	57.0	41.2			26.5		55.3		10.0		41.5	
Queue Delay	0.0	0.0			38.7		0.0		0.0		0.0	
Total Delay	57.0	41.2			65.2		55.3		10.0		41.5	
LOS	E	D			E		E		B		D	
Approach Delay		42.5			65.2			19.2			41.5	
Approach LOS		D			E			B			D	

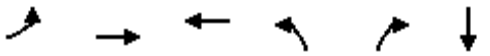
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 50.4		Intersection LOS: D	
Intersection Capacity Utilization 102.9%		ICU Level of Service G	
Analysis Period (min) 15			
dl Defacto Left Lane. Recode with 1 though lane as a left lane.			

Splits and Phases: 9: Oakville GO/Street A & Cross Ave



Lane Group	Ø4	Ø6
Detector 2 Extend (s)		
Turn Type		
Protected Phases	4	6
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	10.0	20.0
Minimum Split (s)	27.6	27.6
Total Split (s)	54.0	66.0
Total Split (%)	45%	55%
Maximum Green (s)	48.4	60.4
Yellow Time (s)	3.3	3.3
All-Red Time (s)	2.3	2.3
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	5.0
Recall Mode	None	C-Min
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	15.0	15.0
Pedestrian Calls (#/hr)	10	10
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

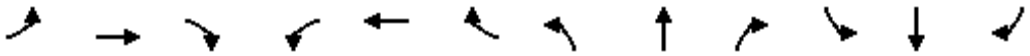
Intersection Summary



Lane Group	EBL	EBT	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	38	424	1305	65	255	631
v/c Ratio	0.40	0.53	1.02dl	0.46	0.56	0.85
Control Delay	57.0	41.2	26.5	55.3	10.0	41.5
Queue Delay	0.0	0.0	38.7	0.0	0.0	0.0
Total Delay	57.0	41.2	65.2	55.3	10.0	41.5
Queue Length 50th (m)	8.4	47.2	118.0	14.4	0.0	127.5
Queue Length 95th (m)	#23.0	65.2	150.2	28.9	22.8	174.9
Internal Link Dist (m)		96.6	102.2			52.3
Turn Bay Length (m)						
Base Capacity (vph)	94	794	1532	178	511	792
Starvation Cap Reductn	0	0	322	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.53	1.08	0.37	0.50	0.80

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

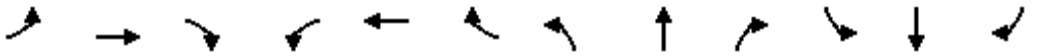


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	300	90	650	480	70	60	0	235	445	0	135
Future Volume (vph)	35	300	90	650	480	70	60	0	235	445	0	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6			2.0		4.6		4.6		2.0	
Lane Util. Factor	1.00	0.95			0.95		1.00		1.00		1.00	
Frpb, ped/bikes	1.00	1.00			1.00		1.00		0.97		1.00	
Flpb, ped/bikes	0.99	1.00			1.00		1.00		1.00		0.99	
Frt	1.00	0.97			0.99		1.00		0.85		0.97	
Flt Protected	0.95	1.00			0.97		0.95		1.00		0.96	
Satd. Flow (prot)	1793	3259			3395		1799		1570		1756	
Flt Permitted	0.21	1.00			0.56		0.48		1.00		0.96	
Satd. Flow (perm)	399	3259			1959		913		1570		1756	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	326	98	707	522	76	65	0	255	484	0	147
RTOR Reduction (vph)	0	23	0	0	4	0	0	0	216	0	31	0
Lane Group Flow (vph)	38	401	0	0	1301	0	65	0	39	0	600	0
Confl. Peds. (#/hr)	15					15	5		10	10		5
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	0%	9%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		custom	NA		Perm		Perm	custom	NA	
Protected Phases		2		1	1 6					7	7 4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	27.4	27.4			63.9		17.5		17.5		44.9	
Effective Green, g (s)	28.4	28.4			64.9		18.5		18.5		45.9	
Actuated g/C Ratio	0.24	0.24			0.54		0.15		0.15		0.38	
Clearance Time (s)	5.6	5.6					5.6		5.6			
Vehicle Extension (s)	5.0	5.0					3.5		3.5			
Lane Grp Cap (vph)	94	771			1472		140		242		671	
v/s Ratio Prot		0.12			c0.25						c0.19	
v/s Ratio Perm	0.10				0.22		0.07		0.03		0.15	
v/c Ratio	0.40	0.52			1.02dl		0.46		0.16		0.89	
Uniform Delay, d1	38.7	39.9			24.2		46.2		44.0		34.8	
Progression Factor	1.00	1.00			1.00		1.00		1.00		1.00	
Incremental Delay, d2	12.4	2.5			6.6		2.9		0.4		14.3	
Delay (s)	51.1	42.4			30.9		49.1		44.4		49.0	
Level of Service	D	D			C		D		D		D	
Approach Delay (s)		43.1			30.9			45.4			49.0	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	38.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	102.9%	ICU Level of Service	G
Analysis Period (min)	15		

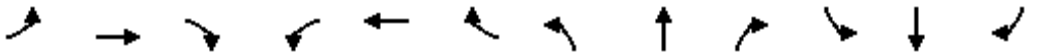
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	270	0	5	530	155	0	0	0	155	0	25
Future Volume (vph)	25	270	0	5	530	155	0	0	0	155	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (m)	25.0			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.966							0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1805	3312	0	0	3278	0	0	1900	0	1787	0	1509
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1805	3312	0	0	3278	0	0	1900	0	1787	0	1509
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		132.8			120.6			80.8			71.6	
Travel Time (s)		9.6			8.7			5.8			5.2	
Confl. Peds. (#/hr)	20		10	10		20						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	0%	0%	8%	1%	0%	0%	0%	1%	0%	7%
Adj. Flow (vph)	27	293	0	5	576	168	0	0	0	168	0	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	293	0	0	749	0	0	0	0	168	0	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	270	0	5	530	155	0	0	0	155	0	25
Future Volume (Veh/h)	25	270	0	5	530	155	0	0	0	155	0	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	293	0	5	576	168	0	0	0	168	0	27
Pedestrians								10			20	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			2	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		133			121							
pX, platoon unblocked												
vC, conflicting volume	764			303			682	1131	156	890	1047	392
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	764			303			682	1131	156	890	1047	392
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	7.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.4
p0 queue free %	97			100			100	100	100	25	100	95
cM capacity (veh/h)	844			1259			307	193	860	224	216	583

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	27	146	146	293	456	0	168	27
Volume Left	27	0	0	5	0	0	168	0
Volume Right	0	0	0	0	168	0	0	27
cSH	844	1700	1700	1259	1700	1700	224	583
Volume to Capacity	0.03	0.09	0.09	0.00	0.27	0.12	0.75	0.05
Queue Length 95th (m)	0.8	0.0	0.0	0.1	0.0	0.0	41.4	1.2
Control Delay (s)	9.4	0.0	0.0	0.2	0.0	0.0	57.4	11.5
Lane LOS	A			A		A	F	B
Approach Delay (s)	0.8			0.1		0.0	51.1	
Approach LOS						A	F	

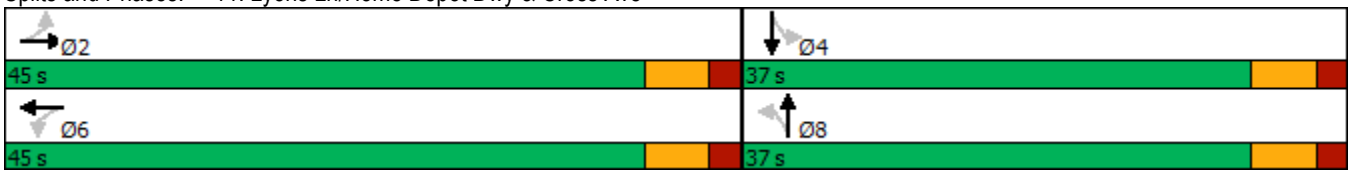
Intersection Summary				
Average Delay	8.1			
Intersection Capacity Utilization	38.9%	ICU Level of Service		A
Analysis Period (min)	15			

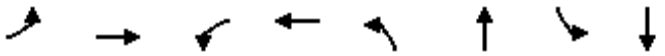
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	260	130	180	375	5	15	5	20	20	10	45
Future Volume (vph)	55	260	130	180	375	5	15	5	20	20	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	25.0		0.0	35.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00		0.99	0.99		0.99	0.99	
Frt		0.950			0.998			0.881			0.878	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3235	0	1787	3100	0	1805	1588	0	1703	1580	0
Flt Permitted	0.496			0.491			0.715			0.738		
Satd. Flow (perm)	938	3235	0	924	3100	0	1352	1588	0	1316	1580	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		149			2			23			52	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		47.5			132.8			89.0			69.0	
Travel Time (s)		3.4			9.6			6.4			5.0	
Confl. Peds. (#/hr)	5					5	5		5	5		5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	9%	0%	1%	16%	29%	0%	0%	5%	6%	0%	5%
Adj. Flow (vph)	64	302	151	209	436	6	17	6	23	23	12	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	453	0	209	442	0	17	29	0	23	64	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		35.0	35.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	41.0	41.0		41.0	41.0		28.0	28.0		28.0	28.0	
Total Split (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Total Split (%)	54.9%	54.9%		54.9%	54.9%		45.1%	45.1%		45.1%	45.1%	
Maximum Green (s)	39.0	39.0		39.0	39.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	5	5		5	5		5	5		5	5	
Act Effct Green (s)	43.8	43.8		43.8	43.8		13.1	13.1		13.1	13.1	
Actuated g/C Ratio	0.76	0.76		0.76	0.76		0.23	0.23		0.23	0.23	
v/c Ratio	0.09	0.18		0.30	0.19		0.06	0.08		0.08	0.16	
Control Delay	6.2	3.6		7.7	5.1		17.7	9.7		18.1	8.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	6.2	3.6		7.7	5.1		17.7	9.7		18.1	8.4	
LOS	A	A		A	A		B	A		B	A	
Approach Delay		3.9			5.9			12.7			11.0	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 57.9			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.30			
Intersection Signal Delay: 5.7		Intersection LOS: A	
Intersection Capacity Utilization 80.7%		ICU Level of Service D	
Analysis Period (min) 15			

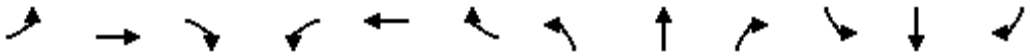
Splits and Phases: 11: Lyons Ln/Home Depot Dwy & Cross Ave





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	453	209	442	17	29	23	64
v/c Ratio	0.09	0.18	0.30	0.19	0.06	0.08	0.08	0.16
Control Delay	6.2	3.6	7.7	5.1	17.7	9.7	18.1	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.2	3.6	7.7	5.1	17.7	9.7	18.1	8.4
Queue Length 50th (m)	2.3	5.8	9.1	9.0	1.5	0.6	2.1	1.1
Queue Length 95th (m)	9.6	16.8	30.5	23.2	5.3	5.3	6.5	8.0
Internal Link Dist (m)		23.5		108.8		65.0		45.0
Turn Bay Length (m)			25.0		35.0			
Base Capacity (vph)	747	2607	736	2470	755	896	734	905
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.17	0.28	0.18	0.02	0.03	0.03	0.07

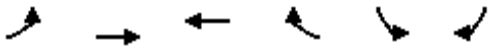
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	260	130	180	375	5	15	5	20	20	10	45
Future Volume (vph)	55	260	130	180	375	5	15	5	20	20	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	1.00		1.00	0.88		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1798	3235		1787	3100		1798	1590		1696	1582	
Flt Permitted	0.50	1.00		0.49	1.00		0.72	1.00		0.74	1.00	
Satd. Flow (perm)	939	3235		923	3100		1354	1590		1318	1582	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	64	302	151	209	436	6	17	6	23	23	12	52
RTOR Reduction (vph)	0	46	0	0	1	0	0	20	0	0	44	0
Lane Group Flow (vph)	64	407	0	209	441	0	17	9	0	23	20	0
Confl. Peds. (#/hr)	5					5	5		5	5		5
Heavy Vehicles (%)	0%	9%	0%	1%	16%	29%	0%	0%	5%	6%	0%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	40.6	40.6		40.6	40.6		7.8	7.8		7.8	7.8	
Effective Green, g (s)	41.6	41.6		41.6	41.6		8.8	8.8		8.8	8.8	
Actuated g/C Ratio	0.69	0.69		0.69	0.69		0.15	0.15		0.15	0.15	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	646	2228		635	2135		197	231		192	230	
v/s Ratio Prot		0.13			0.14			0.01			0.01	
v/s Ratio Perm	0.07			c0.23			0.01			c0.02		
v/c Ratio	0.10	0.18		0.33	0.21		0.09	0.04		0.12	0.09	
Uniform Delay, d1	3.1	3.3		3.8	3.4		22.3	22.2		22.4	22.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.1		0.6	0.1		0.3	0.1		0.4	0.2	
Delay (s)	3.3	3.4		4.4	3.5		22.6	22.3		22.8	22.5	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		3.4			3.8			22.4			22.6	
Approach LOS		A			A			C			C	

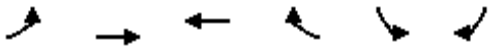
Intersection Summary			
HCM 2000 Control Delay	5.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	60.4	Sum of lost time (s)	10.0
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	400	430	5	50	30
Future Volume (vph)	10	400	430	5	50	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.998		0.950	
Flt Protected	0.950				0.970	
Satd. Flow (prot)	1805	3471	3250	0	1751	0
Flt Permitted	0.950				0.970	
Satd. Flow (perm)	1805	3471	3250	0	1751	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		443.3	47.5		121.4	
Travel Time (s)		31.9	3.4		8.7	
Confl. Peds. (#/hr)	5			5		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	4%	11%	0%	0%	0%
Adj. Flow (vph)	11	460	494	6	57	34
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	460	500	0	91	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

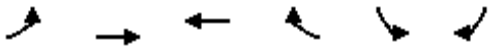
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.5%		ICU Level of Service A	
Analysis Period (min) 15			



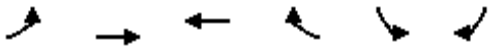
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	400	430	5	50	30
Future Volume (Veh/h)	10	400	430	5	50	30
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	11	460	494	6	57	34
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			48			
pX, platoon unblocked	0.96				0.96	0.96
vC, conflicting volume	505				754	255
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	410				669	151
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				85	96
cM capacity (veh/h)	1113				376	840

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	11	230	230	329	171	91
Volume Left	11	0	0	0	0	57
Volume Right	0	0	0	0	6	34
cSH	1113	1700	1700	1700	1700	474
Volume to Capacity	0.01	0.14	0.14	0.19	0.10	0.19
Queue Length 95th (m)	0.2	0.0	0.0	0.0	0.0	5.6
Control Delay (s)	8.3	0.0	0.0	0.0	0.0	14.4
Lane LOS	A					B
Approach Delay (s)	0.2			0.0		14.4
Approach LOS						B

Intersection Summary				
Average Delay	1.3			
Intersection Capacity Utilization	23.5%	ICU Level of Service		A
Analysis Period (min)	15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	335	755	605	40	125	365
Future Volume (vph)	335	755	605	40	125	365
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0			0.0	60.0	0.0
Storage Lanes	1			0	1	2
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.88
Ped Bike Factor	0.99		1.00			
Frt			0.991			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1703	3438	3411	0	1805	2561
Flt Permitted	0.351				0.950	
Satd. Flow (perm)	626	3438	3411	0	1805	2561
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			7			384
Link Speed (k/h)		50	50		50	
Link Distance (m)		209.5	575.4		443.3	
Travel Time (s)		15.1	41.4		31.9	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	5%	5%	0%	0%	11%
Adj. Flow (vph)	353	795	637	42	132	384
Shared Lane Traffic (%)						
Lane Group Flow (vph)	353	795	679	0	132	384
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		7.2	7.2		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			

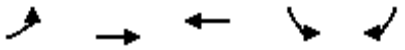


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	6.0	38.0	38.0		10.0	10.0
Minimum Split (s)	12.0	47.6	44.6		33.8	33.8
Total Split (s)	35.0	109.2	74.2		30.8	30.8
Total Split (%)	25.0%	78.0%	53.0%		22.0%	22.0%
Maximum Green (s)	29.0	102.6	67.6		25.0	25.0
Yellow Time (s)	4.0	3.7	3.7		3.3	3.3
All-Red Time (s)	2.0	2.9	2.9		2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.6	5.6		4.8	4.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Min	C-Min		None	None
Walk Time (s)		10.0	1.0		10.0	10.0
Flash Dont Walk (s)		31.0	31.0		18.0	18.0
Pedestrian Calls (#/hr)		10	10		0	0
Act Effct Green (s)	113.6	113.0	94.3		16.6	16.6
Actuated g/C Ratio	0.81	0.81	0.67		0.12	0.12
v/c Ratio	0.58	0.29	0.30		0.62	0.60
Control Delay	7.4	3.9	7.9		70.8	9.0
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	7.4	3.9	7.9		70.8	9.0
LOS	A	A	A		E	A
Approach Delay		5.0	7.9		24.8	
Approach LOS		A	A		C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 10.2		Intersection LOS: B	
Intersection Capacity Utilization 71.4%		ICU Level of Service C	
Analysis Period (min) 15			

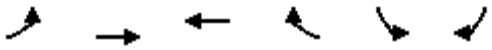
Splits and Phases: 13: Speers Rd/Cornwall Rd & Cross Ave





Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	353	795	679	132	384
v/c Ratio	0.58	0.29	0.30	0.62	0.60
Control Delay	7.4	3.9	7.9	70.8	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.4	3.9	7.9	70.8	9.0
Queue Length 50th (m)	20.1	25.2	32.6	37.2	0.0
Queue Length 95th (m)	36.4	39.5	39.2	57.4	15.9
Internal Link Dist (m)		185.5	551.4	419.3	
Turn Bay Length (m)	70.0			60.0	
Base Capacity (vph)	738	2775	2299	335	788
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.48	0.29	0.30	0.39	0.49

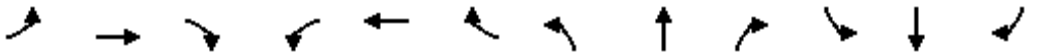
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	335	755	605	40	125	365
Future Volume (vph)	335	755	605	40	125	365
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		4.8	4.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1699	3438	3410		1805	2561
Flt Permitted	0.35	1.00	1.00		0.95	1.00
Satd. Flow (perm)	628	3438	3410		1805	2561
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	353	795	637	42	132	384
RTOR Reduction (vph)	0	0	2	0	0	338
Lane Group Flow (vph)	353	795	677	0	132	46
Confl. Peds. (#/hr)	15			15		
Heavy Vehicles (%)	6%	5%	5%	0%	0%	11%
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Actuated Green, G (s)	112.0	112.0	93.3		15.6	15.6
Effective Green, g (s)	113.0	113.0	94.3		16.6	16.6
Actuated g/C Ratio	0.81	0.81	0.67		0.12	0.12
Clearance Time (s)	6.0	6.6	6.6		5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	611	2774	2296		214	303
v/s Ratio Prot	c0.06	0.23	0.20			
v/s Ratio Perm	c0.41				c0.07	0.02
v/c Ratio	0.58	0.29	0.29		0.62	0.15
Uniform Delay, d1	4.1	3.4	9.3		58.7	55.4
Progression Factor	1.00	1.00	0.76		1.00	1.00
Incremental Delay, d2	1.3	0.3	0.3		5.2	0.2
Delay (s)	5.4	3.6	7.3		63.9	55.6
Level of Service	A	A	A		E	E
Approach Delay (s)		4.2	7.3		57.7	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

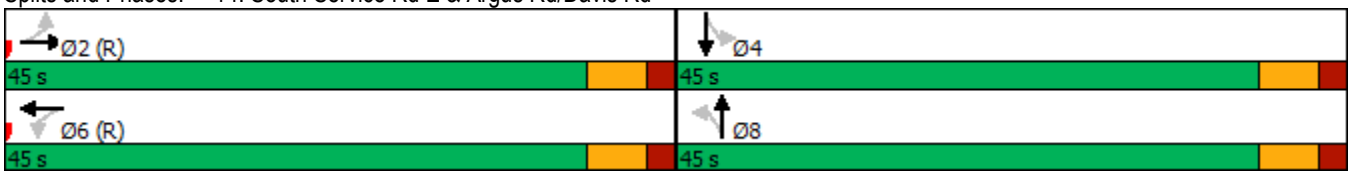


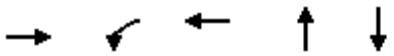
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	80	0	80	70	5	0	160	60	10	185	0
Future Volume (vph)	0	80	0	80	70	5	0	160	60	10	185	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.990			0.963				
Flt Protected				0.950							0.998	
Satd. Flow (prot)	1900	1900	0	1626	1881	0	0	1776	0	0	1844	0
Flt Permitted				0.697							0.976	
Satd. Flow (perm)	1900	1900	0	1193	1881	0	0	1776	0	0	1803	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					5			27				
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		170.6			203.3			204.3			287.4	
Travel Time (s)		12.3			14.6			14.7			20.7	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	11%	0%	0%	50%	3%	3%	0%	3%	0%
Adj. Flow (vph)	0	92	0	92	80	6	0	184	69	11	213	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	92	0	92	86	0	0	253	0	0	224	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA			NA		Perm	NA	
Protected Phases		2			6			8			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	26.0	26.0		26.0	26.0		26.0	26.0		26.0	26.0	
Total Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	39.0	39.0		39.0	39.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	20	20		20	20		20	20		20	20	
Act Effct Green (s)		61.8		61.8	61.8			18.2			18.2	
Actuated g/C Ratio		0.69		0.69	0.69			0.20			0.20	
v/c Ratio		0.07		0.11	0.07			0.67			0.62	
Control Delay		1.3		6.3	5.6			37.5			39.4	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		1.3		6.3	5.6			37.5			39.4	
LOS		A		A	A			D			D	
Approach Delay		1.3			6.0			37.5			39.4	
Approach LOS		A			A			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 26.1		Intersection LOS: C	
Intersection Capacity Utilization 42.9%		ICU Level of Service A	
Analysis Period (min) 15			

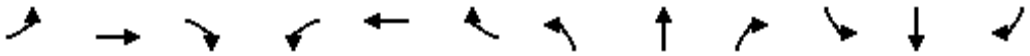
Splits and Phases: 14: South Service Rd E & Argus Rd/Davis Rd





Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	92	92	86	253	224
v/c Ratio	0.07	0.11	0.07	0.67	0.62
Control Delay	1.3	6.3	5.6	37.5	39.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	1.3	6.3	5.6	37.5	39.4
Queue Length 50th (m)	0.5	4.9	4.2	38.1	37.4
Queue Length 95th (m)	2.7	12.5	10.7	55.3	53.3
Internal Link Dist (m)	146.6		179.3	180.3	263.4
Turn Bay Length (m)		30.0			
Base Capacity (vph)	1305	819	1293	804	801
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.11	0.07	0.31	0.28

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	80	0	80	70	5	0	160	60	10	185	0
Future Volume (vph)	0	80	0	80	70	5	0	160	60	10	185	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.99			0.96			1.00	
Flt Protected		1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)		1900		1626	1880			1777			1843	
Flt Permitted		1.00		0.70	1.00			1.00			0.98	
Satd. Flow (perm)		1900		1194	1880			1777			1804	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	92	0	92	80	6	0	184	69	11	213	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	22	0	0	0	0
Lane Group Flow (vph)	0	92	0	92	84	0	0	231	0	0	224	0
Heavy Vehicles (%)	0%	0%	0%	11%	0%	0%	50%	3%	3%	0%	3%	0%
Turn Type	Perm	NA		Perm	NA			NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.8		60.8	60.8			17.2			17.2	
Effective Green, g (s)		61.8		61.8	61.8			18.2			18.2	
Actuated g/C Ratio		0.69		0.69	0.69			0.20			0.20	
Clearance Time (s)		6.0		6.0	6.0			6.0			6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		1304		819	1290			359			364	
v/s Ratio Prot		0.05			0.04			c0.13				
v/s Ratio Perm				c0.08							0.12	
v/c Ratio		0.07		0.11	0.07			0.64			0.62	
Uniform Delay, d1		4.6		4.8	4.6			32.9			32.7	
Progression Factor		0.21		1.00	1.00			1.00			1.00	
Incremental Delay, d2		0.1		0.3	0.1			3.9			3.1	
Delay (s)		1.1		5.1	4.7			36.9			35.8	
Level of Service		A		A	A			D			D	
Approach Delay (s)		1.1			4.9			36.9			35.8	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	24.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	42.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	60	60	95	150	70	20
Future Volume (vph)	60	60	95	150	70	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		100.0	100.0		100.0	0.0
Storage Lanes		0	0		0	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.932				0.970	
Flt Protected				0.981	0.962	
Satd. Flow (prot)	1711	0	0	1816	1740	0
Flt Permitted				0.981	0.962	
Satd. Flow (perm)	1711	0	0	1816	1740	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	252.8			547.4	339.1	
Travel Time (s)	18.2			39.4	24.4	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	7%	0%	2%	3%	1%	5%
Adj. Flow (vph)	73	73	116	183	85	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	146	0	0	299	109	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	60	60	95	150	70	20
Future Volume (Veh/h)	60	60	95	150	70	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	73	73	116	183	85	24
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			146		524	110
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			146		524	110
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		82	97
cM capacity (veh/h)			1436		473	936

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	146	299	109
Volume Left	0	116	85
Volume Right	73	0	24
cSH	1700	1436	531
Volume to Capacity	0.09	0.08	0.21
Queue Length 95th (m)	0.0	2.1	6.1
Control Delay (s)	0.0	3.4	13.5
Lane LOS		A	B
Approach Delay (s)	0.0	3.4	13.5
Approach LOS			B

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	31.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	665	225	40	525	35	230	65	60	70	110	25
Future Volume (vph)	25	665	225	40	525	35	230	65	60	70	110	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00		1.00	0.99		1.00		0.98
Frt		0.962			0.991			0.928				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	3331	0	1752	3436	0	1736	1732	0	1703	1881	1553
Flt Permitted	0.403			0.235			0.680			0.670		
Satd. Flow (perm)	700	3331	0	433	3436	0	1237	1732	0	1196	1881	1526
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		82			12			48				32
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			116.5	
Travel Time (s)		43.9			11.1			15.4			8.4	
Confl. Peds. (#/hr)	5					5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Adj. Flow (vph)	27	723	245	43	571	38	250	71	65	76	120	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	968	0	43	609	0	250	136	0	76	120	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	32.4	32.4		32.4	32.4		19.9	19.9		19.9	19.9	19.9
Actuated g/C Ratio	0.52	0.52		0.52	0.52		0.32	0.32		0.32	0.32	0.32
v/c Ratio	0.07	0.55		0.19	0.34		0.63	0.23		0.20	0.20	0.05
Control Delay	9.7	11.0		12.2	9.7		27.1	12.6		18.1	17.3	6.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	9.7	11.0		12.2	9.7		27.1	12.6		18.1	17.3	6.2
LOS	A	B		B	A		C	B		B	B	A
Approach Delay		11.0			9.9			22.0			16.2	
Approach LOS		B			A			C			B	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 62.2
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 13.1 Intersection LOS: B
Intersection Capacity Utilization 68.1% ICU Level of Service C
Analysis Period (min) 15

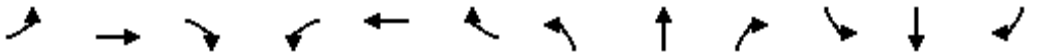
Splits and Phases: 16: Chartwell Rd & Cornwall Rd





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	27	968	43	609	250	136	76	120	27
v/c Ratio	0.07	0.55	0.19	0.34	0.63	0.23	0.20	0.20	0.05
Control Delay	9.7	11.0	12.2	9.7	27.1	12.6	18.1	17.3	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.7	11.0	12.2	9.7	27.1	12.6	18.1	17.3	6.2
Queue Length 50th (m)	1.4	32.3	2.4	19.1	23.6	7.0	6.1	9.7	0.0
Queue Length 95th (m)	6.4	67.5	10.4	40.8	57.8	22.3	18.5	25.6	4.6
Internal Link Dist (m)		585.1		130.4		189.6		92.5	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	635	3028	392	3117	658	944	636	1001	827
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.32	0.11	0.20	0.38	0.14	0.12	0.12	0.03

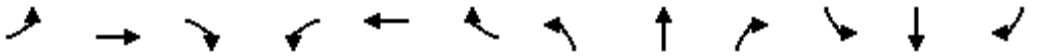
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	665	225	40	525	35	230	65	60	70	110	25
Future Volume (vph)	25	665	225	40	525	35	230	65	60	70	110	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.99		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1652	3331		1752	3435		1731	1734		1698	1881	1529
Flt Permitted	0.40	1.00		0.23	1.00		0.68	1.00		0.67	1.00	1.00
Satd. Flow (perm)	700	3331		433	3435		1238	1734		1198	1881	1529
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	723	245	43	571	38	250	71	65	76	120	27
RTOR Reduction (vph)	0	39	0	0	6	0	0	32	0	0	0	18
Lane Group Flow (vph)	27	929	0	43	603	0	250	104	0	76	120	9
Confl. Peds. (#/hr)	5					5	5		5	5		5
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	31.3	31.3		31.3	31.3		18.9	18.9		18.9	18.9	18.9
Effective Green, g (s)	32.3	32.3		32.3	32.3		19.9	19.9		19.9	19.9	19.9
Actuated g/C Ratio	0.52	0.52		0.52	0.52		0.32	0.32		0.32	0.32	0.32
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	367	1746		227	1801		399	560		387	607	493
v/s Ratio Prot		c0.28			0.18			0.06			0.06	
v/s Ratio Perm	0.04			0.10			c0.20			0.06		0.01
v/c Ratio	0.07	0.53		0.19	0.33		0.63	0.18		0.20	0.20	0.02
Uniform Delay, d1	7.2	9.7		7.7	8.5		17.7	15.0		15.1	15.1	14.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.7		1.0	0.3		3.5	0.2		0.3	0.2	0.0
Delay (s)	7.5	10.3		8.7	8.7		21.2	15.2		15.4	15.3	14.2
Level of Service	A	B		A	A		C	B		B	B	B
Approach Delay (s)		10.2			8.7			19.1			15.2	
Approach LOS		B			A			B			B	

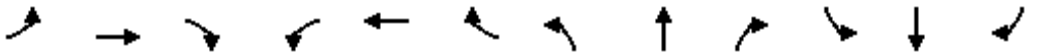
Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	61.6	Sum of lost time (s)	9.4
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1565	20	0	650	65	0	0	20	0	0	50
Future Volume (vph)	0	1565	20	0	650	65	0	0	20	0	0	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.998			0.986				0.865			0.865
Flt Protected												
Satd. Flow (prot)	0	3370	0	0	3405	0	0	0	1644	0	0	1644
Flt Permitted												
Satd. Flow (perm)	0	3370	0	0	3405	0	0	0	1644	0	0	1644
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		104.6			121.1			111.1			94.6	
Travel Time (s)		7.5			8.7			8.0			6.8	
Confl. Peds. (#/hr)	15		10	10		15	5		5	5		5
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	7%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	1630	21	0	677	68	0	0	21	0	0	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1651	0	0	745	0	0	0	21	0	0	52
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 55.4%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1565	20	0	650	65	0	0	20	0	0	50
Future Volume (Veh/h)	0	1565	20	0	650	65	0	0	20	0	0	50
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	1630	21	0	677	68	0	0	21	0	0	52
Pedestrians		5			5			10			15	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		105			121							
pX, platoon unblocked	0.97			0.77			0.78	0.78	0.77	0.78	0.78	0.97
vC, conflicting volume	760			1661			2046	2410	840	1567	2387	392
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	689			1258			1606	2071	190	995	2041	309
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	97	100	100	92
cM capacity (veh/h)	876			427			50	42	627	148	44	660

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	1087	564	451	294	21	52
Volume Left	0	0	0	0	0	0
Volume Right	0	21	0	68	21	52
cSH	1700	1700	1700	1700	627	660
Volume to Capacity	0.64	0.33	0.27	0.17	0.03	0.08
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.8	2.0
Control Delay (s)	0.0	0.0	0.0	0.0	10.9	10.9
Lane LOS					B	B
Approach Delay (s)	0.0		0.0		10.9	10.9
Approach LOS					B	B

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	55.4%	ICU Level of Service	B	
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	125	0	180	40	0	15
Future Volume (vph)	125	0	180	40	0	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.961		
Satd. Flow (prot)	1863	0	0	1790	1611	0
Flt Permitted				0.961		
Satd. Flow (perm)	1863	0	0	1790	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	54.4			96.4	88.6	
Travel Time (s)	3.9			6.9	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	136	0	196	43	0	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	136	0	0	239	16	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

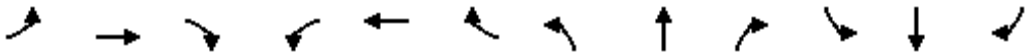
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	125	0	180	40	0	15
Future Volume (Veh/h)	125	0	180	40	0	15
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	136	0	196	43	0	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				318		
pX, platoon unblocked						
vC, conflicting volume			136		571	136
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			136		571	136
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			86		100	98
cM capacity (veh/h)			1448		417	913

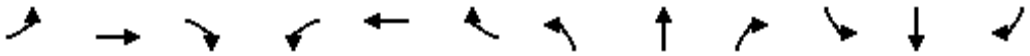
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	136	239	16
Volume Left	0	196	0
Volume Right	0	0	16
cSH	1700	1448	913
Volume to Capacity	0.08	0.14	0.02
Queue Length 95th (m)	0.0	3.7	0.4
Control Delay (s)	0.0	6.7	9.0
Lane LOS		A	A
Approach Delay (s)	0.0	6.7	9.0
Approach LOS			A

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	32.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	5	105	15	15	0	0	45	10	140	350	0
Future Volume (vph)	0	5	105	15	15	0	0	45	10	140	350	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.871						0.975				
Flt Protected					0.976						0.986	
Satd. Flow (prot)	0	1622	0	0	1818	0	0	1816	0	0	1837	0
Flt Permitted					0.976						0.986	
Satd. Flow (perm)	0	1622	0	0	1818	0	0	1816	0	0	1837	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		48.4			110.3			49.4			89.5	
Travel Time (s)		3.5			7.9			3.6			6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	5	114	16	16	0	0	49	11	152	380	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	119	0	0	32	0	0	60	0	0	532	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	5	105	15	15	0	0	45	10	140	350	0
Future Volume (vph)	0	5	105	15	15	0	0	45	10	140	350	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	5	114	16	16	0	0	49	11	152	380	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	119	32	60	532
Volume Left (vph)	0	16	0	152
Volume Right (vph)	114	0	11	0
Hadj (s)	-0.54	0.13	-0.08	0.09
Departure Headway (s)	4.8	5.6	4.8	4.5
Degree Utilization, x	0.16	0.05	0.08	0.66
Capacity (veh/h)	670	565	698	788
Control Delay (s)	8.7	8.9	8.2	15.6
Approach Delay (s)	8.7	8.9	8.2	15.6
Approach LOS	A	A	A	C

Intersection Summary				
Delay	13.6			
Level of Service	B			
Intersection Capacity Utilization	47.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	15	140	965	25	0	20
Future Volume (vph)	15	140	965	25	0	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.878					0.850
Flt Protected				0.954		
Satd. Flow (prot)	1635	0	0	1777	1863	1583
Flt Permitted				0.954		
Satd. Flow (perm)	1635	0	0	1777	1863	1583
Link Speed (k/h)	50			50	50	
Link Distance (m)	110.3			98.9	123.1	
Travel Time (s)	7.9			7.1	8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	152	1049	27	0	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	168	0	0	1076	0	22
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 70.9%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	15	140	965	25	0	20
Future Volume (Veh/h)	15	140	965	25	0	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	152	1049	27	0	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				147		
pX, platoon unblocked					0.83	
vC, conflicting volume			168		2217	92
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			168		2361	92
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			26		100	98
cM capacity (veh/h)			1410		8	965

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	168	1076	0	22
Volume Left	0	1049	0	0
Volume Right	152	0	0	22
cSH	1700	1410	1700	965
Volume to Capacity	0.10	0.74	0.00	0.02
Queue Length 95th (m)	0.0	59.9	0.0	0.6
Control Delay (s)	0.0	14.5	0.0	8.8
Lane LOS		B	A	A
Approach Delay (s)	0.0	14.5	8.8	
Approach LOS			A	

Intersection Summary			
Average Delay	12.4		
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	0	15	0	0	120
Future Volume (vph)	0	0	15	0	0	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.950		
Satd. Flow (prot)	1863	0	0	1770	1611	0
Flt Permitted				0.950		
Satd. Flow (perm)	1863	0	0	1770	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	39.6			48.4	40.7	
Travel Time (s)	2.9			3.5	2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	16	0	0	130
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	16	130	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

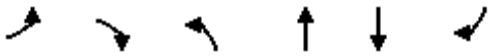
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 17.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	15	0	0	120
Future Volume (Veh/h)	0	0	15	0	0	120
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	16	0	0	130
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			0		32	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		32	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	88
cM capacity (veh/h)			1623		972	1085

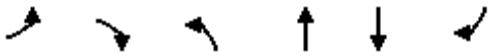
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	0	16	130
Volume Left	0	16	0
Volume Right	0	0	130
cSH	1700	1623	1085
Volume to Capacity	0.00	0.01	0.12
Queue Length 95th (m)	0.0	0.2	3.3
Control Delay (s)	0.0	7.2	8.8
Lane LOS		A	A
Approach Delay (s)	0.0	7.2	8.8
Approach LOS			A

Intersection Summary			
Average Delay	8.6		
Intersection Capacity Utilization	17.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	105	30	50	455	15
Future Volume (vph)	5	105	30	50	455	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.871				0.996	
Flt Protected	0.998			0.981		
Satd. Flow (prot)	1619	0	0	1827	1855	0
Flt Permitted	0.998			0.981		
Satd. Flow (perm)	1619	0	0	1827	1855	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	28.2			76.3	49.4	
Travel Time (s)	2.0			5.5	3.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	114	33	54	495	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	119	0	0	87	511	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 42.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	105	30	50	455	15
Future Volume (Veh/h)	5	105	30	50	455	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	114	33	54	495	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				76		
pX, platoon unblocked						
vC, conflicting volume	623	503	511			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	623	503	511			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	80	97			
cM capacity (veh/h)	436	569	1054			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	119	87	511
Volume Left	5	33	0
Volume Right	114	0	16
cSH	561	1054	1700
Volume to Capacity	0.21	0.03	0.30
Queue Length 95th (m)	6.4	0.8	0.0
Control Delay (s)	13.1	3.4	0.0
Lane LOS	B	A	
Approach Delay (s)	13.1	3.4	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	115	0	15	25	0	10
Future Volume (vph)	115	0	15	25	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.982		
Satd. Flow (prot)	1863	0	0	1829	1611	0
Flt Permitted				0.982		
Satd. Flow (perm)	1863	0	0	1829	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	51.2			54.4	40.3	
Travel Time (s)	3.7			3.9	2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	0	16	27	0	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	125	0	0	43	11	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	115	0	15	25	0	10
Future Volume (Veh/h)	115	0	15	25	0	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	125	0	16	27	0	11
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				372		
pX, platoon unblocked						
vC, conflicting volume			125		184	125
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			125		184	125
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	99
cM capacity (veh/h)			1462		796	926

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	125	43	11
Volume Left	0	16	0
Volume Right	0	0	11
cSH	1700	1462	926
Volume to Capacity	0.07	0.01	0.01
Queue Length 95th (m)	0.0	0.3	0.3
Control Delay (s)	0.0	2.8	8.9
Lane LOS		A	A
Approach Delay (s)	0.0	2.8	8.9
Approach LOS			A

Intersection Summary			
Average Delay		1.2	
Intersection Capacity Utilization		18.8%	ICU Level of Service
Analysis Period (min)		15	

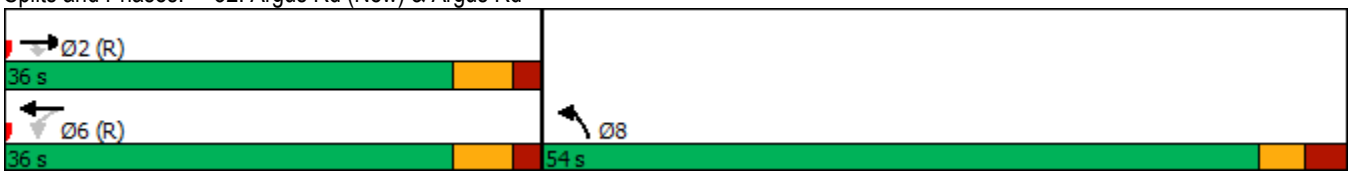


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	80	145	0	70	675	0
Future Volume (vph)	80	145	0	70	675	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		50.0	0.0		0.0	0.0
Storage Lanes		1	0		1	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected					0.950	
Satd. Flow (prot)	1863	1583	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1863	1583	0	1863	1770	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		158				
Link Speed (k/h)	50			50	50	
Link Distance (m)	119.5			170.6	100.6	
Travel Time (s)	8.6			12.3	7.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	158	0	76	734	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	87	158	0	76	734	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Number of Detectors	2	1	1	2	1	
Detector Template	Thru	Right	Left	Thru	Left	
Leading Detector (m)	10.0	2.0	2.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	0.6	2.0	2.0	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)	9.4			9.4		
Detector 2 Size(m)	0.6			0.6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			6	8	
Permitted Phases		2	6			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2	2	6	6	8	
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	27.0	27.0	27.0	27.0	27.0	
Total Split (s)	36.0	36.0	36.0	36.0	54.0	
Total Split (%)	40.0%	40.0%	40.0%	40.0%	60.0%	
Maximum Green (s)	30.0	30.0	30.0	30.0	48.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	13.0	13.0	13.0	13.0	13.0	
Pedestrian Calls (#/hr)	5	5	5	5	5	
Act Effct Green (s)	36.3	36.3		36.3	43.7	
Actuated g/C Ratio	0.40	0.40		0.40	0.49	
v/c Ratio	0.12	0.22		0.10	0.85	
Control Delay	21.5	10.1		14.0	30.8	
Queue Delay	0.0	0.0		0.0	3.8	
Total Delay	21.5	10.1		14.0	34.7	
LOS	C	B		B	C	
Approach Delay	14.1			14.0	34.7	
Approach LOS	B			B	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 28.4		Intersection LOS: C	
Intersection Capacity Utilization 54.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 32: Argus Rd (New) & Argus Rd





Lane Group	EBT	EBR	WBT	NBL
Lane Group Flow (vph)	87	158	76	734
v/c Ratio	0.12	0.22	0.10	0.85
Control Delay	21.5	10.1	14.0	30.8
Queue Delay	0.0	0.0	0.0	3.8
Total Delay	21.5	10.1	14.0	34.7
Queue Length 50th (m)	13.4	0.0	8.8	106.6
Queue Length 95th (m)	27.7	21.7	18.8	152.2
Internal Link Dist (m)	95.5		146.6	76.6
Turn Bay Length (m)		50.0		
Base Capacity (vph)	750	732	750	963
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	3	152
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.12	0.22	0.10	0.91

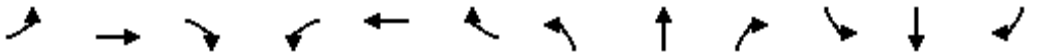
Intersection Summary



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	80	145	0	70	675	0
Future Volume (vph)	80	145	0	70	675	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	1.00	1.00		1.00	0.95	
Satd. Flow (prot)	1863	1583		1863	1770	
Flt Permitted	1.00	1.00		1.00	0.95	
Satd. Flow (perm)	1863	1583		1863	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	158	0	76	734	0
RTOR Reduction (vph)	0	94	0	0	0	0
Lane Group Flow (vph)	87	64	0	76	734	0
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			6	8	
Permitted Phases		2	6			
Actuated Green, G (s)	35.3	35.3		35.3	42.7	
Effective Green, g (s)	36.3	36.3		36.3	43.7	
Actuated g/C Ratio	0.40	0.40		0.40	0.49	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	751	638		751	859	
v/s Ratio Prot	c0.05			0.04	c0.41	
v/s Ratio Perm		0.04				
v/c Ratio	0.12	0.10		0.10	0.85	
Uniform Delay, d1	16.8	16.7		16.7	20.4	
Progression Factor	1.11	2.59		0.72	1.00	
Incremental Delay, d2	0.3	0.3		0.3	8.3	
Delay (s)	19.0	43.6		12.3	28.7	
Level of Service	B	D		B	C	
Approach Delay (s)	34.9			12.3	28.7	
Approach LOS	C			B	C	

Intersection Summary			
HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	0	0	0	0	0	0	235	0	0	0	70
Future Volume (vph)	80	0	0	0	0	0	0	235	0	0	0	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt											0.850	
Flt Protected	0.950											
Satd. Flow (prot)	1770	1863	0	1863	1863	0	1863	3539	0	1863	3008	0
Flt Permitted	0.718											
Satd. Flow (perm)	1337	1863	0	1863	1863	0	1863	3539	0	1863	3008	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)											1091	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		42.8			39.5			174.5			288.2	
Travel Time (s)		3.1			2.8			12.6			20.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	0	0	0	0	0	0	255	0	0	0	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	0	0	0	0	0	0	255	0	0	76	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt			pm+pt			Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		5.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	9.0	33.0		9.0	33.0		26.0	26.0		26.0	26.0	
Total Split (s)	17.0	46.0		11.0	40.0		33.0	33.0		33.0	33.0	
Total Split (%)	18.9%	51.1%		12.2%	44.4%		36.7%	36.7%		36.7%	36.7%	
Maximum Green (s)	13.0	40.0		7.0	34.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		20.0			20.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)		20			20		20	20		20	20	
Act Effct Green (s)	66.6							15.4			15.4	
Actuated g/C Ratio	0.74							0.17			0.17	
v/c Ratio	0.08							0.42			0.05	
Control Delay	9.5							22.7			0.1	
Queue Delay	0.0							0.0			0.0	
Total Delay	9.5							22.7			0.1	
LOS	A							C			A	
Approach Delay		9.5						22.7			0.1	
Approach LOS		A						C			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.42			
Intersection Signal Delay: 15.8		Intersection LOS: B	
Intersection Capacity Utilization 33.3%		ICU Level of Service A	
Analysis Period (min) 15			

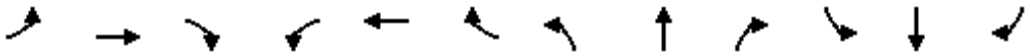
Splits and Phases: 39: New N-S Arterial St & Davis Rd





Lane Group	EBL	NBT	SBT
Lane Group Flow (vph)	87	255	76
v/c Ratio	0.08	0.42	0.05
Control Delay	9.5	22.7	0.1
Queue Delay	0.0	0.0	0.0
Total Delay	9.5	22.7	0.1
Queue Length 50th (m)	7.4	23.9	0.0
Queue Length 95th (m)	16.6	37.0	0.0
Internal Link Dist (m)		150.5	264.2
Turn Bay Length (m)	30.0		
Base Capacity (vph)	1056	1101	1687
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.08	0.23	0.05

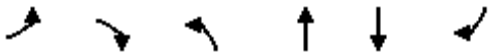
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	0	0	0	0	0	0	235	0	0	0	70
Future Volume (vph)	80	0	0	0	0	0	0	235	0	0	0	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0							5.0			5.0	
Lane Util. Factor	1.00							0.95			0.95	
Frt	1.00							1.00			0.85	
Flt Protected	0.95							1.00			1.00	
Satd. Flow (prot)	1770							3539			3008	
Flt Permitted	0.72							1.00			1.00	
Satd. Flow (perm)	1337							3539			3008	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	0	0	0	0	0	0	255	0	0	0	76
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	63	0
Lane Group Flow (vph)	87	0	0	0	0	0	0	255	0	0	13	0
Turn Type	pm+pt			pm+pt			Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	63.6							14.4			14.4	
Effective Green, g (s)	64.6							15.4			15.4	
Actuated g/C Ratio	0.72							0.17			0.17	
Clearance Time (s)	4.0							6.0			6.0	
Vehicle Extension (s)	3.0							3.0			3.0	
Lane Grp Cap (vph)	991							605			514	
v/s Ratio Prot	c0.01							c0.07			0.00	
v/s Ratio Perm	c0.06											
v/c Ratio	0.09							0.42			0.03	
Uniform Delay, d1	3.8							33.3			31.1	
Progression Factor	2.27							0.64			1.00	
Incremental Delay, d2	0.0							0.4			0.0	
Delay (s)	8.7							21.8			31.1	
Level of Service	A							C			C	
Approach Delay (s)		8.7			0.0			21.8			31.1	
Approach LOS		A			A			C			C	

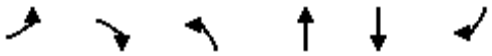
Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	33.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	60	50	30	30	0	20
Future Volume (vph)	60	50	30	30	0	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.939				0.865	
Flt Protected	0.973			0.976		
Satd. Flow (prot)	1702	0	0	1818	1611	0
Flt Permitted	0.973			0.976		
Satd. Flow (perm)	1702	0	0	1818	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	46.3			94.6	83.7	
Travel Time (s)	3.3			6.8	6.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	54	33	33	0	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	119	0	0	66	22	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

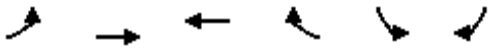
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	60	50	30	30	0	20
Future Volume (Veh/h)	60	50	30	30	0	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	54	33	33	0	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)					84	
pX, platoon unblocked						
vC, conflicting volume	110	11	22			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	110	11	22			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	95	98			
cM capacity (veh/h)	869	1070	1593			

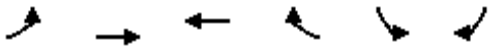
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	119	66	22
Volume Left	65	33	0
Volume Right	54	0	22
cSH	950	1593	1700
Volume to Capacity	0.13	0.02	0.01
Queue Length 95th (m)	3.4	0.5	0.0
Control Delay (s)	9.3	3.7	0.0
Lane LOS	A	A	
Approach Delay (s)	9.3	3.7	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	6.6		
Intersection Capacity Utilization	23.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	220	720	80	0	0	265
Future Volume (vph)	220	720	80	0	0	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	75.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt					0.865	
Flt Protected	0.950					
Satd. Flow (prot)	1770	3539	3539	0	1611	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	3539	3539	0	1611	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		182.4	224.2		204.3	
Travel Time (s)		13.1	16.1		14.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	783	87	0	0	288
Shared Lane Traffic (%)						
Lane Group Flow (vph)	239	783	87	0	288	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

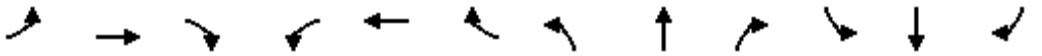
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	220	720	80	0	0	265
Future Volume (Veh/h)	220	720	80	0	0	265
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	239	783	87	0	0	288
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		182				
pX, platoon unblocked					0.85	
vC, conflicting volume	87				956	44
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	87				598	44
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	84				100	72
cM capacity (veh/h)	1507				311	1017

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	239	392	392	58	29	288
Volume Left	239	0	0	0	0	0
Volume Right	0	0	0	0	0	288
cSH	1507	1700	1700	1700	1700	1017
Volume to Capacity	0.16	0.23	0.23	0.03	0.02	0.28
Queue Length 95th (m)	4.5	0.0	0.0	0.0	0.0	9.4
Control Delay (s)	7.8	0.0	0.0	0.0	0.0	9.9
Lane LOS	A					A
Approach Delay (s)	1.8			0.0		9.9
Approach LOS						A

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		

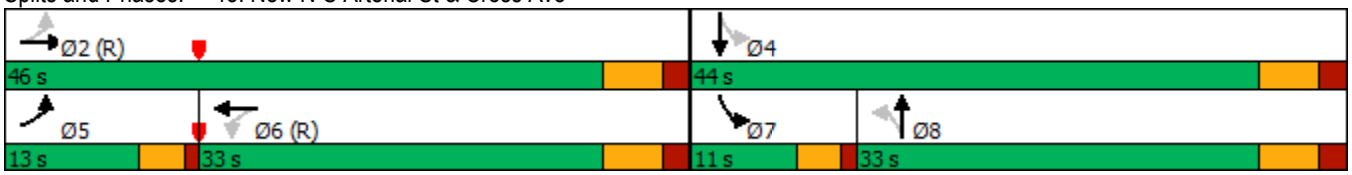


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	495	0	0	80	0	0	0	0	0	0	0
Future Volume (vph)	235	495	0	0	80	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	100.0		0.0	30.0		0.0	30.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Frt												
Flt Protected	0.950											
Satd. Flow (prot)	1770	3539	0	1863	3539	0	1863	1863	0	1863	3539	0
Flt Permitted	0.620											
Satd. Flow (perm)	1155	3539	0	1863	3539	0	1863	1863	0	1863	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		141.0			372.9			75.5			174.5	
Travel Time (s)		10.2			26.8			5.4			12.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	255	538	0	0	87	0	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	255	538	0	0	87	0	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	25		100
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm			pm+pt		
Protected Phases	5	2			6			8		7	4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		6	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		20.0	20.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	9.0	33.0		33.0	33.0		33.0	33.0		9.0	33.0	
Total Split (s)	13.0	46.0		33.0	33.0		33.0	33.0		11.0	44.0	
Total Split (%)	14.4%	51.1%		36.7%	36.7%		36.7%	36.7%		12.2%	48.9%	
Maximum Green (s)	9.0	40.0		27.0	27.0		27.0	27.0		7.0	38.0	
Yellow Time (s)	3.0	4.0		4.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		2.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	5.0		5.0	5.0		5.0	5.0		3.0	5.0	
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		C-Min	C-Min		Max	Max		None	None	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)		20.0		20.0	20.0		20.0	20.0			20.0	
Pedestrian Calls (#/hr)		20		20	20		20	20			20	
Act Effct Green (s)	38.8	36.8			23.8							
Actuated g/C Ratio	0.43	0.41			0.26							
v/c Ratio	0.45	0.37			0.09							
Control Delay	19.3	19.0			18.2							
Queue Delay	0.0	0.0			0.0							
Total Delay	19.3	19.0			18.2							
LOS	B	B			B							
Approach Delay		19.1			18.2							
Approach LOS		B			B							

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.45			
Intersection Signal Delay: 19.0		Intersection LOS: B	
Intersection Capacity Utilization 23.9%		ICU Level of Service A	
Analysis Period (min) 15			

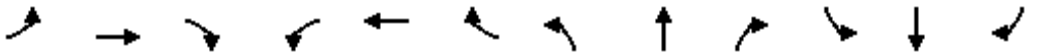
Splits and Phases: 45: New N-S Arterial St & Cross Ave





Lane Group	EBL	EBT	WBT
Lane Group Flow (vph)	255	538	87
v/c Ratio	0.45	0.37	0.09
Control Delay	19.3	19.0	18.2
Queue Delay	0.0	0.0	0.0
Total Delay	19.3	19.0	18.2
Queue Length 50th (m)	31.8	37.1	6.4
Queue Length 95th (m)	44.0	44.0	5.2
Internal Link Dist (m)		117.0	348.9
Turn Bay Length (m)	100.0		
Base Capacity (vph)	566	1612	1101
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.45	0.33	0.08

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	495	0	0	80	0	0	0	0	0	0	0
Future Volume (vph)	235	495	0	0	80	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.0			5.0							
Lane Util. Factor	1.00	0.95			0.95							
Frt	1.00	1.00			1.00							
Flt Protected	0.95	1.00			1.00							
Satd. Flow (prot)	1770	3539			3539							
Flt Permitted	0.62	1.00			1.00							
Satd. Flow (perm)	1154	3539			3539							
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	255	538	0	0	87	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	255	538	0	0	87	0	0	0	0	0	0	0
Turn Type	pm+pt	NA		Perm	NA		Perm			pm+pt		
Protected Phases	5	2			6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.8	35.8			22.8							
Effective Green, g (s)	36.8	36.8			23.8							
Actuated g/C Ratio	0.41	0.41			0.26							
Clearance Time (s)	4.0	6.0			6.0							
Vehicle Extension (s)	3.0	3.0			3.0							
Lane Grp Cap (vph)	540	1447			935							
v/s Ratio Prot	c0.05	0.15			0.02							
v/s Ratio Perm	c0.14											
v/c Ratio	0.47	0.37			0.09							
Uniform Delay, d1	18.4	18.5			25.0							
Progression Factor	1.00	1.00			0.75							
Incremental Delay, d2	0.7	0.7			0.2							
Delay (s)	19.1	19.3			19.0							
Level of Service	B	B			B							
Approach Delay (s)		19.2			19.0			0.0			0.0	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	23.9%	ICU Level of Service	A
Analysis Period (min)	15		

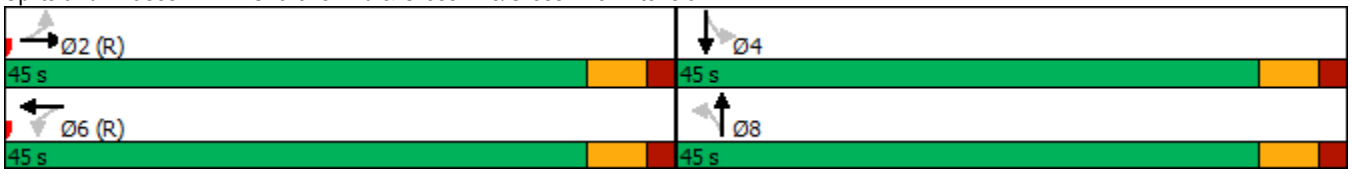
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	425	55	0	80	0	0	125	0	0	135	0
Future Volume (vph)	0	425	55	0	80	0	0	125	0	0	135	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	50.0		0.0	100.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983										
Flt Protected												
Satd. Flow (prot)	0	3479	0	0	3539	0	0	1863	0	0	1863	0
Flt Permitted												
Satd. Flow (perm)	0	3479	0	0	3539	0	0	1863	0	0	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20										
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		372.9			79.1			116.5			339.1	
Travel Time (s)		26.8			5.7			8.4			24.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	462	60	0	87	0	0	136	0	0	147	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	522	0	0	87	0	0	136	0	0	147	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA			NA			NA			NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	33.0	33.0		33.0	33.0		33.0	33.0		33.0	33.0	
Total Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	39.0	39.0		39.0	39.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	20	20		20	20		20	20		20	20	
Act Effct Green (s)		61.6			61.6			18.4			18.4	
Actuated g/C Ratio		0.68			0.68			0.20			0.20	
v/c Ratio		0.22			0.04			0.36			0.39	
Control Delay		8.7			6.5			31.2			23.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		8.7			6.5			31.2			23.0	
LOS		A			A			C			C	
Approach Delay		8.7			6.5			31.2			23.0	
Approach LOS		A			A			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.39			
Intersection Signal Delay: 14.3		Intersection LOS: B	
Intersection Capacity Utilization 33.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 47: Chartwell Rd & Cross Ave/Cross Ave Extension



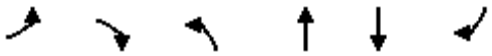
Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	522	87	136	147
v/c Ratio	0.22	0.04	0.36	0.39
Control Delay	8.7	6.5	31.2	23.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	8.7	6.5	31.2	23.0
Queue Length 50th (m)	23.2	1.8	23.0	17.1
Queue Length 95th (m)	20.0	6.5	32.8	26.7
Internal Link Dist (m)	348.9	55.1	92.5	315.1
Turn Bay Length (m)				
Base Capacity (vph)	2387	2422	828	828
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.22	0.04	0.16	0.18

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	425	55	0	80	0	0	125	0	0	135	0
Future Volume (vph)	0	425	55	0	80	0	0	125	0	0	135	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.98			1.00			1.00			1.00	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3478			3539			1863			1863	
Flt Permitted		1.00			1.00			1.00			1.00	
Satd. Flow (perm)		3478			3539			1863			1863	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	462	60	0	87	0	0	136	0	0	147	0
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	516	0	0	87	0	0	136	0	0	147	0
Turn Type		NA			NA			NA			NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.6			60.6			17.4			17.4	
Effective Green, g (s)		61.6			61.6			18.4			18.4	
Actuated g/C Ratio		0.68			0.68			0.20			0.20	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2380			2422			380			380	
v/s Ratio Prot		c0.15			0.02			0.07			c0.08	
v/s Ratio Perm												
v/c Ratio		0.22			0.04			0.36			0.39	
Uniform Delay, d1		5.3			4.6			30.7			30.9	
Progression Factor		1.36			1.00			1.00			0.69	
Incremental Delay, d2		0.2			0.0			0.6			0.7	
Delay (s)		7.4			4.6			31.3			22.1	
Level of Service		A			A			C			C	
Approach Delay (s)		7.4			4.6			31.3			22.1	
Approach LOS		A			A			C			C	

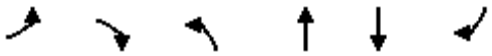
Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	33.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	325	40	5	165	15
Future Volume (vph)	10	325	40	5	165	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.869				0.989	
Flt Protected	0.998			0.957		
Satd. Flow (prot)	1615	0	0	1783	1842	0
Flt Permitted	0.998			0.957		
Satd. Flow (perm)	1615	0	0	1783	1842	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	40.6			89.5	88.6	
Travel Time (s)	2.9			6.4	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	353	43	5	179	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	364	0	0	48	195	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	325	40	5	165	15
Future Volume (Veh/h)	10	325	40	5	165	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	353	43	5	179	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	278	187	195			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	278	187	195			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	59	97			
cM capacity (veh/h)	690	855	1378			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	364	48	195
Volume Left	11	43	0
Volume Right	353	0	16
cSH	849	1378	1700
Volume to Capacity	0.43	0.03	0.11
Queue Length 95th (m)	17.4	0.8	0.0
Control Delay (s)	12.4	6.9	0.0
Lane LOS	B	A	
Approach Delay (s)	12.4	6.9	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	8.0		
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	135	5	25	135	80	80
Future Volume (vph)	135	5	25	135	80	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.996				0.932	
Flt Protected				0.992	0.976	
Satd. Flow (prot)	1855	0	0	1848	1694	0
Flt Permitted				0.992	0.976	
Satd. Flow (perm)	1855	0	0	1848	1694	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	96.4			57.6	36.0	
Travel Time (s)	6.9			4.1	2.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	147	5	27	147	87	87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	0	0	174	174	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	135	5	25	135	80	80
Future Volume (Veh/h)	135	5	25	135	80	80
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	147	5	27	147	87	87
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				222		
pX, platoon unblocked						
vC, conflicting volume			152		350	150
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			152		350	150
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		86	90
cM capacity (veh/h)			1429		635	897

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	152	174	174
Volume Left	0	27	87
Volume Right	5	0	87
cSH	1700	1429	743
Volume to Capacity	0.09	0.02	0.23
Queue Length 95th (m)	0.0	0.5	7.2
Control Delay (s)	0.0	1.3	11.3
Lane LOS		A	B
Approach Delay (s)	0.0	1.3	11.3
Approach LOS			B

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	210	5	25	80	80	80
Future Volume (vph)	210	5	25	80	80	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997				0.932	
Flt Protected				0.988	0.976	
Satd. Flow (prot)	1857	0	0	1840	1694	0
Flt Permitted				0.988	0.976	
Satd. Flow (perm)	1857	0	0	1840	1694	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	57.6			163.9	50.7	
Travel Time (s)	4.1			11.8	3.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	228	5	27	87	87	87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	233	0	0	114	174	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	210	5	25	80	80	80
Future Volume (Veh/h)	210	5	25	80	80	80
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	228	5	27	87	87	87
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				164		
pX, platoon unblocked						
vC, conflicting volume			233		372	230
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			233		372	230
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		86	89
cM capacity (veh/h)			1335		616	809

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	233	114	174
Volume Left	0	27	87
Volume Right	5	0	87
cSH	1700	1335	700
Volume to Capacity	0.14	0.02	0.25
Queue Length 95th (m)	0.0	0.5	7.8
Control Delay (s)	0.0	2.0	11.8
Lane LOS		A	B
Approach Delay (s)	0.0	2.0	11.8
Approach LOS			B

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	36.3%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	30	5	15	815	175	60
Future Volume (vph)	30	5	15	815	175	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.982				0.966	
Flt Protected				0.999	0.964	
Satd. Flow (prot)	1829	0	0	1861	1735	0
Flt Permitted				0.999	0.964	
Satd. Flow (perm)	1829	0	0	1861	1735	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	98.9			48.3	30.5	
Travel Time (s)	7.1			3.5	2.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	5	16	886	190	65
Shared Lane Traffic (%)						
Lane Group Flow (vph)	38	0	0	902	255	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	100		25	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 70.4%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	30	5	15	815	175	60
Future Volume (Veh/h)	30	5	15	815	175	60
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	5	16	886	190	65
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				48		
pX, platoon unblocked					0.84	
vC, conflicting volume			38		954	36
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			38		846	36
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		31	94
cM capacity (veh/h)			1572		275	1037

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	38	902	255
Volume Left	0	16	190
Volume Right	5	0	65
cSH	1700	1572	339
Volume to Capacity	0.02	0.01	0.75
Queue Length 95th (m)	0.0	0.2	46.9
Control Delay (s)	0.0	0.3	41.9
Lane LOS		A	E
Approach Delay (s)	0.0	0.3	41.9
Approach LOS			E

Intersection Summary			
Average Delay	9.1		
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1070	30	30	860	155	155
Future Volume (vph)	1070	30	30	860	155	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		0.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.996					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3525	0	1770	3539	1770	1583
Flt Permitted			0.204		0.950	
Satd. Flow (perm)	3525	0	380	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	5					75
Link Speed (k/h)	50			50	50	
Link Distance (m)	106.6			164.5	249.7	
Travel Time (s)	7.7			11.8	18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1163	33	33	935	168	168
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1196	0	33	935	168	168
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (m)	10.0		2.0	10.0	2.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	0.6		2.0	0.6	2.0	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)	9.4			9.4		
Detector 2 Size(m)	0.6			0.6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	2			6		
Permitted Phases			6		8	8

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		6	6	8	8
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	33.0		33.0	33.0	33.0	33.0
Total Split (s)	63.0		63.0	63.0	37.0	37.0
Total Split (%)	63.0%		63.0%	63.0%	37.0%	37.0%
Maximum Green (s)	57.0		57.0	57.0	31.0	31.0
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0		5.0	5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	C-Min		C-Min	C-Min	Min	Min
Walk Time (s)	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	20.0		20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)	5		5	5	5	5
Act Effct Green (s)	72.7		72.7	72.7	17.3	17.3
Actuated g/C Ratio	0.73		0.73	0.73	0.17	0.17
v/c Ratio	0.47		0.12	0.36	0.55	0.50
Control Delay	7.2		7.1	6.3	43.4	24.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	7.2		7.1	6.3	43.4	24.5
LOS	A		A	A	D	C
Approach Delay	7.2			6.3	33.9	
Approach LOS	A			A	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 10.4		Intersection LOS: B	
Intersection Capacity Utilization 48.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 60: New N-S Arterial St & Iroquois Shore Blvd





Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1196	33	935	168	168
v/c Ratio	0.47	0.12	0.36	0.55	0.50
Control Delay	7.2	7.1	6.3	43.4	24.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.2	7.1	6.3	43.4	24.5
Queue Length 50th (m)	41.7	1.6	29.4	32.3	17.2
Queue Length 95th (m)	84.7	7.3	60.8	46.0	32.5
Internal Link Dist (m)	82.6		140.5	225.7	
Turn Bay Length (m)		50.0			
Base Capacity (vph)	2563	276	2572	566	557
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.47	0.12	0.36	0.30	0.30

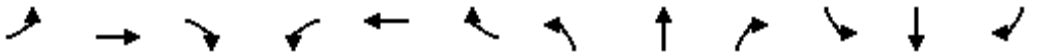
Intersection Summary



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1070	30	30	860	155	155
Future Volume (vph)	1070	30	30	860	155	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3525		1770	3539	1770	1583
Flt Permitted	1.00		0.20	1.00	0.95	1.00
Satd. Flow (perm)	3525		381	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1163	33	33	935	168	168
RTOR Reduction (vph)	1	0	0	0	0	62
Lane Group Flow (vph)	1195	0	33	935	168	106
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	2			6		
Permitted Phases			6		8	8
Actuated Green, G (s)	71.7		71.7	71.7	16.3	16.3
Effective Green, g (s)	72.7		72.7	72.7	17.3	17.3
Actuated g/C Ratio	0.73		0.73	0.73	0.17	0.17
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2562		276	2572	306	273
v/s Ratio Prot	c0.34			0.26		
v/s Ratio Perm			0.09		c0.09	0.07
v/c Ratio	0.47		0.12	0.36	0.55	0.39
Uniform Delay, d1	5.6		4.1	5.1	37.8	36.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6		0.9	0.4	2.0	0.9
Delay (s)	6.2		5.0	5.5	39.8	37.6
Level of Service	A		A	A	D	D
Approach Delay (s)	6.2			5.4	38.7	
Approach LOS	A			A	D	

Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

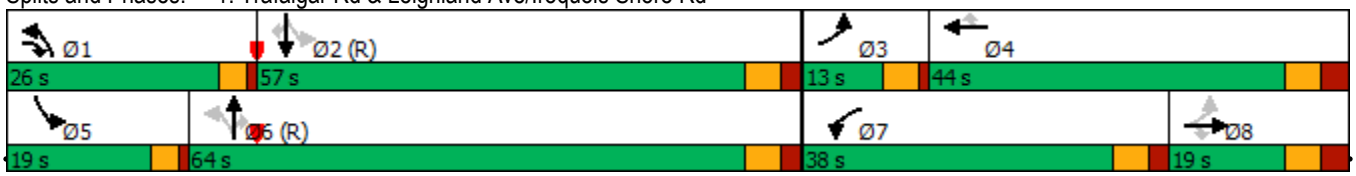


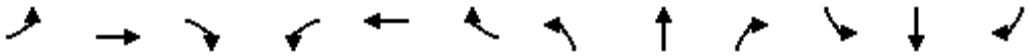
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	115	280	765	150	315	295	1810	875	190	1260	115
Future Volume (vph)	100	115	280	765	150	315	295	1810	875	190	1260	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.95					0.92			0.97			0.87
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1881	1599	3467	1881	1615	1787	5136	1599	1805	5085	1615
Flt Permitted	0.659			0.950			0.099			0.074		
Satd. Flow (perm)	1185	1881	1599	3467	1881	1485	186	5136	1543	141	5085	1399
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			213			644			173
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			301.7			275.4			339.2	
Travel Time (s)		27.7			21.7			19.8			24.4	
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Adj. Flow (vph)	103	119	289	789	155	325	304	1866	902	196	1299	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	119	289	789	155	325	304	1866	902	196	1299	119
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	11.0	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	13.0	19.0	26.0	38.0	44.0	44.0	26.0	64.0	64.0	19.0	57.0	57.0
Total Split (%)	9.3%	13.6%	18.6%	27.1%	31.4%	31.4%	18.6%	45.7%	45.7%	13.6%	40.7%	40.7%
Maximum Green (s)	8.3	12.2	22.0	32.3	37.2	37.2	22.0	57.9	57.9	15.0	50.9	50.9
Yellow Time (s)	3.7	3.7	3.0	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	1.0	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					30	30		50	50		50	50
Act Effct Green (s)	24.0	12.8	39.9	33.3	38.0	38.0	80.4	60.7	60.7	70.7	54.0	54.0
Actuated g/C Ratio	0.17	0.09	0.28	0.24	0.27	0.27	0.57	0.43	0.43	0.50	0.39	0.39
v/c Ratio	0.42	0.70	0.55	0.96	0.30	0.58	0.87	0.84	0.87	0.80	0.66	0.18
Control Delay	37.6	82.8	30.0	75.1	42.5	19.3	56.1	21.2	15.0	58.4	37.9	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.5	0.0	0.0	0.0
Total Delay	37.6	82.8	30.0	75.1	42.5	19.3	56.1	21.2	26.5	58.4	37.9	1.4
LOS	D	F	C	E	D	B	E	C	C	E	D	A
Approach Delay		43.9			56.8			26.2			37.7	
Approach LOS		D			E			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 36.5		Intersection LOS: D	
Intersection Capacity Utilization 92.9%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd



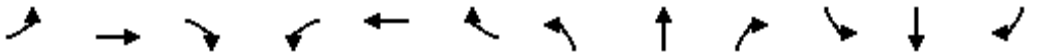


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	103	119	289	789	155	325	304	1866	902	196	1299	119
v/c Ratio	0.42	0.70	0.55	0.96	0.30	0.58	0.87	0.84	0.87	0.80	0.66	0.18
Control Delay	37.6	82.8	30.0	75.1	42.5	19.3	56.1	21.2	15.0	58.4	37.9	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.5	0.0	0.0	0.0
Total Delay	37.6	82.8	30.0	75.1	42.5	19.3	56.1	21.2	26.5	58.4	37.9	1.4
Queue Length 50th (m)	19.6	34.1	44.2	117.8	36.0	26.9	54.0	139.2	218.8	38.7	116.7	0.0
Queue Length 95th (m)	33.5	#60.7	74.6	#158.5	56.6	60.4	m76.7	162.6	#272.6	#75.0	134.2	3.0
Internal Link Dist (m)		361.1			277.7			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	245	177	548	824	513	560	370	2228	1034	262	1962	646
Starvation Cap Reductn	0	0	0	0	0	0	0	0	126	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.67	0.53	0.96	0.30	0.58	0.82	0.84	0.99	0.75	0.66	0.18

Intersection Summary

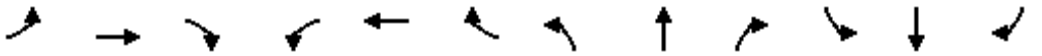
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	115	280	765	150	315	295	1810	875	190	1260	115
Future Volume (vph)	100	115	280	765	150	315	295	1810	875	190	1260	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.92	1.00	1.00	0.97	1.00	1.00	0.87
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1743	1881	1599	3467	1881	1485	1787	5136	1543	1805	5085	1399
Flt Permitted	0.66	1.00	1.00	0.95	1.00	1.00	0.10	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	1209	1881	1599	3467	1881	1485	187	5136	1543	141	5085	1399
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	103	119	289	789	155	325	304	1866	902	196	1299	119
RTOR Reduction (vph)	0	0	79	0	0	155	0	0	365	0	0	73
Lane Group Flow (vph)	103	119	210	789	155	170	304	1866	537	196	1299	46
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	19.9	11.8	32.1	32.3	37.0	37.0	77.3	59.7	59.7	66.6	53.0	53.0
Effective Green, g (s)	21.9	12.8	34.1	33.3	38.0	38.0	78.3	60.7	60.7	68.6	54.0	54.0
Actuated g/C Ratio	0.16	0.09	0.24	0.24	0.27	0.27	0.56	0.43	0.43	0.49	0.39	0.39
Clearance Time (s)	4.7	6.8	4.0	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	223	171	389	824	510	403	348	2226	669	242	1961	539
v/s Ratio Prot	0.03	c0.06	0.08	c0.23	0.08		c0.13	0.36		0.08	0.26	
v/s Ratio Perm	0.04		0.05			0.11	c0.36		0.35	0.31		0.03
v/c Ratio	0.46	0.70	0.54	0.96	0.30	0.42	0.87	0.84	0.80	0.81	0.66	0.09
Uniform Delay, d1	52.9	61.7	46.1	52.7	40.5	42.0	36.5	35.3	34.5	37.3	35.5	27.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.32	0.53	0.87	1.00	1.00	1.00
Incremental Delay, d2	1.5	11.6	1.4	21.4	0.3	0.7	12.2	2.1	5.4	17.8	1.8	0.3
Delay (s)	54.5	73.3	47.5	74.0	40.8	42.7	60.3	20.9	35.5	55.1	37.3	27.6
Level of Service	D	E	D	E	D	D	E	C	D	E	D	C
Approach Delay (s)		54.9			61.9			29.1			38.7	
Approach LOS		D			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	40.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	92.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

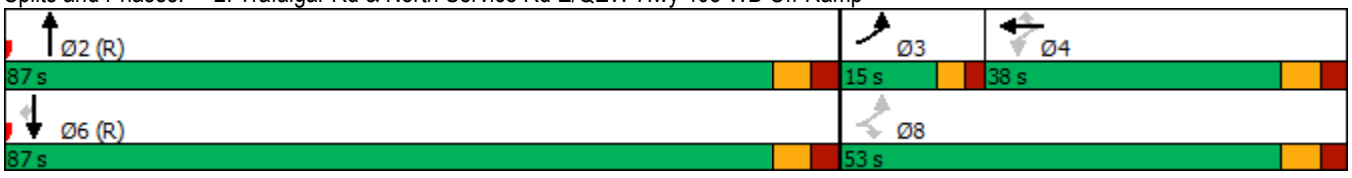


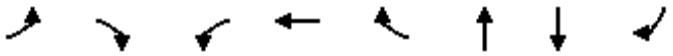
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	270	475	5	340	0	2630	0	0	2315	15
Future Volume (vph)	25	0	270	475	5	340	0	2630	0	0	2315	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.94
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.953							
Satd. Flow (prot)	1805	0	1599	1681	1687	1583	0	5136	0	0	5036	1524
Flt Permitted	0.277			0.950	0.953							
Satd. Flow (perm)	526	0	1599	1681	1687	1583	0	5136	0	0	5036	1437
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			98						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							15		10	10		15
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Adj. Flow (vph)	27	0	287	505	5	362	0	2798	0	0	2463	16
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	27	0	287	252	258	362	0	2798	0	0	2463	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	15.0		53.0	38.0	38.0	38.0		87.0			87.0	87.0
Total Split (%)	10.7%		37.9%	27.1%	27.1%	27.1%		62.1%			62.1%	62.1%
Maximum Green (s)	10.0		46.0	31.0	31.0	31.0		80.0			80.0	80.0
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		15			15	15
Act Effct Green (s)	39.7		37.7	29.2	29.2	29.2		90.3			90.3	90.3
Actuated g/C Ratio	0.28		0.27	0.21	0.21	0.21		0.64			0.64	0.64
v/c Ratio	0.11		0.63	0.72	0.74	0.89		0.84			0.76	0.02
Control Delay	32.7		45.0	63.3	64.3	62.5		15.1			25.2	0.1
Queue Delay	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	32.7		45.0	63.3	64.3	62.5		15.1			25.2	0.1
LOS	C		D	E	E	E		B			C	A
Approach Delay		43.9			63.3			15.1			25.1	
Approach LOS		D			E			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 26.8		Intersection LOS: C	
Intersection Capacity Utilization 89.7%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp

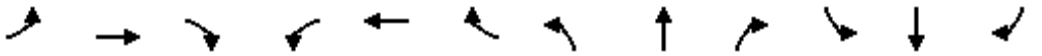




Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	27	287	252	258	362	2798	2463	16
v/c Ratio	0.11	0.63	0.72	0.74	0.89	0.84	0.76	0.02
Control Delay	32.7	45.0	63.3	64.3	62.5	15.1	25.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.7	45.0	63.3	64.3	62.5	15.1	25.2	0.1
Queue Length 50th (m)	5.2	60.6	70.3	72.2	75.4	125.4	199.9	0.0
Queue Length 95th (m)	12.3	89.6	104.0	106.5	#128.1	196.0	m220.9	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	249	557	388	389	440	3313	3248	951
Starvation Cap Reductn	0	0	0	0	0	7	0	0
Spillback Cap Reductn	0	0	0	0	0	22	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.52	0.65	0.66	0.82	0.85	0.76	0.02

Intersection Summary

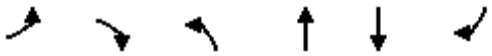
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



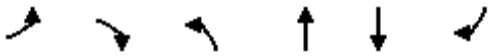
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	270	475	5	340	0	2630	0	0	2315	15
Future Volume (vph)	25	0	270	475	5	340	0	2630	0	0	2315	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.94
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1681	1688	1583		5136			5036	1437
Flt Permitted	0.28		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	526		1599	1681	1688	1583		5136			5036	1437
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	27	0	287	505	5	362	0	2798	0	0	2463	16
RTOR Reduction (vph)	0	0	22	0	0	78	0	0	0	0	0	6
Lane Group Flow (vph)	27	0	265	252	258	284	0	2798	0	0	2463	10
Confl. Peds. (#/hr)							15		10	10		15
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	38.7		38.7	28.2	28.2	28.2		87.3			87.3	87.3
Effective Green, g (s)	39.7		39.7	29.2	29.2	29.2		88.3			88.3	88.3
Actuated g/C Ratio	0.28		0.28	0.21	0.21	0.21		0.63			0.63	0.63
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	208		453	350	352	330		3239			3176	906
v/s Ratio Prot	0.01							c0.54			0.49	
v/s Ratio Perm	0.03		c0.17	0.15	0.15	c0.18						0.01
v/c Ratio	0.13		0.58	0.72	0.73	0.86		0.86			0.78	0.01
Uniform Delay, d1	37.6		43.1	51.6	51.8	53.5		21.0			18.7	9.6
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.59			1.23	1.00
Incremental Delay, d2	0.5		2.1	6.9	7.7	20.0		2.1			1.3	0.0
Delay (s)	38.1		45.1	58.5	59.4	73.4		14.6			24.3	9.6
Level of Service	D		D	E	E	E		B			C	A
Approach Delay (s)		44.5			65.0			14.6			24.2	
Approach LOS		D			E			B			C	

Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



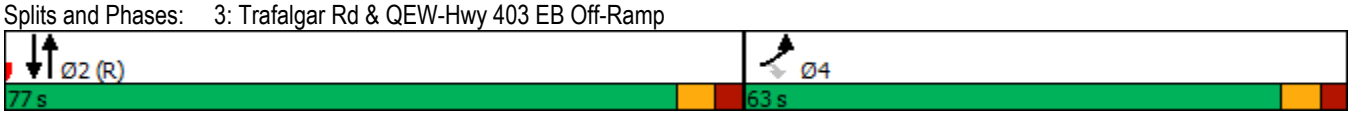
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1005	565	0	1940	1840	0
Future Volume (vph)	1005	565	0	1940	1840	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3467	1583	0	5085	5085	0
Flt Permitted	0.950					
Satd. Flow (perm)	3467	1583	0	5085	5085	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		5				
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			80.8	331.3	
Travel Time (s)	15.4			5.8	23.9	
Confl. Peds. (#/hr)			25			25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Adj. Flow (vph)	1058	595	0	2042	1937	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1058	595	0	2042	1937	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	63.0	63.0		77.0	77.0	
Total Split (%)	45.0%	45.0%		55.0%	55.0%	
Maximum Green (s)	56.0	56.0		70.0	70.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		15	15	
Act Effct Green (s)	55.6	55.6		72.4	72.4	
Actuated g/C Ratio	0.40	0.40		0.52	0.52	
v/c Ratio	0.77	0.94		0.78	0.74	
Control Delay	40.9	64.6		29.4	25.8	
Queue Delay	0.0	0.0		0.1	0.0	
Total Delay	40.9	64.6		29.5	25.8	
LOS	D	E		C	C	
Approach Delay	49.4			29.5	25.8	
Approach LOS	D			C	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 34.1		Intersection LOS: C	
Intersection Capacity Utilization 80.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp

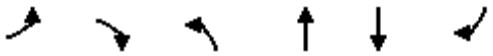




Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	1058	595	2042	1937
v/c Ratio	0.77	0.94	0.78	0.74
Control Delay	40.9	64.6	29.4	25.8
Queue Delay	0.0	0.0	0.1	0.0
Total Delay	40.9	64.6	29.5	25.8
Queue Length 50th (m)	134.3	161.6	176.8	102.3
Queue Length 95th (m)	161.1	#238.1	m133.2	131.9
Internal Link Dist (m)	190.2		56.8	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1411	647	2629	2629
Starvation Cap Reductn	0	0	83	0
Spillback Cap Reductn	0	0	66	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.75	0.92	0.80	0.74

Intersection Summary

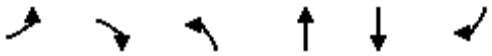
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1005	565	0	1940	1840	0
Future Volume (vph)	1005	565	0	1940	1840	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3467	1583		5085	5085	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3467	1583		5085	5085	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1058	595	0	2042	1937	0
RTOR Reduction (vph)	0	3	0	0	0	0
Lane Group Flow (vph)	1058	592	0	2042	1937	0
Confl. Peds. (#/hr)			25			25
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	54.6	54.6		71.4	71.4	
Effective Green, g (s)	55.6	55.6		72.4	72.4	
Actuated g/C Ratio	0.40	0.40		0.52	0.52	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1376	628		2629	2629	
v/s Ratio Prot	0.31			c0.40	0.38	
v/s Ratio Perm		c0.37				
v/c Ratio	0.77	0.94		0.78	0.74	
Uniform Delay, d1	36.6	40.7		27.3	26.4	
Progression Factor	1.00	1.00		1.01	0.91	
Incremental Delay, d2	2.6	22.7		1.4	1.3	
Delay (s)	39.3	63.3		28.8	25.3	
Level of Service	D	E		C	C	
Approach Delay (s)	47.9			28.8	25.3	
Approach LOS	D			C	C	

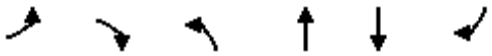
Intersection Summary			
HCM 2000 Control Delay	33.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	100	0	1970	1785	655
Future Volume (vph)	0	100	0	1970	1785	655
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.960	
Flt Protected						
Satd. Flow (prot)	0	1522	0	5085	4878	0
Flt Permitted						
Satd. Flow (perm)	0	1522	0	5085	4878	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	100.6			198.2	80.8	
Travel Time (s)	7.2			14.3	5.8	
Confl. Peds. (#/hr)			20			20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	8%	0%	2%	1%	5%
Adj. Flow (vph)	0	106	0	2096	1899	697
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	106	0	2096	2596	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 62.5%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	100	0	1970	1785	655
Future Volume (Veh/h)	0	100	0	1970	1785	655
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	106	0	2096	1899	697
Pedestrians	20					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	2					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				198	81	
pX, platoon unblocked	0.79	0.70	0.70			
vC, conflicting volume	2966	1002	2616			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	992	0	1809			
tC, single (s)	6.8	7.1	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	100	86	100			
cM capacity (veh/h)	192	733	237			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	106	699	699	699	760	760	1077
Volume Left	0	0	0	0	0	0	0
Volume Right	106	0	0	0	0	0	697
cSH	733	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.14	0.41	0.41	0.41	0.45	0.45	0.63
Queue Length 95th (m)	4.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	10.7	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.7	0.0			0.0		
Approach LOS	B						

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

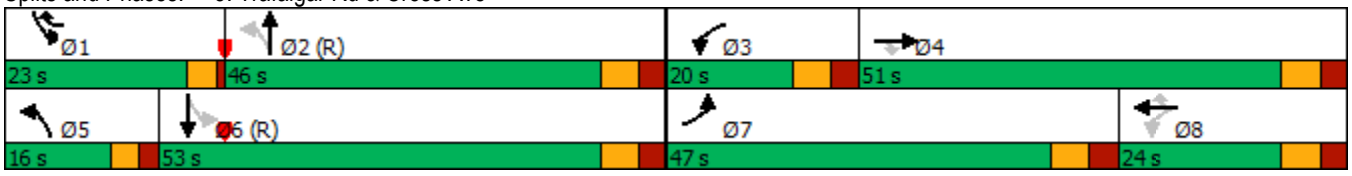
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	930	285	150	65	410	275	195	1085	30	190	1295	390
Future Volume (vph)	930	285	150	65	410	275	195	1085	30	190	1295	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		50.0	50.0		50.0	120.0		0.0	55.0		0.0
Storage Lanes	2		1	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor			0.96	0.98				1.00			0.99	
Frt			0.850			0.850		0.996			0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	3610	1524	1805	3610	1599	1719	5112	0	1752	4920	0
Flt Permitted	0.950			0.572			0.095			0.095		
Satd. Flow (perm)	3400	3610	1469	1069	3610	1599	172	5112	0	175	4920	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			156			140		3			58	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		121.1			182.4			316.1			198.2	
Travel Time (s)		8.7			13.1			22.8			14.3	
Confl. Peds. (#/hr)			20	20			15		15	15		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Adj. Flow (vph)	959	294	155	67	423	284	201	1119	31	196	1335	402
Shared Lane Traffic (%)												
Lane Group Flow (vph)	959	294	155	67	423	284	201	1150	0	196	1737	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

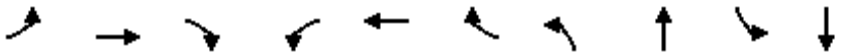
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4	8		8	2			6		
Detector Phase	7	4	4	3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	12.0	10.0	7.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0	42.0	19.0	17.0	11.0	12.0	34.0		11.0	34.0	
Total Split (s)	47.0	51.0	51.0	20.0	24.0	23.0	16.0	46.0		23.0	53.0	
Total Split (%)	33.6%	36.4%	36.4%	14.3%	17.1%	16.4%	11.4%	32.9%		16.4%	37.9%	
Maximum Green (s)	40.0	44.0	44.0	13.0	17.0	19.0	11.0	39.0		19.0	46.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	1.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0	4.0	3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0	7.0					7.0			7.0	
Flash Dont Walk (s)		28.0	28.0					20.0			20.0	
Pedestrian Calls (#/hr)		10	10					15			15	
Act Effct Green (s)	40.9	49.8	49.8	31.1	18.1	40.5	57.6	43.6		64.6	47.0	
Actuated g/C Ratio	0.29	0.36	0.36	0.22	0.13	0.29	0.41	0.31		0.46	0.34	
v/c Ratio	0.97	0.23	0.25	0.22	0.91	0.51	0.99	0.72		0.74	1.03	
Control Delay	70.1	33.5	5.8	27.2	84.0	23.1	89.5	48.6		55.0	71.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	70.1	33.5	5.8	27.2	84.0	23.1	89.5	48.6		55.0	71.1	
LOS	E	C	A	C	F	C	F	D		E	E	
Approach Delay		55.4			56.7			54.6			69.4	
Approach LOS		E			E			D			E	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 60.4 Intersection LOS: E
Intersection Capacity Utilization 101.1% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 5: Trafalgar Rd & Cross Ave





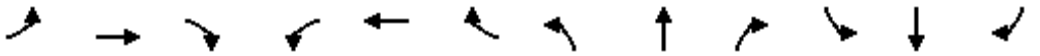
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	959	294	155	67	423	284	201	1150	196	1737
v/c Ratio	0.97	0.23	0.25	0.22	0.91	0.51	0.99	0.72	0.74	1.03
Control Delay	70.1	33.5	5.8	27.2	84.0	23.1	89.5	48.6	55.0	71.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.1	33.5	5.8	27.2	84.0	23.1	89.5	48.6	55.0	71.1
Queue Length 50th (m)	142.3	32.9	0.0	10.7	65.0	34.0	50.9	93.5	43.9	~170.6
Queue Length 95th (m)	#186.1	45.3	15.9	20.1	#96.7	61.4	m#73.1	m111.5	m60.6	#220.5
Internal Link Dist (m)		97.1			158.4			292.1		174.2
Turn Bay Length (m)	130.0		50.0	50.0		50.0	120.0		55.0	
Base Capacity (vph)	995	1284	623	318	466	599	203	1594	307	1690
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.23	0.25	0.21	0.91	0.47	0.99	0.72	0.64	1.03

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	930	285	150	65	410	275	195	1085	30	190	1295	390
Future Volume (vph)	930	285	150	65	410	275	195	1085	30	190	1295	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3400	3610	1469	1789	3610	1599	1719	5111		1752	4921	
Flt Permitted	0.95	1.00	1.00	0.57	1.00	1.00	0.09	1.00		0.10	1.00	
Satd. Flow (perm)	3400	3610	1469	1077	3610	1599	172	5111		175	4921	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	959	294	155	67	423	284	201	1119	31	196	1335	402
RTOR Reduction (vph)	0	0	100	0	0	104	0	2	0	0	39	0
Lane Group Flow (vph)	959	294	55	67	423	180	201	1148	0	196	1698	0
Confl. Peds. (#/hr)			20	20			15		15	15		15
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Turn Type	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4	8		8	2			6		
Actuated Green, G (s)	39.9	48.8	48.8	28.1	18.5	33.9	52.2	41.2		60.0	44.6	
Effective Green, g (s)	40.9	49.8	49.8	30.1	19.5	35.9	54.2	42.2		61.6	45.6	
Actuated g/C Ratio	0.29	0.36	0.36	0.22	0.14	0.26	0.39	0.30		0.44	0.33	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	4.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0	4.0	3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	993	1284	522	285	502	410	199	1540		261	1602	
v/s Ratio Prot	c0.28	0.08		0.02	c0.12	0.05	c0.09	0.22		c0.09	c0.35	
v/s Ratio Perm			0.04	0.03		0.06	0.31			0.24		
v/c Ratio	0.97	0.23	0.11	0.24	0.84	0.44	1.01	0.75		0.75	1.06	
Uniform Delay, d1	48.9	31.6	30.2	44.8	58.8	43.6	39.6	44.1		32.4	47.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.29	1.08		1.46	1.04	
Incremental Delay, d2	20.5	0.1	0.1	0.5	12.6	0.8	50.2	1.9		8.0	36.8	
Delay (s)	69.4	31.8	30.3	45.3	71.4	44.4	101.4	49.5		55.2	85.9	
Level of Service	E	C	C	D	E	D	F	D		E	F	
Approach Delay (s)		57.2			59.2			57.2			82.8	
Approach LOS		E			E			E			F	

Intersection Summary			
HCM 2000 Control Delay	66.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	101.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

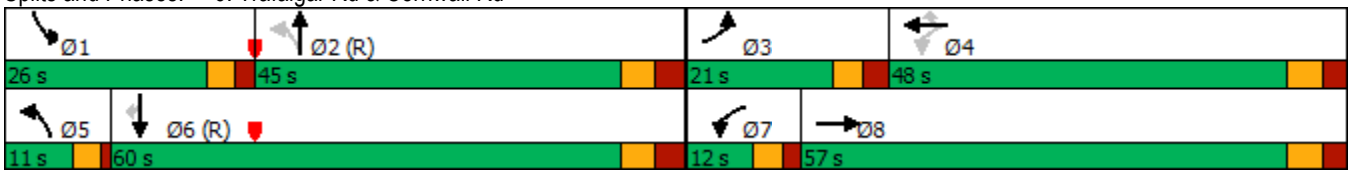
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	430	45	55	560	615	60	575	60	495	590	300
Future Volume (vph)	360	430	45	55	560	615	60	575	60	495	590	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.97	1.00		0.99		0.93	1.00	1.00		0.98		0.98
Frt		0.986				0.850		0.986				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	3482	0	1805	3539	1583	1770	3547	0	3433	1881	1553
Flt Permitted	0.950			0.474			0.188			0.950		
Satd. Flow (perm)	3372	3482	0	890	3539	1470	349	3547	0	3378	1881	1516
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9				316		8				234
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			316.1	
Travel Time (s)		41.4			45.2			10.0			22.8	
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Adj. Flow (vph)	371	443	46	57	577	634	62	593	62	510	608	309
Shared Lane Traffic (%)												
Lane Group Flow (vph)	371	489	0	57	577	634	62	655	0	510	608	309
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

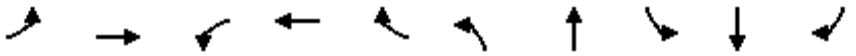
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	21.0	57.0		12.0	48.0	48.0	11.0	45.0		26.0	60.0	60.0
Total Split (%)	15.0%	40.7%		8.6%	34.3%	34.3%	7.9%	32.1%		18.6%	42.9%	42.9%
Maximum Green (s)	15.3	50.6		7.0	41.6	41.6	7.0	38.1		21.0	53.1	53.1
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		30			30	30		15			15	15
Act Effct Green (s)	17.8	54.2		51.1	41.5	41.5	49.3	38.4		22.3	55.9	55.9
Actuated g/C Ratio	0.13	0.39		0.36	0.30	0.30	0.35	0.27		0.16	0.40	0.40
v/c Ratio	0.84	0.36		0.15	0.55	0.96	0.30	0.67		0.93	0.81	0.41
Control Delay	78.9	38.1		22.1	43.5	51.4	25.2	48.6		88.4	50.8	20.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	78.9	38.1		22.1	43.5	51.4	25.2	48.6		88.4	50.8	20.0
LOS	E	D		C	D	D	C	D		F	D	B
Approach Delay		55.7			46.5			46.6			57.6	
Approach LOS		E			D			D			E	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 52.1 Intersection LOS: D
Intersection Capacity Utilization 94.5% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd

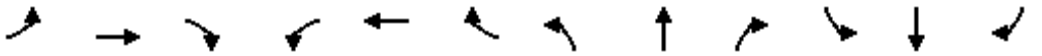




Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	371	489	57	577	634	62	655	510	608	309
v/c Ratio	0.84	0.36	0.15	0.55	0.96	0.30	0.67	0.93	0.81	0.41
Control Delay	78.9	38.1	22.1	43.5	51.4	25.2	48.6	88.4	50.8	20.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.9	38.1	22.1	43.5	51.4	25.2	48.6	88.4	50.8	20.0
Queue Length 50th (m)	56.0	58.0	8.8	73.6	106.2	9.6	89.4	81.1	111.1	32.1
Queue Length 95th (m)	#87.1	75.7	17.6	93.1	#190.3	18.1	109.8	m82.0	m107.8	m30.7
Internal Link Dist (m)		551.4		604.3			115.4		292.1	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	440	1354	377	1082	669	204	1015	546	770	759
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.36	0.15	0.53	0.95	0.30	0.65	0.93	0.79	0.41

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	430	45	55	560	615	60	575	60	495	590	300
Future Volume (vph)	360	430	45	55	560	615	60	575	60	495	590	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.93	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3467	3482		1796	3539	1470	1769	3547		3433	1881	1516
Flt Permitted	0.95	1.00		0.47	1.00	1.00	0.19	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3467	3482		895	3539	1470	350	3547		3433	1881	1516
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	371	443	46	57	577	634	62	593	62	510	608	309
RTOR Reduction (vph)	0	6	0	0	0	220	0	6	0	0	0	144
Lane Group Flow (vph)	371	483	0	57	577	414	62	649	0	510	608	165
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	16.8	53.2		47.3	41.5	41.5	42.0	36.4		21.3	53.1	53.1
Effective Green, g (s)	17.8	54.2		49.3	42.5	42.5	44.0	37.4		22.3	54.1	54.1
Actuated g/C Ratio	0.13	0.39		0.35	0.30	0.30	0.31	0.27		0.16	0.39	0.39
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	440	1348		358	1074	446	176	947		546	726	585
v/s Ratio Prot	c0.11	0.14		0.01	0.16		0.02	0.18		c0.15	c0.32	
v/s Ratio Perm				0.05		c0.28	0.09					0.11
v/c Ratio	0.84	0.36		0.16	0.54	0.93	0.35	0.69		0.93	0.84	0.28
Uniform Delay, d1	59.7	30.5		30.3	40.6	47.3	35.9	46.0		58.1	39.0	29.6
Progression Factor	1.03	1.22		1.00	1.00	1.00	1.00	1.00		1.33	1.21	2.40
Incremental Delay, d2	13.4	0.2		0.2	0.5	25.4	1.2	4.0		11.6	4.7	0.5
Delay (s)	75.2	37.4		30.6	41.1	72.7	37.1	50.1		88.6	51.7	71.6
Level of Service	E	D		C	D	E	D	D		F	D	E
Approach Delay (s)		53.7			56.4			48.9			69.2	
Approach LOS		D			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	58.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	94.5%	ICU Level of Service	F
Analysis Period (min)	15		

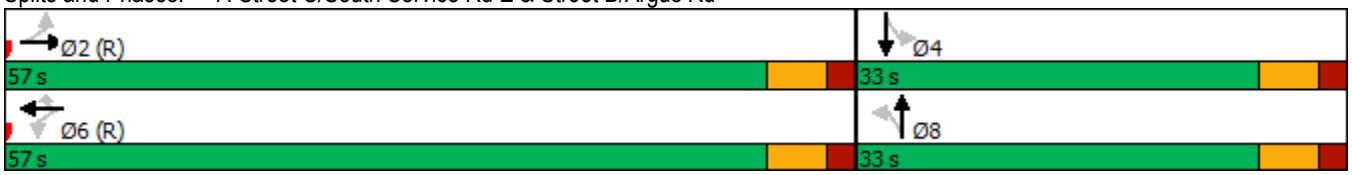
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	55	20	50	470	350	5	105	25	50	5	110
Future Volume (vph)	15	55	20	50	470	350	5	105	25	50	5	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00			0.99		0.98		
Frt		0.969				0.850		0.975			0.856	
Flt Protected		0.992			0.995			0.998		0.950		
Satd. Flow (prot)	0	1766	0	0	1778	1615	0	1834	0	1805	1626	0
Flt Permitted		0.910			0.965			0.988		0.518		
Satd. Flow (perm)	0	1620	0	0	1721	1615	0	1816	0	968	1626	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22				376		13			118	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		48.3			119.5			83.7			163.9	
Travel Time (s)		3.5			8.6			6.0			11.8	
Confl. Peds. (#/hr)			10	10					10	10		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	4%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	16	59	22	54	505	376	5	113	27	54	5	118
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	97	0	0	559	376	0	145	0	54	123	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	26.0	26.0		26.0	26.0	
Total Split (s)	57.0	57.0		57.0	57.0	57.0	33.0	33.0		33.0	33.0	
Total Split (%)	63.3%	63.3%		63.3%	63.3%	63.3%	36.7%	36.7%		36.7%	36.7%	
Maximum Green (s)	51.0	51.0		51.0	51.0	51.0	27.0	27.0		27.0	27.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0		-1.0		-1.0	-1.0	
Total Lost Time (s)		5.0			5.0	5.0		5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min	C-Min	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		66.5			66.5	66.5		13.5		13.5	13.5	
Actuated g/C Ratio		0.74			0.74	0.74		0.15		0.15	0.15	
v/c Ratio		0.08			0.44	0.29		0.51		0.37	0.36	
Control Delay		3.1			9.8	3.0		38.0		41.1	10.1	
Queue Delay		0.0			2.2	0.7		0.0		0.0	0.0	
Total Delay		3.1			12.0	3.7		38.0		41.1	10.1	
LOS		A			B	A		D		D	B	
Approach Delay		3.1			8.7			38.0			19.6	
Approach LOS		A			A			D			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 12.9		Intersection LOS: B	
Intersection Capacity Utilization 63.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 7: Street C/South Service Rd E & Street B/Argus Rd





Lane Group	EBT	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	97	559	376	145	54	123
v/c Ratio	0.08	0.44	0.29	0.51	0.37	0.36
Control Delay	3.1	9.8	3.0	38.0	41.1	10.1
Queue Delay	0.0	2.2	0.7	0.0	0.0	0.0
Total Delay	3.1	12.0	3.7	38.0	41.1	10.1
Queue Length 50th (m)	3.0	73.0	11.4	22.5	9.1	0.8
Queue Length 95th (m)	8.4	112.9	m21.9	38.9	19.6	15.1
Internal Link Dist (m)	24.3	95.5		59.7		139.9
Turn Bay Length (m)						
Base Capacity (vph)	1202	1271	1291	573	301	587
Starvation Cap Reductn	0	549	580	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.77	0.53	0.25	0.18	0.21

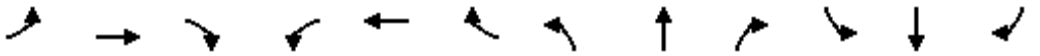
Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	55	20	50	470	350	5	105	25	50	5	110
Future Volume (vph)	15	55	20	50	470	350	5	105	25	50	5	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	5.0		5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00	1.00		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00		0.98	1.00	
Frt		0.97			1.00	0.85		0.97		1.00	0.86	
Flt Protected		0.99			1.00	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1766			1775	1615		1835		1777	1627	
Flt Permitted		0.91			0.96	1.00		0.99		0.52	1.00	
Satd. Flow (perm)		1621			1721	1615		1815		969	1627	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	16	59	22	54	505	376	5	113	27	54	5	118
RTOR Reduction (vph)	0	6	0	0	0	98	0	11	0	0	100	0
Lane Group Flow (vph)	0	91	0	0	559	278	0	134	0	54	23	0
Confl. Peds. (#/hr)			10	10					10	10		
Heavy Vehicles (%)	0%	4%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		65.5			65.5	65.5		12.5		12.5	12.5	
Effective Green, g (s)		66.5			66.5	66.5		13.5		13.5	13.5	
Actuated g/C Ratio		0.74			0.74	0.74		0.15		0.15	0.15	
Clearance Time (s)		6.0			6.0	6.0		6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		1197			1271	1193		272		145	244	
v/s Ratio Prot											0.01	
v/s Ratio Perm		0.06			c0.32	0.17		c0.07		0.06		
v/c Ratio		0.08			0.44	0.23		0.49		0.37	0.09	
Uniform Delay, d1		3.3			4.5	3.7		35.1		34.4	33.0	
Progression Factor		1.00			1.75	4.89		1.00		1.00	1.00	
Incremental Delay, d2		0.1			0.9	0.4		1.4		1.6	0.2	
Delay (s)		3.4			8.8	18.5		36.5		36.0	33.1	
Level of Service		A			A	B		D		D	C	
Approach Delay (s)		3.4			12.7			36.5			34.0	
Approach LOS		A			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

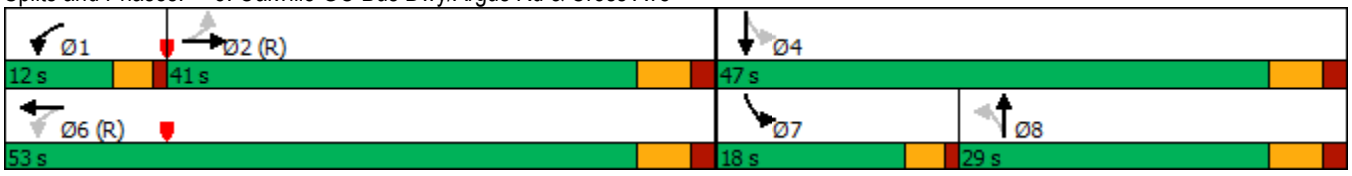


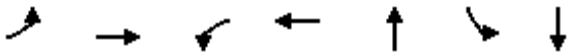
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	885	15	15	710	40	15	0	30	380	15	205
Future Volume (vph)	45	885	15	15	710	40	15	0	30	380	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	30.0			15.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00			1.00			0.94		0.95	0.94	
Frt		0.998			0.992			0.910			0.860	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1805	3542	0	902	3542	0	0	831	0	1787	1437	0
Flt Permitted	0.327			0.174				0.851		0.725		
Satd. Flow (perm)	617	3542	0	165	3542	0	0	708	0	1294	1437	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			8			120			123	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		126.2			104.6			107.0			123.1	
Travel Time (s)		9.1			7.5			7.7			8.9	
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Adj. Flow (vph)	48	952	16	16	763	43	16	0	32	409	16	220
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	968	0	16	806	0	0	48	0	409	236	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	22.0	22.0		8.0	22.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	29.0	29.0		12.0	29.0		29.0	29.0		9.0	29.0	
Total Split (s)	41.0	41.0		12.0	53.0		29.0	29.0		18.0	47.0	
Total Split (%)	41.0%	41.0%		12.0%	53.0%		29.0%	29.0%		18.0%	47.0%	
Maximum Green (s)	35.0	35.0		8.0	47.0		23.0	23.0		14.0	41.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	5.0	5.0		2.5	5.0		4.0	4.0		3.0	4.0	
Recall Mode	C-Min	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	16.0	16.0			16.0		16.0	16.0			16.0	
Pedestrian Calls (#/hr)	15	15			15		45	45			45	
Act Effct Green (s)	48.5	48.5		55.3	53.3			18.8		38.7	36.7	
Actuated g/C Ratio	0.48	0.48		0.55	0.53			0.19		0.39	0.37	
v/c Ratio	0.16	0.56		0.10	0.43			0.21		0.69	0.39	
Control Delay	22.1	22.9		14.3	16.3			2.0		30.3	11.3	
Queue Delay	0.0	1.2		0.0	0.0			0.0		0.0	0.0	
Total Delay	22.1	24.0		14.3	16.3			2.0		30.3	11.3	
LOS	C	C		B	B			A		C	B	
Approach Delay		23.9			16.2			2.0			23.4	
Approach LOS		C			B			A			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 20.9		Intersection LOS: C	
Intersection Capacity Utilization 73.4%		ICU Level of Service D	
Analysis Period (min) 15			

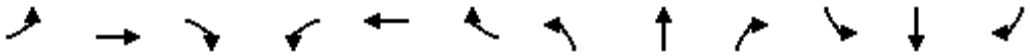
Splits and Phases: 8: Oakville GO Bus Dwy/Argus Rd & Cross Ave





Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	48	968	16	806	48	409	236
v/c Ratio	0.16	0.56	0.10	0.43	0.21	0.69	0.39
Control Delay	22.1	22.9	14.3	16.3	2.0	30.3	11.3
Queue Delay	0.0	1.2	0.0	0.0	0.0	0.0	0.0
Total Delay	22.1	24.0	14.3	16.3	2.0	30.3	11.3
Queue Length 50th (m)	5.4	72.6	1.6	56.4	0.0	58.1	14.0
Queue Length 95th (m)	16.1	115.1	5.2	71.8	0.0	87.9	32.4
Internal Link Dist (m)		102.2		80.6	83.0		99.1
Turn Bay Length (m)	20.0		20.0			15.0	
Base Capacity (vph)	299	1717	157	1895	261	590	676
Starvation Cap Reductn	0	483	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.78	0.10	0.43	0.18	0.69	0.35

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	885	15	15	710	40	15	0	30	380	15	205
Future Volume (vph)	45	885	15	15	710	40	15	0	30	380	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.95		1.00	0.94	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			0.99		0.96	1.00	
Frt	1.00	1.00		1.00	0.99			0.91		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1794	3540		902	3542			819		1722	1437	
Flt Permitted	0.33	1.00		0.17	1.00			0.85		0.72	1.00	
Satd. Flow (perm)	618	3540		165	3542			708		1314	1437	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	48	952	16	16	763	43	16	0	32	409	16	220
RTOR Reduction (vph)	0	1	0	0	4	0	0	40	0	0	76	0
Lane Group Flow (vph)	48	967	0	16	802	0	0	8	0	409	160	0
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	43.9	43.9		51.1	51.1			15.8		36.9	36.9	
Effective Green, g (s)	44.9	44.9		52.1	52.1			16.8		37.9	37.9	
Actuated g/C Ratio	0.45	0.45		0.52	0.52			0.17		0.38	0.38	
Clearance Time (s)	6.0	6.0		4.0	6.0			6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0		2.5	5.0			4.0		3.0	4.0	
Lane Grp Cap (vph)	277	1589		116	1845			118		571	544	
v/s Ratio Prot		c0.27		0.01	c0.23					c0.13	0.11	
v/s Ratio Perm	0.08			0.07				0.01		c0.14		
v/c Ratio	0.17	0.61		0.14	0.43			0.07		0.72	0.29	
Uniform Delay, d1	16.5	20.9		13.7	14.8			35.0		25.5	21.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	1.4	1.7		0.4	0.7			0.3		4.3	0.4	
Delay (s)	17.8	22.6		14.1	15.6			35.3		29.8	22.1	
Level of Service	B	C		B	B			D		C	C	
Approach Delay (s)		22.4			15.6			35.3			27.0	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	21.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

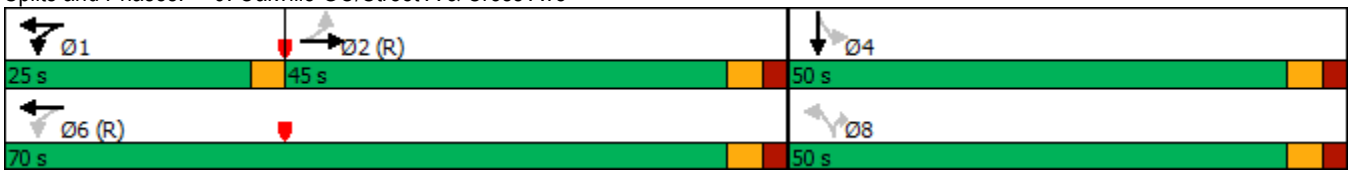
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	475	80	360	435	190	130	0	310	170	0	65
Future Volume (vph)	135	475	80	360	435	190	130	0	310	170	0	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	100.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98	0.99			0.99		0.99		0.97		0.98	
Frt		0.978			0.971				0.850		0.963	
Flt Protected	0.950				0.982		0.950				0.965	
Satd. Flow (prot)	1805	3391	0	0	3337	0	1805	0	1615	0	1752	0
Flt Permitted	0.267				0.595		0.691				0.965	
Satd. Flow (perm)	498	3391	0	0	2016	0	1302	0	1570	0	1731	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			40				337		51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		120.6			126.2			63.3			76.3	
Travel Time (s)		8.7			9.1			4.6			5.5	
Confl. Peds. (#/hr)	30		10	10		30	10		10	10		10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	147	516	87	391	473	207	141	0	337	185	0	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	147	603	0	0	1071	0	141	0	337	0	256	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	100		100
Number of Detectors	1	2		1	2		1		1	1	2	
Detector Template	Left	Thru		Left	Thru		Left		Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0		2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0		2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4						9.4	
Detector 2 Size(m)		0.6			0.6						0.6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	

Lane Group	Ø6
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (m)	
Storage Lanes	
Taper Length (m)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (k/h)	
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(m)	
Detector 2 Size(m)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		custom	NA		Perm		Perm	Perm	NA	
Protected Phases		2		1	1 6						4	
Permitted Phases	2			6			8		8	4		
Detector Phase	2	2		1	1 6		8		8	4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		8.0			10.0		10.0	10.0	10.0	
Minimum Split (s)	40.6	40.6		11.0			27.6		27.6	27.6	27.6	
Total Split (s)	45.0	45.0		25.0			50.0		50.0	50.0	50.0	
Total Split (%)	37.5%	37.5%		20.8%			41.7%		41.7%	41.7%	41.7%	
Maximum Green (s)	39.4	39.4		22.0			44.4		44.4	44.4	44.4	
Yellow Time (s)	3.3	3.3		3.0			3.3		3.3	3.3	3.3	
All-Red Time (s)	2.3	2.3		0.0			2.3		2.3	2.3	2.3	
Lost Time Adjust (s)	-1.0	-1.0					-1.0		-1.0		-1.0	
Total Lost Time (s)	4.6	4.6					4.6		4.6		4.6	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	5.0	5.0		2.5			3.5		3.5	3.0	3.0	
Recall Mode	C-Min	C-Min		None			None		None	None	None	
Walk Time (s)	7.0	7.0					7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	15.0	15.0					15.0		15.0	15.0	15.0	
Pedestrian Calls (#/hr)	20	20					10		10	10	10	
Act Effct Green (s)	66.4	66.4			91.9		21.5		21.5		21.5	
Actuated g/C Ratio	0.55	0.55			0.77		0.18		0.18		0.18	
v/c Ratio	0.53	0.32			0.60		0.61		0.61		0.73	
Control Delay	31.3	17.0			6.8		55.1		8.9		48.4	
Queue Delay	0.0	0.0			1.1		0.0		0.0		0.0	
Total Delay	31.3	17.0			7.9		55.1		8.9		48.4	
LOS	C	B			A		E		A		D	
Approach Delay		19.8			7.9			22.5			48.4	
Approach LOS		B			A			C			D	

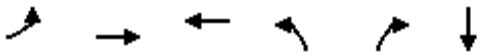
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 64 (53%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 18.2		Intersection LOS: B	
Intersection Capacity Utilization 89.6%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 9: Oakville GO/Street A & Cross Ave



Lane Group	Ø6
Turn Type	
Protected Phases	6
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	35.0
Minimum Split (s)	40.6
Total Split (s)	70.0
Total Split (%)	58%
Maximum Green (s)	64.4
Yellow Time (s)	3.3
All-Red Time (s)	2.3
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	5.0
Recall Mode	C-Min
Walk Time (s)	7.0
Flash Dont Walk (s)	15.0
Pedestrian Calls (#/hr)	20
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

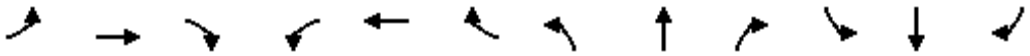
Intersection Summary



Lane Group	EBL	EBT	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	147	603	1071	141	337	256
v/c Ratio	0.53	0.32	0.60	0.61	0.61	0.73
Control Delay	31.3	17.0	6.8	55.1	8.9	48.4
Queue Delay	0.0	0.0	1.1	0.0	0.0	0.0
Total Delay	31.3	17.0	7.9	55.1	8.9	48.4
Queue Length 50th (m)	21.3	38.2	38.3	32.6	0.0	48.9
Queue Length 95th (m)	#68.1	72.3	68.2	49.9	23.6	71.4
Internal Link Dist (m)		96.6	102.2			52.3
Turn Bay Length (m)						
Base Capacity (vph)	275	1883	1827	492	803	686
Starvation Cap Reductn	0	0	480	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.32	0.80	0.29	0.42	0.37

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



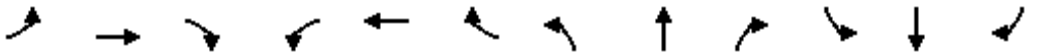
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	475	80	360	435	190	130	0	310	170	0	65
Future Volume (vph)	135	475	80	360	435	190	130	0	310	170	0	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6			2.0		4.6		4.6		4.6	
Lane Util. Factor	1.00	0.95			0.95		1.00		1.00		1.00	
Frpb, ped/bikes	1.00	0.99			0.99		1.00		0.97		0.99	
Flpb, ped/bikes	0.98	1.00			1.00		0.99		1.00		0.99	
Frt	1.00	0.98			0.97		1.00		0.85		0.96	
Flt Protected	0.95	1.00			0.98		0.95		1.00		0.97	
Satd. Flow (prot)	1772	3392			3336		1792		1570		1731	
Flt Permitted	0.27	1.00			0.60		0.69		1.00		0.97	
Satd. Flow (perm)	498	3392			2022		1304		1570		1731	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	147	516	87	391	473	207	141	0	337	185	0	71
RTOR Reduction (vph)	0	8	0	0	10	0	0	0	277	0	42	0
Lane Group Flow (vph)	147	595	0	0	1061	0	141	0	60	0	214	0
Confl. Peds. (#/hr)	30		10	10		30	10		10	10		10
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		custom	NA		Perm		Perm	Perm	NA	
Protected Phases		2		1	1 6						4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	65.4	65.4			88.3		20.5		20.5		20.5	
Effective Green, g (s)	66.4	66.4			89.3		21.5		21.5		21.5	
Actuated g/C Ratio	0.55	0.55			0.74		0.18		0.18		0.18	
Clearance Time (s)	5.6	5.6					5.6		5.6		5.6	
Vehicle Extension (s)	5.0	5.0					3.5		3.5		3.0	
Lane Grp Cap (vph)	275	1876			1733		233		281		310	
v/s Ratio Prot		0.18			c0.11							
v/s Ratio Perm	c0.30				0.35		0.11		0.04		0.12	
v/c Ratio	0.53	0.32			0.61		0.61		0.21		0.69	
Uniform Delay, d1	17.0	14.5			7.2		45.3		42.0		46.1	
Progression Factor	1.00	1.00			1.00		1.00		1.00		1.00	
Incremental Delay, d2	7.3	0.4			0.6		4.6		0.5		6.5	
Delay (s)	24.3	15.0			7.8		50.0		42.5		52.6	
Level of Service	C	B			A		D		D		D	
Approach Delay (s)		16.8			7.8			44.7			52.6	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	21.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	89.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	485	0	0	500	130	0	0	80	120	0	95
Future Volume (vph)	40	485	0	0	500	130	0	0	80	120	0	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (m)	25.0			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.969			0.865				0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1805	3438	0	0	3384	0	0	1644	0	1805	0	1615
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1805	3438	0	0	3384	0	0	1644	0	1805	0	1615
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		132.8			120.6			80.8			71.6	
Travel Time (s)		9.6			8.7			5.8			5.2	
Confl. Peds. (#/hr)	15		10	10		15	5		5	5		5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	5%	0%	0%	4%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	45	551	0	0	568	148	0	0	91	136	0	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	551	0	0	716	0	0	91	0	136	0	108
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

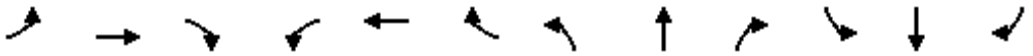
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	485	0	0	500	130	0	0	80	120	0	95
Future Volume (Veh/h)	40	485	0	0	500	130	0	0	80	120	0	95
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	45	551	0	0	568	148	0	0	91	136	0	108
Pedestrians		5			5			10			15	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		133			121							
pX, platoon unblocked				0.98			0.98	0.98	0.98	0.98	0.98	
vC, conflicting volume	731			561			1048	1382	290	1118	1308	378
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	731			505			1003	1345	229	1076	1269	378
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			100			100	100	88	4	100	82
cM capacity (veh/h)	871			1037			150	139	753	141	154	615

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	45	276	276	379	337	91	136	108
Volume Left	45	0	0	0	0	0	136	0
Volume Right	0	0	0	0	148	91	0	108
cSH	871	1700	1700	1700	1700	753	141	615
Volume to Capacity	0.05	0.16	0.16	0.22	0.20	0.12	0.96	0.18
Queue Length 95th (m)	1.3	0.0	0.0	0.0	0.0	3.3	54.7	5.1
Control Delay (s)	9.4	0.0	0.0	0.0	0.0	10.4	128.1	12.1
Lane LOS	A					B	F	B
Approach Delay (s)	0.7			0.0		10.4	76.8	
Approach LOS						B	F	

Intersection Summary				
Average Delay	12.2			
Intersection Capacity Utilization	44.9%	ICU Level of Service		A
Analysis Period (min)	15			

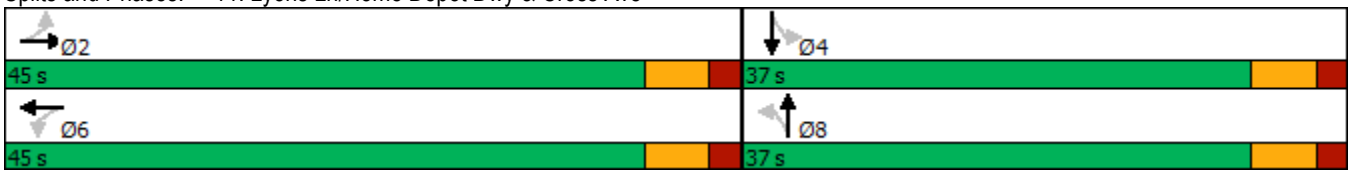


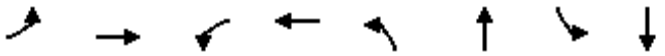
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	420	30	20	550	15	140	5	85	25	5	95
Future Volume (vph)	70	420	30	20	550	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	25.0		0.0	35.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		1.00	1.00		1.00	0.98		0.99	0.98	
Frt		0.990			0.996			0.858			0.858	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3378	0	1805	3456	0	1805	1595	0	1805	1588	0
Flt Permitted	0.386			0.456			0.681			0.689		
Satd. Flow (perm)	724	3378	0	863	3456	0	1288	1595	0	1296	1588	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			5			100			112	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		47.5			132.8			89.0			69.0	
Travel Time (s)		3.4			9.6			6.4			5.0	
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	82	494	35	24	647	18	165	6	100	29	6	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	529	0	24	665	0	165	106	0	29	118	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		35.0	35.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	41.0	41.0		41.0	41.0		28.0	28.0		28.0	28.0	
Total Split (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Total Split (%)	54.9%	54.9%		54.9%	54.9%		45.1%	45.1%		45.1%	45.1%	
Maximum Green (s)	39.0	39.0		39.0	39.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	15	15		15	15		10	10		10	10	
Act Effct Green (s)	36.2	36.2		36.2	36.2		15.5	15.5		15.5	15.5	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
v/c Ratio	0.19	0.27		0.05	0.33		0.51	0.22		0.09	0.25	
Control Delay	8.8	7.2		7.3	7.7		25.5	6.1		17.5	5.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	8.8	7.2		7.3	7.7		25.5	6.1		17.5	5.9	
LOS	A	A		A	A		C	A		B	A	
Approach Delay		7.4			7.7			17.9			8.2	
Approach LOS		A			A			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 61.7			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 9.2		Intersection LOS: A	
Intersection Capacity Utilization 82.0%		ICU Level of Service E	
Analysis Period (min) 15			

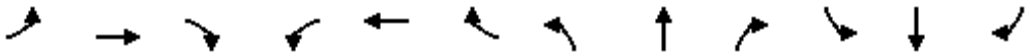
Splits and Phases: 11: Lyons Ln/Home Depot Dwy & Cross Ave





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	82	529	24	665	165	106	29	118
v/c Ratio	0.19	0.27	0.05	0.33	0.51	0.22	0.09	0.25
Control Delay	8.8	7.2	7.3	7.7	25.5	6.1	17.5	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.8	7.2	7.3	7.7	25.5	6.1	17.5	5.9
Queue Length 50th (m)	3.9	13.3	1.0	17.8	16.8	0.5	2.7	0.5
Queue Length 95th (m)	12.6	26.4	4.6	34.0	30.4	8.9	7.5	9.3
Internal Link Dist (m)		23.5		108.8		65.0		45.0
Turn Bay Length (m)			25.0		35.0			
Base Capacity (vph)	471	2205	562	2253	671	879	675	881
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.24	0.04	0.30	0.25	0.12	0.04	0.13

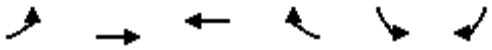
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	420	30	20	550	15	140	5	85	25	5	95
Future Volume (vph)	70	420	30	20	550	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1785	3379		1799	3456		1799	1600		1792	1589	
Flt Permitted	0.39	1.00		0.46	1.00		0.68	1.00		0.69	1.00	
Satd. Flow (perm)	726	3379		863	3456		1290	1600		1299	1589	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	82	494	35	24	647	18	165	6	100	29	6	112
RTOR Reduction (vph)	0	5	0	0	2	0	0	75	0	0	84	0
Lane Group Flow (vph)	82	524	0	24	663	0	165	31	0	29	34	0
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.2	35.2		35.2	35.2		14.4	14.4		14.4	14.4	
Effective Green, g (s)	36.2	36.2		36.2	36.2		15.4	15.4		15.4	15.4	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	426	1985		507	2030		322	400		324	397	
v/s Ratio Prot		0.16			c0.19			0.02			0.02	
v/s Ratio Perm	0.11			0.03			c0.13			0.02		
v/c Ratio	0.19	0.26		0.05	0.33		0.51	0.08		0.09	0.09	
Uniform Delay, d1	5.9	6.2		5.4	6.5		19.9	17.7		17.7	17.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.1		0.1	0.2		1.8	0.1		0.2	0.1	
Delay (s)	6.4	6.3		5.5	6.7		21.7	17.8		17.9	17.8	
Level of Service	A	A		A	A		C	B		B	B	
Approach Delay (s)		6.4			6.6			20.2			17.8	
Approach LOS		A			A			C			B	

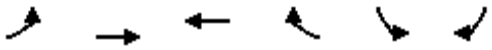
Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	61.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	515	755	30	20	25
Future Volume (vph)	25	515	755	30	20	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.994		0.926	
Flt Protected	0.950				0.978	
Satd. Flow (prot)	1805	3471	3488	0	1721	0
Flt Permitted	0.950				0.978	
Satd. Flow (perm)	1805	3471	3488	0	1721	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		443.3	47.5		121.4	
Travel Time (s)		31.9	3.4		8.7	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	4%	3%	0%	0%	0%
Adj. Flow (vph)	27	566	830	33	22	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	566	863	0	49	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

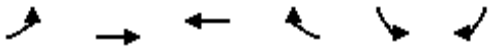
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	515	755	30	20	25
Future Volume (Veh/h)	25	515	755	30	20	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	27	566	830	33	22	27
Pedestrians					15	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			48			
pX, platoon unblocked	0.91				0.91	0.91
vC, conflicting volume	878				1198	446
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	671				1022	197
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				89	96
cM capacity (veh/h)	836				205	735

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	27	283	283	553	310	49
Volume Left	27	0	0	0	0	22
Volume Right	0	0	0	0	33	27
cSH	836	1700	1700	1700	1700	340
Volume to Capacity	0.03	0.17	0.17	0.33	0.18	0.14
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0	4.0
Control Delay (s)	9.4	0.0	0.0	0.0	0.0	17.4
Lane LOS	A					C
Approach Delay (s)	0.4			0.0		17.4
Approach LOS						C

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	31.9%	ICU Level of Service	A
Analysis Period (min)	15		



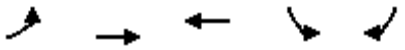
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	380	680	895	130	120	650
Future Volume (vph)	380	680	895	130	120	650
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0			0.0	60.0	0.0
Storage Lanes	1			0	1	2
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.88
Ped Bike Factor			1.00			
Frt			0.981			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1719	3574	3497	0	1805	2760
Flt Permitted	0.183				0.950	
Satd. Flow (perm)	331	3574	3497	0	1805	2760
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			16			669
Link Speed (k/h)		50	50		50	
Link Distance (m)		209.5	575.4		443.3	
Travel Time (s)		15.1	41.4		31.9	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Adj. Flow (vph)	404	723	952	138	128	691
Shared Lane Traffic (%)						
Lane Group Flow (vph)	404	723	1090	0	128	691
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		7.2	7.2		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	6.0	38.0	38.0		10.0	10.0
Minimum Split (s)	12.0	47.6	44.6		33.8	33.8
Total Split (s)	35.0	109.2	74.2		30.8	30.8
Total Split (%)	25.0%	78.0%	53.0%		22.0%	22.0%
Maximum Green (s)	29.0	102.6	67.6		25.0	25.0
Yellow Time (s)	4.0	3.7	3.7		3.3	3.3
All-Red Time (s)	2.0	2.9	2.9		2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.6	5.6		4.8	4.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Min	C-Min		None	None
Walk Time (s)		10.0	1.0		10.0	10.0
Flash Dont Walk (s)		31.0	31.0		18.0	18.0
Pedestrian Calls (#/hr)		10	10		0	0
Act Effct Green (s)	113.4	112.8	82.3		16.8	16.8
Actuated g/C Ratio	0.81	0.81	0.59		0.12	0.12
v/c Ratio	0.78	0.25	0.53		0.59	0.75
Control Delay	24.4	3.8	16.4		68.8	10.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	24.4	3.8	16.4		68.8	10.4
LOS	C	A	B		E	B
Approach Delay		11.2	16.4		19.6	
Approach LOS		B	B		B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 15.3		Intersection LOS: B	
Intersection Capacity Utilization 73.9%		ICU Level of Service D	
Analysis Period (min) 15			

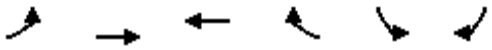
Splits and Phases: 13: Speers Rd/Cornwall Rd & Cross Ave





Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	404	723	1090	128	691
v/c Ratio	0.78	0.25	0.53	0.59	0.75
Control Delay	24.4	3.8	16.4	68.8	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	24.4	3.8	16.4	68.8	10.4
Queue Length 50th (m)	43.2	22.8	41.2	35.8	3.2
Queue Length 95th (m)	83.6	35.4	186.5	55.7	22.7
Internal Link Dist (m)		185.5	551.4	419.3	
Turn Bay Length (m)	70.0			60.0	
Base Capacity (vph)	584	2878	2087	335	1057
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.69	0.25	0.52	0.38	0.65

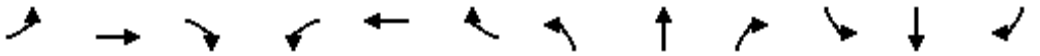
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	380	680	895	130	120	650
Future Volume (vph)	380	680	895	130	120	650
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		4.8	4.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1718	3574	3497		1805	2760
Flt Permitted	0.18	1.00	1.00		0.95	1.00
Satd. Flow (perm)	331	3574	3497		1805	2760
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	404	723	952	138	128	691
RTOR Reduction (vph)	0	0	7	0	0	589
Lane Group Flow (vph)	404	723	1083	0	128	102
Confl. Peds. (#/hr)	15			15		
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Actuated Green, G (s)	111.8	111.8	81.4		15.8	15.8
Effective Green, g (s)	112.8	112.8	82.4		16.8	16.8
Actuated g/C Ratio	0.81	0.81	0.59		0.12	0.12
Clearance Time (s)	6.0	6.6	6.6		5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	518	2879	2058		216	331
v/s Ratio Prot	c0.14	0.20	0.31			
v/s Ratio Perm	c0.49				c0.07	0.04
v/c Ratio	0.78	0.25	0.53		0.59	0.31
Uniform Delay, d1	19.4	3.3	17.2		58.4	56.3
Progression Factor	1.00	1.00	0.79		1.00	1.00
Incremental Delay, d2	7.3	0.2	0.9		4.3	0.5
Delay (s)	26.7	3.5	14.5		62.7	56.8
Level of Service	C	A	B		E	E
Approach Delay (s)		11.8	14.5		57.7	
Approach LOS		B	B		E	

Intersection Summary			
HCM 2000 Control Delay	25.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

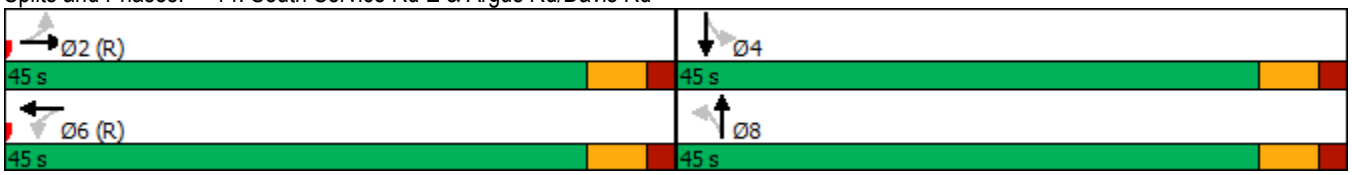


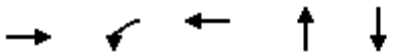
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	25	0	100	180	15	0	165	100	20	310	0
Future Volume (vph)	0	25	0	100	180	15	0	165	100	20	310	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.988			0.949				
Flt Protected				0.950							0.997	
Satd. Flow (prot)	1900	1900	0	1770	1877	0	0	1770	0	0	1894	0
Flt Permitted				0.738							0.961	
Satd. Flow (perm)	1900	1900	0	1375	1877	0	0	1770	0	0	1826	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					6			44				
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		170.6			203.3			204.3			287.4	
Travel Time (s)		12.3			14.6			14.7			20.7	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	0%	3%	0%	0%	0%	0%
Adj. Flow (vph)	0	29	0	118	212	18	0	194	118	24	365	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	29	0	118	230	0	0	312	0	0	389	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA			NA		Perm	NA	
Protected Phases		2			6			8			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	26.0	26.0		26.0	26.0		26.0	26.0		26.0	26.0	
Total Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	39.0	39.0		39.0	39.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	20	20		20	20		20	20		20	20	
Act Effct Green (s)		54.1		54.1	54.1			25.9			25.9	
Actuated g/C Ratio		0.60		0.60	0.60			0.29			0.29	
v/c Ratio		0.03		0.14	0.20			0.58			0.74	
Control Delay		2.1		9.9	9.7			26.8			37.4	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		2.1		9.9	9.7			26.8			37.4	
LOS		A		A	A			C			D	
Approach Delay		2.1			9.8			26.8			37.4	
Approach LOS		A			A			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 24.5		Intersection LOS: C	
Intersection Capacity Utilization 57.7%		ICU Level of Service B	
Analysis Period (min) 15			

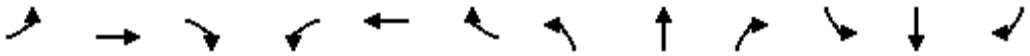
Splits and Phases: 14: South Service Rd E & Argus Rd/Davis Rd





Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	29	118	230	312	389
v/c Ratio	0.03	0.14	0.20	0.58	0.74
Control Delay	2.1	9.9	9.7	26.8	37.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	2.1	9.9	9.7	26.8	37.4
Queue Length 50th (m)	0.3	8.6	17.0	41.2	63.8
Queue Length 95th (m)	1.3	19.2	33.0	54.6	77.8
Internal Link Dist (m)	146.6		179.3	180.3	263.4
Turn Bay Length (m)		30.0			
Base Capacity (vph)	1143	827	1131	811	811
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.03	0.14	0.20	0.38	0.48

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	25	0	100	180	15	0	165	100	20	310	0
Future Volume (vph)	0	25	0	100	180	15	0	165	100	20	310	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.99			0.95			1.00	
Flt Protected		1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)		1900		1770	1878			1770			1894	
Flt Permitted		1.00		0.74	1.00			1.00			0.96	
Satd. Flow (perm)		1900		1375	1878			1770			1825	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	29	0	118	212	18	0	194	118	24	365	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	31	0	0	0	0
Lane Group Flow (vph)	0	29	0	118	228	0	0	281	0	0	389	0
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	0%	3%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA			NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		53.1		53.1	53.1			24.9			24.9	
Effective Green, g (s)		54.1		54.1	54.1			25.9			25.9	
Actuated g/C Ratio		0.60		0.60	0.60			0.29			0.29	
Clearance Time (s)		6.0		6.0	6.0			6.0			6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		1142		826	1128			509			525	
v/s Ratio Prot		0.02			c0.12			0.16				
v/s Ratio Perm				0.09							c0.21	
v/c Ratio		0.03		0.14	0.20			0.55			0.74	
Uniform Delay, d1		7.3		7.8	8.1			27.1			29.0	
Progression Factor		0.22		1.00	1.00			1.00			1.00	
Incremental Delay, d2		0.0		0.4	0.4			1.3			5.6	
Delay (s)		1.6		8.2	8.6			28.4			34.6	
Level of Service		A		A	A			C			C	
Approach Delay (s)		1.6			8.4			28.4			34.6	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	23.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	110	70	75	120	150	115
Future Volume (vph)	110	70	75	120	150	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		100.0	100.0		100.0	0.0
Storage Lanes		0	0		0	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.947				0.942	
Flt Protected				0.981	0.972	
Satd. Flow (prot)	1768	0	0	1864	1722	0
Flt Permitted				0.981	0.972	
Satd. Flow (perm)	1768	0	0	1864	1722	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	252.8			547.4	339.1	
Travel Time (s)	18.2			39.4	24.4	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	3%	0%	0%	1%	1%
Adj. Flow (vph)	124	79	84	135	169	129
Shared Lane Traffic (%)						
Lane Group Flow (vph)	203	0	0	219	298	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	110	70	75	120	150	115
Future Volume (Veh/h)	110	70	75	120	150	115
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	124	79	84	135	169	129
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			203		466	164
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			203		466	164
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			94		68	85
cM capacity (veh/h)			1381		523	884

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	203	219	298
Volume Left	0	84	169
Volume Right	79	0	129
cSH	1700	1381	635
Volume to Capacity	0.12	0.06	0.47
Queue Length 95th (m)	0.0	1.6	20.0
Control Delay (s)	0.0	3.3	15.6
Lane LOS		A	C
Approach Delay (s)	0.0	3.3	15.6
Approach LOS			C

Intersection Summary			
Average Delay	7.5		
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	555	100	60	710	105	180	80	45	70	55	50
Future Volume (vph)	45	555	100	60	710	105	180	80	45	70	55	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		0.99					0.98
Frt		0.977			0.981			0.946				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3447	0	1805	3463	0	1770	1786	0	1805	1827	1553
Flt Permitted	0.288			0.368			0.719			0.672		
Satd. Flow (perm)	535	3447	0	697	3463	0	1332	1786	0	1277	1827	1520
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			29			30				53
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			116.5	
Travel Time (s)		43.9			11.1			15.4			8.4	
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Adj. Flow (vph)	48	590	106	64	755	112	191	85	48	74	59	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	696	0	64	867	0	191	133	0	74	59	53
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	28.6	28.6		28.6	28.6		15.3	15.3		15.3	15.3	15.3
Actuated g/C Ratio	0.53	0.53		0.53	0.53		0.29	0.29		0.29	0.29	0.29
v/c Ratio	0.17	0.37		0.17	0.47		0.50	0.25		0.20	0.11	0.11
Control Delay	9.1	7.9		8.7	8.8		21.9	13.8		17.0	15.6	6.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	9.1	7.9		8.7	8.8		21.9	13.8		17.0	15.6	6.1
LOS	A	A		A	A		C	B		B	B	A
Approach Delay		8.0			8.8			18.6			13.5	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 53.5			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay: 10.4		Intersection LOS: B	
Intersection Capacity Utilization 79.2%		ICU Level of Service D	
Analysis Period (min) 15			

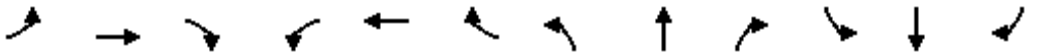
Splits and Phases: 16: Chartwell Rd & Cornwall Rd





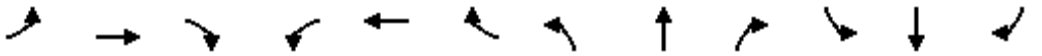
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	48	696	64	867	191	133	74	59	53
v/c Ratio	0.17	0.37	0.17	0.47	0.50	0.25	0.20	0.11	0.11
Control Delay	9.1	7.9	8.7	8.8	21.9	13.8	17.0	15.6	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.1	7.9	8.7	8.8	21.9	13.8	17.0	15.6	6.1
Queue Length 50th (m)	2.1	17.1	2.8	23.2	14.3	7.0	5.0	3.9	0.0
Queue Length 95th (m)	8.6	35.5	10.3	47.0	39.0	22.4	16.8	13.4	7.0
Internal Link Dist (m)		585.1		130.4		189.6		92.5	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	518	3337	675	3353	804	1090	771	1103	938
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.21	0.09	0.26	0.24	0.12	0.10	0.05	0.06

Intersection Summary



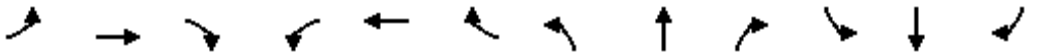
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	555	100	60	710	105	180	80	45	70	55	50
Future Volume (vph)	45	555	100	60	710	105	180	80	45	70	55	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.98		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1767	3450		1801	3464		1765	1786		1805	1827	1524
Flt Permitted	0.29	1.00		0.37	1.00		0.72	1.00		0.67	1.00	1.00
Satd. Flow (perm)	535	3450		698	3464		1335	1786		1277	1827	1524
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	48	590	106	64	755	112	191	85	48	74	59	53
RTOR Reduction (vph)	0	17	0	0	13	0	0	21	0	0	0	38
Lane Group Flow (vph)	48	679	0	64	854	0	191	112	0	74	59	15
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	27.6	27.6		27.6	27.6		14.2	14.2		14.2	14.2	14.2
Effective Green, g (s)	28.6	28.6		28.6	28.6		15.2	15.2		15.2	15.2	15.2
Actuated g/C Ratio	0.54	0.54		0.54	0.54		0.29	0.29		0.29	0.29	0.29
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	287	1854		375	1862		381	510		364	522	435
v/s Ratio Prot		0.20			c0.25			0.06			0.03	
v/s Ratio Perm	0.09			0.09			c0.14			0.06		0.01
v/c Ratio	0.17	0.37		0.17	0.46		0.50	0.22		0.20	0.11	0.03
Uniform Delay, d1	6.2	7.1		6.3	7.5		15.8	14.5		14.4	14.0	13.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.7	0.3		0.5	0.4		1.4	0.3		0.4	0.1	0.0
Delay (s)	6.9	7.4		6.8	8.0		17.3	14.8		14.8	14.2	13.8
Level of Service	A	A		A	A		B	B		B	B	B
Approach Delay (s)		7.4			7.9			16.2			14.3	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	53.2	Sum of lost time (s)	9.4
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1270	5	0	725	245	0	0	60	0	0	40
Future Volume (vph)	0	1270	5	0	725	245	0	0	60	0	0	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.999			0.962				0.865			0.865
Flt Protected												
Satd. Flow (prot)	0	3468	0	0	3372	0	0	0	1644	0	0	1644
Flt Permitted												
Satd. Flow (perm)	0	3468	0	0	3372	0	0	0	1644	0	0	1644
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		104.6			121.1			111.1			94.6	
Travel Time (s)		7.5			8.7			8.0			6.8	
Confl. Peds. (#/hr)	30		10	10		30	5					5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	4%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	1443	6	0	824	278	0	0	68	0	0	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1449	0	0	1102	0	0	0	68	0	0	45
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1270	5	0	725	245	0	0	60	0	0	40
Future Volume (Veh/h)	0	1270	5	0	725	245	0	0	60	0	0	40
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	1443	6	0	824	278	0	0	68	0	0	45
Pedestrians		5						10			30	
Lane Width (m)		3.6						3.6			3.6	
Walking Speed (m/s)		1.2						1.2			1.2	
Percent Blockage		0						1			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		105			121							
pX, platoon unblocked	0.89			0.79			0.85	0.85	0.79	0.85	0.85	0.89
vC, conflicting volume	1132			1459			1918	2588	734	1782	2452	586
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	896			1055			1129	1919	140	970	1759	281
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	90	100	100	93
cM capacity (veh/h)	663			525			122	56	698	153	70	622

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	962	487	549	553	68	45
Volume Left	0	0	0	0	0	0
Volume Right	0	6	0	278	68	45
cSH	1700	1700	1700	1700	698	622
Volume to Capacity	0.57	0.29	0.32	0.33	0.10	0.07
Queue Length 95th (m)	0.0	0.0	0.0	0.0	2.6	1.9
Control Delay (s)	0.0	0.0	0.0	0.0	10.7	11.2
Lane LOS					B	B
Approach Delay (s)	0.0		0.0		10.7	11.2
Approach LOS					B	B

Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	45.7%	ICU Level of Service		A
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	0	100	130	0	40
Future Volume (vph)	50	0	100	130	0	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.979		
Satd. Flow (prot)	1863	0	0	1824	1611	0
Flt Permitted				0.979		
Satd. Flow (perm)	1863	0	0	1824	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	54.4			96.4	88.6	
Travel Time (s)	3.9			6.9	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	0	109	141	0	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	0	250	43	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

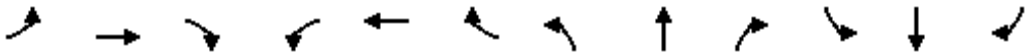
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	50	0	100	130	0	40
Future Volume (Veh/h)	50	0	100	130	0	40
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	0	109	141	0	43
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				318		
pX, platoon unblocked						
vC, conflicting volume			54		413	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			54		413	54
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		100	96
cM capacity (veh/h)			1551		554	1013

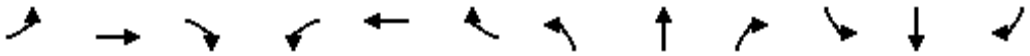
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	54	250	43
Volume Left	0	109	0
Volume Right	0	0	43
cSH	1700	1551	1013
Volume to Capacity	0.03	0.07	0.04
Queue Length 95th (m)	0.0	1.8	1.1
Control Delay (s)	0.0	3.6	8.7
Lane LOS		A	A
Approach Delay (s)	0.0	3.6	8.7
Approach LOS			A

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	29.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	40	30	30	10	0	190	20	50	120	10
Future Volume (vph)	0	0	40	30	30	10	0	190	20	50	120	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865			0.981			0.987			0.992	
Flt Protected					0.979						0.986	
Satd. Flow (prot)	0	1611	0	0	1789	0	0	1839	0	0	1822	0
Flt Permitted					0.979						0.986	
Satd. Flow (perm)	0	1611	0	0	1789	0	0	1839	0	0	1822	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		48.4			110.3			49.4			89.5	
Travel Time (s)		3.5			7.9			3.6			6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	43	33	33	11	0	207	22	54	130	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	43	0	0	77	0	0	229	0	0	195	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	41.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	40	30	30	10	0	190	20	50	120	10
Future Volume (vph)	0	0	40	30	30	10	0	190	20	50	120	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	43	33	33	11	0	207	22	54	130	11

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	43	77	229	195
Volume Left (vph)	0	33	0	54
Volume Right (vph)	43	11	22	11
Hadj (s)	-0.57	0.03	-0.02	0.06
Departure Headway (s)	4.4	5.0	4.4	4.5
Degree Utilization, x	0.05	0.11	0.28	0.24
Capacity (veh/h)	727	660	789	763
Control Delay (s)	7.7	8.5	9.1	9.0
Approach Delay (s)	7.7	8.5	9.1	9.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	8.9			
Level of Service	A			
Intersection Capacity Utilization	41.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	25	50	540	60	0	55
Future Volume (vph)	25	50	540	60	0	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.910					0.850
Flt Protected				0.957		
Satd. Flow (prot)	1695	0	0	1783	1863	1583
Flt Permitted				0.957		
Satd. Flow (perm)	1695	0	0	1783	1863	1583
Link Speed (k/h)	50			50	50	
Link Distance (m)	110.3			98.9	123.1	
Travel Time (s)	7.9			7.1	8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	54	587	65	0	60
Shared Lane Traffic (%)						
Lane Group Flow (vph)	81	0	0	652	0	60
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	25	50	540	60	0	55
Future Volume (Veh/h)	25	50	540	60	0	55
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	54	587	65	0	60
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				147		
pX, platoon unblocked					0.90	
vC, conflicting volume			81		1293	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			81		1271	54
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			61		100	94
cM capacity (veh/h)			1517		103	1013

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	81	652	0	60
Volume Left	0	587	0	0
Volume Right	54	0	0	60
cSH	1700	1517	1700	1013
Volume to Capacity	0.05	0.39	0.00	0.06
Queue Length 95th (m)	0.0	14.9	0.0	1.5
Control Delay (s)	0.0	8.3	0.0	8.8
Lane LOS		A	A	A
Approach Delay (s)	0.0	8.3	8.8	
Approach LOS			A	

Intersection Summary			
Average Delay	7.5		
Intersection Capacity Utilization	43.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	0	30	0	0	50
Future Volume (vph)	0	0	30	0	0	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.950		
Satd. Flow (prot)	1863	0	0	1770	1611	0
Flt Permitted				0.950		
Satd. Flow (perm)	1863	0	0	1770	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	39.6			48.4	40.7	
Travel Time (s)	2.9			3.5	2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	33	0	0	54
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	33	54	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

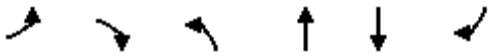
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	30	0	0	50
Future Volume (Veh/h)	0	0	30	0	0	50
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	33	0	0	54
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			0		66	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		66	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		100	95
cM capacity (veh/h)			1623		920	1085

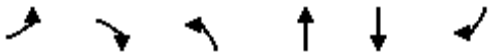
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	0	33	54
Volume Left	0	33	0
Volume Right	0	0	54
cSH	1700	1623	1085
Volume to Capacity	0.00	0.02	0.05
Queue Length 95th (m)	0.0	0.5	1.3
Control Delay (s)	0.0	7.3	8.5
Lane LOS		A	A
Approach Delay (s)	0.0	7.3	8.5
Approach LOS			A

Intersection Summary			
Average Delay	8.0		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	45	105	210	160	35
Future Volume (vph)	5	45	105	210	160	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.877				0.976	
Flt Protected	0.995			0.984		
Satd. Flow (prot)	1625	0	0	1833	1818	0
Flt Permitted	0.995			0.984		
Satd. Flow (perm)	1625	0	0	1833	1818	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	28.2			76.3	49.4	
Travel Time (s)	2.0			5.5	3.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	49	114	228	174	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	0	342	212	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 40.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	45	105	210	160	35
Future Volume (Veh/h)	5	45	105	210	160	35
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	49	114	228	174	38
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				76		
pX, platoon unblocked	0.97					
vC, conflicting volume	649	193	212			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	619	193	212			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	94	92			
cM capacity (veh/h)	400	849	1358			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	54	342	212
Volume Left	5	114	0
Volume Right	49	0	38
cSH	769	1358	1700
Volume to Capacity	0.07	0.08	0.12
Queue Length 95th (m)	1.8	2.2	0.0
Control Delay (s)	10.0	3.1	0.0
Lane LOS	B	A	
Approach Delay (s)	10.0	3.1	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	40.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	0	45	85	0	0
Future Volume (vph)	50	0	45	85	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected				0.983		
Satd. Flow (prot)	1863	0	0	1831	1863	0
Flt Permitted				0.983		
Satd. Flow (perm)	1863	0	0	1831	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	51.2			54.4	40.3	
Travel Time (s)	3.7			3.9	2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	0	49	92	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	0	141	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 17.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	50	0	45	85	0	0
Future Volume (Veh/h)	50	0	45	85	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	0	49	92	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				372		
pX, platoon unblocked						
vC, conflicting volume			54		244	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			54		244	54
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	100
cM capacity (veh/h)			1551		721	1013

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	54	141	0
Volume Left	0	49	0
Volume Right	0	0	0
cSH	1700	1551	1700
Volume to Capacity	0.03	0.03	0.01
Queue Length 95th (m)	0.0	0.8	0.0
Control Delay (s)	0.0	2.7	0.0
Lane LOS		A	A
Approach Delay (s)	0.0	2.7	0.0
Approach LOS			A

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	17.0%	ICU Level of Service	A
Analysis Period (min)	15		

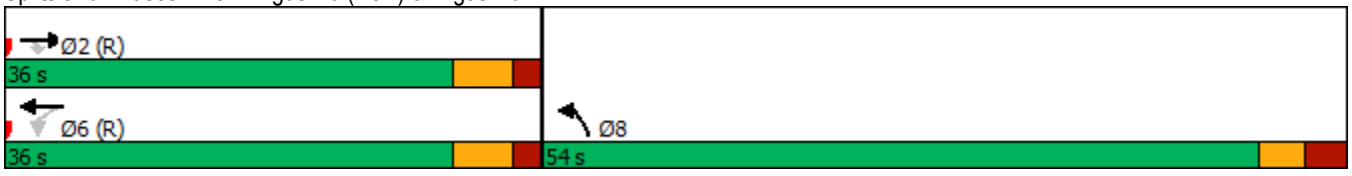


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	25	100	0	180	655	0
Future Volume (vph)	25	100	0	180	655	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		50.0	0.0		0.0	0.0
Storage Lanes		1	0		1	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected					0.950	
Satd. Flow (prot)	1863	1583	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1863	1583	0	1863	1770	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		109				
Link Speed (k/h)	50			50	50	
Link Distance (m)	119.5			170.6	100.6	
Travel Time (s)	8.6			12.3	7.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	109	0	196	712	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	109	0	196	712	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Number of Detectors	2	1	1	2	1	
Detector Template	Thru	Right	Left	Thru	Left	
Leading Detector (m)	10.0	2.0	2.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	0.6	2.0	2.0	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)	9.4			9.4		
Detector 2 Size(m)	0.6			0.6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			6	8	
Permitted Phases		2	6			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2	2	6	6	8	
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	27.0	27.0	27.0	27.0	27.0	
Total Split (s)	36.0	36.0	36.0	36.0	54.0	
Total Split (%)	40.0%	40.0%	40.0%	40.0%	60.0%	
Maximum Green (s)	30.0	30.0	30.0	30.0	48.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	13.0	13.0	13.0	13.0	13.0	
Pedestrian Calls (#/hr)	5	5	5	5	5	
Act Effct Green (s)	36.9	36.9		36.9	43.1	
Actuated g/C Ratio	0.41	0.41		0.41	0.48	
v/c Ratio	0.04	0.15		0.26	0.84	
Control Delay	24.2	14.3		11.3	30.1	
Queue Delay	0.0	0.0		0.0	0.4	
Total Delay	24.2	14.3		11.3	30.5	
LOS	C	B		B	C	
Approach Delay	16.3			11.3	30.5	
Approach LOS	B			B	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 25.0		Intersection LOS: C	
Intersection Capacity Utilization 54.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 32: Argus Rd (New) & Argus Rd





Lane Group	EBT	EBR	WBT	NBL
Lane Group Flow (vph)	27	109	196	712
v/c Ratio	0.04	0.15	0.26	0.84
Control Delay	24.2	14.3	11.3	30.1
Queue Delay	0.0	0.0	0.0	0.4
Total Delay	24.2	14.3	11.3	30.5
Queue Length 50th (m)	4.3	0.3	9.6	103.6
Queue Length 95th (m)	12.2	21.9	9.0	142.9
Internal Link Dist (m)	95.5		146.6	76.6
Turn Bay Length (m)		50.0		
Base Capacity (vph)	764	713	764	963
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	42
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.04	0.15	0.26	0.77

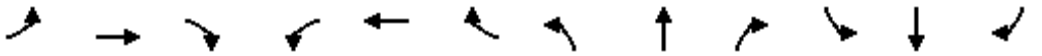
Intersection Summary



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	25	100	0	180	655	0
Future Volume (vph)	25	100	0	180	655	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	1.00	1.00		1.00	0.95	
Satd. Flow (prot)	1863	1583		1863	1770	
Flt Permitted	1.00	1.00		1.00	0.95	
Satd. Flow (perm)	1863	1583		1863	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	109	0	196	712	0
RTOR Reduction (vph)	0	64	0	0	0	0
Lane Group Flow (vph)	27	45	0	196	712	0
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			6	8	
Permitted Phases		2	6			
Actuated Green, G (s)	35.9	35.9		35.9	42.1	
Effective Green, g (s)	36.9	36.9		36.9	43.1	
Actuated g/C Ratio	0.41	0.41		0.41	0.48	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	763	649		763	847	
v/s Ratio Prot	0.01			c0.11	c0.40	
v/s Ratio Perm		0.03				
v/c Ratio	0.04	0.07		0.26	0.84	
Uniform Delay, d1	15.9	16.1		17.5	20.5	
Progression Factor	1.30	3.20		0.54	1.00	
Incremental Delay, d2	0.1	0.2		0.8	7.5	
Delay (s)	20.7	51.8		10.2	28.0	
Level of Service	C	D		B	C	
Approach Delay (s)	45.6			10.2	28.0	
Approach LOS	D			B	C	

Intersection Summary			
HCM 2000 Control Delay	27.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	0	0	0	0	0	75	0	0	0	180
Future Volume (vph)	25	0	0	0	0	0	0	75	0	0	0	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt											0.850	
Flt Protected	0.950											
Satd. Flow (prot)	1770	1863	0	1863	1863	0	1863	3539	0	1863	3008	0
Flt Permitted	0.720											
Satd. Flow (perm)	1341	1863	0	1863	1863	0	1863	3539	0	1863	3008	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)											1091	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		42.8			39.5			174.5			288.2	
Travel Time (s)		3.1			2.8			12.6			20.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	0	0	0	0	0	0	82	0	0	0	196
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	0	0	0	0	0	0	82	0	0	196	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt			pm+pt			Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		5.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	9.0	33.0		9.0	33.0		26.0	26.0		26.0	26.0	
Total Split (s)	17.0	46.0		11.0	40.0		33.0	33.0		33.0	33.0	
Total Split (%)	18.9%	51.1%		12.2%	44.4%		36.7%	36.7%		36.7%	36.7%	
Maximum Green (s)	13.0	40.0		7.0	34.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		20.0			20.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)		20			20		20	20		20	20	
Act Effct Green (s)	67.0							15.0			15.0	
Actuated g/C Ratio	0.74							0.17			0.17	
v/c Ratio	0.03							0.14			0.14	
Control Delay	3.4							21.5			0.2	
Queue Delay	0.0							0.0			0.0	
Total Delay	3.4							21.5			0.2	
LOS	A							C			A	
Approach Delay		3.4						21.5			0.2	
Approach LOS		A						C			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.14			
Intersection Signal Delay: 6.2		Intersection LOS: A	
Intersection Capacity Utilization 33.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 39: New N-S Arterial St & Davis Rd

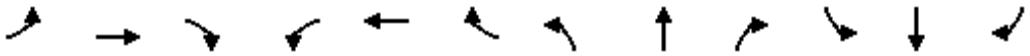




Lane Group	EBL	NBT	SBT
Lane Group Flow (vph)	27	82	196
v/c Ratio	0.03	0.14	0.14
Control Delay	3.4	21.5	0.2
Queue Delay	0.0	0.0	0.0
Total Delay	3.4	21.5	0.2
Queue Length 50th (m)	0.9	7.3	0.0
Queue Length 95th (m)	m2.4	14.4	0.0
Internal Link Dist (m)		150.5	264.2
Turn Bay Length (m)	30.0		
Base Capacity (vph)	1064	1101	1687
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.03	0.07	0.12

Intersection Summary

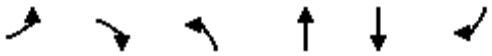
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	0	0	0	0	0	75	0	0	0	180
Future Volume (vph)	25	0	0	0	0	0	0	75	0	0	0	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0							5.0			5.0	
Lane Util. Factor	1.00							0.95			0.95	
Frt	1.00							1.00			0.85	
Flt Protected	0.95							1.00			1.00	
Satd. Flow (prot)	1770							3539			3008	
Flt Permitted	0.72							1.00			1.00	
Satd. Flow (perm)	1342							3539			3008	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	0	0	0	0	0	0	82	0	0	0	196
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	163	0
Lane Group Flow (vph)	27	0	0	0	0	0	0	82	0	0	33	0
Turn Type	pm+pt			pm+pt			Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	64.0							14.0			14.0	
Effective Green, g (s)	65.0							15.0			15.0	
Actuated g/C Ratio	0.72							0.17			0.17	
Clearance Time (s)	4.0							6.0			6.0	
Vehicle Extension (s)	3.0							3.0			3.0	
Lane Grp Cap (vph)	986							589			501	
v/s Ratio Prot	c0.00							c0.02			0.01	
v/s Ratio Perm	c0.02											
v/c Ratio	0.03							0.14			0.07	
Uniform Delay, d1	3.6							32.0			31.6	
Progression Factor	0.82							0.69			1.00	
Incremental Delay, d2	0.0							0.1			0.1	
Delay (s)	3.0							22.3			31.6	
Level of Service	A							C			C	
Approach Delay (s)		3.0			0.0			22.3			31.6	
Approach LOS		A			A			C			C	

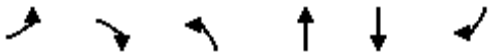
Intersection Summary			
HCM 2000 Control Delay	26.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.05		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	33.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	30	20	115	105	0	70
Future Volume (vph)	30	20	115	105	0	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.946				0.865	
Flt Protected	0.971			0.975		
Satd. Flow (prot)	1711	0	0	1816	1611	0
Flt Permitted	0.971			0.975		
Satd. Flow (perm)	1711	0	0	1816	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	46.3			94.6	83.7	
Travel Time (s)	3.3			6.8	6.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	22	125	114	0	76
Shared Lane Traffic (%)						
Lane Group Flow (vph)	55	0	0	239	76	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

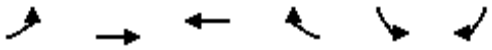
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	20	115	105	0	70
Future Volume (Veh/h)	30	20	115	105	0	70
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	22	125	114	0	76
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)					84	
pX, platoon unblocked						
vC, conflicting volume	402	38	76			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	402	38	76			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	98	92			
cM capacity (veh/h)	555	1034	1523			

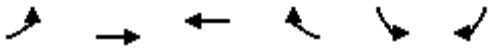
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	55	239	76
Volume Left	33	125	0
Volume Right	22	0	76
cSH	681	1523	1700
Volume to Capacity	0.08	0.08	0.04
Queue Length 95th (m)	2.1	2.1	0.0
Control Delay (s)	10.8	4.3	0.0
Lane LOS	B	A	
Approach Delay (s)	10.8	4.3	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	28.6%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	265	260	320	0	0	410
Future Volume (vph)	265	260	320	0	0	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	75.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt					0.865	
Flt Protected	0.950					
Satd. Flow (prot)	1770	3539	3539	0	1611	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	3539	3539	0	1611	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		182.4	224.2		204.3	
Travel Time (s)		13.1	16.1		14.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	288	283	348	0	0	446
Shared Lane Traffic (%)						
Lane Group Flow (vph)	288	283	348	0	446	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

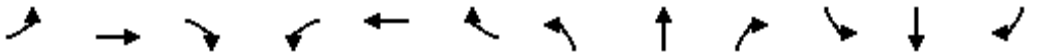
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 58.9%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	265	260	320	0	0	410
Future Volume (Veh/h)	265	260	320	0	0	410
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	288	283	348	0	0	446
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		182				
pX, platoon unblocked						
vC, conflicting volume	348				1066	174
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	348				1066	174
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	76				100	47
cM capacity (veh/h)	1208				166	839

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	288	142	142	232	116	446
Volume Left	288	0	0	0	0	0
Volume Right	0	0	0	0	0	446
cSH	1208	1700	1700	1700	1700	839
Volume to Capacity	0.24	0.08	0.08	0.14	0.07	0.53
Queue Length 95th (m)	7.5	0.0	0.0	0.0	0.0	25.6
Control Delay (s)	8.9	0.0	0.0	0.0	0.0	14.0
Lane LOS	A					B
Approach Delay (s)	4.5			0.0		14.0
Approach LOS						B

Intersection Summary				
Average Delay	6.5			
Intersection Capacity Utilization	58.9%	ICU Level of Service		B
Analysis Period (min)	15			

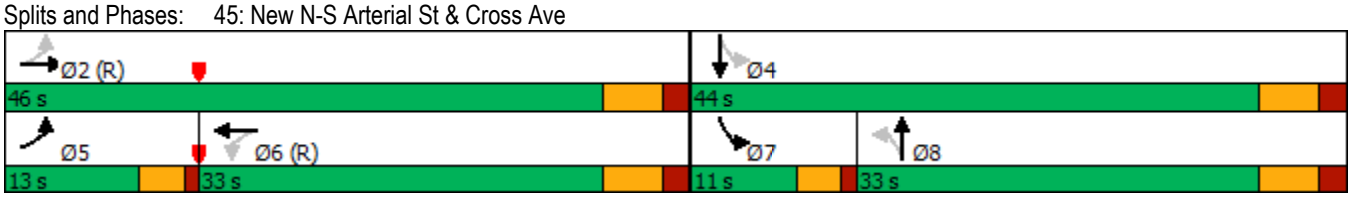


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	175	0	0	320	0	0	0	0	0	0	0
Future Volume (vph)	75	175	0	0	320	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	100.0		0.0	30.0		0.0	30.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Frt												
Flt Protected	0.950											
Satd. Flow (prot)	1770	3539	0	1863	3539	0	1863	1863	0	1863	3539	0
Flt Permitted	0.446											
Satd. Flow (perm)	831	3539	0	1863	3539	0	1863	1863	0	1863	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		141.0			372.9			75.5			174.5	
Travel Time (s)		10.2			26.8			5.4			12.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	190	0	0	348	0	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	190	0	0	348	0	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	25		100
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm			pm+pt		
Protected Phases	5	2			6			8		7	4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		6	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		20.0	20.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	9.0	33.0		33.0	33.0		33.0	33.0		9.0	33.0	
Total Split (s)	13.0	46.0		33.0	33.0		33.0	33.0		11.0	44.0	
Total Split (%)	14.4%	51.1%		36.7%	36.7%		36.7%	36.7%		12.2%	48.9%	
Maximum Green (s)	9.0	40.0		27.0	27.0		27.0	27.0		7.0	38.0	
Yellow Time (s)	3.0	4.0		4.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		2.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	5.0		5.0	5.0		5.0	5.0		3.0	5.0	
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		C-Min	C-Min		Max	Max		None	None	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)		20.0		20.0	20.0		20.0	20.0			20.0	
Pedestrian Calls (#/hr)		20		20	20		20	20			20	
Act Effct Green (s)	38.8	36.8			27.0							
Actuated g/C Ratio	0.43	0.41			0.30							
v/c Ratio	0.18	0.13			0.33							
Control Delay	15.4	16.3			20.0							
Queue Delay	0.0	0.0			0.0							
Total Delay	15.4	16.3			20.0							
LOS	B	B			B							
Approach Delay		16.0			20.0							
Approach LOS		B			B							

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.33			
Intersection Signal Delay: 18.2		Intersection LOS: B	
Intersection Capacity Utilization 41.7%		ICU Level of Service A	
Analysis Period (min) 15			

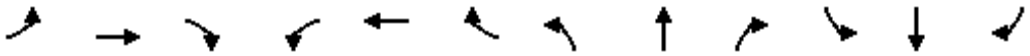
Splits and Phases: 45: New N-S Arterial St & Cross Ave





Lane Group	EBL	EBT	WBT
Lane Group Flow (vph)	82	190	348
v/c Ratio	0.18	0.13	0.33
Control Delay	15.4	16.3	20.0
Queue Delay	0.0	0.0	0.0
Total Delay	15.4	16.3	20.0
Queue Length 50th (m)	9.2	11.7	28.7
Queue Length 95th (m)	15.8	16.5	17.9
Internal Link Dist (m)		117.0	348.9
Turn Bay Length (m)	100.0		
Base Capacity (vph)	462	1612	1151
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.18	0.12	0.30

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	175	0	0	320	0	0	0	0	0	0	0
Future Volume (vph)	75	175	0	0	320	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.0			5.0							
Lane Util. Factor	1.00	0.95			0.95							
Frt	1.00	1.00			1.00							
Flt Protected	0.95	1.00			1.00							
Satd. Flow (prot)	1770	3539			3539							
Flt Permitted	0.45	1.00			1.00							
Satd. Flow (perm)	830	3539			3539							
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	190	0	0	348	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	82	190	0	0	348	0	0	0	0	0	0	0
Turn Type	pm+pt	NA		Perm	NA		Perm			pm+pt		
Protected Phases	5	2			6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.8	35.8			25.2							
Effective Green, g (s)	36.8	36.8			26.2							
Actuated g/C Ratio	0.41	0.41			0.29							
Clearance Time (s)	4.0	6.0			6.0							
Vehicle Extension (s)	3.0	3.0			3.0							
Lane Grp Cap (vph)	418	1447			1030							
v/s Ratio Prot	c0.02	0.05			c0.10							
v/s Ratio Perm	0.06											
v/c Ratio	0.20	0.13			0.34							
Uniform Delay, d1	16.7	16.6			25.1							
Progression Factor	1.00	1.00			0.77							
Incremental Delay, d2	0.2	0.2			0.9							
Delay (s)	16.9	16.8			20.1							
Level of Service	B	B			C							
Approach Delay (s)		16.8			20.1			0.0			0.0	
Approach LOS		B			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.14		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	41.7%	ICU Level of Service	A
Analysis Period (min)	15		

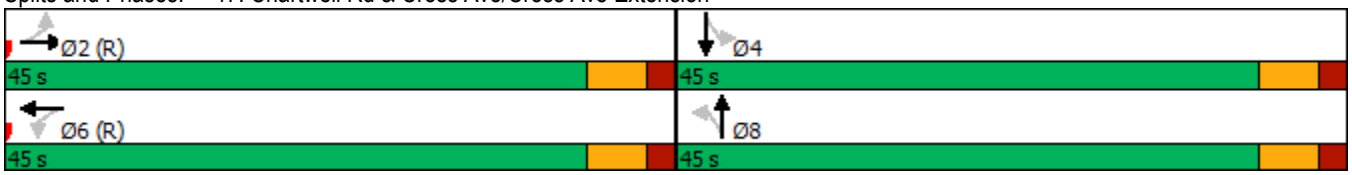
c Critical Lane Group

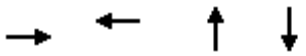
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	150	20	0	295	0	20	210	0	0	165	0
Future Volume (vph)	0	150	20	0	295	0	20	210	0	0	165	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	50.0		0.0	100.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.982										
Flt Protected								0.996				
Satd. Flow (prot)	0	3476	0	0	3539	0	0	1855	0	0	1863	0
Flt Permitted								0.961				
Satd. Flow (perm)	0	3476	0	0	3539	0	0	1790	0	0	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21										
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		372.9			79.1			116.5			339.1	
Travel Time (s)		26.8			5.7			8.4			24.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	163	22	0	321	0	22	228	0	0	179	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	185	0	0	321	0	0	250	0	0	179	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA			NA		Perm	NA			NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	33.0	33.0		33.0	33.0		33.0	33.0		33.0	33.0	
Total Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	39.0	39.0		39.0	39.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	20	20		20	20		20	20		20	20	
Act Effct Green (s)		59.2			59.2			20.8			20.8	
Actuated g/C Ratio		0.66			0.66			0.23			0.23	
v/c Ratio		0.08			0.14			0.61			0.42	
Control Delay		5.8			7.0			36.2			23.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		5.8			7.0			36.2			23.1	
LOS		A			A			D			C	
Approach Delay		5.8			7.0			36.2			23.1	
Approach LOS		A			A			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 17.6		Intersection LOS: B	
Intersection Capacity Utilization 50.0%		ICU Level of Service A	
Analysis Period (min) 15			

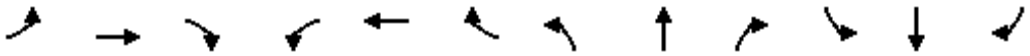
Splits and Phases: 47: Chartwell Rd & Cross Ave/Cross Ave Extension





Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	185	321	250	179
v/c Ratio	0.08	0.14	0.61	0.42
Control Delay	5.8	7.0	36.2	23.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	5.8	7.0	36.2	23.1
Queue Length 50th (m)	4.2	9.5	41.9	19.7
Queue Length 95th (m)	7.3	19.5	58.7	32.8
Internal Link Dist (m)	348.9	55.1	92.5	315.1
Turn Bay Length (m)				
Base Capacity (vph)	2294	2328	795	828
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.08	0.14	0.31	0.22

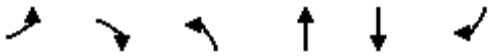
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	150	20	0	295	0	20	210	0	0	165	0
Future Volume (vph)	0	150	20	0	295	0	20	210	0	0	165	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.98			1.00			1.00			1.00	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3476			3539			1855			1863	
Flt Permitted		1.00			1.00			0.96			1.00	
Satd. Flow (perm)		3476			3539			1790			1863	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	163	22	0	321	0	22	228	0	0	179	0
RTOR Reduction (vph)	0	7	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	178	0	0	321	0	0	250	0	0	179	0
Turn Type		NA			NA		Perm	NA			NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		58.2			58.2			19.8			19.8	
Effective Green, g (s)		59.2			59.2			20.8			20.8	
Actuated g/C Ratio		0.66			0.66			0.23			0.23	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2286			2327			413			430	
v/s Ratio Prot		0.05			c0.09						0.10	
v/s Ratio Perm								c0.14				
v/c Ratio		0.08			0.14			0.61			0.42	
Uniform Delay, d1		5.6			5.8			30.9			29.4	
Progression Factor		0.95			1.00			1.00			0.72	
Incremental Delay, d2		0.1			0.1			2.5			0.7	
Delay (s)		5.3			5.9			33.4			21.9	
Level of Service		A			A			C			C	
Approach Delay (s)		5.3			5.9			33.4			21.9	
Approach LOS		A			A			C			C	

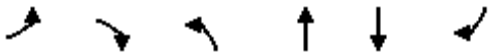
Intersection Summary			
HCM 2000 Control Delay	16.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	125	160	40	55	45
Future Volume (vph)	0	125	160	40	55	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865				0.939	
Flt Protected				0.961		
Satd. Flow (prot)	1611	0	0	1790	1749	0
Flt Permitted				0.961		
Satd. Flow (perm)	1611	0	0	1790	1749	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	40.6			89.5	88.6	
Travel Time (s)	2.9			6.4	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	136	174	43	60	49
Shared Lane Traffic (%)						
Lane Group Flow (vph)	136	0	0	217	109	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	125	160	40	55	45
Future Volume (Veh/h)	0	125	160	40	55	45
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	136	174	43	60	49
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	476	84	109			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	476	84	109			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	86	88			
cM capacity (veh/h)	484	975	1481			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	136	217	109
Volume Left	0	174	0
Volume Right	136	0	49
cSH	975	1481	1700
Volume to Capacity	0.14	0.12	0.06
Queue Length 95th (m)	3.9	3.2	0.0
Control Delay (s)	9.3	6.4	0.0
Lane LOS	A	A	
Approach Delay (s)	9.3	6.4	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	32.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	75	20	90	200	25	30
Future Volume (vph)	75	20	90	200	25	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.971				0.926	
Flt Protected				0.985	0.978	
Satd. Flow (prot)	1809	0	0	1835	1687	0
Flt Permitted				0.985	0.978	
Satd. Flow (perm)	1809	0	0	1835	1687	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	96.4			57.6	36.0	
Travel Time (s)	6.9			4.1	2.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	22	98	217	27	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	104	0	0	315	60	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	75	20	90	200	25	30
Future Volume (Veh/h)	75	20	90	200	25	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	82	22	98	217	27	33
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				222		
pX, platoon unblocked						
vC, conflicting volume			104		506	93
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			104		506	93
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		95	97
cM capacity (veh/h)			1488		491	964

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	104	315	60
Volume Left	0	98	27
Volume Right	22	0	33
cSH	1700	1488	673
Volume to Capacity	0.06	0.07	0.09
Queue Length 95th (m)	0.0	1.7	2.3
Control Delay (s)	0.0	2.8	10.9
Lane LOS		A	B
Approach Delay (s)	0.0	2.8	10.9
Approach LOS			B

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	32.2%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	85	20	100	265	25	40
Future Volume (vph)	85	20	100	265	25	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.974				0.917	
Flt Protected				0.986	0.981	
Satd. Flow (prot)	1814	0	0	1837	1676	0
Flt Permitted				0.986	0.981	
Satd. Flow (perm)	1814	0	0	1837	1676	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	57.6			163.9	50.7	
Travel Time (s)	4.1			11.8	3.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	92	22	109	288	27	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	114	0	0	397	70	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	85	20	100	265	25	40
Future Volume (Veh/h)	85	20	100	265	25	40
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	92	22	109	288	27	43
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				164		
pX, platoon unblocked						
vC, conflicting volume			114		609	103
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			114		609	103
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		94	95
cM capacity (veh/h)			1475		424	952

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	114	397	70
Volume Left	0	109	27
Volume Right	22	0	43
cSH	1700	1475	643
Volume to Capacity	0.07	0.07	0.11
Queue Length 95th (m)	0.0	1.9	2.9
Control Delay (s)	0.0	2.6	11.3
Lane LOS		A	B
Approach Delay (s)	0.0	2.6	11.3
Approach LOS			B

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	36.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	60	25	45	530	70	30
Future Volume (vph)	60	25	45	530	70	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.960				0.959	
Flt Protected				0.996	0.966	
Satd. Flow (prot)	1788	0	0	1855	1726	0
Flt Permitted				0.996	0.966	
Satd. Flow (perm)	1788	0	0	1855	1726	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	98.9			48.3	30.5	
Travel Time (s)	7.1			3.5	2.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	27	49	576	76	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	92	0	0	625	109	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	100		25	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	60	25	45	530	70	30
Future Volume (Veh/h)	60	25	45	530	70	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	27	49	576	76	33
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				48		
pX, platoon unblocked					0.88	
vC, conflicting volume			92		752	78
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			92		654	78
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		79	97
cM capacity (veh/h)			1503		369	982

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	92	625	109
Volume Left	0	49	76
Volume Right	27	0	33
cSH	1700	1503	455
Volume to Capacity	0.05	0.03	0.24
Queue Length 95th (m)	0.0	0.8	7.4
Control Delay (s)	0.0	0.9	15.4
Lane LOS		A	C
Approach Delay (s)	0.0	0.9	15.4
Approach LOS			C

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1120	60	130	1200	30	75
Future Volume (vph)	1120	60	130	1200	30	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		0.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.992					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3511	0	1770	3539	1770	1583
Flt Permitted			0.149		0.950	
Satd. Flow (perm)	3511	0	278	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	7					82
Link Speed (k/h)	50			50	50	
Link Distance (m)	106.6			164.5	249.7	
Travel Time (s)	7.7			11.8	18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1217	65	141	1304	33	82
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1282	0	141	1304	33	82
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (m)	10.0		2.0	10.0	2.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	0.6		2.0	0.6	2.0	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)	9.4			9.4		
Detector 2 Size(m)	0.6			0.6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases			6		8	8

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0		5.0	10.0	10.0	10.0
Minimum Split (s)	33.0		9.0	33.0	33.0	33.0
Total Split (s)	49.0		18.0	67.0	33.0	33.0
Total Split (%)	49.0%		18.0%	67.0%	33.0%	33.0%
Maximum Green (s)	43.0		14.0	61.0	27.0	27.0
Yellow Time (s)	4.0		3.0	4.0	4.0	4.0
All-Red Time (s)	2.0		1.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0		3.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	C-Min		None	C-Min	Min	Min
Walk Time (s)	7.0			7.0	7.0	7.0
Flash Dont Walk (s)	20.0			20.0	20.0	20.0
Pedestrian Calls (#/hr)	5			5	5	5
Act Effct Green (s)	62.5		77.6	75.6	14.4	14.4
Actuated g/C Ratio	0.62		0.78	0.76	0.14	0.14
v/c Ratio	0.58		0.39	0.49	0.13	0.28
Control Delay	14.3		6.8	6.4	35.7	9.8
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	14.3		6.8	6.4	35.7	9.8
LOS	B		A	A	D	A
Approach Delay	14.3			6.4	17.2	
Approach LOS	B			A	B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 10.4		Intersection LOS: B	
Intersection Capacity Utilization 60.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 60: New N-S Arterial St & Iroquois Shore Blvd





Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1282	141	1304	33	82
v/c Ratio	0.58	0.39	0.49	0.13	0.28
Control Delay	14.3	6.8	6.4	35.7	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	6.8	6.4	35.7	9.8
Queue Length 50th (m)	65.4	4.5	36.3	6.2	0.0
Queue Length 95th (m)	145.7	17.8	96.8	12.5	11.1
Internal Link Dist (m)	82.6		140.5	225.7	
Turn Bay Length (m)		50.0			
Base Capacity (vph)	2195	439	2675	495	502
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.58	0.32	0.49	0.07	0.16

Intersection Summary



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1120	60	130	1200	30	75
Future Volume (vph)	1120	60	130	1200	30	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		3.0	5.0	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3512		1770	3539	1770	1583
Flt Permitted	1.00		0.15	1.00	0.95	1.00
Satd. Flow (perm)	3512		277	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1217	65	141	1304	33	82
RTOR Reduction (vph)	3	0	0	0	0	70
Lane Group Flow (vph)	1279	0	141	1304	33	12
Turn Type	NA		pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases			6		8	8
Actuated Green, G (s)	61.5		74.6	74.6	13.4	13.4
Effective Green, g (s)	62.5		75.6	75.6	14.4	14.4
Actuated g/C Ratio	0.62		0.76	0.76	0.14	0.14
Clearance Time (s)	6.0		4.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2195		360	2675	254	227
v/s Ratio Prot	c0.36		0.04	c0.37		
v/s Ratio Perm			0.26		c0.02	0.01
v/c Ratio	0.58		0.39	0.49	0.13	0.05
Uniform Delay, d1	11.1		6.5	4.7	37.3	36.9
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1		0.7	0.6	0.2	0.1
Delay (s)	12.2		7.2	5.4	37.6	37.0
Level of Service	B		A	A	D	D
Approach Delay (s)	12.2			5.5	37.2	
Approach LOS	B			A	D	

Intersection Summary			
HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

11) 2046 Future Background Traffic Conditions (With Corridor Growth)

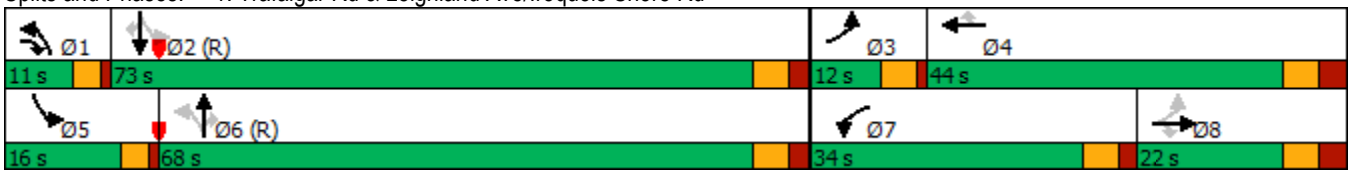
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	180	335	685	100	275	145	1845	775	225	3660	50
Future Volume (vph)	35	180	335	685	100	275	145	1845	775	225	3660	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.96					0.95			0.97			0.93
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1863	1568	3367	1827	1553	1719	4988	1568	1787	5085	1524
Flt Permitted	0.692			0.950			0.065			0.062		
Satd. Flow (perm)	1230	1863	1568	3367	1827	1470	118	4988	1525	117	5085	1424
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136			192			589			142
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			301.7			275.4			339.2	
Travel Time (s)		27.7			21.7			19.8			24.4	
Confl. Peds. (#/hr)	35					35	35		10	10		35
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Adj. Flow (vph)	35	182	338	692	101	278	146	1864	783	227	3697	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	182	338	692	101	278	146	1864	783	227	3697	51
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

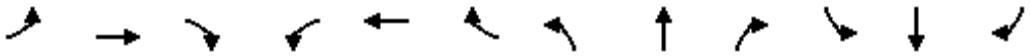
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	11.0	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	12.0	22.0	11.0	34.0	44.0	44.0	11.0	68.0	68.0	16.0	73.0	73.0
Total Split (%)	8.6%	15.7%	7.9%	24.3%	31.4%	31.4%	7.9%	48.6%	48.6%	11.4%	52.1%	52.1%
Maximum Green (s)	7.3	15.2	7.0	28.3	37.2	37.2	7.0	61.9	61.9	12.0	66.9	66.9
Yellow Time (s)	3.7	3.7	3.0	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	1.0	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					20	20		25	25		25	25
Act Effct Green (s)	26.2	15.9	30.0	29.3	40.4	40.4	73.3	62.9	62.9	81.3	67.9	67.9
Actuated g/C Ratio	0.19	0.11	0.21	0.21	0.29	0.29	0.52	0.45	0.45	0.58	0.48	0.48
v/c Ratio	0.13	0.86	0.76	0.98	0.19	0.50	0.94	0.83	0.78	1.00	1.50	0.07
Control Delay	31.9	95.1	42.8	84.7	39.9	16.7	62.4	19.4	8.0	98.9	256.2	0.2
Queue Delay	0.0	0.0	66.1	52.5	0.0	0.0	0.0	0.0	1.5	0.0	0.3	0.0
Total Delay	31.9	95.1	108.9	137.3	39.9	16.7	62.4	19.4	9.5	98.9	256.4	0.2
LOS	C	F	F	F	D	B	E	B	A	F	F	A
Approach Delay		99.5			96.8			18.9			244.1	
Approach LOS		F			F			B			F	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.50
Intersection Signal Delay: 140.8 Intersection LOS: F
Intersection Capacity Utilization 124.1% ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd





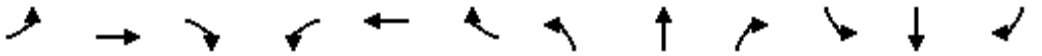
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	35	182	338	692	101	278	146	1864	783	227	3697	51
v/c Ratio	0.13	0.86	0.76	0.98	0.19	0.50	0.94	0.83	0.78	1.00	1.50	0.07
Control Delay	31.9	95.1	42.8	84.7	39.9	16.7	62.4	19.4	8.0	98.9	256.2	0.2
Queue Delay	0.0	0.0	66.1	52.5	0.0	0.0	0.0	0.0	1.5	0.0	0.3	0.0
Total Delay	31.9	95.1	108.9	137.3	39.9	16.7	62.4	19.4	9.5	98.9	256.4	0.2
Queue Length 50th (m)	6.5	52.8	57.2	104.5	22.7	19.4	24.7	145.8	69.4	~52.3	~545.7	0.0
Queue Length 95th (m)	14.4	#95.7	96.0	#145.7	39.1	48.9	m24.9	m135.3	m70.7	#108.1	#564.9	0.0
Internal Link Dist (m)		361.1			277.7			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	262	215	442	704	527	560	156	2241	1009	226	2466	763
Starvation Cap Reductn	0	0	0	0	0	0	0	0	92	0	0	0
Spillback Cap Reductn	0	0	289	528	0	0	0	0	0	0	263	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.85	2.21	3.93	0.19	0.50	0.94	0.83	0.85	1.00	1.68	0.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

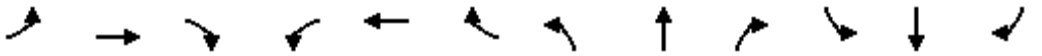
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	180	335	685	100	275	145	1845	775	225	3660	50
Future Volume (vph)	35	180	335	685	100	275	145	1845	775	225	3660	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.97	1.00	1.00	0.93
Flpb, ped/bikes	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1709	1863	1568	3367	1827	1470	1719	4988	1525	1787	5085	1424
Flt Permitted	0.69	1.00	1.00	0.95	1.00	1.00	0.06	1.00	1.00	0.06	1.00	1.00
Satd. Flow (perm)	1244	1863	1568	3367	1827	1470	117	4988	1525	116	5085	1424
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	35	182	338	692	101	278	146	1864	783	227	3697	51
RTOR Reduction (vph)	0	0	112	0	0	137	0	0	329	0	0	27
Lane Group Flow (vph)	35	182	226	692	101	141	146	1864	454	227	3697	24
Confl. Peds. (#/hr)	35					35	35		10	10		35
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	21.7	15.9	23.2	28.3	39.4	39.4	68.2	60.9	60.9	77.2	65.9	65.9
Effective Green, g (s)	23.7	16.9	25.2	29.3	40.4	40.4	70.2	61.9	61.9	78.2	66.9	66.9
Actuated g/C Ratio	0.17	0.12	0.18	0.21	0.29	0.29	0.50	0.44	0.44	0.56	0.48	0.48
Clearance Time (s)	4.7	6.8	4.0	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	233	224	282	704	527	424	153	2205	674	223	2429	680
v/s Ratio Prot	0.01	c0.10	0.05	c0.21	0.06		0.06	0.37		c0.10	c0.73	
v/s Ratio Perm	0.02		0.10			0.10	0.42		0.30	0.47		0.02
v/c Ratio	0.15	0.81	0.80	0.98	0.19	0.33	0.95	0.85	0.67	1.02	1.52	0.04
Uniform Delay, d1	49.3	60.0	55.0	55.1	37.5	39.2	38.8	34.8	31.0	44.5	36.5	19.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.36	0.54	0.86	1.00	1.00	1.00
Incremental Delay, d2	0.3	19.7	15.1	29.5	0.2	0.5	24.8	1.1	1.3	65.0	237.1	0.1
Delay (s)	49.6	79.7	70.1	84.6	37.7	39.7	77.6	19.8	28.1	109.5	273.6	19.5
Level of Service	D	E	E	F	D	D	E	B	C	F	F	B
Approach Delay (s)		72.0			68.5			25.2			261.0	
Approach LOS		E			E			C			F	

Intersection Summary			
HCM 2000 Control Delay	145.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.27		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	124.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

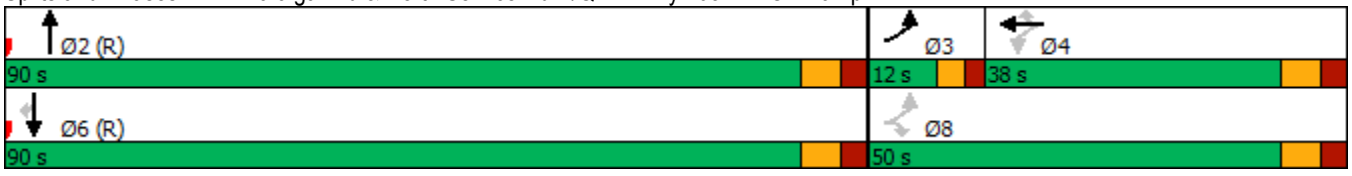


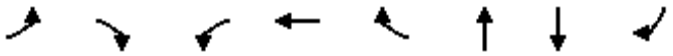
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	655	0	370	0	3165	0	0	5610	5
Future Volume (vph)	5	0	225	655	0	370	0	3165	0	0	5610	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.96
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.950							
Satd. Flow (prot)	1805	0	1599	1649	1649	1568	0	4988	0	0	5036	1615
Flt Permitted	0.214			0.950	0.950							
Satd. Flow (perm)	407	0	1599	1649	1649	1568	0	4988	0	0	5036	1543
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			81						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							10		5	5		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Adj. Flow (vph)	5	0	232	675	0	381	0	3263	0	0	5784	5
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	5	0	232	337	338	381	0	3263	0	0	5784	5
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	12.0		50.0	38.0	38.0	38.0		90.0			90.0	90.0
Total Split (%)	8.6%		35.7%	27.1%	27.1%	27.1%		64.3%			64.3%	64.3%
Maximum Green (s)	7.0		43.0	31.0	31.0	31.0		83.0			83.0	83.0
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		10			10	10
Act Effct Green (s)	39.5		37.5	35.1	35.1	35.1		90.5			90.5	90.5
Actuated g/C Ratio	0.28		0.27	0.25	0.25	0.25		0.65			0.65	0.65
v/c Ratio	0.03		0.51	0.82	0.82	0.84		1.01			1.78	0.00
Control Delay	32.8		40.6	65.3	65.5	55.5		27.1			374.7	0.0
Queue Delay	0.0		0.0	0.0	0.0	0.0		4.3			0.0	0.0
Total Delay	32.8		40.6	65.3	65.5	55.5		31.4			374.7	0.0
LOS	C		D	E	E	E		C			F	A
Approach Delay		40.5			61.8			31.4			374.3	
Approach LOS		D			E			C			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.78			
Intersection Signal Delay: 226.6		Intersection LOS: F	
Intersection Capacity Utilization 155.5%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp





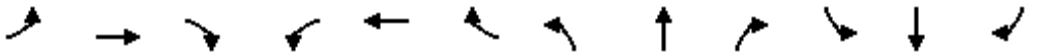
Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	5	232	337	338	381	3263	5784	5
v/c Ratio	0.03	0.51	0.82	0.82	0.84	1.01	1.78	0.00
Control Delay	32.8	40.6	65.3	65.5	55.5	27.1	374.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0
Total Delay	32.8	40.6	65.3	65.5	55.5	31.4	374.7	0.0
Queue Length 50th (m)	1.1	49.4	94.6	95.0	82.7	~367.4	~923.2	0.0
Queue Length 95th (m)	4.4	72.7	#160.7	#161.3	#150.2	m#343.9	m#671.0	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	194	523	422	422	461	3223	3254	1022
Starvation Cap Reductn	0	0	0	0	0	41	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.44	0.80	0.80	0.83	1.03	1.78	0.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

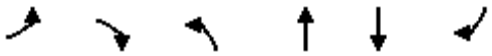
m Volume for 95th percentile queue is metered by upstream signal.



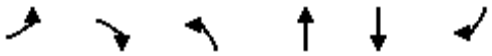
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	655	0	370	0	3165	0	0	5610	5
Future Volume (vph)	5	0	225	655	0	370	0	3165	0	0	5610	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.96
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1649	1649	1568		4988			5036	1543
Flt Permitted	0.21		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	407		1599	1649	1649	1568		4988			5036	1543
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	5	0	232	675	0	381	0	3263	0	0	5784	5
RTOR Reduction (vph)	0	0	22	0	0	61	0	0	0	0	0	2
Lane Group Flow (vph)	5	0	210	337	338	320	0	3263	0	0	5784	3
Confl. Peds. (#/hr)							10		5	5		10
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	40.5		40.5	34.1	34.1	34.1		85.5			85.5	85.5
Effective Green, g (s)	41.5		41.5	35.1	35.1	35.1		86.5			86.5	86.5
Actuated g/C Ratio	0.30		0.30	0.25	0.25	0.25		0.62			0.62	0.62
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	144		473	413	413	393		3081			3111	953
v/s Ratio Prot	0.00							0.65			c1.15	
v/s Ratio Perm	0.01		c0.13	0.20	0.20	0.20						0.00
v/c Ratio	0.03		0.44	0.82	0.82	0.82		1.06			1.86	0.00
Uniform Delay, d1	36.8		39.9	49.4	49.4	49.4		26.8			26.8	10.2
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.70			1.27	1.00
Incremental Delay, d2	0.2		0.8	11.8	11.9	12.2		27.5			386.8	0.0
Delay (s)	37.0		40.7	61.2	61.4	61.6		46.2			420.8	10.2
Level of Service	D		D	E	E	E		D			F	B
Approach Delay (s)		40.6			61.4			46.2			420.5	
Approach LOS		D			E			D			F	

Intersection Summary			
HCM 2000 Control Delay	257.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.54		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	155.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



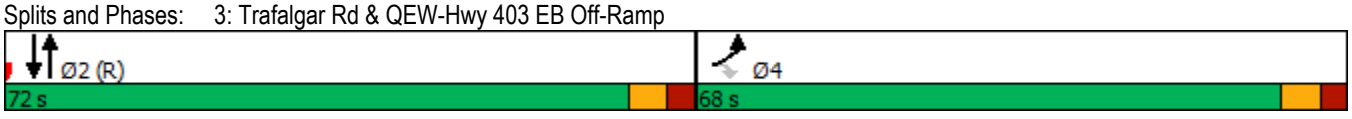
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1630	1145	0	2395	3850	0
Future Volume (vph)	1630	1145	0	2395	3850	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3433	1583	0	4940	5036	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	1583	0	4940	5036	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			80.8	331.3	
Travel Time (s)	15.4			5.8	23.9	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Adj. Flow (vph)	1663	1168	0	2444	3929	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1663	1168	0	2444	3929	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	68.0	68.0		72.0	72.0	
Total Split (%)	48.6%	48.6%		51.4%	51.4%	
Maximum Green (s)	61.0	61.0		65.0	65.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		10	10	
Act Effct Green (s)	62.0	62.0		66.0	66.0	
Actuated g/C Ratio	0.44	0.44		0.47	0.47	
v/c Ratio	1.09	1.67		1.05	1.66	
Control Delay	90.5	334.5		45.5	322.6	
Queue Delay	0.0	0.0		21.2	0.0	
Total Delay	90.5	334.5		66.7	322.6	
LOS	F	F		E	F	
Approach Delay	191.2			66.7	322.6	
Approach LOS	F			E	F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.67			
Intersection Signal Delay: 214.2		Intersection LOS: F	
Intersection Capacity Utilization 155.3%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp





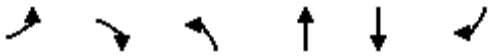
Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	1663	1168	2444	3929
v/c Ratio	1.09	1.67	1.05	1.66
Control Delay	90.5	334.5	45.5	322.6
Queue Delay	0.0	0.0	21.2	0.0
Total Delay	90.5	334.5	66.7	322.6
Queue Length 50th (m)	~281.3	~494.3	~282.3	~608.0
Queue Length 95th (m)	#325.0	#579.0	m66.9	m#277.5
Internal Link Dist (m)	190.2		56.8	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1520	701	2328	2374
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	328	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.09	1.67	1.22	1.66

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

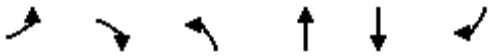
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1630	1145	0	2395	3850	0
Future Volume (vph)	1630	1145	0	2395	3850	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	1583		4940	5036	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	1583		4940	5036	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1663	1168	0	2444	3929	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1663	1168	0	2444	3929	0
Confl. Peds. (#/hr)			10			10
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	61.0	61.0		65.0	65.0	
Effective Green, g (s)	62.0	62.0		66.0	66.0	
Actuated g/C Ratio	0.44	0.44		0.47	0.47	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1520	701		2328	2374	
v/s Ratio Prot	0.48			0.49	c0.78	
v/s Ratio Perm		c0.74				
v/c Ratio	1.09	1.67		1.05	1.66	
Uniform Delay, d1	39.0	39.0		37.0	37.0	
Progression Factor	1.00	1.00		0.55	0.99	
Incremental Delay, d2	53.3	306.1		23.8	294.9	
Delay (s)	92.3	345.1		44.3	331.5	
Level of Service	F	F		D	F	
Approach Delay (s)	196.6			44.3	331.5	
Approach LOS	F			D	F	

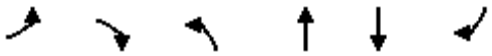
Intersection Summary			
HCM 2000 Control Delay	213.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.66		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	155.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	145	0	2455	3845	675
Future Volume (vph)	0	145	0	2455	3845	675
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.978	
Flt Protected						
Satd. Flow (prot)	0	1565	0	4940	4925	0
Flt Permitted						
Satd. Flow (perm)	0	1565	0	4940	4925	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	100.6			198.2	80.8	
Travel Time (s)	7.2			14.3	5.8	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	5%	0%	5%	3%	3%
Adj. Flow (vph)	0	156	0	2640	4134	726
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	156	0	2640	4860	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	105.1%	ICU Level of Service	G
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	145	0	2455	3845	675
Future Volume (Veh/h)	0	145	0	2455	3845	675
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	156	0	2640	4134	726
Pedestrians	10					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				198	81	
pX, platoon unblocked	0.70	0.53	0.53			
vC, conflicting volume	5387	1751	4870			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2621	0	5193			
tC, single (s)	6.8	7.0	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	73	100			
cM capacity (veh/h)	14	569	8			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	156	880	880	880	1654	1654	1553
Volume Left	0	0	0	0	0	0	0
Volume Right	156	0	0	0	0	0	726
cSH	569	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.27	0.52	0.52	0.52	0.97	0.97	0.91
Queue Length 95th (m)	8.9	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	13.7	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	13.7	0.0			0.0		
Approach LOS	B						

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	105.1%	ICU Level of Service	G
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	690	710	235	65	185	145	125	2070	35	295	2570	440
Future Volume (vph)	690	710	235	65	185	145	125	2070	35	295	2570	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		50.0	50.0		50.0	120.0		0.0	55.0		0.0
Storage Lanes	2		1	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor			0.98	1.00				1.00			0.99	
Frt			0.850			0.850		0.998			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3273	3610	1482	1736	3438	1553	1671	5024	0	1736	4934	0
Flt Permitted	0.950			0.374			0.085			0.080		
Satd. Flow (perm)	3273	3610	1455	682	3438	1553	150	5024	0	146	4934	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			158			140		2			30	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		121.1			182.4			316.1			198.2	
Travel Time (s)		8.7			13.1			22.8			14.3	
Confl. Peds. (#/hr)			5	5			15		5	5		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Adj. Flow (vph)	711	732	242	67	191	149	129	2134	36	304	2649	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	711	732	242	67	191	149	129	2170	0	304	3103	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

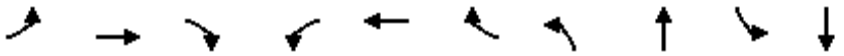
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4	8		8	2			6		
Detector Phase	7	4	4	3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	12.0	10.0	7.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0	42.0	19.0	17.0	11.0	12.0	34.0		11.0	34.0	
Total Split (s)	43.0	42.0	42.0	19.0	18.0	29.0	12.0	50.0		29.0	67.0	
Total Split (%)	30.7%	30.0%	30.0%	13.6%	12.9%	20.7%	8.6%	35.7%		20.7%	47.9%	
Maximum Green (s)	36.0	35.0	35.0	12.0	11.0	25.0	7.0	43.0		25.0	60.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	1.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0	4.0	3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0	7.0					7.0			7.0	
Flash Dont Walk (s)		28.0	28.0					20.0			20.0	
Pedestrian Calls (#/hr)		5	5					10			10	
Act Effct Green (s)	34.7	37.8	37.8	25.3	12.3	41.7	59.4	48.5		78.0	62.1	
Actuated g/C Ratio	0.25	0.27	0.27	0.18	0.09	0.30	0.42	0.35		0.56	0.44	
v/c Ratio	0.88	0.75	0.48	0.30	0.63	0.27	0.81	1.24		0.88	1.41	
Control Delay	63.2	53.1	18.8	34.6	71.9	7.6	58.7	152.6		47.9	217.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2		0.0	0.3	
Total Delay	63.2	53.1	18.9	34.6	71.9	7.6	58.7	152.8		47.9	218.1	
LOS	E	D	B	C	E	A	E	F		D	F	
Approach Delay		52.4			42.2			147.5			202.9	
Approach LOS		D			D			F			F	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.41
Intersection Signal Delay: 145.7 Intersection LOS: F
Intersection Capacity Utilization 114.4% ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 5: Trafalgar Rd & Cross Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	711	732	242	67	191	149	129	2170	304	3103
v/c Ratio	0.88	0.75	0.48	0.30	0.63	0.27	0.81	1.24	0.88	1.41
Control Delay	63.2	53.1	18.8	34.6	71.9	7.6	58.7	152.6	47.9	217.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.3
Total Delay	63.2	53.1	18.9	34.6	71.9	7.6	58.7	152.8	47.9	218.1
Queue Length 50th (m)	101.5	105.2	19.5	12.2	28.7	1.8	24.9	~302.0	75.0	~442.5
Queue Length 95th (m)	125.6	129.7	47.4	23.1	42.6	18.2	m#37.7	m#322.6	m41.9	m156.5
Internal Link Dist (m)		97.1			158.4			292.1		174.2
Turn Bay Length (m)	130.0		50.0	50.0		50.0	120.0		55.0	
Base Capacity (vph)	865	984	511	220	304	587	159	1743	376	2206
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	8	0	0	4	0	98	0	258
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.74	0.48	0.30	0.63	0.26	0.81	1.32	0.81	1.59

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	690	710	235	65	185	145	125	2070	35	295	2570	440
Future Volume (vph)	690	710	235	65	185	145	125	2070	35	295	2570	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3273	3610	1455	1734	3438	1553	1671	5022		1736	4934	
Flt Permitted	0.95	1.00	1.00	0.37	1.00	1.00	0.08	1.00		0.08	1.00	
Satd. Flow (perm)	3273	3610	1455	682	3438	1553	149	5022		146	4934	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	711	732	242	67	191	149	129	2134	36	304	2649	454
RTOR Reduction (vph)	0	0	115	0	0	103	0	1	0	0	17	0
Lane Group Flow (vph)	711	732	127	67	191	46	129	2169	0	304	3086	0
Confl. Peds. (#/hr)			5	5			15		5	5		15
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Turn Type	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4	8		8	2			6		
Actuated Green, G (s)	33.7	36.8	36.8	22.3	12.7	35.1	54.0	46.2		72.6	59.8	
Effective Green, g (s)	34.7	37.8	37.8	24.3	13.7	37.1	56.0	47.2		73.6	60.8	
Actuated g/C Ratio	0.25	0.27	0.27	0.17	0.10	0.27	0.40	0.34		0.53	0.43	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	4.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0	4.0	3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	811	974	392	198	336	411	155	1693		342	2142	
v/s Ratio Prot	c0.22	c0.20		0.03	0.06	0.02	0.05	0.43		c0.15	c0.63	
v/s Ratio Perm			0.09	0.03		0.01	0.28			0.32		
v/c Ratio	0.88	0.75	0.32	0.34	0.57	0.11	0.83	1.28		0.89	1.44	
Uniform Delay, d1	50.6	46.8	40.9	49.7	60.3	39.0	34.5	46.4		43.3	39.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00		1.19	1.15	
Incremental Delay, d2	10.5	3.5	0.7	1.2	2.7	0.1	23.2	129.9		2.9	198.6	
Delay (s)	61.1	50.3	41.5	50.9	63.0	39.1	57.5	176.4		54.5	244.0	
Level of Service	E	D	D	D	E	D	E	F		D	F	
Approach Delay (s)		53.6			52.3			169.7			227.0	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	163.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	114.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	750	70	30	625	640	50	730	55	675	1200	385
Future Volume (vph)	300	750	70	30	625	640	50	730	55	675	1200	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.99	1.00		0.99		0.95		1.00		0.99		0.96
Frt		0.987				0.850		0.990				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3367	3354	0	1736	3438	1553	1770	3488	0	3400	1881	1553
Flt Permitted	0.950			0.159			0.100			0.950		
Satd. Flow (perm)	3321	3354	0	289	3438	1483	186	3488	0	3378	1881	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				422		6				174
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			316.1	
Travel Time (s)		41.4			45.2			10.0			22.8	
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Adj. Flow (vph)	313	781	73	31	651	667	52	760	57	703	1250	401
Shared Lane Traffic (%)												
Lane Group Flow (vph)	313	854	0	31	651	667	52	817	0	703	1250	401
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

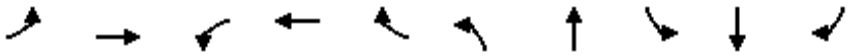
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	18.0	44.0		12.0	38.0	38.0	11.0	47.0		37.0	73.0	73.0
Total Split (%)	12.9%	31.4%		8.6%	27.1%	27.1%	7.9%	33.6%		26.4%	52.1%	52.1%
Maximum Green (s)	12.3	37.6		7.0	31.6	31.6	7.0	40.1		32.0	66.1	66.1
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		20			20	20		15			15	15
Act Effct Green (s)	13.3	43.4		42.0	32.6	32.6	52.9	42.0		32.1	69.3	69.3
Actuated g/C Ratio	0.10	0.31		0.30	0.23	0.23	0.38	0.30		0.23	0.50	0.50
v/c Ratio	0.98	0.82		0.18	0.81	1.00	0.33	0.78		0.90	1.34	0.48
Control Delay	102.3	52.4		31.3	60.1	53.8	23.4	50.7		78.2	184.0	17.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	102.3	52.4		31.3	60.1	53.8	23.4	50.7		78.2	184.0	17.4
LOS	F	D		C	E	D	C	D		E	F	B
Approach Delay		65.8			56.3			49.1			124.0	
Approach LOS		E			E			D			F	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.34
Intersection Signal Delay: 84.9 Intersection LOS: F
Intersection Capacity Utilization 116.3% ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd





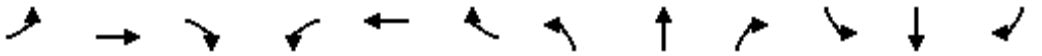
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	313	854	31	651	667	52	817	703	1250	401
v/c Ratio	0.98	0.82	0.18	0.81	1.00	0.33	0.78	0.90	1.34	0.48
Control Delay	102.3	52.4	31.3	60.1	53.8	23.4	50.7	78.2	184.0	17.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	102.3	52.4	31.3	60.1	53.8	23.4	50.7	78.2	184.0	17.4
Queue Length 50th (m)	48.0	128.3	5.8	95.2	90.1	6.3	115.0	112.2	~475.3	38.4
Queue Length 95th (m)	#80.1	#166.4	13.1	119.3	#178.2	12.6	140.8	m84.7	m#289.1	m26.8
Internal Link Dist (m)		551.4		604.3			115.4		292.1	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	319	1044	169	800	669	160	1050	801	931	829
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.82	0.18	0.81	1.00	0.33	0.78	0.88	1.34	0.48

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	750	70	30	625	640	50	730	55	675	1200	385
Future Volume (vph)	300	750	70	30	625	640	50	730	55	675	1200	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3367	3355		1734	3438	1483	1770	3487		3400	1881	1498
Flt Permitted	0.95	1.00		0.16	1.00	1.00	0.10	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3367	3355		291	3438	1483	186	3487		3400	1881	1498
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	312	781	73	31	651	667	52	760	57	703	1250	401
RTOR Reduction (vph)	0	5	0	0	0	318	0	4	0	0	0	91
Lane Group Flow (vph)	313	849	0	31	651	349	52	813	0	703	1250	310
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	12.3	42.4		37.8	33.6	33.6	44.6	39.0		31.1	65.5	65.5
Effective Green, g (s)	13.3	43.4		39.8	34.6	34.6	46.6	40.0		32.1	66.5	66.5
Actuated g/C Ratio	0.10	0.31		0.28	0.25	0.25	0.33	0.29		0.23	0.48	0.48
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	319	1040		136	849	366	136	996		779	893	711
v/s Ratio Prot	c0.09	0.25		0.01	0.19		0.02	0.23		c0.21	c0.66	
v/s Ratio Perm				0.06		c0.24	0.11					0.21
v/c Ratio	0.98	0.82		0.23	0.77	0.95	0.38	0.82		0.90	1.40	0.44
Uniform Delay, d1	63.2	44.6		37.7	49.0	51.9	36.9	46.6		52.4	36.8	24.3
Progression Factor	0.95	1.02		1.00	1.00	1.00	1.00	1.00		1.47	0.89	1.31
Incremental Delay, d2	41.9	4.4		0.9	4.2	35.0	1.8	7.4		1.6	180.5	0.2
Delay (s)	102.0	49.8		38.6	53.1	86.9	38.7	53.9		78.6	213.4	31.9
Level of Service	F	D		D	D	F	D	D		E	F	C
Approach Delay (s)		63.8			69.5			53.0			142.2	
Approach LOS		E			E			D			F	

Intersection Summary			
HCM 2000 Control Delay	95.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	116.3%	ICU Level of Service	H
Analysis Period (min)	15		

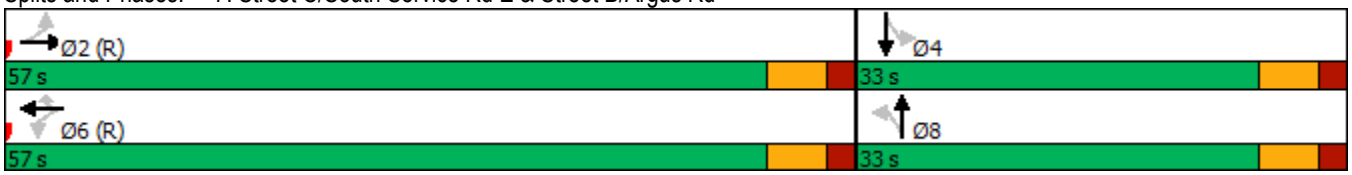
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	85	5	20	610	195	0	35	60	75	5	220
Future Volume (vph)	0	85	5	20	610	195	0	35	60	75	5	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.97		0.98		
Frt		0.992				0.850		0.915			0.854	
Flt Protected					0.998					0.950		
Satd. Flow (prot)	0	1781	0	0	1860	1568	0	1692	0	1805	1392	0
Flt Permitted					0.991					0.689		
Satd. Flow (perm)	0	1781	0	0	1847	1568	0	1692	0	1284	1392	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				219		67			232	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		48.3			119.5			83.7			163.9	
Travel Time (s)		3.5			8.6			6.0			11.8	
Confl. Peds. (#/hr)			5	5					10	10		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	6%	0%	0%	2%	3%	0%	0%	0%	0%	0%	17%
Adj. Flow (vph)	0	96	6	22	685	219	0	39	67	84	6	247
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	102	0	0	707	219	0	106	0	84	253	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA		Perm	NA	Perm		NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	26.0	26.0		26.0	26.0	
Total Split (s)	57.0	57.0		57.0	57.0	57.0	33.0	33.0		33.0	33.0	
Total Split (%)	63.3%	63.3%		63.3%	63.3%	63.3%	36.7%	36.7%		36.7%	36.7%	
Maximum Green (s)	51.0	51.0		51.0	51.0	51.0	27.0	27.0		27.0	27.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0		-1.0		-1.0	-1.0	
Total Lost Time (s)		5.0			5.0	5.0		5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min	C-Min	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		66.7			66.7	66.7		13.3		13.3	13.3	
Actuated g/C Ratio		0.74			0.74	0.74		0.15		0.15	0.15	
v/c Ratio		0.08			0.52	0.18		0.35		0.44	0.63	
Control Delay		3.6			15.2	3.9		17.7		41.9	13.7	
Queue Delay		0.0			34.1	0.0		0.0		0.0	0.0	
Total Delay		3.6			49.3	3.9		17.7		41.9	13.7	
LOS		A			D	A		B		D	B	
Approach Delay		3.6			38.6			17.7			20.8	
Approach LOS		A			D			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 30.6		Intersection LOS: C	
Intersection Capacity Utilization 62.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 7: Street C/South Service Rd E & Street B/Argus Rd





Lane Group	EBT	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	102	707	219	106	84	253
v/c Ratio	0.08	0.52	0.18	0.35	0.44	0.63
Control Delay	3.6	15.2	3.9	17.7	41.9	13.7
Queue Delay	0.0	34.1	0.0	0.0	0.0	0.0
Total Delay	3.6	49.3	3.9	17.7	41.9	13.7
Queue Length 50th (m)	3.7	117.4	8.4	6.4	14.4	3.4
Queue Length 95th (m)	9.6	151.1	m15.4	19.5	26.7	23.9
Internal Link Dist (m)	24.3	95.5		59.7		139.9
Turn Bay Length (m)						
Base Capacity (vph)	1321	1369	1219	572	399	592
Starvation Cap Reductn	0	697	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	1.05	0.18	0.19	0.21	0.43

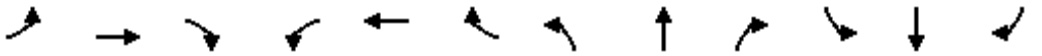
Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	85	5	20	610	195	0	35	60	75	5	220
Future Volume (vph)	0	85	5	20	610	195	0	35	60	75	5	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	5.0		5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Frpb, ped/bikes		1.00			1.00	1.00		0.97		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00		0.98	1.00	
Frt		0.99			1.00	0.85		0.91		1.00	0.85	
Flt Protected		1.00			1.00	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1781			1860	1568		1692		1770	1391	
Flt Permitted		1.00			0.99	1.00		1.00		0.69	1.00	
Satd. Flow (perm)		1781			1847	1568		1692		1283	1391	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	96	6	22	685	219	0	39	67	84	6	247
RTOR Reduction (vph)	0	2	0	0	0	57	0	57	0	0	198	0
Lane Group Flow (vph)	0	100	0	0	707	162	0	49	0	84	55	0
Confl. Peds. (#/hr)			5	5					10	10		
Heavy Vehicles (%)	0%	6%	0%	0%	2%	3%	0%	0%	0%	0%	0%	17%
Turn Type		NA		Perm	NA	Perm		NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		65.7			65.7	65.7		12.3		12.3	12.3	
Effective Green, g (s)		66.7			66.7	66.7		13.3		13.3	13.3	
Actuated g/C Ratio		0.74			0.74	0.74		0.15		0.15	0.15	
Clearance Time (s)		6.0			6.0	6.0		6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		1319			1368	1162		250		189	205	
v/s Ratio Prot		0.06						0.03			0.04	
v/s Ratio Perm					c0.38	0.10				c0.07		
v/c Ratio		0.08			0.52	0.14		0.20		0.44	0.27	
Uniform Delay, d1		3.2			4.9	3.4		33.7		35.0	34.0	
Progression Factor		1.00			2.55	5.37		1.00		1.00	1.00	
Incremental Delay, d2		0.1			1.1	0.2		0.4		1.7	0.7	
Delay (s)		3.3			13.6	18.3		34.0		36.6	34.8	
Level of Service		A			B	B		C		D	C	
Approach Delay (s)		3.3			14.7			34.0			35.2	
Approach LOS		A			B			C			D	

Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

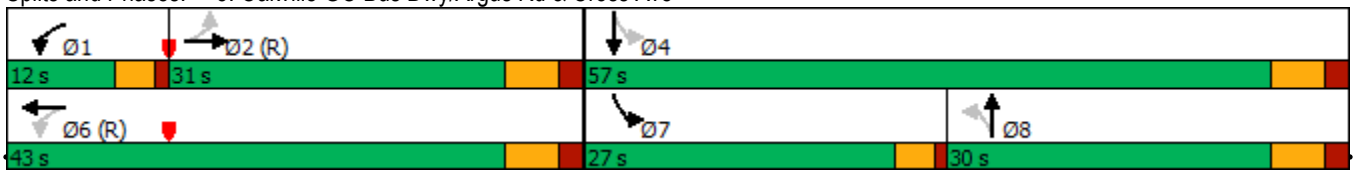


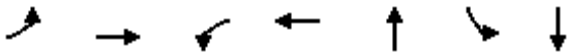
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1295	15	20	1095	15	15	0	30	610	10	440
Future Volume (vph)	25	1295	15	20	1095	15	15	0	30	610	10	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	30.0			15.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00			1.00			0.97		0.98	0.96	
Frt		0.998			0.998			0.909			0.853	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1719	3527	0	950	3563	0	0	845	0	1719	1528	0
Flt Permitted	0.163			0.092				0.776		0.726		
Satd. Flow (perm)	294	3527	0	92	3563	0	0	664	0	1284	1528	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			1			120			18	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		126.2			104.6			107.0			123.1	
Travel Time (s)		9.1			7.5			7.7			8.9	
Confl. Peds. (#/hr)	10		10	10		10	20		20	20		20
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	1%	100%	90%	1%	7%	100%	100%	94%	5%	100%	0%
Adj. Flow (vph)	26	1335	15	21	1129	15	15	0	31	629	10	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	1350	0	21	1144	0	0	46	0	629	464	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	22.0	22.0		8.0	22.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	29.0	29.0		12.0	29.0		29.0	29.0		9.0	29.0	
Total Split (s)	31.0	31.0		12.0	43.0		30.0	30.0		27.0	57.0	
Total Split (%)	31.0%	31.0%		12.0%	43.0%		30.0%	30.0%		27.0%	57.0%	
Maximum Green (s)	25.0	25.0		8.0	37.0		24.0	24.0		23.0	51.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	5.0	5.0		2.5	5.0		4.0	4.0		3.0	4.0	
Recall Mode	C-Min	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	16.0	16.0			16.0		16.0	16.0			16.0	
Pedestrian Calls (#/hr)	10	10			10		20	20			20	
Act Effct Green (s)	44.2	44.2		51.1	49.1			16.2		42.9	40.9	
Actuated g/C Ratio	0.44	0.44		0.51	0.49			0.16		0.43	0.41	
v/c Ratio	0.20	0.87		0.17	0.65			0.22		0.96	0.73	
Control Delay	31.5	36.1		19.4	23.4			2.5		51.5	30.1	
Queue Delay	0.0	47.5		0.0	0.0			0.0		0.0	0.0	
Total Delay	31.5	83.7		19.4	23.4			2.5		51.5	30.1	
LOS	C	F		B	C			A		D	C	
Approach Delay		82.7			23.3			2.5			42.4	
Approach LOS		F			C			A			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 50.9		Intersection LOS: D	
Intersection Capacity Utilization 85.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 8: Oakville GO Bus Dwy/Argus Rd & Cross Ave



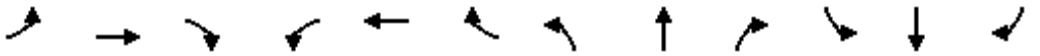


Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	26	1350	21	1144	46	629	464
v/c Ratio	0.20	0.87	0.17	0.65	0.22	0.96	0.73
Control Delay	31.5	36.1	19.4	23.4	2.5	51.5	30.1
Queue Delay	0.0	47.5	0.0	0.0	0.0	0.0	0.0
Total Delay	31.5	83.7	19.4	23.4	2.5	51.5	30.1
Queue Length 50th (m)	2.7	107.4	1.9	82.7	0.0	~122.6	79.4
Queue Length 95th (m)	13.3	#244.5	7.4	136.5	0.0	#134.5	93.7
Internal Link Dist (m)		102.2		80.6	83.0		99.1
Turn Bay Length (m)	20.0		20.0			15.0	
Base Capacity (vph)	129	1560	125	1751	256	658	803
Starvation Cap Reductn	0	411	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	1.17	0.17	0.65	0.18	0.96	0.58

Intersection Summary

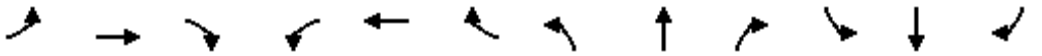
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1295	15	20	1095	15	15	0	30	610	10	440
Future Volume (vph)	25	1295	15	20	1095	15	15	0	30	610	10	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.97		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		0.98	1.00	
Frt	1.00	1.00		1.00	1.00			0.91		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1716	3528		950	3563			842		1691	1529	
Flt Permitted	0.16	1.00		0.09	1.00			0.78		0.73	1.00	
Satd. Flow (perm)	295	3528		92	3563			664		1292	1529	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	26	1335	15	21	1129	15	15	0	31	629	10	454
RTOR Reduction (vph)	0	1	0	0	1	0	0	39	0	0	10	0
Lane Group Flow (vph)	26	1349	0	21	1143	0	0	7	0	629	454	0
Confl. Peds. (#/hr)	10		10	10		10	20		20	20		20
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	5%	1%	100%	90%	1%	7%	100%	100%	94%	5%	100%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	39.6	39.6		46.9	46.9			13.2		41.1	41.1	
Effective Green, g (s)	40.6	40.6		47.9	47.9			14.2		42.1	42.1	
Actuated g/C Ratio	0.41	0.41		0.48	0.48			0.14		0.42	0.42	
Clearance Time (s)	6.0	6.0		4.0	6.0			6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0		2.5	5.0			4.0		3.0	4.0	
Lane Grp Cap (vph)	119	1432		80	1706			94		643	643	
v/s Ratio Prot		c0.38		0.01	c0.32					c0.24	0.30	
v/s Ratio Perm	0.09			0.11				0.01		c0.17		
v/c Ratio	0.22	0.94		0.26	0.67			0.07		0.98	0.71	
Uniform Delay, d1	19.4	28.6		20.9	20.0			37.2		27.7	23.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	4.2	13.5		1.3	2.1			0.4		29.7	3.8	
Delay (s)	23.5	42.1		22.2	22.1			37.6		57.4	27.6	
Level of Service	C	D		C	C			D		E	C	
Approach Delay (s)		41.7			22.1			37.6			44.7	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	36.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



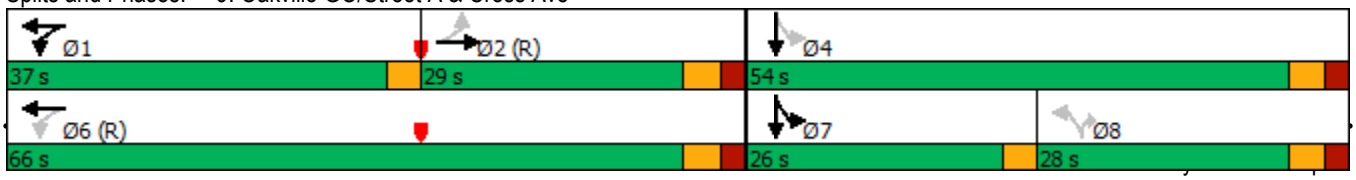
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	490	90	650	760	70	60	0	235	445	0	135
Future Volume (vph)	35	490	90	650	760	70	60	0	235	445	0	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	100.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00		1.00		0.97		0.99	
Frt		0.977			0.993				0.850		0.969	
Flt Protected	0.950				0.979		0.950				0.963	
Satd. Flow (prot)	1805	3278	0	0	3398	0	1805	0	1615	0	1767	0
Flt Permitted	0.164				0.573		0.489				0.963	
Satd. Flow (perm)	311	3278	0	0	1989	0	926	0	1570	0	1757	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			6				255		51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		120.6			126.2			63.3			76.3	
Travel Time (s)		8.7			9.1			4.6			5.5	
Confl. Peds. (#/hr)	15					15	5		10	10		5
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	38	533	98	707	826	76	65	0	255	484	0	147
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	631	0	0	1609	0	65	0	255	0	631	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	100		100
Number of Detectors	1	2		1	2		1		1	1	2	
Detector Template	Left	Thru		Left	Thru		Left		Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0		2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0		2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4						9.4	
Detector 2 Size(m)		0.6			0.6						0.6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												

Lane Group	Ø4	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type	Perm	NA		custom	NA		Perm		Perm	custom	NA	
Protected Phases		2		1	1 6					7	7 4	
Permitted Phases	2			6			8		8	4		
Detector Phase	2	2		1	1 6		8		8	7	7 4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		8.0			10.0		10.0	8.0		
Minimum Split (s)	27.6	27.6		11.0			27.6		27.6	11.0		
Total Split (s)	29.0	29.0		37.0			28.0		28.0	26.0		
Total Split (%)	24.2%	24.2%		30.8%			23.3%		23.3%	21.7%		
Maximum Green (s)	23.4	23.4		34.0			22.4		22.4	23.0		
Yellow Time (s)	3.3	3.3		3.0			3.3		3.3	3.0		
All-Red Time (s)	2.3	2.3		0.0			2.3		2.3	0.0		
Lost Time Adjust (s)	-1.0	-1.0					-1.0		-1.0			
Total Lost Time (s)	4.6	4.6					4.6		4.6			
Lead/Lag	Lag	Lag		Lead			Lag		Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes		
Vehicle Extension (s)	5.0	5.0		2.5			3.5		3.5	3.0		
Recall Mode	C-Min	C-Min		None			None		None	None		
Walk Time (s)	7.0	7.0					7.0		7.0			
Flash Dont Walk (s)	15.0	15.0					15.0		15.0			
Pedestrian Calls (#/hr)	10	10					10		10			
Act Effct Green (s)	24.4	24.4			68.2		19.2		19.2		47.8	
Actuated g/C Ratio	0.20	0.20			0.57		0.16		0.16		0.40	
v/c Ratio	0.60	0.93			1.07dl		0.44		0.55		0.86	
Control Delay	83.0	67.1			49.0		53.6		9.8		42.9	
Queue Delay	0.0	0.0			33.9		0.0		0.0		0.0	
Total Delay	83.0	67.1			83.0		53.6		9.8		42.9	
LOS	F	E			F		D		A		D	
Approach Delay		68.0			83.0			18.7			42.9	
Approach LOS		E			F			B			D	

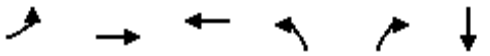
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.01			
Intersection Signal Delay: 65.7		Intersection LOS: E	
Intersection Capacity Utilization 109.0%		ICU Level of Service H	
Analysis Period (min) 15			
dl Defacto Left Lane. Recode with 1 though lane as a left lane.			

Splits and Phases: 9: Oakville GO/Street A & Cross Ave



Lane Group	Ø4	Ø6
Detector 2 Extend (s)		
Turn Type		
Protected Phases	4	6
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	10.0	20.0
Minimum Split (s)	27.6	27.6
Total Split (s)	54.0	66.0
Total Split (%)	45%	55%
Maximum Green (s)	48.4	60.4
Yellow Time (s)	3.3	3.3
All-Red Time (s)	2.3	2.3
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	5.0
Recall Mode	None	C-Min
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	15.0	15.0
Pedestrian Calls (#/hr)	10	10
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary



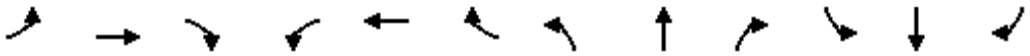
Lane Group	EBL	EBT	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	38	631	1609	65	255	631
v/c Ratio	0.60	0.93	1.07dl	0.44	0.55	0.86
Control Delay	83.0	67.1	49.0	53.6	9.8	42.9
Queue Delay	0.0	0.0	33.9	0.0	0.0	0.0
Total Delay	83.0	67.1	83.0	53.6	9.8	42.9
Queue Length 50th (m)	8.6	79.7	~190.5	14.4	0.0	127.5
Queue Length 95th (m)	#27.5	#115.7	#282.1	28.9	22.8	174.9
Internal Link Dist (m)		96.6	102.2			52.3
Turn Bay Length (m)						
Base Capacity (vph)	63	679	1592	180	511	792
Starvation Cap Reductn	0	0	225	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.93	1.18	0.36	0.50	0.80

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

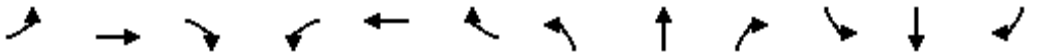


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	490	90	650	760	70	60	0	235	445	0	135
Future Volume (vph)	35	490	90	650	760	70	60	0	235	445	0	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6			2.0		4.6		4.6		2.0	
Lane Util. Factor	1.00	0.95			0.95		1.00		1.00		1.00	
Frpb, ped/bikes	1.00	1.00			1.00		1.00		0.97		1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00		1.00		0.99	
Frt	1.00	0.98			0.99		1.00		0.85		0.97	
Flt Protected	0.95	1.00			0.98		0.95		1.00		0.96	
Satd. Flow (prot)	1798	3277			3397		1799		1570		1755	
Flt Permitted	0.16	1.00			0.57		0.49		1.00		0.96	
Satd. Flow (perm)	310	3277			1988		926		1570		1755	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	533	98	707	826	76	65	0	255	484	0	147
RTOR Reduction (vph)	0	13	0	0	3	0	0	0	214	0	32	0
Lane Group Flow (vph)	38	618	0	0	1606	0	65	0	41	0	599	0
Confl. Peds. (#/hr)	15					15	5		10	10		5
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	0%	9%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		custom	NA		Perm		Perm	custom	NA	
Protected Phases		2		1	1 6					7	7 4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	23.4	23.4			64.6		18.2		18.2		44.2	
Effective Green, g (s)	24.4	24.4			65.6		19.2		19.2		45.2	
Actuated g/C Ratio	0.20	0.20			0.55		0.16		0.16		0.38	
Clearance Time (s)	5.6	5.6					5.6		5.6			
Vehicle Extension (s)	5.0	5.0					3.5		3.5			
Lane Grp Cap (vph)	63	666			1547		148		251		661	
v/s Ratio Prot		c0.19			c0.34						c0.18	
v/s Ratio Perm	0.12				0.23		0.07		0.03		0.16	
v/c Ratio	0.60	0.93			1.07dl		0.44		0.16		0.91	
Uniform Delay, d1	43.4	46.9			27.2		45.5		43.5		35.4	
Progression Factor	1.00	1.00			1.00		1.00		1.00		1.00	
Incremental Delay, d2	36.1	21.1			33.5		2.5		0.4		16.1	
Delay (s)	79.5	68.1			60.7		48.0		43.8		51.5	
Level of Service	E	E			E		D		D		D	
Approach Delay (s)		68.7			60.7			44.7			51.5	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	59.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	109.0%	ICU Level of Service	H
Analysis Period (min)	15		

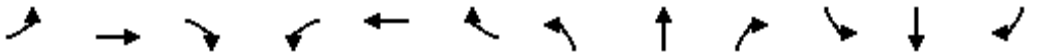
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	420	0	5	745	155	0	0	0	155	0	25
Future Volume (vph)	25	420	0	5	745	155	0	0	0	155	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (m)	25.0			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.974							0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1805	3312	0	0	3293	0	0	1900	0	1787	0	1509
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1805	3312	0	0	3293	0	0	1900	0	1787	0	1509
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		132.8			120.6			80.8			71.6	
Travel Time (s)		9.6			8.7			5.8			5.2	
Confl. Peds. (#/hr)	20		10	10		20						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	0%	0%	8%	1%	0%	0%	0%	1%	0%	7%
Adj. Flow (vph)	27	457	0	5	810	168	0	0	0	168	0	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	457	0	0	983	0	0	0	0	168	0	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

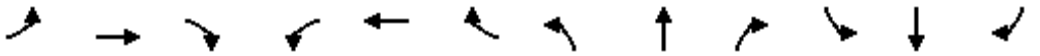
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	420	0	5	745	155	0	0	0	155	0	25
Future Volume (Veh/h)	25	420	0	5	745	155	0	0	0	155	0	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	457	0	5	810	168	0	0	0	168	0	27
Pedestrians								10			20	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			2	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		133			121							
pX, platoon unblocked												
vC, conflicting volume	998			467			963	1529	238	1206	1445	509
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	998			467			963	1529	238	1206	1445	509
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	7.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.4
p0 queue free %	96			100			100	100	100	0	100	94
cM capacity (veh/h)	690			1096			189	110	762	131	124	488

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	27	228	228	410	573	0	168	27
Volume Left	27	0	0	5	0	0	168	0
Volume Right	0	0	0	0	168	0	0	27
cSH	690	1700	1700	1096	1700	1700	131	488
Volume to Capacity	0.04	0.13	0.13	0.00	0.34	0.12	1.28	0.06
Queue Length 95th (m)	1.0	0.0	0.0	0.1	0.0	0.0	84.7	1.4
Control Delay (s)	10.4	0.0	0.0	0.2	0.0	0.0	237.6	12.8
Lane LOS	B			A		A	F	B
Approach Delay (s)	0.6			0.1		0.0	206.4	
Approach LOS						A	F	

Intersection Summary				
Average Delay	24.4			
Intersection Capacity Utilization	44.7%	ICU Level of Service		A
Analysis Period (min)	15			



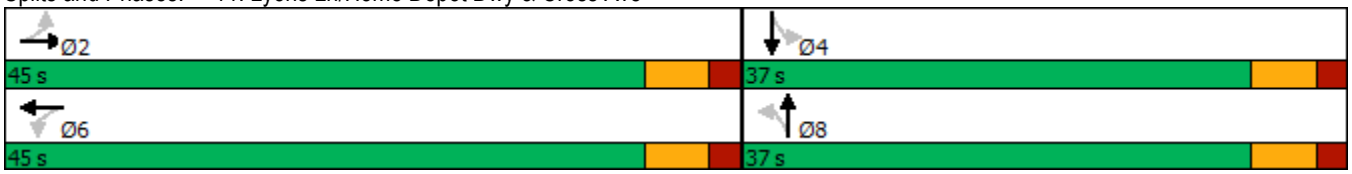
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	400	130	180	465	5	15	5	20	20	10	45
Future Volume (vph)	55	400	130	180	465	5	15	5	20	20	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	25.0		0.0	35.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00		0.99	0.99		0.99	0.99	
Frt		0.963			0.998			0.881			0.878	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3255	0	1787	3101	0	1805	1588	0	1703	1580	0
Flt Permitted	0.448			0.419			0.715			0.738		
Satd. Flow (perm)	848	3255	0	788	3101	0	1352	1588	0	1316	1580	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		75			2			23			52	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		47.5			132.8			89.0			69.0	
Travel Time (s)		3.4			9.6			6.4			5.0	
Confl. Peds. (#/hr)	5					5	5		5	5		5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	9%	0%	1%	16%	29%	0%	0%	5%	6%	0%	5%
Adj. Flow (vph)	64	465	151	209	541	6	17	6	23	23	12	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	616	0	209	547	0	17	29	0	23	64	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

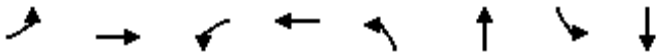
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		35.0	35.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	41.0	41.0		41.0	41.0		28.0	28.0		28.0	28.0	
Total Split (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Total Split (%)	54.9%	54.9%		54.9%	54.9%		45.1%	45.1%		45.1%	45.1%	
Maximum Green (s)	39.0	39.0		39.0	39.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	5	5		5	5		5	5		5	5	
Act Effct Green (s)	44.7	44.7		44.7	44.7		13.1	13.1		13.1	13.1	
Actuated g/C Ratio	0.76	0.76		0.76	0.76		0.22	0.22		0.22	0.22	
v/c Ratio	0.10	0.25		0.35	0.23		0.06	0.08		0.08	0.16	
Control Delay	6.1	4.6		8.6	5.1		18.7	10.3		19.0	8.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	6.1	4.6		8.6	5.1		18.7	10.3		19.0	8.9	
LOS	A	A		A	A		B	B		B	A	
Approach Delay		4.7			6.0			13.4			11.6	
Approach LOS		A			A			B			B	

Intersection Summary

Area Type: Other
Cycle Length: 82
Actuated Cycle Length: 58.7
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.35
Intersection Signal Delay: 6.0 Intersection LOS: A
Intersection Capacity Utilization 80.7% ICU Level of Service D
Analysis Period (min) 15

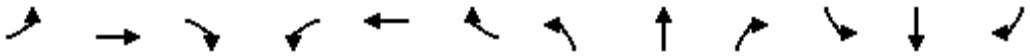
Splits and Phases: 11: Lyons Ln/Home Depot Dwy & Cross Ave





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	616	209	547	17	29	23	64
v/c Ratio	0.10	0.25	0.35	0.23	0.06	0.08	0.08	0.16
Control Delay	6.1	4.6	8.6	5.1	18.7	10.3	19.0	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.1	4.6	8.6	5.1	18.7	10.3	19.0	8.9
Queue Length 50th (m)	2.3	11.4	9.5	11.5	1.5	0.6	2.1	1.1
Queue Length 95th (m)	9.6	28.4	32.9	28.6	5.7	5.6	6.9	8.5
Internal Link Dist (m)		23.5		108.8		65.0		45.0
Turn Bay Length (m)			25.0		35.0			
Base Capacity (vph)	670	2588	622	2451	748	888	727	897
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.24	0.34	0.22	0.02	0.03	0.03	0.07

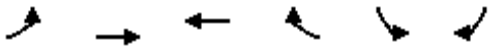
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	400	130	180	465	5	15	5	20	20	10	45
Future Volume (vph)	55	400	130	180	465	5	15	5	20	20	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	1.00		1.00	0.88		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1799	3256		1787	3102		1798	1590		1696	1582	
Flt Permitted	0.45	1.00		0.42	1.00		0.72	1.00		0.74	1.00	
Satd. Flow (perm)	848	3256		787	3102		1354	1590		1318	1582	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	64	465	151	209	541	6	17	6	23	23	12	52
RTOR Reduction (vph)	0	23	0	0	1	0	0	20	0	0	45	0
Lane Group Flow (vph)	64	593	0	209	546	0	17	9	0	23	19	0
Confl. Peds. (#/hr)	5					5	5		5	5		5
Heavy Vehicles (%)	0%	9%	0%	1%	16%	29%	0%	0%	5%	6%	0%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	41.5	41.5		41.5	41.5		7.7	7.7		7.7	7.7	
Effective Green, g (s)	42.5	42.5		42.5	42.5		8.7	8.7		8.7	8.7	
Actuated g/C Ratio	0.69	0.69		0.69	0.69		0.14	0.14		0.14	0.14	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	588	2261		546	2154		192	226		187	224	
v/s Ratio Prot		0.18			0.18			0.01			0.01	
v/s Ratio Perm	0.08			c0.27			0.01			c0.02		
v/c Ratio	0.11	0.26		0.38	0.25		0.09	0.04		0.12	0.09	
Uniform Delay, d1	3.1	3.5		3.9	3.5		22.8	22.7		22.9	22.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.1		0.9	0.1		0.3	0.1		0.4	0.2	
Delay (s)	3.3	3.6		4.8	3.6		23.1	22.8		23.3	23.0	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		3.6			3.9			22.9			23.1	
Approach LOS		A			A			C			C	

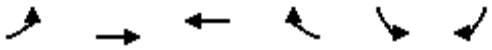
Intersection Summary			
HCM 2000 Control Delay	5.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	61.2	Sum of lost time (s)	10.0
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	690	565	5	50	30
Future Volume (vph)	10	690	565	5	50	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.999		0.950	
Flt Protected	0.950				0.970	
Satd. Flow (prot)	1805	3471	3252	0	1751	0
Flt Permitted	0.950				0.970	
Satd. Flow (perm)	1805	3471	3252	0	1751	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		443.3	47.5		121.4	
Travel Time (s)		31.9	3.4		8.7	
Confl. Peds. (#/hr)	5			5		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	4%	11%	0%	0%	0%
Adj. Flow (vph)	11	793	649	6	57	34
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	793	655	0	91	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

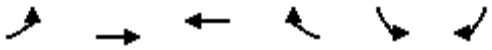
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.3%		ICU Level of Service A	
Analysis Period (min) 15			



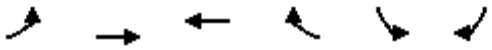
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	690	565	5	50	30
Future Volume (Veh/h)	10	690	565	5	50	30
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	11	793	649	6	57	34
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			48			
pX, platoon unblocked	0.95				0.95	0.95
vC, conflicting volume	660				1076	332
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	528				967	183
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				76	96
cM capacity (veh/h)	989				238	787

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	11	396	396	433	222	91
Volume Left	11	0	0	0	0	57
Volume Right	0	0	0	0	6	34
cSH	989	1700	1700	1700	1700	322
Volume to Capacity	0.01	0.23	0.23	0.25	0.13	0.28
Queue Length 95th (m)	0.3	0.0	0.0	0.0	0.0	9.1
Control Delay (s)	8.7	0.0	0.0	0.0	0.0	20.5
Lane LOS	A					C
Approach Delay (s)	0.1			0.0		20.5
Approach LOS						C

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	30.3%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	575	1360	1075	55	130	530
Future Volume (vph)	575	1360	1075	55	130	530
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0			0.0	60.0	0.0
Storage Lanes	1			0	1	2
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.88
Ped Bike Factor			1.00			
Frt			0.993			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1703	3438	3417	0	1805	2561
Flt Permitted	0.078				0.950	
Satd. Flow (perm)	140	3438	3417	0	1805	2561
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			5			558
Link Speed (k/h)		50	50		50	
Link Distance (m)		209.5	575.4		443.3	
Travel Time (s)		15.1	41.4		31.9	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	5%	5%	0%	0%	11%
Adj. Flow (vph)	605	1432	1132	58	137	558
Shared Lane Traffic (%)						
Lane Group Flow (vph)	605	1432	1190	0	137	558
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		7.2	7.2		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			

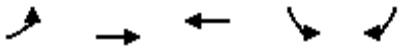


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	6.0	38.0	38.0		10.0	10.0
Minimum Split (s)	12.0	47.6	44.6		33.8	33.8
Total Split (s)	35.0	109.2	74.2		30.8	30.8
Total Split (%)	25.0%	78.0%	53.0%		22.0%	22.0%
Maximum Green (s)	29.0	102.6	67.6		25.0	25.0
Yellow Time (s)	4.0	3.7	3.7		3.3	3.3
All-Red Time (s)	2.0	2.9	2.9		2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.6	5.6		4.8	4.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Min	C-Min		None	None
Walk Time (s)		10.0	1.0		10.0	10.0
Flash Dont Walk (s)		31.0	31.0		18.0	18.0
Pedestrian Calls (#/hr)		10	10		0	0
Act Effct Green (s)	113.1	112.5	58.9		17.1	17.1
Actuated g/C Ratio	0.81	0.80	0.42		0.12	0.12
v/c Ratio	0.92	0.52	0.83		0.63	0.70
Control Delay	56.5	5.8	45.2		70.3	9.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	56.5	5.8	45.2		70.3	9.1
LOS	E	A	D		E	A
Approach Delay		20.8	45.2		21.1	
Approach LOS		C	D		C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 135			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 28.3		Intersection LOS: C	
Intersection Capacity Utilization 84.7%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 13: Speers Rd/Cornwall Rd & Cross Ave

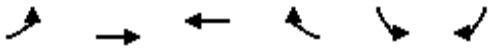




Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	605	1432	1190	137	558
v/c Ratio	0.92	0.52	0.83	0.63	0.70
Control Delay	56.5	5.8	45.2	70.3	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	56.5	5.8	45.2	70.3	9.1
Queue Length 50th (m)	147.7	61.2	177.1	38.6	0.0
Queue Length 95th (m)	#273.0	94.6	189.6	59.0	17.8
Internal Link Dist (m)		185.5	551.4	419.3	
Turn Bay Length (m)	70.0			60.0	
Base Capacity (vph)	656	2763	1676	335	929
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.92	0.52	0.71	0.41	0.60

Intersection Summary

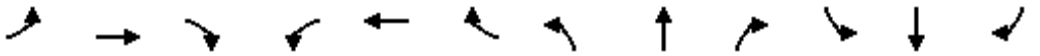
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	575	1360	1075	55	130	530
Future Volume (vph)	575	1360	1075	55	130	530
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		4.8	4.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1703	3438	3416		1805	2561
Flt Permitted	0.08	1.00	1.00		0.95	1.00
Satd. Flow (perm)	140	3438	3416		1805	2561
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	605	1432	1132	58	137	558
RTOR Reduction (vph)	0	0	3	0	0	490
Lane Group Flow (vph)	605	1432	1187	0	137	68
Confl. Peds. (#/hr)	15			15		
Heavy Vehicles (%)	6%	5%	5%	0%	0%	11%
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Actuated Green, G (s)	111.5	111.5	57.8		16.1	16.1
Effective Green, g (s)	112.5	112.5	58.8		17.1	17.1
Actuated g/C Ratio	0.80	0.80	0.42		0.12	0.12
Clearance Time (s)	6.0	6.6	6.6		5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	656	2762	1434		220	312
v/s Ratio Prot	c0.32	0.42	0.35			
v/s Ratio Perm	c0.42				c0.08	0.03
v/c Ratio	0.92	0.52	0.83		0.62	0.22
Uniform Delay, d1	37.3	4.6	36.1		58.4	55.4
Progression Factor	1.00	1.00	1.15		1.00	1.00
Incremental Delay, d2	18.5	0.7	4.5		5.4	0.4
Delay (s)	55.8	5.3	45.9		63.8	55.8
Level of Service	E	A	D		E	E
Approach Delay (s)		20.3	45.9		57.4	
Approach LOS		C	D		E	

Intersection Summary			
HCM 2000 Control Delay	34.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

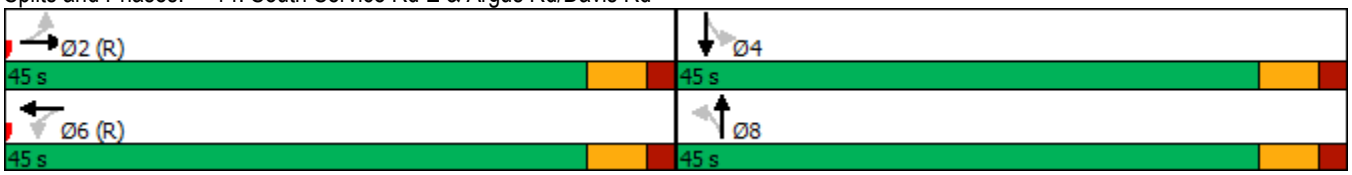


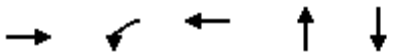
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	80	0	80	70	5	0	275	60	10	335	0
Future Volume (vph)	0	80	0	80	70	5	0	275	60	10	335	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.990			0.976				
Flt Protected				0.950							0.999	
Satd. Flow (prot)	1900	1900	0	1626	1881	0	0	1800	0	0	1844	0
Flt Permitted				0.697							0.985	
Satd. Flow (perm)	1900	1900	0	1193	1881	0	0	1800	0	0	1818	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					5			16				
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		170.6			203.3			204.3			287.4	
Travel Time (s)		12.3			14.6			14.7			20.7	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	11%	0%	0%	50%	3%	3%	0%	3%	0%
Adj. Flow (vph)	0	92	0	92	80	6	0	316	69	11	385	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	92	0	92	86	0	0	385	0	0	396	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA			NA		Perm	NA	
Protected Phases		2			6			8			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	26.0	26.0		26.0	26.0		26.0	26.0		26.0	26.0	
Total Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	39.0	39.0		39.0	39.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	20	20		20	20		20	20		20	20	
Act Effct Green (s)		53.6		53.6	53.6			26.4			26.4	
Actuated g/C Ratio		0.60		0.60	0.60			0.29			0.29	
v/c Ratio		0.08		0.13	0.08			0.71			0.74	
Control Delay		1.9		10.3	9.2			34.2			37.0	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		1.9		10.3	9.2			34.2			37.0	
LOS		A		B	A			C			D	
Approach Delay		1.9			9.8			34.2			37.0	
Approach LOS		A			A			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 28.3		Intersection LOS: C	
Intersection Capacity Utilization 50.7%		ICU Level of Service A	
Analysis Period (min) 15			

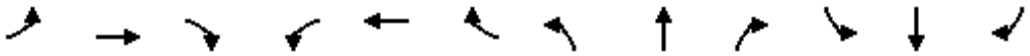
Splits and Phases: 14: South Service Rd E & Argus Rd/Davis Rd





Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	92	92	86	385	396
v/c Ratio	0.08	0.13	0.08	0.71	0.74
Control Delay	1.9	10.3	9.2	34.2	37.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	1.9	10.3	9.2	34.2	37.0
Queue Length 50th (m)	0.6	6.8	5.7	59.7	64.7
Queue Length 95th (m)	2.9	16.6	14.2	76.1	81.4
Internal Link Dist (m)	146.6		179.3	180.3	263.4
Turn Bay Length (m)		30.0			
Base Capacity (vph)	1131	710	1122	808	808
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.13	0.08	0.48	0.49

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	80	0	80	70	5	0	275	60	10	335	0
Future Volume (vph)	0	80	0	80	70	5	0	275	60	10	335	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.99			0.98			1.00	
Flt Protected		1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)		1900		1626	1880			1800			1844	
Flt Permitted		1.00		0.70	1.00			1.00			0.98	
Satd. Flow (perm)		1900		1194	1880			1800			1818	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	92	0	92	80	6	0	316	69	11	385	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	92	0	92	84	0	0	374	0	0	396	0
Heavy Vehicles (%)	0%	0%	0%	11%	0%	0%	50%	3%	3%	0%	3%	0%
Turn Type	Perm	NA		Perm	NA			NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		52.6		52.6	52.6			25.4			25.4	
Effective Green, g (s)		53.6		53.6	53.6			26.4			26.4	
Actuated g/C Ratio		0.60		0.60	0.60			0.29			0.29	
Clearance Time (s)		6.0		6.0	6.0			6.0			6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		1131		711	1119			528			533	
v/s Ratio Prot		0.05			0.04			0.21				
v/s Ratio Perm				c0.08							c0.22	
v/c Ratio		0.08		0.13	0.08			0.71			0.74	
Uniform Delay, d1		7.7		8.0	7.7			28.4			28.7	
Progression Factor		0.18		1.00	1.00			1.00			1.00	
Incremental Delay, d2		0.1		0.4	0.1			4.3			5.6	
Delay (s)		1.5		8.4	7.8			32.7			34.3	
Level of Service		A		A	A			C			C	
Approach Delay (s)		1.5			8.1			32.7			34.3	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	26.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	50.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	60	110	170	270	125	35
Future Volume (vph)	60	110	170	270	125	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		100.0	100.0		100.0	0.0
Storage Lanes		0	0		0	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.913				0.970	
Flt Protected				0.981	0.962	
Satd. Flow (prot)	1693	0	0	1816	1740	0
Flt Permitted				0.981	0.962	
Satd. Flow (perm)	1693	0	0	1816	1740	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	252.8			547.4	339.1	
Travel Time (s)	18.2			39.4	24.4	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	7%	0%	2%	3%	1%	5%
Adj. Flow (vph)	73	134	207	329	152	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	207	0	0	536	195	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 52.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	60	110	170	270	125	35
Future Volume (Veh/h)	60	110	170	270	125	35
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	73	134	207	329	152	43
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			207		883	140
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			207		883	140
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			85		44	95
cM capacity (veh/h)			1364		269	900

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	207	536	195
Volume Left	0	207	152
Volume Right	134	0	43
cSH	1700	1364	319
Volume to Capacity	0.12	0.15	0.61
Queue Length 95th (m)	0.0	4.3	30.4
Control Delay (s)	0.0	4.1	32.6
Lane LOS		A	D
Approach Delay (s)	0.0	4.1	32.6
Approach LOS			D

Intersection Summary			
Average Delay	9.1		
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1145	225	40	950	35	230	115	60	70	170	25
Future Volume (vph)	25	1145	225	40	950	35	230	115	60	70	170	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00		1.00	0.99		1.00		0.98
Frt		0.975			0.995			0.949				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	3379	0	1752	3451	0	1736	1780	0	1703	1881	1553
Flt Permitted	0.208			0.098			0.579			0.571		
Satd. Flow (perm)	362	3379	0	181	3451	0	1054	1780	0	1019	1881	1526
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		40			6			27				32
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			116.5	
Travel Time (s)		43.9			11.1			15.4			8.4	
Confl. Peds. (#/hr)	5					5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Adj. Flow (vph)	27	1245	245	43	1033	38	250	125	65	76	185	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	1490	0	43	1071	0	250	190	0	76	185	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	52.4	52.4		52.4	52.4		26.8	26.8		26.8	26.8	26.8
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.30	0.30		0.30	0.30	0.30
v/c Ratio	0.13	0.74		0.41	0.53		0.79	0.34		0.25	0.33	0.06
Control Delay	10.8	16.2		25.1	12.3		49.1	23.7		27.8	27.2	7.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	10.8	16.2		25.1	12.3		49.1	23.7		27.8	27.2	7.8
LOS	B	B		C	B		D	C		C	C	A
Approach Delay		16.1			12.8			38.1			25.5	
Approach LOS		B			B			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 89			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 18.7		Intersection LOS: B	
Intersection Capacity Utilization 74.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 16: Chartwell Rd & Cornwall Rd

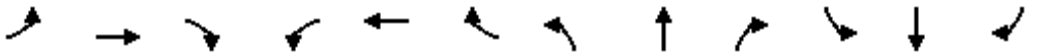




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	27	1490	43	1071	250	190	76	185	27
v/c Ratio	0.13	0.74	0.41	0.53	0.79	0.34	0.25	0.33	0.06
Control Delay	10.8	16.2	25.1	12.3	49.1	23.7	27.8	27.2	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.8	16.2	25.1	12.3	49.1	23.7	27.8	27.2	7.8
Queue Length 50th (m)	2.3	105.3	4.4	63.0	45.5	25.0	11.4	28.5	0.0
Queue Length 95th (m)	6.8	133.3	16.3	80.1	#85.0	43.8	23.7	47.0	5.4
Internal Link Dist (m)		585.1		130.4		189.6		92.5	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	249	2340	124	2378	387	670	373	690	580
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.64	0.35	0.45	0.65	0.28	0.20	0.27	0.05

Intersection Summary

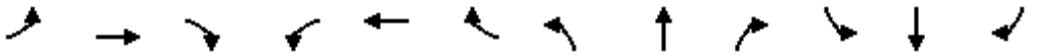
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1145	225	40	950	35	230	115	60	70	170	25
Future Volume (vph)	25	1145	225	40	950	35	230	115	60	70	170	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1653	3380		1752	3450		1729	1780		1697	1881	1527
Flt Permitted	0.21	1.00		0.10	1.00		0.58	1.00		0.57	1.00	1.00
Satd. Flow (perm)	362	3380		181	3450		1054	1780		1021	1881	1527
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	1245	245	43	1033	38	250	125	65	76	185	27
RTOR Reduction (vph)	0	16	0	0	2	0	0	19	0	0	0	19
Lane Group Flow (vph)	27	1474	0	43	1069	0	250	171	0	76	185	8
Confl. Peds. (#/hr)	5					5	5		5	5		5
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	51.4	51.4		51.4	51.4		25.8	25.8		25.8	25.8	25.8
Effective Green, g (s)	52.4	52.4		52.4	52.4		26.8	26.8		26.8	26.8	26.8
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.30	0.30		0.30	0.30	0.30
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	214	1999		107	2040		318	538		308	568	461
v/s Ratio Prot		c0.44			0.31			0.10			0.10	
v/s Ratio Perm	0.07			0.24			c0.24			0.07		0.01
v/c Ratio	0.13	0.74		0.40	0.52		0.79	0.32		0.25	0.33	0.02
Uniform Delay, d1	8.0	13.1		9.7	10.7		28.3	23.8		23.3	23.9	21.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.7	1.9		6.0	0.5		12.7	0.5		0.6	0.5	0.0
Delay (s)	8.6	15.0		15.7	11.3		41.0	24.3		23.9	24.4	21.7
Level of Service	A	B		B	B		D	C		C	C	C
Approach Delay (s)		14.9			11.4			33.8			24.0	
Approach LOS		B			B			C			C	

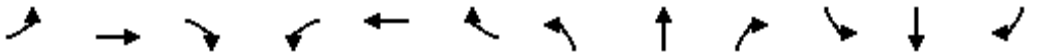
Intersection Summary			
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	88.6	Sum of lost time (s)	9.4
Intersection Capacity Utilization	74.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1965	20	0	1120	65	0	0	20	0	0	50
Future Volume (vph)	0	1965	20	0	1120	65	0	0	20	0	0	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.998			0.992				0.865			0.865
Flt Protected												
Satd. Flow (prot)	0	3369	0	0	3420	0	0	0	1644	0	0	1644
Flt Permitted												
Satd. Flow (perm)	0	3369	0	0	3420	0	0	0	1644	0	0	1644
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		104.6			121.1			111.1			94.6	
Travel Time (s)		7.5			8.7			8.0			6.8	
Confl. Peds. (#/hr)	15		10	10		15	5		5	5		5
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	7%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	2047	21	0	1167	68	0	0	21	0	0	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2068	0	0	1235	0	0	0	21	0	0	52
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 66.5%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1965	20	0	1120	65	0	0	20	0	0	50
Future Volume (Veh/h)	0	1965	20	0	1120	65	0	0	20	0	0	50
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	2047	21	0	1167	68	0	0	21	0	0	52
Pedestrians		5			5			10			15	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		105			121							
pX, platoon unblocked	0.95			0.62			0.65	0.65	0.62	0.65	0.65	0.95
vC, conflicting volume	1250			2078			2708	3318	1049	2266	3294	638
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1165			1522			2228	3170	0	1544	3134	523
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	97	100	100	89
cM capacity (veh/h)	571			275			14	7	672	48	7	472

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	1365	703	778	457	21	52
Volume Left	0	0	0	0	0	0
Volume Right	0	21	0	68	21	52
cSH	1700	1700	1700	1700	672	472
Volume to Capacity	0.80	0.41	0.46	0.27	0.03	0.11
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.8	2.9
Control Delay (s)	0.0	0.0	0.0	0.0	10.5	13.6
Lane LOS					B	B
Approach Delay (s)	0.0		0.0		10.5	13.6
Approach LOS					B	B

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	66.5%	ICU Level of Service	C	
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	125	0	180	40	0	15
Future Volume (vph)	125	0	180	40	0	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.961		
Satd. Flow (prot)	1863	0	0	1790	1611	0
Flt Permitted				0.961		
Satd. Flow (perm)	1863	0	0	1790	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	54.4			96.4	88.6	
Travel Time (s)	3.9			6.9	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	136	0	196	43	0	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	136	0	0	239	16	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

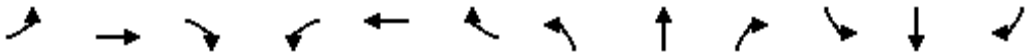
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	125	0	180	40	0	15
Future Volume (Veh/h)	125	0	180	40	0	15
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	136	0	196	43	0	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				318		
pX, platoon unblocked						
vC, conflicting volume			136		571	136
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			136		571	136
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			86		100	98
cM capacity (veh/h)			1448		417	913

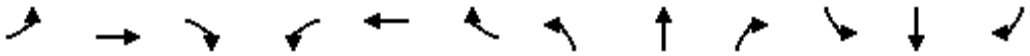
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	136	239	16
Volume Left	0	196	0
Volume Right	0	0	16
cSH	1700	1448	913
Volume to Capacity	0.08	0.14	0.02
Queue Length 95th (m)	0.0	3.7	0.4
Control Delay (s)	0.0	6.7	9.0
Lane LOS		A	A
Approach Delay (s)	0.0	6.7	9.0
Approach LOS			A

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	32.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	5	105	15	15	0	0	45	10	140	350	0
Future Volume (vph)	0	5	105	15	15	0	0	45	10	140	350	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.871						0.975				
Flt Protected					0.976						0.986	
Satd. Flow (prot)	0	1622	0	0	1818	0	0	1816	0	0	1837	0
Flt Permitted					0.976						0.986	
Satd. Flow (perm)	0	1622	0	0	1818	0	0	1816	0	0	1837	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		48.4			110.3			49.4			89.5	
Travel Time (s)		3.5			7.9			3.6			6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	5	114	16	16	0	0	49	11	152	380	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	119	0	0	32	0	0	60	0	0	532	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 47.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	5	105	15	15	0	0	45	10	140	350	0
Future Volume (vph)	0	5	105	15	15	0	0	45	10	140	350	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	5	114	16	16	0	0	49	11	152	380	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	119	32	60	532
Volume Left (vph)	0	16	0	152
Volume Right (vph)	114	0	11	0
Hadj (s)	-0.54	0.13	-0.08	0.09
Departure Headway (s)	4.8	5.6	4.8	4.5
Degree Utilization, x	0.16	0.05	0.08	0.66
Capacity (veh/h)	670	565	698	788
Control Delay (s)	8.7	8.9	8.2	15.6
Approach Delay (s)	8.7	8.9	8.2	15.6
Approach LOS	A	A	A	C

Intersection Summary				
Delay	13.6			
Level of Service	B			
Intersection Capacity Utilization	47.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	15	140	965	25	0	20
Future Volume (vph)	15	140	965	25	0	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.878					0.850
Flt Protected				0.954		
Satd. Flow (prot)	1635	0	0	1777	1863	1583
Flt Permitted				0.954		
Satd. Flow (perm)	1635	0	0	1777	1863	1583
Link Speed (k/h)	50			50	50	
Link Distance (m)	110.3			98.9	123.1	
Travel Time (s)	7.9			7.1	8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	152	1049	27	0	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	168	0	0	1076	0	22
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 70.9%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	15	140	965	25	0	20
Future Volume (Veh/h)	15	140	965	25	0	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	152	1049	27	0	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				147		
pX, platoon unblocked					0.83	
vC, conflicting volume			168		2217	92
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			168		2361	92
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			26		100	98
cM capacity (veh/h)			1410		8	965

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	168	1076	0	22
Volume Left	0	1049	0	0
Volume Right	152	0	0	22
cSH	1700	1410	1700	965
Volume to Capacity	0.10	0.74	0.00	0.02
Queue Length 95th (m)	0.0	59.9	0.0	0.6
Control Delay (s)	0.0	14.5	0.0	8.8
Lane LOS		B	A	A
Approach Delay (s)	0.0	14.5	8.8	
Approach LOS			A	

Intersection Summary			
Average Delay	12.4		
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	0	15	0	0	120
Future Volume (vph)	0	0	15	0	0	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.950		
Satd. Flow (prot)	1863	0	0	1770	1611	0
Flt Permitted				0.950		
Satd. Flow (perm)	1863	0	0	1770	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	39.6			48.4	40.7	
Travel Time (s)	2.9			3.5	2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	16	0	0	130
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	16	130	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

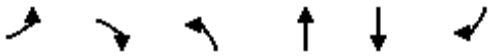
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 17.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	15	0	0	120
Future Volume (Veh/h)	0	0	15	0	0	120
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	16	0	0	130
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			0		32	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		32	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	88
cM capacity (veh/h)			1623		972	1085

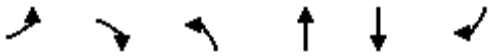
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	0	16	130
Volume Left	0	16	0
Volume Right	0	0	130
cSH	1700	1623	1085
Volume to Capacity	0.00	0.01	0.12
Queue Length 95th (m)	0.0	0.2	3.3
Control Delay (s)	0.0	7.2	8.8
Lane LOS		A	A
Approach Delay (s)	0.0	7.2	8.8
Approach LOS			A

Intersection Summary			
Average Delay	8.6		
Intersection Capacity Utilization	17.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	105	30	50	455	15
Future Volume (vph)	5	105	30	50	455	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.871				0.996	
Flt Protected	0.998			0.981		
Satd. Flow (prot)	1619	0	0	1827	1855	0
Flt Permitted	0.998			0.981		
Satd. Flow (perm)	1619	0	0	1827	1855	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	28.2			76.3	49.4	
Travel Time (s)	2.0			5.5	3.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	114	33	54	495	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	119	0	0	87	511	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	105	30	50	455	15
Future Volume (Veh/h)	5	105	30	50	455	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	114	33	54	495	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				76		
pX, platoon unblocked						
vC, conflicting volume	623	503	511			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	623	503	511			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	80	97			
cM capacity (veh/h)	436	569	1054			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	119	87	511
Volume Left	5	33	0
Volume Right	114	0	16
cSH	561	1054	1700
Volume to Capacity	0.21	0.03	0.30
Queue Length 95th (m)	6.4	0.8	0.0
Control Delay (s)	13.1	3.4	0.0
Lane LOS	B	A	
Approach Delay (s)	13.1	3.4	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	115	0	15	25	0	10
Future Volume (vph)	115	0	15	25	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.982		
Satd. Flow (prot)	1863	0	0	1829	1611	0
Flt Permitted				0.982		
Satd. Flow (perm)	1863	0	0	1829	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	51.2			54.4	40.3	
Travel Time (s)	3.7			3.9	2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	0	16	27	0	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	125	0	0	43	11	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	115	0	15	25	0	10
Future Volume (Veh/h)	115	0	15	25	0	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	125	0	16	27	0	11
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				372		
pX, platoon unblocked						
vC, conflicting volume			125		184	125
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			125		184	125
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	99
cM capacity (veh/h)			1462		796	926

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	125	43	11
Volume Left	0	16	0
Volume Right	0	0	11
cSH	1700	1462	926
Volume to Capacity	0.07	0.01	0.01
Queue Length 95th (m)	0.0	0.3	0.3
Control Delay (s)	0.0	2.8	8.9
Lane LOS		A	A
Approach Delay (s)	0.0	2.8	8.9
Approach LOS			A

Intersection Summary			
Average Delay		1.2	
Intersection Capacity Utilization		18.8%	ICU Level of Service
Analysis Period (min)		15	

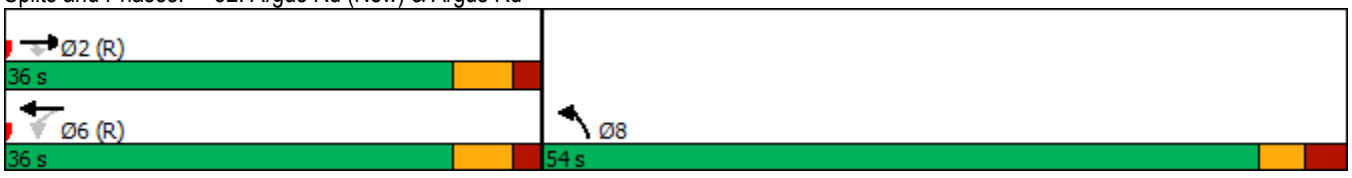


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	80	145	0	70	675	0
Future Volume (vph)	80	145	0	70	675	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		50.0	0.0		0.0	0.0
Storage Lanes		1	0		1	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected					0.950	
Satd. Flow (prot)	1863	1583	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1863	1583	0	1863	1770	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		158				
Link Speed (k/h)	50			50	50	
Link Distance (m)	119.5			170.6	100.6	
Travel Time (s)	8.6			12.3	7.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	158	0	76	734	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	87	158	0	76	734	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Number of Detectors	2	1	1	2	1	
Detector Template	Thru	Right	Left	Thru	Left	
Leading Detector (m)	10.0	2.0	2.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	0.6	2.0	2.0	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)	9.4			9.4		
Detector 2 Size(m)	0.6			0.6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			6	8	
Permitted Phases		2	6			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2	2	6	6	8	
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	27.0	27.0	27.0	27.0	27.0	
Total Split (s)	36.0	36.0	36.0	36.0	54.0	
Total Split (%)	40.0%	40.0%	40.0%	40.0%	60.0%	
Maximum Green (s)	30.0	30.0	30.0	30.0	48.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	13.0	13.0	13.0	13.0	13.0	
Pedestrian Calls (#/hr)	5	5	5	5	5	
Act Effct Green (s)	36.3	36.3		36.3	43.7	
Actuated g/C Ratio	0.40	0.40		0.40	0.49	
v/c Ratio	0.12	0.22		0.10	0.85	
Control Delay	21.5	10.1		10.9	30.8	
Queue Delay	0.0	0.0		0.0	3.8	
Total Delay	21.5	10.1		10.9	34.7	
LOS	C	B		B	C	
Approach Delay	14.1			10.9	34.7	
Approach LOS	B			B	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 28.2		Intersection LOS: C	
Intersection Capacity Utilization 54.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 32: Argus Rd (New) & Argus Rd





Lane Group	EBT	EBR	WBT	NBL
Lane Group Flow (vph)	87	158	76	734
v/c Ratio	0.12	0.22	0.10	0.85
Control Delay	21.5	10.1	10.9	30.8
Queue Delay	0.0	0.0	0.0	3.8
Total Delay	21.5	10.1	10.9	34.7
Queue Length 50th (m)	13.4	0.0	4.1	106.6
Queue Length 95th (m)	27.7	21.7	4.6	152.2
Internal Link Dist (m)	95.5		146.6	76.6
Turn Bay Length (m)		50.0		
Base Capacity (vph)	750	732	750	963
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	3	152
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.12	0.22	0.10	0.91

Intersection Summary



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	80	145	0	70	675	0
Future Volume (vph)	80	145	0	70	675	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	1.00	1.00		1.00	0.95	
Satd. Flow (prot)	1863	1583		1863	1770	
Flt Permitted	1.00	1.00		1.00	0.95	
Satd. Flow (perm)	1863	1583		1863	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	158	0	76	734	0
RTOR Reduction (vph)	0	94	0	0	0	0
Lane Group Flow (vph)	87	64	0	76	734	0
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			6	8	
Permitted Phases		2	6			
Actuated Green, G (s)	35.3	35.3		35.3	42.7	
Effective Green, g (s)	36.3	36.3		36.3	43.7	
Actuated g/C Ratio	0.40	0.40		0.40	0.49	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	751	638		751	859	
v/s Ratio Prot	c0.05			0.04	c0.41	
v/s Ratio Perm		0.04				
v/c Ratio	0.12	0.10		0.10	0.85	
Uniform Delay, d1	16.8	16.7		16.7	20.4	
Progression Factor	1.11	2.59		0.56	1.00	
Incremental Delay, d2	0.3	0.3		0.3	8.3	
Delay (s)	19.0	43.6		9.6	28.7	
Level of Service	B	D		A	C	
Approach Delay (s)	34.9			9.6	28.7	
Approach LOS	C			A	C	

Intersection Summary			
HCM 2000 Control Delay	28.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	0	0	0	0	0	0	235	0	0	0	70
Future Volume (vph)	80	0	0	0	0	0	0	235	0	0	0	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt											0.850	
Flt Protected	0.950											
Satd. Flow (prot)	1770	1863	0	1863	1863	0	1863	3539	0	1863	3008	0
Flt Permitted	0.718											
Satd. Flow (perm)	1337	1863	0	1863	1863	0	1863	3539	0	1863	3008	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)											1091	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		42.8			39.5			174.5			288.2	
Travel Time (s)		3.1			2.8			12.6			20.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	0	0	0	0	0	0	255	0	0	0	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	0	0	0	0	0	0	255	0	0	76	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt			pm+pt			Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		5.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	9.0	33.0		9.0	33.0		26.0	26.0		26.0	26.0	
Total Split (s)	17.0	46.0		11.0	40.0		33.0	33.0		33.0	33.0	
Total Split (%)	18.9%	51.1%		12.2%	44.4%		36.7%	36.7%		36.7%	36.7%	
Maximum Green (s)	13.0	40.0		7.0	34.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		20.0			20.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)		20			20		20	20		20	20	
Act Effct Green (s)	66.6							15.4			15.4	
Actuated g/C Ratio	0.74							0.17			0.17	
v/c Ratio	0.08							0.42			0.05	
Control Delay	9.3							22.7			0.1	
Queue Delay	0.0							0.0			0.0	
Total Delay	9.3							22.7			0.1	
LOS	A							C			A	
Approach Delay		9.3						22.7			0.1	
Approach LOS		A						C			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.42			
Intersection Signal Delay: 15.8		Intersection LOS: B	
Intersection Capacity Utilization 33.3%		ICU Level of Service A	
Analysis Period (min) 15			

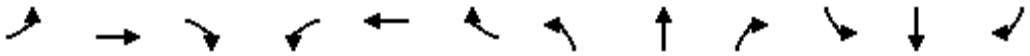
Splits and Phases: 39: New N-S Arterial St & Davis Rd





Lane Group	EBL	NBT	SBT
Lane Group Flow (vph)	87	255	76
v/c Ratio	0.08	0.42	0.05
Control Delay	9.3	22.7	0.1
Queue Delay	0.0	0.0	0.0
Total Delay	9.3	22.7	0.1
Queue Length 50th (m)	7.3	23.9	0.0
Queue Length 95th (m)	16.3	37.0	0.0
Internal Link Dist (m)		150.5	264.2
Turn Bay Length (m)	30.0		
Base Capacity (vph)	1056	1101	1687
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.08	0.23	0.05

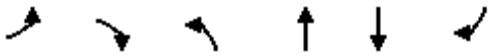
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	0	0	0	0	0	0	235	0	0	0	70
Future Volume (vph)	80	0	0	0	0	0	0	235	0	0	0	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0							5.0			5.0	
Lane Util. Factor	1.00							0.95			0.95	
Frt	1.00							1.00			0.85	
Flt Protected	0.95							1.00			1.00	
Satd. Flow (prot)	1770							3539			3008	
Flt Permitted	0.72							1.00			1.00	
Satd. Flow (perm)	1337							3539			3008	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	0	0	0	0	0	0	255	0	0	0	76
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	63	0
Lane Group Flow (vph)	87	0	0	0	0	0	0	255	0	0	13	0
Turn Type	pm+pt			pm+pt			Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	63.6							14.4			14.4	
Effective Green, g (s)	64.6							15.4			15.4	
Actuated g/C Ratio	0.72							0.17			0.17	
Clearance Time (s)	4.0							6.0			6.0	
Vehicle Extension (s)	3.0							3.0			3.0	
Lane Grp Cap (vph)	991							605			514	
v/s Ratio Prot	c0.01							c0.07			0.00	
v/s Ratio Perm	c0.06											
v/c Ratio	0.09							0.42			0.03	
Uniform Delay, d1	3.8							33.3			31.1	
Progression Factor	2.23							0.64			1.00	
Incremental Delay, d2	0.0							0.4			0.0	
Delay (s)	8.6							21.8			31.1	
Level of Service	A							C			C	
Approach Delay (s)		8.6			0.0			21.8			31.1	
Approach LOS		A			A			C			C	

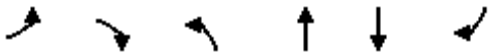
Intersection Summary			
HCM 2000 Control Delay	20.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	33.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	60	50	30	30	0	20
Future Volume (vph)	60	50	30	30	0	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.939				0.865	
Flt Protected	0.973			0.976		
Satd. Flow (prot)	1702	0	0	1818	1611	0
Flt Permitted	0.973			0.976		
Satd. Flow (perm)	1702	0	0	1818	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	46.3			94.6	83.7	
Travel Time (s)	3.3			6.8	6.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	54	33	33	0	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	119	0	0	66	22	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

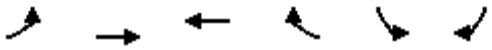
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	60	50	30	30	0	20
Future Volume (Veh/h)	60	50	30	30	0	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	54	33	33	0	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)					84	
pX, platoon unblocked						
vC, conflicting volume	110	11	22			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	110	11	22			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	95	98			
cM capacity (veh/h)	869	1070	1593			

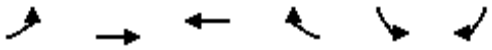
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	119	66	22
Volume Left	65	33	0
Volume Right	54	0	22
cSH	950	1593	1700
Volume to Capacity	0.13	0.02	0.01
Queue Length 95th (m)	3.4	0.5	0.0
Control Delay (s)	9.3	3.7	0.0
Lane LOS	A	A	
Approach Delay (s)	9.3	3.7	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	6.6		
Intersection Capacity Utilization	23.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	365	720	80	0	0	420
Future Volume (vph)	365	720	80	0	0	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	75.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt					0.865	
Flt Protected	0.950					
Satd. Flow (prot)	1770	3539	3539	0	1611	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	3539	3539	0	1611	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		182.4	224.2		204.3	
Travel Time (s)		13.1	16.1		14.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	397	783	87	0	0	457
Shared Lane Traffic (%)						
Lane Group Flow (vph)	397	783	87	0	457	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

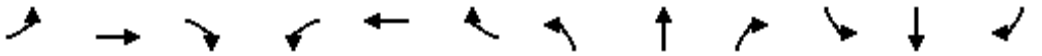
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	365	720	80	0	0	420
Future Volume (Veh/h)	365	720	80	0	0	420
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	397	783	87	0	0	457
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		182				
pX, platoon unblocked					0.86	
vC, conflicting volume	87				1272	44
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	87				986	44
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	74				100	55
cM capacity (veh/h)	1507				155	1017

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	397	392	392	58	29	457
Volume Left	397	0	0	0	0	0
Volume Right	0	0	0	0	0	457
cSH	1507	1700	1700	1700	1700	1017
Volume to Capacity	0.26	0.23	0.23	0.03	0.02	0.45
Queue Length 95th (m)	8.5	0.0	0.0	0.0	0.0	18.9
Control Delay (s)	8.2	0.0	0.0	0.0	0.0	11.4
Lane LOS	A					B
Approach Delay (s)	2.8			0.0		11.4
Approach LOS						B

Intersection Summary				
Average Delay	4.9			
Intersection Capacity Utilization	59.6%	ICU Level of Service		B
Analysis Period (min)	15			

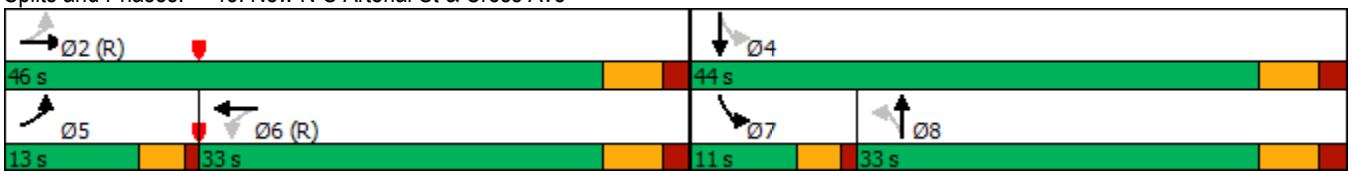


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	495	0	0	80	0	0	0	0	0	0	0
Future Volume (vph)	235	495	0	0	80	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	100.0		0.0	30.0		0.0	30.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Frt												
Flt Protected	0.950											
Satd. Flow (prot)	1770	3539	0	1863	3539	0	1863	1863	0	1863	3539	0
Flt Permitted	0.620											
Satd. Flow (perm)	1155	3539	0	1863	3539	0	1863	1863	0	1863	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		141.0			372.9			75.5			174.5	
Travel Time (s)		10.2			26.8			5.4			12.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	255	538	0	0	87	0	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	255	538	0	0	87	0	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	25		100
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm			pm+pt		
Protected Phases	5	2			6			8		7	4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		6	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		20.0	20.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	9.0	33.0		33.0	33.0		33.0	33.0		9.0	33.0	
Total Split (s)	13.0	46.0		33.0	33.0		33.0	33.0		11.0	44.0	
Total Split (%)	14.4%	51.1%		36.7%	36.7%		36.7%	36.7%		12.2%	48.9%	
Maximum Green (s)	9.0	40.0		27.0	27.0		27.0	27.0		7.0	38.0	
Yellow Time (s)	3.0	4.0		4.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		2.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	5.0		5.0	5.0		5.0	5.0		3.0	5.0	
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		C-Min	C-Min		Max	Max		None	None	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)		20.0		20.0	20.0		20.0	20.0			20.0	
Pedestrian Calls (#/hr)		20		20	20		20	20			20	
Act Effct Green (s)	38.8	36.8			23.8							
Actuated g/C Ratio	0.43	0.41			0.26							
v/c Ratio	0.45	0.37			0.09							
Control Delay	19.3	19.0			17.6							
Queue Delay	0.0	0.0			0.0							
Total Delay	19.3	19.0			17.6							
LOS	B	B			B							
Approach Delay		19.1			17.6							
Approach LOS		B			B							

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.45			
Intersection Signal Delay: 19.0		Intersection LOS: B	
Intersection Capacity Utilization 23.9%		ICU Level of Service A	
Analysis Period (min) 15			

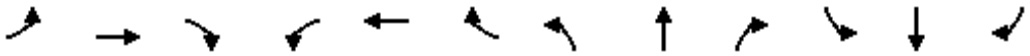
Splits and Phases: 45: New N-S Arterial St & Cross Ave





Lane Group	EBL	EBT	WBT
Lane Group Flow (vph)	255	538	87
v/c Ratio	0.45	0.37	0.09
Control Delay	19.3	19.0	17.6
Queue Delay	0.0	0.0	0.0
Total Delay	19.3	19.0	17.6
Queue Length 50th (m)	31.8	37.1	6.5
Queue Length 95th (m)	44.0	44.0	5.2
Internal Link Dist (m)		117.0	348.9
Turn Bay Length (m)	100.0		
Base Capacity (vph)	566	1612	1101
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.45	0.33	0.08

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	495	0	0	80	0	0	0	0	0	0	0
Future Volume (vph)	235	495	0	0	80	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.0			5.0							
Lane Util. Factor	1.00	0.95			0.95							
Frt	1.00	1.00			1.00							
Flt Protected	0.95	1.00			1.00							
Satd. Flow (prot)	1770	3539			3539							
Flt Permitted	0.62	1.00			1.00							
Satd. Flow (perm)	1154	3539			3539							
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	255	538	0	0	87	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	255	538	0	0	87	0	0	0	0	0	0	0
Turn Type	pm+pt	NA		Perm	NA		Perm			pm+pt		
Protected Phases	5	2			6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.8	35.8			22.8							
Effective Green, g (s)	36.8	36.8			23.8							
Actuated g/C Ratio	0.41	0.41			0.26							
Clearance Time (s)	4.0	6.0			6.0							
Vehicle Extension (s)	3.0	3.0			3.0							
Lane Grp Cap (vph)	540	1447			935							
v/s Ratio Prot	c0.05	0.15			0.02							
v/s Ratio Perm	c0.14											
v/c Ratio	0.47	0.37			0.09							
Uniform Delay, d1	18.4	18.5			25.0							
Progression Factor	1.00	1.00			0.73							
Incremental Delay, d2	0.7	0.7			0.2							
Delay (s)	19.1	19.3			18.3							
Level of Service	B	B			B							
Approach Delay (s)		19.2			18.3			0.0			0.0	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	23.9%	ICU Level of Service	A
Analysis Period (min)	15		

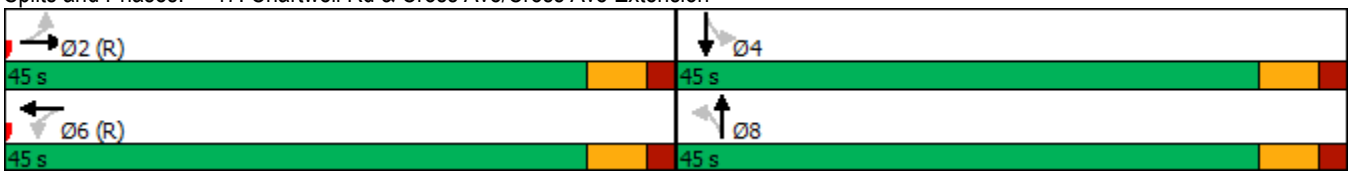
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	425	55	0	80	0	0	195	0	0	260	0
Future Volume (vph)	0	425	55	0	80	0	0	195	0	0	260	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	50.0		0.0	100.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983										
Flt Protected												
Satd. Flow (prot)	0	3479	0	0	3539	0	0	1863	0	0	1863	0
Flt Permitted												
Satd. Flow (perm)	0	3479	0	0	3539	0	0	1863	0	0	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20										
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		372.9			79.1			116.5			339.1	
Travel Time (s)		26.8			5.7			8.4			24.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	462	60	0	87	0	0	212	0	0	283	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	522	0	0	87	0	0	212	0	0	283	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA			NA			NA			NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	33.0	33.0		33.0	33.0		33.0	33.0		33.0	33.0	
Total Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	39.0	39.0		39.0	39.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	20	20		20	20		20	20		20	20	
Act Effct Green (s)		58.5			58.5			21.5			21.5	
Actuated g/C Ratio		0.65			0.65			0.24			0.24	
v/c Ratio		0.23			0.04			0.48			0.64	
Control Delay		9.8			7.1			31.9			26.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		9.8			7.1			31.9			26.9	
LOS		A			A			C			C	
Approach Delay		9.8			7.1			31.9			26.9	
Approach LOS		A			A			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 18.2		Intersection LOS: B	
Intersection Capacity Utilization 38.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 47: Chartwell Rd & Cross Ave/Cross Ave Extension



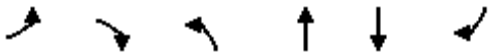
Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	522	87	212	283
v/c Ratio	0.23	0.04	0.48	0.64
Control Delay	9.8	7.1	31.9	26.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	9.8	7.1	31.9	26.9
Queue Length 50th (m)	25.3	2.5	33.8	30.4
Queue Length 95th (m)	20.0	6.5	49.3	53.1
Internal Link Dist (m)	348.9	55.1	92.5	315.1
Turn Bay Length (m)				
Base Capacity (vph)	2269	2301	828	828
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.23	0.04	0.26	0.34

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	425	55	0	80	0	0	195	0	0	260	0
Future Volume (vph)	0	425	55	0	80	0	0	195	0	0	260	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.98			1.00			1.00			1.00	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3478			3539			1863			1863	
Flt Permitted		1.00			1.00			1.00			1.00	
Satd. Flow (perm)		3478			3539			1863			1863	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	462	60	0	87	0	0	212	0	0	283	0
RTOR Reduction (vph)	0	7	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	515	0	0	87	0	0	212	0	0	283	0
Turn Type		NA			NA			NA			NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		57.5			57.5			20.5			20.5	
Effective Green, g (s)		58.5			58.5			21.5			21.5	
Actuated g/C Ratio		0.65			0.65			0.24			0.24	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2260			2300			445			445	
v/s Ratio Prot		c0.15			0.02			0.11			c0.15	
v/s Ratio Perm												
v/c Ratio		0.23			0.04			0.48			0.64	
Uniform Delay, d1		6.5			5.7			29.4			30.7	
Progression Factor		1.35			1.00			1.00			0.67	
Incremental Delay, d2		0.2			0.0			0.8			2.9	
Delay (s)		9.0			5.7			30.2			23.7	
Level of Service		A			A			C			C	
Approach Delay (s)		9.0			5.7			30.2			23.7	
Approach LOS		A			A			C			C	

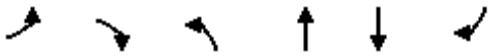
Intersection Summary			
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	38.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	325	40	5	165	15
Future Volume (vph)	10	325	40	5	165	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.869				0.989	
Flt Protected	0.998			0.957		
Satd. Flow (prot)	1615	0	0	1783	1842	0
Flt Permitted	0.998			0.957		
Satd. Flow (perm)	1615	0	0	1783	1842	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	40.6			89.5	88.6	
Travel Time (s)	2.9			6.4	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	353	43	5	179	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	364	0	0	48	195	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	325	40	5	165	15
Future Volume (Veh/h)	10	325	40	5	165	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	353	43	5	179	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	278	187	195			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	278	187	195			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	59	97			
cM capacity (veh/h)	690	855	1378			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	364	48	195
Volume Left	11	43	0
Volume Right	353	0	16
cSH	849	1378	1700
Volume to Capacity	0.43	0.03	0.11
Queue Length 95th (m)	17.4	0.8	0.0
Control Delay (s)	12.4	6.9	0.0
Lane LOS	B	A	
Approach Delay (s)	12.4	6.9	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	8.0		
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	135	5	25	135	80	80
Future Volume (vph)	135	5	25	135	80	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.996				0.932	
Flt Protected				0.992	0.976	
Satd. Flow (prot)	1855	0	0	1848	1694	0
Flt Permitted				0.992	0.976	
Satd. Flow (perm)	1855	0	0	1848	1694	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	96.4			57.6	36.0	
Travel Time (s)	6.9			4.1	2.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	147	5	27	147	87	87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	0	0	174	174	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	135	5	25	135	80	80
Future Volume (Veh/h)	135	5	25	135	80	80
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	147	5	27	147	87	87
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				222		
pX, platoon unblocked						
vC, conflicting volume			152		350	150
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			152		350	150
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		86	90
cM capacity (veh/h)			1429		635	897

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	152	174	174
Volume Left	0	27	87
Volume Right	5	0	87
cSH	1700	1429	743
Volume to Capacity	0.09	0.02	0.23
Queue Length 95th (m)	0.0	0.5	7.2
Control Delay (s)	0.0	1.3	11.3
Lane LOS		A	B
Approach Delay (s)	0.0	1.3	11.3
Approach LOS			B

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	210	5	25	80	80	80
Future Volume (vph)	210	5	25	80	80	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997				0.932	
Flt Protected				0.988	0.976	
Satd. Flow (prot)	1857	0	0	1840	1694	0
Flt Permitted				0.988	0.976	
Satd. Flow (perm)	1857	0	0	1840	1694	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	57.6			163.9	50.7	
Travel Time (s)	4.1			11.8	3.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	228	5	27	87	87	87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	233	0	0	114	174	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	210	5	25	80	80	80
Future Volume (Veh/h)	210	5	25	80	80	80
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	228	5	27	87	87	87
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				164		
pX, platoon unblocked						
vC, conflicting volume			233		372	230
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			233		372	230
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		86	89
cM capacity (veh/h)			1335		616	809

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	233	114	174
Volume Left	0	27	87
Volume Right	5	0	87
cSH	1700	1335	700
Volume to Capacity	0.14	0.02	0.25
Queue Length 95th (m)	0.0	0.5	7.8
Control Delay (s)	0.0	2.0	11.8
Lane LOS		A	B
Approach Delay (s)	0.0	2.0	11.8
Approach LOS			B

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	36.3%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	30	5	15	815	175	60
Future Volume (vph)	30	5	15	815	175	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.982				0.966	
Flt Protected				0.999	0.964	
Satd. Flow (prot)	1829	0	0	1861	1735	0
Flt Permitted				0.999	0.964	
Satd. Flow (perm)	1829	0	0	1861	1735	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	98.9			48.3	30.5	
Travel Time (s)	7.1			3.5	2.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	5	16	886	190	65
Shared Lane Traffic (%)						
Lane Group Flow (vph)	38	0	0	902	255	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	100		25	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 70.4%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	30	5	15	815	175	60
Future Volume (Veh/h)	30	5	15	815	175	60
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	5	16	886	190	65
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				48		
pX, platoon unblocked					0.84	
vC, conflicting volume			38		954	36
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			38		846	36
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		31	94
cM capacity (veh/h)			1572		275	1037

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	38	902	255
Volume Left	0	16	190
Volume Right	5	0	65
cSH	1700	1572	339
Volume to Capacity	0.02	0.01	0.75
Queue Length 95th (m)	0.0	0.2	46.9
Control Delay (s)	0.0	0.3	41.9
Lane LOS		A	E
Approach Delay (s)	0.0	0.3	41.9
Approach LOS			E

Intersection Summary			
Average Delay	9.1		
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1150	30	30	905	155	155
Future Volume (vph)	1150	30	30	905	155	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		0.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.996					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3525	0	1770	3539	1770	1583
Flt Permitted			0.182		0.950	
Satd. Flow (perm)	3525	0	339	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	4					61
Link Speed (k/h)	50			50	50	
Link Distance (m)	106.6			164.5	249.7	
Travel Time (s)	7.7			11.8	18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1250	33	33	984	168	168
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1283	0	33	984	168	168
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (m)	10.0		2.0	10.0	2.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	0.6		2.0	0.6	2.0	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)	9.4			9.4		
Detector 2 Size(m)	0.6			0.6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	2			6		
Permitted Phases			6		8	8

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		6	6	8	8
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	33.0		33.0	33.0	33.0	33.0
Total Split (s)	63.0		63.0	63.0	37.0	37.0
Total Split (%)	63.0%		63.0%	63.0%	37.0%	37.0%
Maximum Green (s)	57.0		57.0	57.0	31.0	31.0
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0		5.0	5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	C-Min		C-Min	C-Min	Min	Min
Walk Time (s)	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	20.0		20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)	5		5	5	5	5
Act Effct Green (s)	72.7		72.7	72.7	17.3	17.3
Actuated g/C Ratio	0.73		0.73	0.73	0.17	0.17
v/c Ratio	0.50		0.13	0.38	0.55	0.52
Control Delay	7.5		7.5	6.4	43.4	28.0
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	7.5		7.5	6.4	43.4	28.0
LOS	A		A	A	D	C
Approach Delay	7.5			6.5	35.7	
Approach LOS	A			A	D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 10.7		Intersection LOS: B	
Intersection Capacity Utilization 50.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 60: New N-S Arterial St & Iroquois Shore Blvd





Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1283	33	984	168	168
v/c Ratio	0.50	0.13	0.38	0.55	0.52
Control Delay	7.5	7.5	6.4	43.4	28.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.5	7.5	6.4	43.4	28.0
Queue Length 50th (m)	46.6	1.6	31.5	32.3	19.9
Queue Length 95th (m)	94.4	7.6	65.0	46.0	35.2
Internal Link Dist (m)	82.6		140.5	225.7	
Turn Bay Length (m)		50.0			
Base Capacity (vph)	2563	246	2572	566	548
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.50	0.13	0.38	0.30	0.31

Intersection Summary



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1150	30	30	905	155	155
Future Volume (vph)	1150	30	30	905	155	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3526		1770	3539	1770	1583
Flt Permitted	1.00		0.18	1.00	0.95	1.00
Satd. Flow (perm)	3526		339	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1250	33	33	984	168	168
RTOR Reduction (vph)	1	0	0	0	0	50
Lane Group Flow (vph)	1282	0	33	984	168	118
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	2			6		
Permitted Phases			6		8	8
Actuated Green, G (s)	71.7		71.7	71.7	16.3	16.3
Effective Green, g (s)	72.7		72.7	72.7	17.3	17.3
Actuated g/C Ratio	0.73		0.73	0.73	0.17	0.17
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2563		246	2572	306	273
v/s Ratio Prot	c0.36			0.28		
v/s Ratio Perm			0.10		c0.09	0.07
v/c Ratio	0.50		0.13	0.38	0.55	0.43
Uniform Delay, d1	5.9		4.1	5.2	37.8	36.9
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7		1.1	0.4	2.0	1.1
Delay (s)	6.6		5.3	5.6	39.8	38.0
Level of Service	A		A	A	D	D
Approach Delay (s)	6.6			5.6	38.9	
Approach LOS	A			A	D	

Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	50.7%	ICU Level of Service	A
Analysis Period (min)	15		

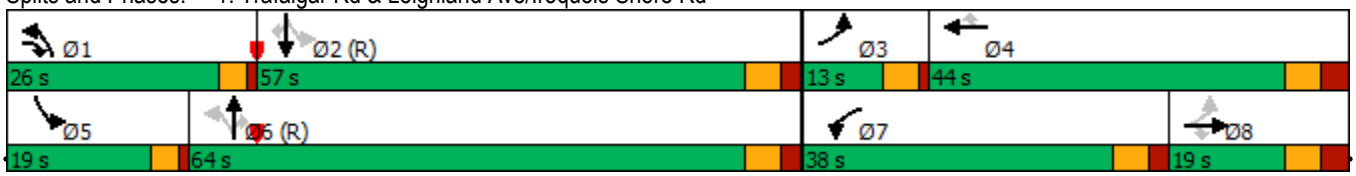
c Critical Lane Group

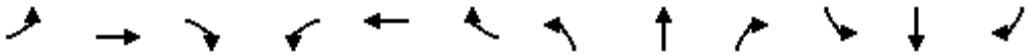
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	210	280	765	270	315	295	3210	875	190	2180	115
Future Volume (vph)	100	210	280	765	270	315	295	3210	875	190	2180	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.96					0.92			0.97			0.87
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1881	1599	3467	1881	1615	1787	5136	1599	1805	5085	1615
Flt Permitted	0.589			0.950			0.072			0.076		
Satd. Flow (perm)	1069	1881	1599	3467	1881	1485	135	5136	1543	144	5085	1399
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			123			363			173
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			301.7			275.4			339.2	
Travel Time (s)		27.7			21.7			19.8			24.4	
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Adj. Flow (vph)	103	216	289	789	278	325	304	3309	902	196	2247	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	216	289	789	278	325	304	3309	902	196	2247	119
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	11.0	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	13.0	19.0	26.0	38.0	44.0	44.0	26.0	64.0	64.0	19.0	57.0	57.0
Total Split (%)	9.3%	13.6%	18.6%	27.1%	31.4%	31.4%	18.6%	45.7%	45.7%	13.6%	40.7%	40.7%
Maximum Green (s)	8.3	12.2	22.0	32.3	37.2	37.2	22.0	57.9	57.9	15.0	50.9	50.9
Yellow Time (s)	3.7	3.7	3.0	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	1.0	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					30	30		50	50		50	50
Act Effct Green (s)	24.4	13.2	41.1	33.3	38.4	38.4	80.0	60.2	60.2	69.6	52.8	52.8
Actuated g/C Ratio	0.17	0.09	0.29	0.24	0.27	0.27	0.57	0.43	0.43	0.50	0.38	0.38
v/c Ratio	0.44	1.22	0.53	0.96	0.54	0.66	0.90	1.50	1.04	0.80	1.17	0.19
Control Delay	38.1	190.3	29.5	75.1	47.9	34.4	54.2	247.0	31.0	57.9	122.0	1.5
Queue Delay	0.0	0.0	66.2	44.7	0.0	0.0	0.0	0.0	24.3	0.0	0.2	0.0
Total Delay	38.1	190.3	95.7	119.8	47.9	34.4	54.2	247.0	55.3	57.9	122.2	1.5
LOS	D	F	F	F	D	C	D	F	E	E	F	A
Approach Delay		119.6			85.5			195.7			111.7	
Approach LOS		F			F			F			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.50			
Intersection Signal Delay: 150.0		Intersection LOS: F	
Intersection Capacity Utilization 121.8%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd





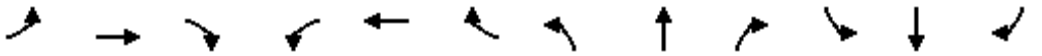
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	103	216	289	789	278	325	304	3309	902	196	2247	119
v/c Ratio	0.44	1.22	0.53	0.96	0.54	0.66	0.90	1.50	1.04	0.80	1.17	0.19
Control Delay	38.1	190.3	29.5	75.1	47.9	34.4	54.2	247.0	31.0	57.9	122.0	1.5
Queue Delay	0.0	0.0	66.2	44.7	0.0	0.0	0.0	0.0	24.3	0.0	0.2	0.0
Total Delay	38.1	190.3	95.7	119.8	47.9	34.4	54.2	247.0	55.3	57.9	122.2	1.5
Queue Length 50th (m)	19.6	~77.0	44.2	117.8	69.5	53.0	64.0	~491.9	~216.1	38.3	~288.9	0.0
Queue Length 95th (m)	33.5	#130.8	74.6	#158.5	99.7	88.9	m28.5	m170.6	m16.8	#74.3	#317.9	3.0
Internal Link Dist (m)		361.1			277.7			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	236	177	553	824	516	496	348	2209	870	262	1919	635
Starvation Cap Reductn	0	0	0	0	0	0	0	0	71	0	0	0
Spillback Cap Reductn	0	0	375	308	0	0	0	0	0	0	100	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	1.22	1.62	1.53	0.54	0.66	0.87	1.50	1.13	0.75	1.24	0.19

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

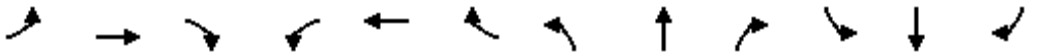
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	210	280	765	270	315	295	3210	875	190	2180	115
Future Volume (vph)	100	210	280	765	270	315	295	3210	875	190	2180	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.92	1.00	1.00	0.97	1.00	1.00	0.87
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1759	1881	1599	3467	1881	1485	1787	5136	1543	1805	5085	1399
Flt Permitted	0.59	1.00	1.00	0.95	1.00	1.00	0.07	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	1090	1881	1599	3467	1881	1485	135	5136	1543	144	5085	1399
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	103	216	289	789	278	325	304	3309	902	196	2247	119
RTOR Reduction (vph)	0	0	79	0	0	89	0	0	207	0	0	74
Lane Group Flow (vph)	103	216	210	789	278	236	304	3309	695	196	2247	45
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	20.3	12.2	33.3	32.3	37.4	37.4	76.9	59.2	59.2	65.5	51.8	51.8
Effective Green, g (s)	22.3	13.2	35.3	33.3	38.4	38.4	77.9	60.2	60.2	67.5	52.8	52.8
Actuated g/C Ratio	0.16	0.09	0.25	0.24	0.27	0.27	0.56	0.43	0.43	0.48	0.38	0.38
Clearance Time (s)	4.7	6.8	4.0	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	217	177	403	824	515	407	335	2208	663	243	1917	527
v/s Ratio Prot	0.03	c0.11	0.08	c0.23	0.15		c0.14	c0.64		0.08	0.44	
v/s Ratio Perm	0.04		0.05			0.16	0.36		0.45	0.30		0.03
v/c Ratio	0.47	1.22	0.52	0.96	0.54	0.58	0.91	1.50	1.05	0.81	1.17	0.09
Uniform Delay, d1	52.6	63.4	45.1	52.7	43.3	43.8	44.7	39.9	39.9	38.7	43.6	28.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.29	0.52	0.28	1.00	1.00	1.00
Incremental Delay, d2	1.6	139.3	1.2	21.4	1.1	2.0	3.7	224.6	26.2	17.5	83.4	0.3
Delay (s)	54.2	202.7	46.3	74.0	44.4	45.8	61.3	245.3	37.2	56.2	127.0	28.4
Level of Service	D	F	D	E	D	D	E	F	D	E	F	C
Approach Delay (s)		103.2			61.5			191.4			117.0	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	144.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	121.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

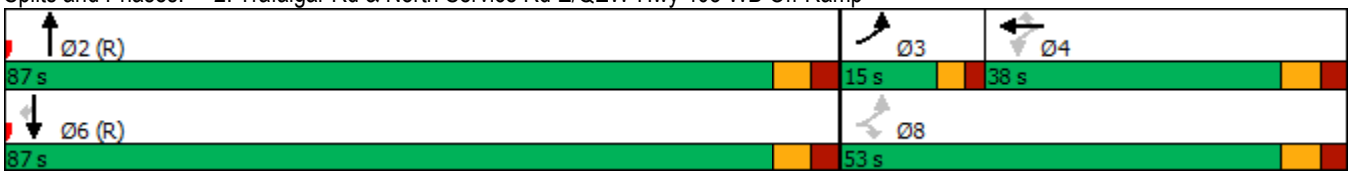


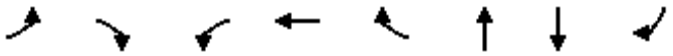
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	270	810	10	625	0	4690	0	0	4115	15
Future Volume (vph)	25	0	270	810	10	625	0	4690	0	0	4115	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.94
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.954							
Satd. Flow (prot)	1805	0	1599	1681	1689	1583	0	5136	0	0	5036	1524
Flt Permitted	0.119			0.950	0.954							
Satd. Flow (perm)	226	0	1599	1681	1689	1583	0	5136	0	0	5036	1437
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			89						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							15		10	10		15
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Adj. Flow (vph)	27	0	287	862	11	665	0	4989	0	0	4378	16
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	27	0	287	440	433	665	0	4989	0	0	4378	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	15.0		53.0	38.0	38.0	38.0		87.0			87.0	87.0
Total Split (%)	10.7%		37.9%	27.1%	27.1%	27.1%		62.1%			62.1%	62.1%
Maximum Green (s)	10.0		46.0	31.0	31.0	31.0		80.0			80.0	80.0
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		15			15	15
Act Effct Green (s)	49.0		47.0	38.5	38.5	38.5		81.0			81.0	81.0
Actuated g/C Ratio	0.35		0.34	0.28	0.28	0.28		0.58			0.58	0.58
v/c Ratio	0.15		0.52	0.95	0.93	1.33		1.68			1.50	0.02
Control Delay	32.0		37.0	81.4	77.7	196.6		328.6			257.4	0.0
Queue Delay	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	32.0		37.0	81.4	77.7	196.6		328.6			257.4	0.0
LOS	C		D	F	E	F		F			F	A
Approach Delay		36.5			130.2			328.6			256.4	
Approach LOS		D			F			F			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.68			
Intersection Signal Delay: 265.1		Intersection LOS: F	
Intersection Capacity Utilization 146.0%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp





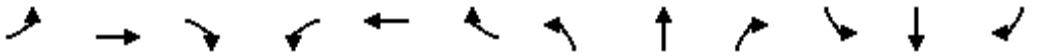
Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	27	287	440	433	665	4989	4378	16
v/c Ratio	0.15	0.52	0.95	0.93	1.33	1.68	1.50	0.02
Control Delay	32.0	37.0	81.4	77.7	196.6	328.6	257.4	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.0	37.0	81.4	77.7	196.6	328.6	257.4	0.0
Queue Length 50th (m)	5.2	59.8	~151.2	~146.2	~247.4	~778.4	~642.9	0.0
Queue Length 95th (m)	12.3	89.6	#230.3	#224.6	#330.6	m#471.7	m#577.1	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	203	557	462	464	500	2971	2913	860
Starvation Cap Reductn	0	0	0	0	0	4	0	0
Spillback Cap Reductn	0	0	0	0	0	22	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.52	0.95	0.93	1.33	1.69	1.50	0.02

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

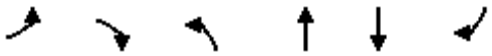
m Volume for 95th percentile queue is metered by upstream signal.



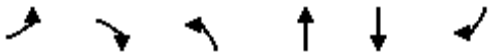
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	270	810	10	625	0	4690	0	0	4115	15
Future Volume (vph)	25	0	270	810	10	625	0	4690	0	0	4115	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.94
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1681	1688	1583		5136			5036	1437
Flt Permitted	0.12		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	225		1599	1681	1688	1583		5136			5036	1437
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	27	0	287	862	11	665	0	4989	0	0	4378	16
RTOR Reduction (vph)	0	0	20	0	0	65	0	0	0	0	0	7
Lane Group Flow (vph)	27	0	267	440	433	600	0	4989	0	0	4378	9
Confl. Peds. (#/hr)							15		10	10		15
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	48.0		48.0	37.5	37.5	37.5		78.0			78.0	78.0
Effective Green, g (s)	49.0		49.0	38.5	38.5	38.5		79.0			79.0	79.0
Actuated g/C Ratio	0.35		0.35	0.28	0.28	0.28		0.56			0.56	0.56
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	152		559	462	464	435		2898			2841	810
v/s Ratio Prot	0.01							c0.97			0.87	
v/s Ratio Perm	0.05		c0.17	0.26	0.26	c0.38						0.01
v/c Ratio	0.18		0.48	0.95	0.93	1.38		1.72			1.54	0.01
Uniform Delay, d1	33.9		35.5	49.8	49.5	50.8		30.5			30.5	13.4
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.80			1.28	1.00
Incremental Delay, d2	1.0		0.8	29.9	25.9	185.1		324.8			244.5	0.0
Delay (s)	34.9		36.3	79.8	75.4	235.8		349.2			283.4	13.4
Level of Service	C		D	E	E	F		F			F	B
Approach Delay (s)		36.1			146.0			349.2			282.4	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	286.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.56		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	146.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



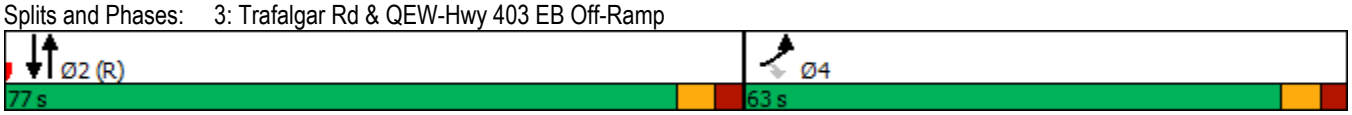
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1850	870	0	3375	3160	0
Future Volume (vph)	1850	870	0	3375	3160	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3467	1583	0	5085	5085	0
Flt Permitted	0.950					
Satd. Flow (perm)	3467	1583	0	5085	5085	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			80.8	331.3	
Travel Time (s)	15.4			5.8	23.9	
Confl. Peds. (#/hr)			25			25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Adj. Flow (vph)	1947	916	0	3553	3326	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1947	916	0	3553	3326	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	63.0	63.0		77.0	77.0	
Total Split (%)	45.0%	45.0%		55.0%	55.0%	
Maximum Green (s)	56.0	56.0		70.0	70.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		15	15	
Act Effct Green (s)	57.0	57.0		71.0	71.0	
Actuated g/C Ratio	0.41	0.41		0.51	0.51	
v/c Ratio	1.38	1.42		1.38	1.29	
Control Delay	209.2	232.1		195.9	160.7	
Queue Delay	0.0	0.0		3.6	0.0	
Total Delay	209.2	232.1		199.5	160.7	
LOS	F	F		F	F	
Approach Delay	216.5			199.5	160.7	
Approach LOS	F			F	F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.42			
Intersection Signal Delay: 191.3		Intersection LOS: F	
Intersection Capacity Utilization 128.0%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp





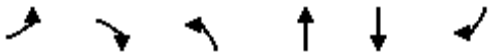
Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	1947	916	3553	3326
v/c Ratio	1.38	1.42	1.38	1.29
Control Delay	209.2	232.1	195.9	160.7
Queue Delay	0.0	0.0	3.6	0.0
Total Delay	209.2	232.1	199.5	160.7
Queue Length 50th (m)	~386.8	~359.0	~503.6	~449.9
Queue Length 95th (m)	#429.5	#440.7 m	#424.9 m	206.5
Internal Link Dist (m)	190.2		56.8	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1411	644	2578	2578
Starvation Cap Reductn	0	0	55	0
Spillback Cap Reductn	0	0	1671	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.38	1.42	3.92	1.29

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

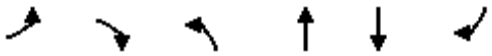
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1850	870	0	3375	3160	0
Future Volume (vph)	1850	870	0	3375	3160	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3467	1583		5085	5085	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3467	1583		5085	5085	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1947	916	0	3553	3326	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1947	916	0	3553	3326	0
Confl. Peds. (#/hr)			25			25
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	56.0	56.0		70.0	70.0	
Effective Green, g (s)	57.0	57.0		71.0	71.0	
Actuated g/C Ratio	0.41	0.41		0.51	0.51	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1411	644		2578	2578	
v/s Ratio Prot	0.56			c0.70	0.65	
v/s Ratio Perm		c0.58				
v/c Ratio	1.38	1.42		1.38	1.29	
Uniform Delay, d1	41.5	41.5		34.5	34.5	
Progression Factor	1.00	1.00		0.72	0.94	
Incremental Delay, d2	175.5	199.0		170.9	130.8	
Delay (s)	217.0	240.5		195.8	163.1	
Level of Service	F	F		F	F	
Approach Delay (s)	224.5			195.8	163.1	
Approach LOS	F			F	F	

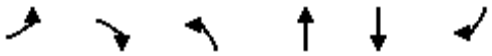
Intersection Summary			
HCM 2000 Control Delay	193.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	128.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	100	0	3400	3145	655
Future Volume (vph)	0	100	0	3400	3145	655
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.974	
Flt Protected						
Satd. Flow (prot)	0	1522	0	5085	4968	0
Flt Permitted						
Satd. Flow (perm)	0	1522	0	5085	4968	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	100.6			198.2	80.8	
Travel Time (s)	7.2			14.3	5.8	
Confl. Peds. (#/hr)			20			20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	8%	0%	2%	1%	5%
Adj. Flow (vph)	0	106	0	3617	3346	697
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	106	0	3617	4043	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

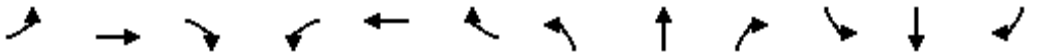
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 88.6%		ICU Level of Service E	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	100	0	3400	3145	655
Future Volume (Veh/h)	0	100	0	3400	3145	655
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	106	0	3617	3346	697
Pedestrians	20					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	2					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				198	81	
pX, platoon unblocked	0.64	0.50	0.50			
vC, conflicting volume	4920	1484	4063			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2100	0	3622			
tC, single (s)	6.8	7.1	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	100	80	100			
cM capacity (veh/h)	29	522	32			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	106	1206	1206	1206	1338	1338	1366
Volume Left	0	0	0	0	0	0	0
Volume Right	106	0	0	0	0	0	697
cSH	522	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.20	0.71	0.71	0.71	0.79	0.79	0.80
Queue Length 95th (m)	6.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	13.7	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	13.7	0.0			0.0		
Approach LOS	B						

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	88.6%	ICU Level of Service	E
Analysis Period (min)	15		



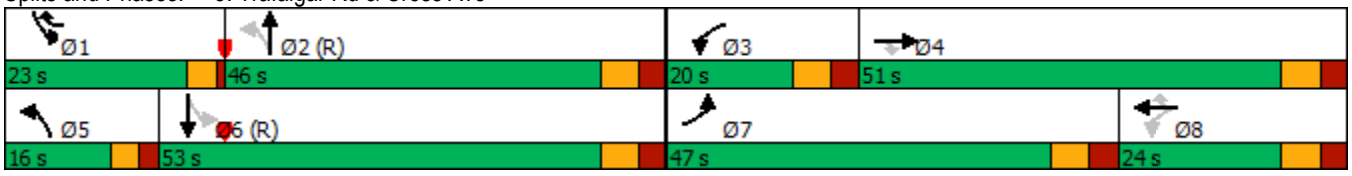
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	930	330	150	65	465	275	195	1915	30	190	2285	390
Future Volume (vph)	930	330	150	65	465	275	195	1915	30	190	2285	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		50.0	50.0		50.0	120.0		0.0	55.0		0.0
Storage Lanes	2		1	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor			0.96	0.99				1.00			0.99	
Frt			0.850			0.850		0.998			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	3610	1524	1805	3610	1599	1719	5123	0	1752	5018	0
Flt Permitted	0.950			0.547			0.095			0.088		
Satd. Flow (perm)	3400	3610	1469	1024	3610	1599	172	5123	0	162	5018	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			156			140		2			26	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		121.1			182.4			316.1			198.2	
Travel Time (s)		8.7			13.1			22.8			14.3	
Confl. Peds. (#/hr)			20	20			15		15	15		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Adj. Flow (vph)	959	340	155	67	479	284	201	1974	31	196	2356	402
Shared Lane Traffic (%)												
Lane Group Flow (vph)	959	340	155	67	479	284	201	2005	0	196	2758	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

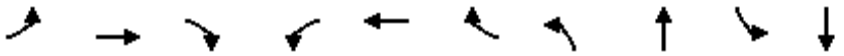
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4	8		8	2			6		
Detector Phase	7	4	4	3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	12.0	10.0	7.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0	42.0	19.0	17.0	11.0	12.0	34.0		11.0	34.0	
Total Split (s)	47.0	51.0	51.0	20.0	24.0	23.0	16.0	46.0		23.0	53.0	
Total Split (%)	33.6%	36.4%	36.4%	14.3%	17.1%	16.4%	11.4%	32.9%		16.4%	37.9%	
Maximum Green (s)	40.0	44.0	44.0	13.0	17.0	19.0	11.0	39.0		19.0	46.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	1.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0	4.0	3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0	7.0					7.0			7.0	
Flash Dont Walk (s)		28.0	28.0					20.0			20.0	
Pedestrian Calls (#/hr)		10	10					15			15	
Act Effct Green (s)	40.9	49.8	49.8	31.1	18.1	40.5	57.6	43.6		64.6	47.0	
Actuated g/C Ratio	0.29	0.36	0.36	0.22	0.13	0.29	0.41	0.31		0.46	0.34	
v/c Ratio	0.97	0.26	0.25	0.22	1.03	0.51	0.99	1.26		0.75	1.62	
Control Delay	70.1	34.0	5.8	27.3	107.7	23.1	84.3	162.2		43.8	314.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	3.0		0.0	0.0	
Total Delay	70.1	34.0	5.8	27.3	107.7	23.2	84.3	165.3		43.8	314.6	
LOS	E	C	A	C	F	C	F	F		D	F	
Approach Delay		54.8			72.3			157.9			296.6	
Approach LOS		D			E			F			F	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.62
Intersection Signal Delay: 183.3 Intersection LOS: F
Intersection Capacity Utilization 121.6% ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 5: Trafalgar Rd & Cross Ave





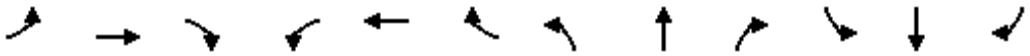
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	959	340	155	67	479	284	201	2005	196	2758
v/c Ratio	0.97	0.26	0.25	0.22	1.03	0.51	0.99	1.26	0.75	1.62
Control Delay	70.1	34.0	5.8	27.3	107.7	23.1	84.3	162.2	43.8	314.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	3.0	0.0	0.0
Total Delay	70.1	34.0	5.8	27.3	107.7	23.2	84.3	165.3	43.8	314.6
Queue Length 50th (m)	142.3	38.6	0.0	10.7	~78.5	34.0	49.8	~265.5	45.3	~419.4
Queue Length 95th (m)	#186.1	52.2	15.9	20.1	#115.8	61.4	m#55.4	m#279.8	m33.3	m#277.0
Internal Link Dist (m)		97.1			158.4			292.1		174.2
Turn Bay Length (m)	130.0		50.0	50.0		50.0	120.0		55.0	
Base Capacity (vph)	995	1284	623	313	466	599	203	1597	303	1701
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	27	0	794	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.26	0.25	0.21	1.03	0.50	0.99	2.50	0.65	1.62

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	930	330	150	65	465	275	195	1915	30	190	2285	390
Future Volume (vph)	930	330	150	65	465	275	195	1915	30	190	2285	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3400	3610	1469	1791	3610	1599	1719	5122		1752	5019	
Flt Permitted	0.95	1.00	1.00	0.55	1.00	1.00	0.09	1.00		0.09	1.00	
Satd. Flow (perm)	3400	3610	1469	1032	3610	1599	172	5122		163	5019	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	959	340	155	67	479	284	201	1974	31	196	2356	402
RTOR Reduction (vph)	0	0	100	0	0	104	0	1	0	0	18	0
Lane Group Flow (vph)	959	340	55	67	479	180	201	2004	0	196	2740	0
Confl. Peds. (#/hr)			20	20			15		15	15		15
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Turn Type	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4	8		8	2			6		
Actuated Green, G (s)	39.9	48.8	48.8	28.1	18.5	33.9	52.2	41.2		60.0	44.6	
Effective Green, g (s)	40.9	49.8	49.8	30.1	19.5	35.9	54.2	42.2		61.6	45.6	
Actuated g/C Ratio	0.29	0.36	0.36	0.22	0.14	0.26	0.39	0.30		0.44	0.33	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	4.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0	4.0	3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	993	1284	522	279	502	410	199	1543		257	1634	
v/s Ratio Prot	c0.28	0.09		0.02	c0.13	0.05	c0.09	0.39		c0.09	c0.55	
v/s Ratio Perm			0.04	0.03		0.06	0.31			0.25		
v/c Ratio	0.97	0.26	0.11	0.24	0.95	0.44	1.01	1.30		0.76	1.68	
Uniform Delay, d1	48.9	32.1	30.2	44.8	59.8	43.6	39.6	48.9		36.3	47.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.36	1.17		1.34	1.18	
Incremental Delay, d2	20.5	0.2	0.1	0.5	28.9	0.8	43.0	136.3		1.2	305.0	
Delay (s)	69.4	32.2	30.3	45.3	88.7	44.4	96.8	193.5		50.0	360.7	
Level of Service	E	C	C	D	F	D	F	F		D	F	
Approach Delay (s)		56.5			70.0			184.7			340.1	
Approach LOS		E			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	208.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	121.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

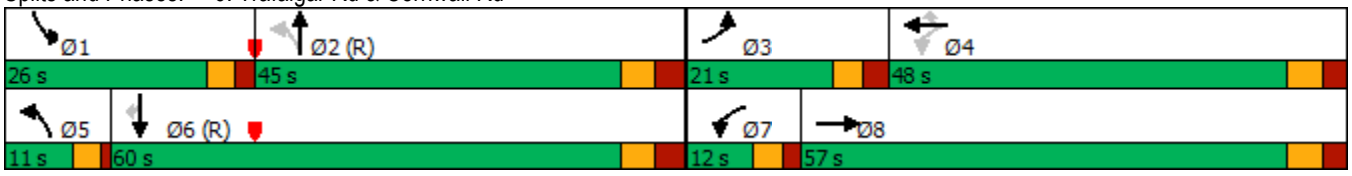
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	735	45	55	945	615	60	960	60	495	1015	300
Future Volume (vph)	360	735	45	55	945	615	60	960	60	495	1015	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.98	1.00		0.99		0.93		1.00		0.99		0.98
Frt		0.991				0.850		0.991				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	3503	0	1805	3539	1583	1770	3570	0	3433	1881	1553
Flt Permitted	0.950			0.263			0.105			0.950		
Satd. Flow (perm)	3412	3503	0	497	3539	1470	196	3570	0	3401	1881	1516
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				290		4				141
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			316.1	
Travel Time (s)		41.4			45.2			10.0			22.8	
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Adj. Flow (vph)	371	758	46	57	974	634	62	990	62	510	1046	309
Shared Lane Traffic (%)												
Lane Group Flow (vph)	371	804	0	57	974	634	62	1052	0	510	1046	309
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

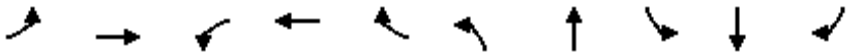
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	21.0	57.0		12.0	48.0	48.0	11.0	45.0		26.0	60.0	60.0
Total Split (%)	15.0%	40.7%		8.6%	34.3%	34.3%	7.9%	32.1%		18.6%	42.9%	42.9%
Maximum Green (s)	15.3	50.6		7.0	41.6	41.6	7.0	38.1		21.0	53.1	53.1
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		30			30	30		15			15	15
Act Effct Green (s)	16.3	54.0		52.0	42.6	42.6	50.0	39.1		22.0	56.3	56.3
Actuated g/C Ratio	0.12	0.39		0.37	0.30	0.30	0.36	0.28		0.16	0.40	0.40
v/c Ratio	0.92	0.59		0.22	0.91	0.98	0.39	1.05		0.95	1.38	0.45
Control Delay	82.0	36.0		23.6	59.3	56.3	28.6	91.4		84.5	210.9	25.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	82.0	36.0		23.6	59.3	56.3	28.6	91.4		84.5	210.9	25.7
LOS	F	D		C	E	E	C	F		F	F	C
Approach Delay		50.5			56.9			87.9			145.7	
Approach LOS		D			E			F			F	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.38
Intersection Signal Delay: 90.0 Intersection LOS: F
Intersection Capacity Utilization 112.3% ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd





Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	371	804	57	974	634	62	1052	510	1046	309
v/c Ratio	0.92	0.59	0.22	0.91	0.98	0.39	1.05	0.95	1.38	0.45
Control Delay	82.0	36.0	23.6	59.3	56.3	28.6	91.4	84.5	210.9	25.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.0	36.0	23.6	59.3	56.3	28.6	91.4	84.5	210.9	25.7
Queue Length 50th (m)	56.4	104.4	9.0	143.5	116.1	9.4	~175.4	81.4	~399.8	37.7
Queue Length 95th (m)	#87.0	127.1	17.6	#182.2	#201.5	18.1	#220.3	m54.4	m117.5	m22.8
Internal Link Dist (m)		551.4		604.3			115.4		292.1	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	403	1354	259	1076	649	159	999	539	756	694
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.59	0.22	0.91	0.98	0.39	1.05	0.95	1.38	0.45

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	735	45	55	945	615	60	960	60	495	1015	300
Future Volume (vph)	360	735	45	55	945	615	60	960	60	495	1015	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.93	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3467	3504		1803	3539	1470	1770	3571		3433	1881	1516
Flt Permitted	0.95	1.00		0.26	1.00	1.00	0.10	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3467	3504		499	3539	1470	196	3571		3433	1881	1516
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	371	758	46	57	974	634	62	990	62	510	1046	309
RTOR Reduction (vph)	0	3	0	0	0	200	0	3	0	0	0	86
Lane Group Flow (vph)	371	801	0	57	974	434	62	1049	0	510	1046	223
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	15.3	53.0		48.2	42.6	42.6	42.7	37.1		21.0	53.5	53.5
Effective Green, g (s)	16.3	54.0		50.2	43.6	43.6	44.7	38.1		22.0	54.5	54.5
Actuated g/C Ratio	0.12	0.39		0.36	0.31	0.31	0.32	0.27		0.16	0.39	0.39
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	403	1351		240	1102	457	136	971		539	732	590
v/s Ratio Prot	c0.11	0.23		0.01	0.28		0.02	0.29		c0.15	c0.56	
v/s Ratio Perm				0.07		c0.30	0.12					0.15
v/c Ratio	0.92	0.59		0.24	0.88	0.95	0.46	1.08		0.95	1.43	0.38
Uniform Delay, d1	61.2	34.2		30.2	45.8	47.1	37.9	51.0		58.4	42.8	30.6
Progression Factor	0.91	0.98		1.00	1.00	1.00	1.00	1.00		1.40	1.16	1.53
Incremental Delay, d2	23.9	0.6		0.5	8.6	29.8	2.4	53.1		4.1	193.8	0.2
Delay (s)	79.5	34.2		30.7	54.4	76.9	40.3	104.1		85.9	243.5	47.1
Level of Service	E	C		C	D	E	D	F		F	F	D
Approach Delay (s)		48.5			62.2			100.5			167.9	
Approach LOS		D			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	100.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	112.3%	ICU Level of Service	H
Analysis Period (min)	15		

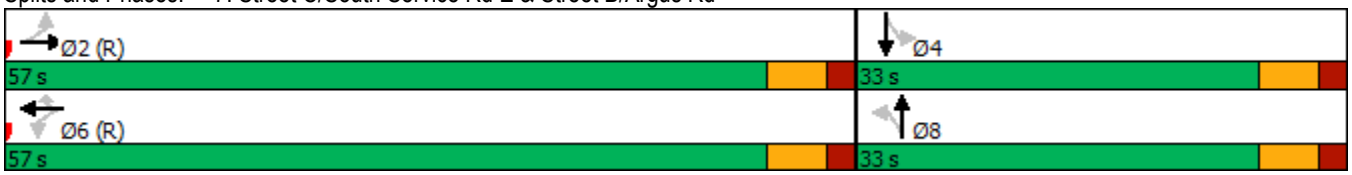
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	55	20	50	470	350	5	105	25	50	5	110
Future Volume (vph)	15	55	20	50	470	350	5	105	25	50	5	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00			0.99		0.98		
Frt		0.969				0.850		0.975			0.856	
Flt Protected		0.992			0.995			0.998		0.950		
Satd. Flow (prot)	0	1766	0	0	1778	1615	0	1834	0	1805	1626	0
Flt Permitted		0.910			0.965			0.988		0.518		
Satd. Flow (perm)	0	1620	0	0	1721	1615	0	1816	0	968	1626	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22				376		13			118	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		48.3			119.5			83.7			163.9	
Travel Time (s)		3.5			8.6			6.0			11.8	
Confl. Peds. (#/hr)			10	10					10	10		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	4%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	16	59	22	54	505	376	5	113	27	54	5	118
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	97	0	0	559	376	0	145	0	54	123	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	26.0	26.0		26.0	26.0	
Total Split (s)	57.0	57.0		57.0	57.0	57.0	33.0	33.0		33.0	33.0	
Total Split (%)	63.3%	63.3%		63.3%	63.3%	63.3%	36.7%	36.7%		36.7%	36.7%	
Maximum Green (s)	51.0	51.0		51.0	51.0	51.0	27.0	27.0		27.0	27.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0		-1.0		-1.0	-1.0	
Total Lost Time (s)		5.0			5.0	5.0		5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min	C-Min	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		66.5			66.5	66.5		13.5		13.5	13.5	
Actuated g/C Ratio		0.74			0.74	0.74		0.15		0.15	0.15	
v/c Ratio		0.08			0.44	0.29		0.51		0.37	0.36	
Control Delay		3.1			9.8	3.0		38.0		41.1	10.1	
Queue Delay		0.0			2.2	0.7		0.0		0.0	0.0	
Total Delay		3.1			12.0	3.7		38.0		41.1	10.1	
LOS		A			B	A		D		D	B	
Approach Delay		3.1			8.7			38.0			19.6	
Approach LOS		A			A			D			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 12.8		Intersection LOS: B	
Intersection Capacity Utilization 63.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 7: Street C/South Service Rd E & Street B/Argus Rd

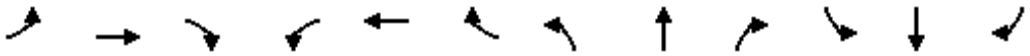




Lane Group	EBT	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	97	559	376	145	54	123
v/c Ratio	0.08	0.44	0.29	0.51	0.37	0.36
Control Delay	3.1	9.8	3.0	38.0	41.1	10.1
Queue Delay	0.0	2.2	0.7	0.0	0.0	0.0
Total Delay	3.1	12.0	3.7	38.0	41.1	10.1
Queue Length 50th (m)	3.0	73.0	11.4	22.5	9.1	0.8
Queue Length 95th (m)	8.4	112.9	m21.9	38.9	19.6	15.1
Internal Link Dist (m)	24.3	95.5		59.7		139.9
Turn Bay Length (m)						
Base Capacity (vph)	1202	1271	1291	573	301	587
Starvation Cap Reductn	0	549	580	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.77	0.53	0.25	0.18	0.21

Intersection Summary

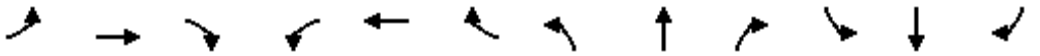
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	55	20	50	470	350	5	105	25	50	5	110
Future Volume (vph)	15	55	20	50	470	350	5	105	25	50	5	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	5.0		5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00	1.00		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00		0.98	1.00	
Frt		0.97			1.00	0.85		0.97		1.00	0.86	
Flt Protected		0.99			1.00	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1766			1775	1615		1835		1777	1627	
Flt Permitted		0.91			0.96	1.00		0.99		0.52	1.00	
Satd. Flow (perm)		1621			1721	1615		1815		969	1627	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	16	59	22	54	505	376	5	113	27	54	5	118
RTOR Reduction (vph)	0	6	0	0	0	98	0	11	0	0	100	0
Lane Group Flow (vph)	0	91	0	0	559	278	0	134	0	54	23	0
Confl. Peds. (#/hr)			10	10					10	10		
Heavy Vehicles (%)	0%	4%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		65.5			65.5	65.5		12.5		12.5	12.5	
Effective Green, g (s)		66.5			66.5	66.5		13.5		13.5	13.5	
Actuated g/C Ratio		0.74			0.74	0.74		0.15		0.15	0.15	
Clearance Time (s)		6.0			6.0	6.0		6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		1197			1271	1193		272		145	244	
v/s Ratio Prot											0.01	
v/s Ratio Perm		0.06			c0.32	0.17		c0.07		0.06		
v/c Ratio		0.08			0.44	0.23		0.49		0.37	0.09	
Uniform Delay, d1		3.3			4.5	3.7		35.1		34.4	33.0	
Progression Factor		1.00			1.75	4.89		1.00		1.00	1.00	
Incremental Delay, d2		0.1			0.9	0.4		1.4		1.6	0.2	
Delay (s)		3.4			8.8	18.5		36.5		36.0	33.1	
Level of Service		A			A	B		D		D	C	
Approach Delay (s)		3.4			12.7			36.5			34.0	
Approach LOS		A			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

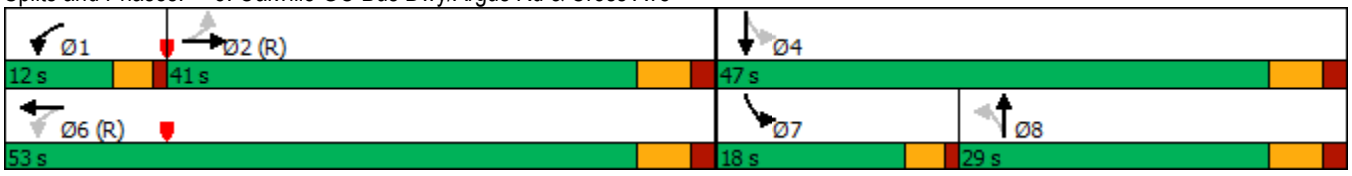


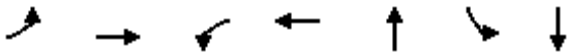
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	1435	15	15	1090	40	15	0	30	380	15	205
Future Volume (vph)	45	1435	15	15	1090	40	15	0	30	380	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	30.0			15.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00			1.00			0.94		0.95	0.94	
Frt		0.998			0.995			0.910			0.860	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1805	3565	0	902	3554	0	0	831	0	1787	1437	0
Flt Permitted	0.171			0.078				0.851		0.725		
Satd. Flow (perm)	324	3565	0	74	3554	0	0	708	0	1294	1437	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			5			120			37	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		126.2			104.6			107.0			123.1	
Travel Time (s)		9.1			7.5			7.7			8.9	
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Adj. Flow (vph)	48	1543	16	16	1172	43	16	0	32	409	16	220
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	1559	0	16	1215	0	0	48	0	409	236	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	22.0	22.0		8.0	22.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	29.0	29.0		12.0	29.0		29.0	29.0		9.0	29.0	
Total Split (s)	41.0	41.0		12.0	53.0		29.0	29.0		18.0	47.0	
Total Split (%)	41.0%	41.0%		12.0%	53.0%		29.0%	29.0%		18.0%	47.0%	
Maximum Green (s)	35.0	35.0		8.0	47.0		23.0	23.0		14.0	41.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	5.0	5.0		2.5	5.0		4.0	4.0		3.0	4.0	
Recall Mode	C-Min	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	16.0	16.0			16.0		16.0	16.0			16.0	
Pedestrian Calls (#/hr)	15	15			15		45	45			45	
Act Effct Green (s)	51.6	51.6		58.4	56.4			18.8		35.6	33.6	
Actuated g/C Ratio	0.52	0.52		0.58	0.56			0.19		0.36	0.34	
v/c Ratio	0.29	0.85		0.14	0.61			0.21		0.77	0.47	
Control Delay	28.0	30.9		15.3	18.3			2.0		35.8	22.8	
Queue Delay	0.0	35.4		0.0	0.0			0.0		0.0	0.0	
Total Delay	28.0	66.3		15.3	18.3			2.0		35.8	22.8	
LOS	C	E		B	B			A		D	C	
Approach Delay		65.2			18.3			2.0			31.1	
Approach LOS		E			B			A			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 41.7		Intersection LOS: D	
Intersection Capacity Utilization 76.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 8: Oakville GO Bus Dwy/Argus Rd & Cross Ave

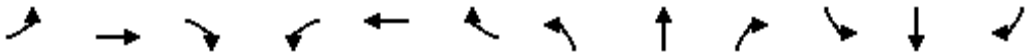




Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	48	1559	16	1215	48	409	236
v/c Ratio	0.29	0.85	0.14	0.61	0.21	0.77	0.47
Control Delay	28.0	30.9	15.3	18.3	2.0	35.8	22.8
Queue Delay	0.0	35.4	0.0	0.0	0.0	0.0	0.0
Total Delay	28.0	66.3	15.3	18.3	2.0	35.8	22.8
Queue Length 50th (m)	5.8	148.8	1.6	98.9	0.0	59.1	26.9
Queue Length 95th (m)	19.8	#251.9	5.2	124.1	0.0	87.9	47.0
Internal Link Dist (m)		102.2		80.6	83.0		99.1
Turn Bay Length (m)	20.0		20.0			15.0	
Base Capacity (vph)	167	1840	117	2006	261	534	625
Starvation Cap Reductn	0	385	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	1.07	0.14	0.61	0.18	0.77	0.38

Intersection Summary

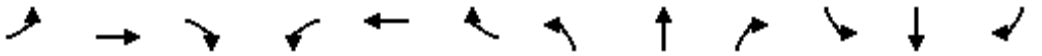
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	1435	15	15	1090	40	15	0	30	380	15	205
Future Volume (vph)	45	1435	15	15	1090	40	15	0	30	380	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.95		1.00	0.94	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99		0.96	1.00	
Frt	1.00	1.00		1.00	0.99			0.91		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1800	3566		902	3553			819		1722	1437	
Flt Permitted	0.17	1.00		0.08	1.00			0.85		0.72	1.00	
Satd. Flow (perm)	324	3566		75	3553			708		1314	1437	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	48	1543	16	16	1172	43	16	0	32	409	16	220
RTOR Reduction (vph)	0	1	0	0	2	0	0	40	0	0	24	0
Lane Group Flow (vph)	48	1558	0	16	1213	0	0	8	0	409	212	0
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	47.0	47.0		54.2	54.2			15.8		33.8	33.8	
Effective Green, g (s)	48.0	48.0		55.2	55.2			16.8		34.8	34.8	
Actuated g/C Ratio	0.48	0.48		0.55	0.55			0.17		0.35	0.35	
Clearance Time (s)	6.0	6.0		4.0	6.0			6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0		2.5	5.0			4.0		3.0	4.0	
Lane Grp Cap (vph)	155	1711		76	1961			118		518	500	
v/s Ratio Prot		c0.44		0.01	c0.34					c0.12	0.15	
v/s Ratio Perm	0.15			0.11				0.01		c0.16		
v/c Ratio	0.31	0.91		0.21	0.62			0.07		0.79	0.42	
Uniform Delay, d1	15.9	24.0		19.2	15.2			35.0		28.7	24.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	5.1	8.8		1.0	1.5			0.3		7.9	0.8	
Delay (s)	21.0	32.8		20.2	16.7			35.3		36.6	25.7	
Level of Service	C	C		C	B			D		D	C	
Approach Delay (s)		32.5			16.8			35.3			32.6	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	27.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



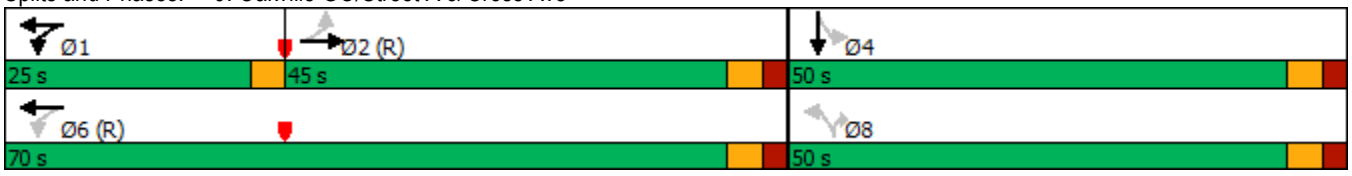
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	800	80	360	695	190	130	0	310	170	0	65
Future Volume (vph)	135	800	80	360	695	190	130	0	310	170	0	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	100.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00			0.99		0.99		0.97		0.98	
Frt		0.986			0.977				0.850		0.963	
Flt Protected	0.950				0.986		0.950				0.965	
Satd. Flow (prot)	1805	3420	0	0	3359	0	1805	0	1615	0	1752	0
Flt Permitted	0.201				0.505		0.691				0.965	
Satd. Flow (perm)	378	3420	0	0	1720	0	1302	0	1570	0	1731	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			28				337		51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		120.6			126.2			63.3			76.3	
Travel Time (s)		8.7			9.1			4.6			5.5	
Confl. Peds. (#/hr)	30		10	10		30	10		10	10		10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	147	870	87	391	755	207	141	0	337	185	0	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	147	957	0	0	1353	0	141	0	337	0	256	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	100		100
Number of Detectors	1	2		1	2		1		1	1	2	
Detector Template	Left	Thru		Left	Thru		Left		Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0		2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0		2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4						9.4	
Detector 2 Size(m)		0.6			0.6						0.6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	

Lane Group	Ø6
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (m)	
Storage Lanes	
Taper Length (m)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (k/h)	
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(m)	
Detector 2 Size(m)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		custom	NA		Perm		Perm	Perm	NA	
Protected Phases		2		1	1 6						4	
Permitted Phases	2			6			8		8	4		
Detector Phase	2	2		1	1 6		8		8	4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		8.0			10.0		10.0	10.0	10.0	
Minimum Split (s)	40.6	40.6		11.0			27.6		27.6	27.6	27.6	
Total Split (s)	45.0	45.0		25.0			50.0		50.0	50.0	50.0	
Total Split (%)	37.5%	37.5%		20.8%			41.7%		41.7%	41.7%	41.7%	
Maximum Green (s)	39.4	39.4		22.0			44.4		44.4	44.4	44.4	
Yellow Time (s)	3.3	3.3		3.0			3.3		3.3	3.3	3.3	
All-Red Time (s)	2.3	2.3		0.0			2.3		2.3	2.3	2.3	
Lost Time Adjust (s)	-1.0	-1.0					-1.0		-1.0		-1.0	
Total Lost Time (s)	4.6	4.6					4.6		4.6		4.6	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	5.0	5.0		2.5			3.5		3.5	3.0	3.0	
Recall Mode	C-Min	C-Min		None			None		None	None	None	
Walk Time (s)	7.0	7.0					7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	15.0	15.0					15.0		15.0	15.0	15.0	
Pedestrian Calls (#/hr)	20	20					10		10	10	10	
Act Effct Green (s)	50.7	50.7			91.9		21.5		21.5		21.5	
Actuated g/C Ratio	0.42	0.42			0.77		0.18		0.18		0.18	
v/c Ratio	0.92	0.66			0.74		0.61		0.61		0.73	
Control Delay	90.7	31.6			9.0		55.1		8.9		48.4	
Queue Delay	0.0	0.0			1.8		0.0		0.0		0.0	
Total Delay	90.7	31.6			10.8		55.1		8.9		48.4	
LOS	F	C			B		E		A		D	
Approach Delay		39.4			10.8			22.5			48.4	
Approach LOS		D			B			C			D	

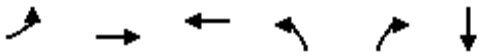
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 64 (53%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 25.5		Intersection LOS: C	
Intersection Capacity Utilization 96.7%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 9: Oakville GO/Street A & Cross Ave



Lane Group	Ø6
Turn Type	
Protected Phases	6
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	35.0
Minimum Split (s)	40.6
Total Split (s)	70.0
Total Split (%)	58%
Maximum Green (s)	64.4
Yellow Time (s)	3.3
All-Red Time (s)	2.3
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	5.0
Recall Mode	C-Min
Walk Time (s)	7.0
Flash Dont Walk (s)	15.0
Pedestrian Calls (#/hr)	20
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

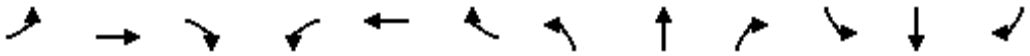
Intersection Summary



Lane Group	EBL	EBT	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	147	957	1353	141	337	256
v/c Ratio	0.92	0.66	0.74	0.61	0.61	0.73
Control Delay	90.7	31.6	9.0	55.1	8.9	48.4
Queue Delay	0.0	0.0	1.8	0.0	0.0	0.0
Total Delay	90.7	31.6	10.8	55.1	8.9	48.4
Queue Length 50th (m)	33.2	95.7	56.3	32.6	0.0	48.9
Queue Length 95th (m)	#85.8	140.5	98.6	49.9	23.6	71.4
Internal Link Dist (m)		96.6	102.2			52.3
Turn Bay Length (m)						
Base Capacity (vph)	159	1449	1824	492	803	686
Starvation Cap Reductn	0	0	299	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.66	0.89	0.29	0.42	0.37

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



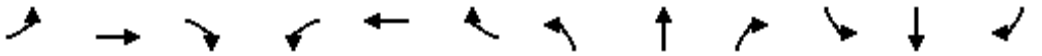
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	800	80	360	695	190	130	0	310	170	0	65
Future Volume (vph)	135	800	80	360	695	190	130	0	310	170	0	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6			2.0		4.6		4.6		4.6	
Lane Util. Factor	1.00	0.95			0.95		1.00		1.00		1.00	
Frpb, ped/bikes	1.00	1.00			0.99		1.00		0.97		0.99	
Flpb, ped/bikes	0.99	1.00			1.00		0.99		1.00		0.99	
Frt	1.00	0.99			0.98		1.00		0.85		0.96	
Flt Protected	0.95	1.00			0.99		0.95		1.00		0.97	
Satd. Flow (prot)	1782	3421			3362		1792		1570		1731	
Flt Permitted	0.20	1.00			0.51		0.69		1.00		0.97	
Satd. Flow (perm)	378	3421			1723		1304		1570		1731	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	147	870	87	391	755	207	141	0	337	185	0	71
RTOR Reduction (vph)	0	5	0	0	7	0	0	0	277	0	42	0
Lane Group Flow (vph)	147	952	0	0	1346	0	141	0	60	0	214	0
Confl. Peds. (#/hr)	30		10	10		30	10		10	10		10
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		custom	NA		Perm		Perm	Perm	NA	
Protected Phases		2		1	1 6						4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	49.7	49.7			88.3		20.5		20.5		20.5	
Effective Green, g (s)	50.7	50.7			89.3		21.5		21.5		21.5	
Actuated g/C Ratio	0.42	0.42			0.74		0.18		0.18		0.18	
Clearance Time (s)	5.6	5.6					5.6		5.6		5.6	
Vehicle Extension (s)	5.0	5.0					3.5		3.5		3.0	
Lane Grp Cap (vph)	159	1445			1782		233		281		310	
v/s Ratio Prot		0.28			c0.23							
v/s Ratio Perm	c0.39				0.33		0.11		0.04		0.12	
v/c Ratio	0.92	0.66			0.76		0.61		0.21		0.69	
Uniform Delay, d1	32.8	27.7			9.0		45.3		42.0		46.1	
Progression Factor	1.00	1.00			1.00		1.00		1.00		1.00	
Incremental Delay, d2	53.7	2.4			1.8		4.6		0.5		6.5	
Delay (s)	86.6	30.1			10.7		50.0		42.5		52.6	
Level of Service	F	C			B		D		D		D	
Approach Delay (s)		37.6			10.7			44.7			52.6	
Approach LOS		D			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	96.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	715	0	0	780	130	0	0	80	120	0	95
Future Volume (vph)	40	715	0	0	780	130	0	0	80	120	0	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (m)	25.0			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.979			0.865				0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1805	3438	0	0	3412	0	0	1644	0	1805	0	1615
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1805	3438	0	0	3412	0	0	1644	0	1805	0	1615
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		132.8			120.6			80.8			71.6	
Travel Time (s)		9.6			8.7			5.8			5.2	
Confl. Peds. (#/hr)	15		10	10		15	5		5	5		5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	5%	0%	0%	4%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	45	813	0	0	886	148	0	0	91	136	0	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	813	0	0	1034	0	0	91	0	136	0	108
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

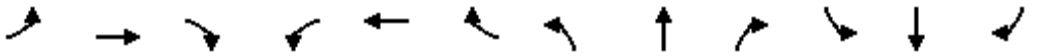
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 52.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	715	0	0	780	130	0	0	80	120	0	95
Future Volume (Veh/h)	40	715	0	0	780	130	0	0	80	120	0	95
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	45	812	0	0	886	148	0	0	91	136	0	108
Pedestrians		5			5			10			15	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		133			121							
pX, platoon unblocked				0.92			0.92	0.92	0.92	0.92	0.92	
vC, conflicting volume	1049			822			1468	1961	421	1567	1887	537
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1049			621			1326	1865	183	1435	1784	537
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	93			100			100	100	88	0	100	78
cM capacity (veh/h)	663			880			76	61	755	71	69	485

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	45	406	406	591	443	91	136	108
Volume Left	45	0	0	0	0	0	136	0
Volume Right	0	0	0	0	148	91	0	108
cSH	663	1700	1700	1700	1700	755	71	485
Volume to Capacity	0.07	0.24	0.24	0.35	0.26	0.12	1.92	0.22
Queue Length 95th (m)	1.7	0.0	0.0	0.0	0.0	3.3	98.3	6.7
Control Delay (s)	10.8	0.0	0.0	0.0	0.0	10.4	555.7	14.5
Lane LOS	B					B	F	B
Approach Delay (s)	0.6			0.0		10.4	316.1	
Approach LOS						B	F	

Intersection Summary				
Average Delay	35.3			
Intersection Capacity Utilization	52.6%	ICU Level of Service	A	
Analysis Period (min)	15			

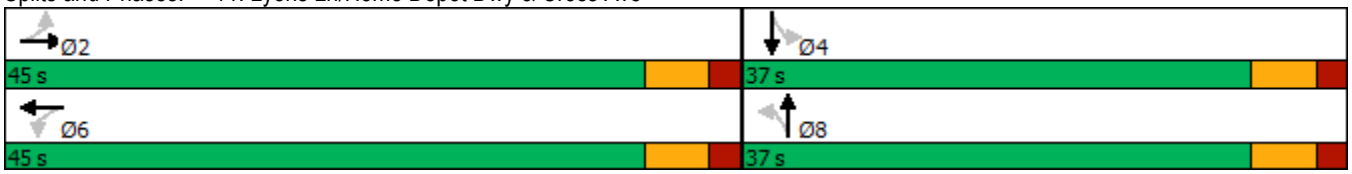


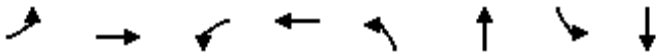
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	595	30	20	870	15	140	5	85	25	5	95
Future Volume (vph)	70	595	30	20	870	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	25.0		0.0	35.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		1.00	1.00		1.00	0.98		0.99	0.98	
Frt		0.993			0.997			0.858			0.858	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3386	0	1805	3460	0	1805	1595	0	1805	1588	0
Flt Permitted	0.229			0.353			0.681			0.689		
Satd. Flow (perm)	432	3386	0	669	3460	0	1288	1595	0	1296	1588	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			3			100			59	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		47.5			132.8			89.0			69.0	
Travel Time (s)		3.4			9.6			6.4			5.0	
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	82	700	35	24	1024	18	165	6	100	29	6	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	735	0	24	1042	0	165	106	0	29	118	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		35.0	35.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	41.0	41.0		41.0	41.0		28.0	28.0		28.0	28.0	
Total Split (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Total Split (%)	54.9%	54.9%		54.9%	54.9%		45.1%	45.1%		45.1%	45.1%	
Maximum Green (s)	39.0	39.0		39.0	39.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	15	15		15	15		10	10		10	10	
Act Effct Green (s)	37.0	37.0		37.0	37.0		15.5	15.5		15.5	15.5	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
v/c Ratio	0.32	0.37		0.06	0.51		0.52	0.23		0.09	0.27	
Control Delay	12.3	7.8		7.3	9.2		26.4	6.4		18.4	12.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	12.3	7.8		7.3	9.2		26.4	6.4		18.4	12.2	
LOS	B	A		A	A		C	A		B	B	
Approach Delay		8.3			9.2			18.6			13.4	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 62.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay: 10.2		Intersection LOS: B	
Intersection Capacity Utilization 82.0%		ICU Level of Service E	
Analysis Period (min) 15			

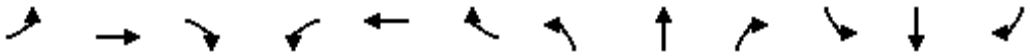
Splits and Phases: 11: Lyons Ln/Home Depot Dwy & Cross Ave





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	82	735	24	1042	165	106	29	118
v/c Ratio	0.32	0.37	0.06	0.51	0.52	0.23	0.09	0.27
Control Delay	12.3	7.8	7.3	9.2	26.4	6.4	18.4	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.3	7.8	7.3	9.2	26.4	6.4	18.4	12.2
Queue Length 50th (m)	4.2	20.2	1.1	32.5	16.8	0.5	2.7	5.5
Queue Length 95th (m)	15.1	37.7	4.6	58.0	32.8	9.4	8.0	16.0
Internal Link Dist (m)		23.5		108.8		65.0		45.0
Turn Bay Length (m)			25.0		35.0			
Base Capacity (vph)	278	2184	430	2229	663	870	667	847
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.34	0.06	0.47	0.25	0.12	0.04	0.14

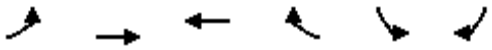
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	595	30	20	870	15	140	5	85	25	5	95
Future Volume (vph)	70	595	30	20	870	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1795	3386		1801	3462		1798	1600		1792	1589	
Flt Permitted	0.23	1.00		0.35	1.00		0.68	1.00		0.69	1.00	
Satd. Flow (perm)	433	3386		668	3462		1289	1600		1299	1589	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	82	700	35	24	1024	18	165	6	100	29	6	112
RTOR Reduction (vph)	0	4	0	0	1	0	0	75	0	0	44	0
Lane Group Flow (vph)	82	731	0	24	1041	0	165	31	0	29	74	0
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	36.0	36.0		36.0	36.0		14.5	14.5		14.5	14.5	
Effective Green, g (s)	37.0	37.0		37.0	37.0		15.5	15.5		15.5	15.5	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	256	2004		395	2049		319	396		322	394	
v/s Ratio Prot		0.22			c0.30			0.02			0.05	
v/s Ratio Perm	0.19			0.04			c0.13			0.02		
v/c Ratio	0.32	0.36		0.06	0.51		0.52	0.08		0.09	0.19	
Uniform Delay, d1	6.4	6.6		5.4	7.4		20.3	18.0		18.1	18.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.5	0.2		0.1	0.4		1.9	0.1		0.2	0.3	
Delay (s)	7.9	6.9		5.5	7.9		22.2	18.1		18.2	18.8	
Level of Service	A	A		A	A		C	B		B	B	
Approach Delay (s)		7.0			7.8			20.6			18.7	
Approach LOS		A			A			C			B	

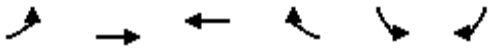
Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	62.5	Sum of lost time (s)	10.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	775	1265	30	20	25
Future Volume (vph)	25	775	1265	30	20	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.997		0.926	
Flt Protected	0.950				0.978	
Satd. Flow (prot)	1805	3471	3497	0	1721	0
Flt Permitted	0.950				0.978	
Satd. Flow (perm)	1805	3471	3497	0	1721	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		443.3	47.5		121.4	
Travel Time (s)		31.9	3.4		8.7	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	4%	3%	0%	0%	0%
Adj. Flow (vph)	27	852	1390	33	22	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	852	1423	0	49	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

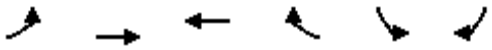
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	46.0%	ICU Level of Service	A
Analysis Period (min)	15		



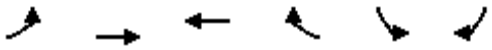
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	775	1265	30	20	25
Future Volume (Veh/h)	25	775	1265	30	20	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	27	852	1390	33	22	27
Pedestrians					15	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			48			
pX, platoon unblocked	0.82				0.82	0.82
vC, conflicting volume	1438				1902	726
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1105				1667	241
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				68	96
cM capacity (veh/h)	520				69	623

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	27	426	426	927	496	49
Volume Left	27	0	0	0	0	22
Volume Right	0	0	0	0	33	27
cSH	520	1700	1700	1700	1700	135
Volume to Capacity	0.05	0.25	0.25	0.55	0.29	0.36
Queue Length 95th (m)	1.3	0.0	0.0	0.0	0.0	12.0
Control Delay (s)	12.3	0.0	0.0	0.0	0.0	46.2
Lane LOS	B					E
Approach Delay (s)	0.4			0.0		46.2
Approach LOS						E

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	46.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	595	1215	1610	175	155	1130
Future Volume (vph)	595	1215	1610	175	155	1130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0			0.0	60.0	0.0
Storage Lanes	1			0	1	2
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.88
Ped Bike Factor			1.00			
Frt			0.985			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1719	3574	3513	0	1805	2760
Flt Permitted	0.054				0.950	
Satd. Flow (perm)	98	3574	3513	0	1805	2760
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			12			586
Link Speed (k/h)		50	50		50	
Link Distance (m)		209.5	575.4		443.3	
Travel Time (s)		15.1	41.4		31.9	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Adj. Flow (vph)	633	1293	1713	186	165	1202
Shared Lane Traffic (%)						
Lane Group Flow (vph)	633	1293	1899	0	165	1202
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		7.2	7.2		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			



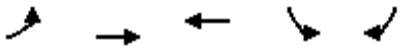
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	6.0	38.0	38.0		10.0	10.0
Minimum Split (s)	12.0	47.6	44.6		33.8	33.8
Total Split (s)	35.0	109.2	74.2		30.8	30.8
Total Split (%)	25.0%	78.0%	53.0%		22.0%	22.0%
Maximum Green (s)	29.0	102.6	67.6		25.0	25.0
Yellow Time (s)	4.0	3.7	3.7		3.3	3.3
All-Red Time (s)	2.0	2.9	2.9		2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.6	5.6		4.8	4.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Min	C-Min		None	None
Walk Time (s)		10.0	1.0		10.0	10.0
Flash Dont Walk (s)		31.0	31.0		18.0	18.0
Pedestrian Calls (#/hr)		10	10		0	0
Act Effct Green (s)	104.2	103.6	68.6		26.0	26.0
Actuated g/C Ratio	0.74	0.74	0.49		0.19	0.19
v/c Ratio	1.51	0.49	1.10		0.49	1.22
Control Delay	273.1	8.2	91.4		56.9	130.7
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	273.1	8.2	91.4		56.9	130.7
LOS	F	A	F		E	F
Approach Delay		95.2	91.4		121.8	
Approach LOS		F	F		F	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.51
Intersection Signal Delay: 100.8 Intersection LOS: F
Intersection Capacity Utilization 104.6% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 13: Speers Rd/Cornwall Rd & Cross Ave



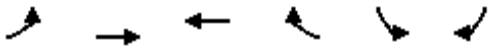


Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	633	1293	1899	165	1202
v/c Ratio	1.51	0.49	1.10	0.49	1.22
Control Delay	273.1	8.2	91.4	56.9	130.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	273.1	8.2	91.4	56.9	130.7
Queue Length 50th (m)	~241.4	72.0	~331.7	43.6	~159.6
Queue Length 95th (m)	#318.7	85.1	#376.5	68.1	#208.4
Internal Link Dist (m)		185.5	551.4	419.3	
Turn Bay Length (m)	70.0			60.0	
Base Capacity (vph)	420	2644	1727	335	989
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.51	0.49	1.10	0.49	1.22

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

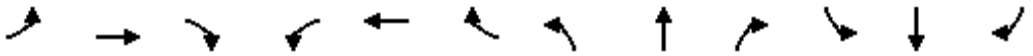
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	595	1215	1610	175	155	1130
Future Volume (vph)	595	1215	1610	175	155	1130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		4.8	4.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1719	3574	3514		1805	2760
Flt Permitted	0.05	1.00	1.00		0.95	1.00
Satd. Flow (perm)	98	3574	3514		1805	2760
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	633	1293	1713	186	165	1202
RTOR Reduction (vph)	0	0	6	0	0	477
Lane Group Flow (vph)	633	1293	1893	0	165	725
Confl. Peds. (#/hr)	15			15		
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Actuated Green, G (s)	102.6	102.6	67.6		25.0	25.0
Effective Green, g (s)	103.6	103.6	68.6		26.0	26.0
Actuated g/C Ratio	0.74	0.74	0.49		0.19	0.19
Clearance Time (s)	6.0	6.6	6.6		5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	419	2644	1721		335	512
v/s Ratio Prot	c0.32	0.36	0.54			
v/s Ratio Perm	c0.79				0.09	c0.26
v/c Ratio	1.51	0.49	1.10		0.49	1.42
Uniform Delay, d1	48.4	7.4	35.7		51.1	57.0
Progression Factor	1.00	1.00	1.15		1.00	1.00
Incremental Delay, d2	241.9	0.6	53.2		1.1	198.3
Delay (s)	290.3	8.1	94.1		52.2	255.3
Level of Service	F	A	F		D	F
Approach Delay (s)		100.8	94.1		230.8	
Approach LOS		F	F		F	

Intersection Summary			
HCM 2000 Control Delay	132.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.53		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	104.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

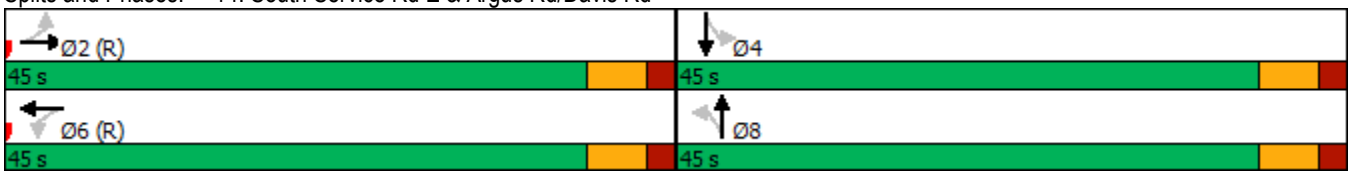


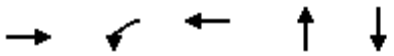
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	25	0	100	180	15	0	295	100	20	545	0
Future Volume (vph)	0	25	0	100	180	15	0	295	100	20	545	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.988			0.966				
Flt Protected				0.950							0.998	
Satd. Flow (prot)	1900	1900	0	1770	1877	0	0	1795	0	0	1896	0
Flt Permitted				0.738							0.974	
Satd. Flow (perm)	1900	1900	0	1375	1877	0	0	1795	0	0	1851	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					6			24				
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		170.6			203.3			204.3			287.4	
Travel Time (s)		12.3			14.6			14.7			20.7	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	0%	3%	0%	0%	0%	0%
Adj. Flow (vph)	0	29	0	118	212	18	0	347	118	24	641	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	29	0	118	230	0	0	465	0	0	665	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA			NA		Perm	NA	
Protected Phases		2			6			8			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	26.0	26.0		26.0	26.0		26.0	26.0		26.0	26.0	
Total Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	39.0	39.0		39.0	39.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	20	20		20	20		20	20		20	20	
Act Effct Green (s)		42.6		42.6	42.6			37.4			37.4	
Actuated g/C Ratio		0.47		0.47	0.47			0.42			0.42	
v/c Ratio		0.03		0.18	0.26			0.61			0.86	
Control Delay		2.7		16.1	16.0			22.7			36.3	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		2.7		16.1	16.0			22.7			36.3	
LOS		A		B	B			C			D	
Approach Delay		2.7			16.0			22.7			36.3	
Approach LOS		A			B			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 26.8		Intersection LOS: C	
Intersection Capacity Utilization 69.9%		ICU Level of Service C	
Analysis Period (min) 15			

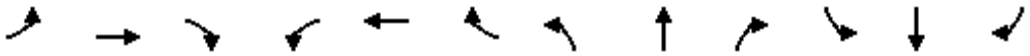
Splits and Phases: 14: South Service Rd E & Argus Rd/Davis Rd





Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	29	118	230	465	665
v/c Ratio	0.03	0.18	0.26	0.61	0.86
Control Delay	2.7	16.1	16.0	22.7	36.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	2.7	16.1	16.0	22.7	36.3
Queue Length 50th (m)	0.3	12.3	24.2	59.3	104.4
Queue Length 95th (m)	1.3	23.2	39.8	78.1	130.7
Internal Link Dist (m)	146.6		179.3	180.3	263.4
Turn Bay Length (m)		30.0			
Base Capacity (vph)	911	660	904	823	835
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.03	0.18	0.25	0.57	0.80

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	25	0	100	180	15	0	295	100	20	545	0
Future Volume (vph)	0	25	0	100	180	15	0	295	100	20	545	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.99			0.97			1.00	
Flt Protected		1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)		1900		1770	1878			1795			1897	
Flt Permitted		1.00		0.74	1.00			1.00			0.97	
Satd. Flow (perm)		1900		1375	1878			1795			1851	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	29	0	118	212	18	0	347	118	24	641	0
RTOR Reduction (vph)	0	0	0	0	3	0	0	14	0	0	0	0
Lane Group Flow (vph)	0	29	0	118	227	0	0	451	0	0	665	0
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	0%	3%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA			NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		41.6		41.6	41.6			36.4			36.4	
Effective Green, g (s)		42.6		42.6	42.6			37.4			37.4	
Actuated g/C Ratio		0.47		0.47	0.47			0.42			0.42	
Clearance Time (s)		6.0		6.0	6.0			6.0			6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		899		650	888			745			769	
v/s Ratio Prot		0.02			c0.12			0.25				
v/s Ratio Perm				0.09							c0.36	
v/c Ratio		0.03		0.18	0.26			0.61			0.86	
Uniform Delay, d1		12.7		13.7	14.2			20.5			24.0	
Progression Factor		0.18		1.00	1.00			1.00			1.00	
Incremental Delay, d2		0.1		0.6	0.7			1.4			10.0	
Delay (s)		2.4		14.3	14.9			21.9			34.0	
Level of Service		A		B	B			C			C	
Approach Delay (s)		2.4			14.7			21.9			34.0	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	25.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	110	125	135	200	270	210
Future Volume (vph)	110	125	135	200	270	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		100.0	100.0		100.0	0.0
Storage Lanes		0	0		0	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.928				0.941	
Flt Protected				0.980	0.973	
Satd. Flow (prot)	1728	0	0	1862	1722	0
Flt Permitted				0.980	0.973	
Satd. Flow (perm)	1728	0	0	1862	1722	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	252.8			547.4	339.1	
Travel Time (s)	18.2			39.4	24.4	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	3%	0%	0%	1%	1%
Adj. Flow (vph)	124	140	152	225	303	236
Shared Lane Traffic (%)						
Lane Group Flow (vph)	264	0	0	377	539	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 69.3%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	110	125	135	200	270	210
Future Volume (Veh/h)	110	125	135	200	270	210
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	124	140	152	225	303	236
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			264		723	194
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			264		723	194
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			88		13	72
cM capacity (veh/h)			1312		349	850

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	264	377	539
Volume Left	0	152	303
Volume Right	140	0	236
cSH	1700	1312	470
Volume to Capacity	0.16	0.12	1.15
Queue Length 95th (m)	0.0	3.1	153.2
Control Delay (s)	0.0	3.9	116.5
Lane LOS		A	F
Approach Delay (s)	0.0	3.9	116.5
Approach LOS			F

Intersection Summary			
Average Delay	54.5		
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	980	100	60	1240	105	180	145	45	70	95	50
Future Volume (vph)	45	980	100	60	1240	105	180	145	45	70	95	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		1.00					0.98
Frt		0.986			0.988			0.964				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3483	0	1805	3491	0	1770	1818	0	1805	1827	1553
Flt Permitted	0.124			0.197			0.692			0.543		
Satd. Flow (perm)	231	3483	0	374	3491	0	1283	1818	0	1032	1827	1520
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			15			16				53
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			116.5	
Travel Time (s)		43.9			11.1			15.4			8.4	
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Adj. Flow (vph)	48	1043	106	64	1319	112	191	154	48	74	101	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	1149	0	64	1431	0	191	202	0	74	101	53
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	47.8	47.8		47.8	47.8		19.6	19.6		19.6	19.6	19.6
Actuated g/C Ratio	0.62	0.62		0.62	0.62		0.25	0.25		0.25	0.25	0.25
v/c Ratio	0.34	0.53		0.28	0.66		0.59	0.43		0.28	0.22	0.12
Control Delay	16.6	9.8		11.9	11.7		35.6	26.9		28.9	26.4	8.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	16.6	9.8		11.9	11.7		35.6	26.9		28.9	26.4	8.2
LOS	B	A		B	B		D	C		C	C	A
Approach Delay		10.0			11.7			31.1			23.0	
Approach LOS		B			B			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 77.4			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 14.2		Intersection LOS: B	
Intersection Capacity Utilization 81.9%		ICU Level of Service D	
Analysis Period (min) 15			

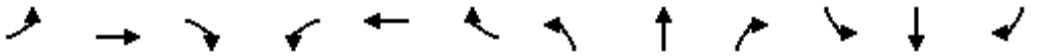
Splits and Phases: 16: Chartwell Rd & Cornwall Rd





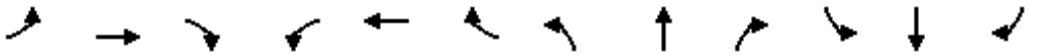
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	48	1149	64	1431	191	202	74	101	53
v/c Ratio	0.34	0.53	0.28	0.66	0.59	0.43	0.28	0.22	0.12
Control Delay	16.6	9.8	11.9	11.7	35.6	26.9	28.9	26.4	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.6	9.8	11.9	11.7	35.6	26.9	28.9	26.4	8.2
Queue Length 50th (m)	3.2	45.7	4.0	65.3	26.9	24.9	9.6	12.9	0.0
Queue Length 95th (m)	14.4	83.6	14.9	118.1	53.2	48.8	23.2	27.9	8.7
Internal Link Dist (m)		585.1		130.4		189.6		92.5	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	179	2709	290	2714	553	793	445	788	686
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.42	0.22	0.53	0.35	0.25	0.17	0.13	0.08

Intersection Summary



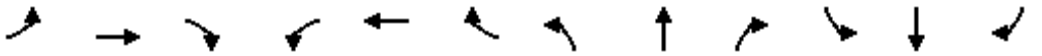
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	980	100	60	1240	105	180	145	45	70	95	50
Future Volume (vph)	45	980	100	60	1240	105	180	145	45	70	95	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1768	3485		1803	3493		1763	1818		1805	1827	1521
Flt Permitted	0.12	1.00		0.20	1.00		0.69	1.00		0.54	1.00	1.00
Satd. Flow (perm)	231	3485		373	3493		1284	1818		1032	1827	1521
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	48	1043	106	64	1319	112	191	154	48	74	101	53
RTOR Reduction (vph)	0	7	0	0	6	0	0	12	0	0	0	40
Lane Group Flow (vph)	48	1142	0	64	1425	0	191	190	0	74	101	13
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	46.7	46.7		46.7	46.7		18.5	18.5		18.5	18.5	18.5
Effective Green, g (s)	47.7	47.7		47.7	47.7		19.5	19.5		19.5	19.5	19.5
Actuated g/C Ratio	0.62	0.62		0.62	0.62		0.25	0.25		0.25	0.25	0.25
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	143	2170		232	2175		326	462		262	465	387
v/s Ratio Prot		0.33			c0.41			0.10			0.06	
v/s Ratio Perm	0.21			0.17			c0.15			0.07		0.01
v/c Ratio	0.34	0.53		0.28	0.66		0.59	0.41		0.28	0.22	0.03
Uniform Delay, d1	6.9	8.1		6.6	9.2		25.0	23.8		22.9	22.5	21.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3.4	0.5		1.6	1.1		3.2	0.8		0.8	0.3	0.1
Delay (s)	10.3	8.6		8.2	10.3		28.2	24.6		23.7	22.8	21.5
Level of Service	B	A		A	B		C	C		C	C	C
Approach Delay (s)		8.7			10.2			26.3			22.8	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	76.6	Sum of lost time (s)	9.4
Intersection Capacity Utilization	81.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1950	5	0	1125	245	0	0	60	0	0	40
Future Volume (vph)	0	1950	5	0	1125	245	0	0	60	0	0	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.973				0.865			0.865
Flt Protected												
Satd. Flow (prot)	0	3472	0	0	3401	0	0	0	1644	0	0	1644
Flt Permitted												
Satd. Flow (perm)	0	3472	0	0	3401	0	0	0	1644	0	0	1644
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		104.6			121.1			111.1			94.6	
Travel Time (s)		7.5			8.7			8.0			6.8	
Confl. Peds. (#/hr)	30		10	10		30	5					5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	4%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	2216	6	0	1278	278	0	0	68	0	0	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2222	0	0	1556	0	0	0	68	0	0	45
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 64.4%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1950	5	0	1125	245	0	0	60	0	0	40
Future Volume (Veh/h)	0	1950	5	0	1125	245	0	0	60	0	0	40
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	2216	6	0	1278	278	0	0	68	0	0	45
Pedestrians		5						10			30	
Lane Width (m)		3.6						3.6			3.6	
Walking Speed (m/s)		1.2						1.2			1.2	
Percent Blockage		0						1			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		105			121							
pX, platoon unblocked	0.87			0.58			0.64	0.64	0.58	0.64	0.64	0.87
vC, conflicting volume	1586			2232			2918	3815	1121	2623	3679	813
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1377			1677			1975	3366	0	1518	3155	490
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	89	100	100	90
cM capacity (veh/h)	428			223			21	5	628	46	7	448

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	1477	745	852	704	68	45
Volume Left	0	0	0	0	0	0
Volume Right	0	6	0	278	68	45
cSH	1700	1700	1700	1700	628	448
Volume to Capacity	0.87	0.44	0.50	0.41	0.11	0.10
Queue Length 95th (m)	0.0	0.0	0.0	0.0	2.9	2.7
Control Delay (s)	0.0	0.0	0.0	0.0	11.4	13.9
Lane LOS					B	B
Approach Delay (s)	0.0		0.0		11.4	13.9
Approach LOS					B	B

Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	64.4%	ICU Level of Service	C	
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	0	100	130	0	40
Future Volume (vph)	50	0	100	130	0	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.979		
Satd. Flow (prot)	1863	0	0	1824	1611	0
Flt Permitted				0.979		
Satd. Flow (perm)	1863	0	0	1824	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	54.4			96.4	88.6	
Travel Time (s)	3.9			6.9	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	0	109	141	0	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	0	250	43	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

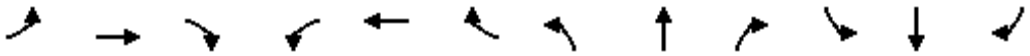
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	50	0	100	130	0	40
Future Volume (Veh/h)	50	0	100	130	0	40
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	0	109	141	0	43
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				318		
pX, platoon unblocked						
vC, conflicting volume			54		413	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			54		413	54
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		100	96
cM capacity (veh/h)			1551		554	1013

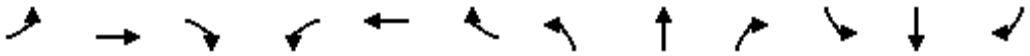
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	54	250	43
Volume Left	0	109	0
Volume Right	0	0	43
cSH	1700	1551	1013
Volume to Capacity	0.03	0.07	0.04
Queue Length 95th (m)	0.0	1.8	1.1
Control Delay (s)	0.0	3.6	8.7
Lane LOS		A	A
Approach Delay (s)	0.0	3.6	8.7
Approach LOS			A

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	29.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	40	30	30	10	0	190	20	50	120	10
Future Volume (vph)	0	0	40	30	30	10	0	190	20	50	120	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865			0.981			0.987			0.992	
Flt Protected					0.979						0.986	
Satd. Flow (prot)	0	1611	0	0	1789	0	0	1839	0	0	1822	0
Flt Permitted					0.979						0.986	
Satd. Flow (perm)	0	1611	0	0	1789	0	0	1839	0	0	1822	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		48.4			110.3			49.4			89.5	
Travel Time (s)		3.5			7.9			3.6			6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	43	33	33	11	0	207	22	54	130	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	43	0	0	77	0	0	229	0	0	195	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	41.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	40	30	30	10	0	190	20	50	120	10
Future Volume (vph)	0	0	40	30	30	10	0	190	20	50	120	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	43	33	33	11	0	207	22	54	130	11

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	43	77	229	195
Volume Left (vph)	0	33	0	54
Volume Right (vph)	43	11	22	11
Hadj (s)	-0.57	0.03	-0.02	0.06
Departure Headway (s)	4.4	5.0	4.4	4.5
Degree Utilization, x	0.05	0.11	0.28	0.24
Capacity (veh/h)	727	660	789	763
Control Delay (s)	7.7	8.5	9.1	9.0
Approach Delay (s)	7.7	8.5	9.1	9.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	8.9			
Level of Service	A			
Intersection Capacity Utilization	41.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	25	50	540	60	0	55
Future Volume (vph)	25	50	540	60	0	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.910					0.850
Flt Protected				0.957		
Satd. Flow (prot)	1695	0	0	1783	1863	1583
Flt Permitted				0.957		
Satd. Flow (perm)	1695	0	0	1783	1863	1583
Link Speed (k/h)	50			50	50	
Link Distance (m)	110.3			98.9	123.1	
Travel Time (s)	7.9			7.1	8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	54	587	65	0	60
Shared Lane Traffic (%)						
Lane Group Flow (vph)	81	0	0	652	0	60
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	25	50	540	60	0	55
Future Volume (Veh/h)	25	50	540	60	0	55
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	54	587	65	0	60
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				147		
pX, platoon unblocked					0.90	
vC, conflicting volume			81		1293	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			81		1271	54
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			61		100	94
cM capacity (veh/h)			1517		103	1013

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	81	652	0	60
Volume Left	0	587	0	0
Volume Right	54	0	0	60
cSH	1700	1517	1700	1013
Volume to Capacity	0.05	0.39	0.00	0.06
Queue Length 95th (m)	0.0	14.9	0.0	1.5
Control Delay (s)	0.0	8.3	0.0	8.8
Lane LOS		A	A	A
Approach Delay (s)	0.0	8.3	8.8	
Approach LOS			A	

Intersection Summary			
Average Delay	7.5		
Intersection Capacity Utilization	43.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	0	30	0	0	50
Future Volume (vph)	0	0	30	0	0	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.950		
Satd. Flow (prot)	1863	0	0	1770	1611	0
Flt Permitted				0.950		
Satd. Flow (perm)	1863	0	0	1770	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	39.6			48.4	40.7	
Travel Time (s)	2.9			3.5	2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	33	0	0	54
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	33	54	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

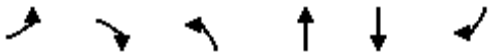
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	30	0	0	50
Future Volume (Veh/h)	0	0	30	0	0	50
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	33	0	0	54
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			0		66	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		66	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		100	95
cM capacity (veh/h)			1623		920	1085

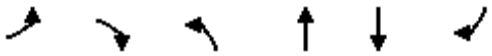
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	0	33	54
Volume Left	0	33	0
Volume Right	0	0	54
cSH	1700	1623	1085
Volume to Capacity	0.00	0.02	0.05
Queue Length 95th (m)	0.0	0.5	1.3
Control Delay (s)	0.0	7.3	8.5
Lane LOS		A	A
Approach Delay (s)	0.0	7.3	8.5
Approach LOS			A

Intersection Summary			
Average Delay	8.0		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	45	105	210	160	35
Future Volume (vph)	5	45	105	210	160	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.877				0.976	
Flt Protected	0.995			0.984		
Satd. Flow (prot)	1625	0	0	1833	1818	0
Flt Permitted	0.995			0.984		
Satd. Flow (perm)	1625	0	0	1833	1818	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	28.2			76.3	49.4	
Travel Time (s)	2.0			5.5	3.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	49	114	228	174	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	0	342	212	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 40.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	45	105	210	160	35
Future Volume (Veh/h)	5	45	105	210	160	35
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	49	114	228	174	38
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				76		
pX, platoon unblocked	0.95					
vC, conflicting volume	649	193	212			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	608	193	212			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	94	92			
cM capacity (veh/h)	401	849	1358			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	54	342	212
Volume Left	5	114	0
Volume Right	49	0	38
cSH	769	1358	1700
Volume to Capacity	0.07	0.08	0.12
Queue Length 95th (m)	1.8	2.2	0.0
Control Delay (s)	10.0	3.1	0.0
Lane LOS	B	A	
Approach Delay (s)	10.0	3.1	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	40.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	0	45	85	0	0
Future Volume (vph)	50	0	45	85	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected				0.983		
Satd. Flow (prot)	1863	0	0	1831	1863	0
Flt Permitted				0.983		
Satd. Flow (perm)	1863	0	0	1831	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	51.2			54.4	40.3	
Travel Time (s)	3.7			3.9	2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	0	49	92	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	0	141	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 17.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	50	0	45	85	0	0
Future Volume (Veh/h)	50	0	45	85	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	0	49	92	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				372		
pX, platoon unblocked						
vC, conflicting volume			54		244	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			54		244	54
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	100
cM capacity (veh/h)			1551		721	1013

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	54	141	0
Volume Left	0	49	0
Volume Right	0	0	0
cSH	1700	1551	1700
Volume to Capacity	0.03	0.03	0.01
Queue Length 95th (m)	0.0	0.8	0.0
Control Delay (s)	0.0	2.7	0.0
Lane LOS		A	A
Approach Delay (s)	0.0	2.7	0.0
Approach LOS			A

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	17.0%	ICU Level of Service	A
Analysis Period (min)	15		

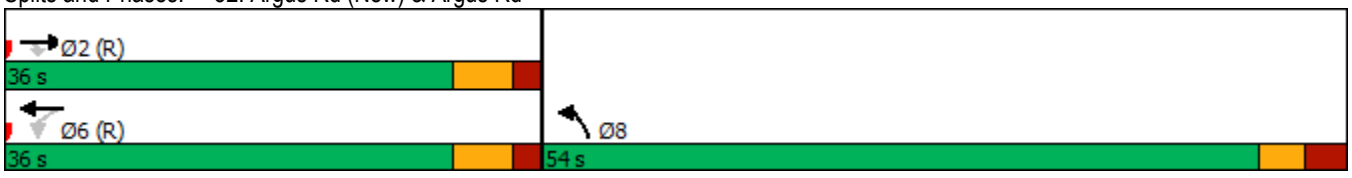


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	25	100	0	180	655	0
Future Volume (vph)	25	100	0	180	655	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		50.0	0.0		0.0	0.0
Storage Lanes		1	0		1	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected					0.950	
Satd. Flow (prot)	1863	1583	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1863	1583	0	1863	1770	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		109				
Link Speed (k/h)	50			50	50	
Link Distance (m)	119.5			170.6	100.6	
Travel Time (s)	8.6			12.3	7.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	109	0	196	712	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	109	0	196	712	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Number of Detectors	2	1	1	2	1	
Detector Template	Thru	Right	Left	Thru	Left	
Leading Detector (m)	10.0	2.0	2.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	0.6	2.0	2.0	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)	9.4			9.4		
Detector 2 Size(m)	0.6			0.6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			6	8	
Permitted Phases		2	6			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2	2	6	6	8	
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	27.0	27.0	27.0	27.0	27.0	
Total Split (s)	36.0	36.0	36.0	36.0	54.0	
Total Split (%)	40.0%	40.0%	40.0%	40.0%	60.0%	
Maximum Green (s)	30.0	30.0	30.0	30.0	48.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	13.0	13.0	13.0	13.0	13.0	
Pedestrian Calls (#/hr)	5	5	5	5	5	
Act Effct Green (s)	36.9	36.9		36.9	43.1	
Actuated g/C Ratio	0.41	0.41		0.41	0.48	
v/c Ratio	0.04	0.15		0.26	0.84	
Control Delay	24.2	14.3		10.4	30.1	
Queue Delay	0.0	0.0		0.0	0.4	
Total Delay	24.2	14.3		10.4	30.5	
LOS	C	B		B	C	
Approach Delay	16.3			10.4	30.5	
Approach LOS	B			B	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 24.9		Intersection LOS: C	
Intersection Capacity Utilization 54.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 32: Argus Rd (New) & Argus Rd





Lane Group	EBT	EBR	WBT	NBL
Lane Group Flow (vph)	27	109	196	712
v/c Ratio	0.04	0.15	0.26	0.84
Control Delay	24.2	14.3	10.4	30.1
Queue Delay	0.0	0.0	0.0	0.4
Total Delay	24.2	14.3	10.4	30.5
Queue Length 50th (m)	4.3	0.3	9.5	103.6
Queue Length 95th (m)	12.2	21.9	9.7	142.9
Internal Link Dist (m)	95.5		146.6	76.6
Turn Bay Length (m)		50.0		
Base Capacity (vph)	764	713	764	963
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	42
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.04	0.15	0.26	0.77

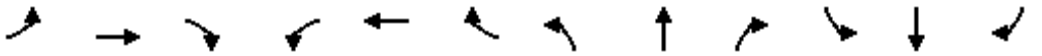
Intersection Summary



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	25	100	0	180	655	0
Future Volume (vph)	25	100	0	180	655	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	1.00	1.00		1.00	0.95	
Satd. Flow (prot)	1863	1583		1863	1770	
Flt Permitted	1.00	1.00		1.00	0.95	
Satd. Flow (perm)	1863	1583		1863	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	109	0	196	712	0
RTOR Reduction (vph)	0	64	0	0	0	0
Lane Group Flow (vph)	27	45	0	196	712	0
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			6	8	
Permitted Phases		2	6			
Actuated Green, G (s)	35.9	35.9		35.9	42.1	
Effective Green, g (s)	36.9	36.9		36.9	43.1	
Actuated g/C Ratio	0.41	0.41		0.41	0.48	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	763	649		763	847	
v/s Ratio Prot	0.01			c0.11	c0.40	
v/s Ratio Perm		0.03				
v/c Ratio	0.04	0.07		0.26	0.84	
Uniform Delay, d1	15.9	16.1		17.5	20.5	
Progression Factor	1.30	3.20		0.49	1.00	
Incremental Delay, d2	0.1	0.2		0.8	7.5	
Delay (s)	20.7	51.8		9.4	28.0	
Level of Service	C	D		A	C	
Approach Delay (s)	45.6			9.4	28.0	
Approach LOS	D			A	C	

Intersection Summary			
HCM 2000 Control Delay	26.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	0	0	0	0	0	75	0	0	0	180
Future Volume (vph)	25	0	0	0	0	0	0	75	0	0	0	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt											0.850	
Flt Protected	0.950											
Satd. Flow (prot)	1770	1863	0	1863	1863	0	1863	3539	0	1863	3008	0
Flt Permitted	0.720											
Satd. Flow (perm)	1341	1863	0	1863	1863	0	1863	3539	0	1863	3008	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)											1091	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		42.8			39.5			174.5			288.2	
Travel Time (s)		3.1			2.8			12.6			20.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	0	0	0	0	0	0	82	0	0	0	196
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	0	0	0	0	0	0	82	0	0	196	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt			pm+pt			Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		5.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	9.0	33.0		9.0	33.0		26.0	26.0		26.0	26.0	
Total Split (s)	17.0	46.0		11.0	40.0		33.0	33.0		33.0	33.0	
Total Split (%)	18.9%	51.1%		12.2%	44.4%		36.7%	36.7%		36.7%	36.7%	
Maximum Green (s)	13.0	40.0		7.0	34.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		20.0			20.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)		20			20		20	20		20	20	
Act Effct Green (s)	67.0							15.0			15.0	
Actuated g/C Ratio	0.74							0.17			0.17	
v/c Ratio	0.03							0.14			0.14	
Control Delay	3.2							21.5			0.2	
Queue Delay	0.0							0.0			0.0	
Total Delay	3.2							21.5			0.2	
LOS	A							C			A	
Approach Delay		3.2						21.5			0.2	
Approach LOS		A						C			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.14			
Intersection Signal Delay: 6.2		Intersection LOS: A	
Intersection Capacity Utilization 33.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 39: New N-S Arterial St & Davis Rd

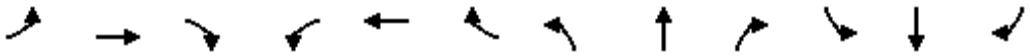




Lane Group	EBL	NBT	SBT
Lane Group Flow (vph)	27	82	196
v/c Ratio	0.03	0.14	0.14
Control Delay	3.2	21.5	0.2
Queue Delay	0.0	0.0	0.0
Total Delay	3.2	21.5	0.2
Queue Length 50th (m)	0.9	7.3	0.0
Queue Length 95th (m)	m1.6	14.4	0.0
Internal Link Dist (m)		150.5	264.2
Turn Bay Length (m)	30.0		
Base Capacity (vph)	1064	1101	1687
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.03	0.07	0.12

Intersection Summary

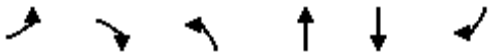
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	0	0	0	0	0	75	0	0	0	180
Future Volume (vph)	25	0	0	0	0	0	0	75	0	0	0	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0							5.0			5.0	
Lane Util. Factor	1.00							0.95			0.95	
Frt	1.00							1.00			0.85	
Flt Protected	0.95							1.00			1.00	
Satd. Flow (prot)	1770							3539			3008	
Flt Permitted	0.72							1.00			1.00	
Satd. Flow (perm)	1342							3539			3008	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	0	0	0	0	0	0	82	0	0	0	196
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	163	0
Lane Group Flow (vph)	27	0	0	0	0	0	0	82	0	0	33	0
Turn Type	pm+pt			pm+pt			Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	64.0							14.0			14.0	
Effective Green, g (s)	65.0							15.0			15.0	
Actuated g/C Ratio	0.72							0.17			0.17	
Clearance Time (s)	4.0							6.0			6.0	
Vehicle Extension (s)	3.0							3.0			3.0	
Lane Grp Cap (vph)	986							589			501	
v/s Ratio Prot	c0.00							c0.02			0.01	
v/s Ratio Perm	c0.02											
v/c Ratio	0.03							0.14			0.07	
Uniform Delay, d1	3.6							32.0			31.6	
Progression Factor	0.77							0.69			1.00	
Incremental Delay, d2	0.0							0.1			0.1	
Delay (s)	2.8							22.3			31.6	
Level of Service	A							C			C	
Approach Delay (s)		2.8			0.0			22.3			31.6	
Approach LOS		A			A			C			C	

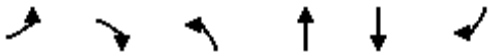
Intersection Summary			
HCM 2000 Control Delay	26.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.05		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	33.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	30	20	115	105	0	70
Future Volume (vph)	30	20	115	105	0	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.946				0.865	
Flt Protected	0.971			0.975		
Satd. Flow (prot)	1711	0	0	1816	1611	0
Flt Permitted	0.971			0.975		
Satd. Flow (perm)	1711	0	0	1816	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	46.3			94.6	83.7	
Travel Time (s)	3.3			6.8	6.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	22	125	114	0	76
Shared Lane Traffic (%)						
Lane Group Flow (vph)	55	0	0	239	76	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

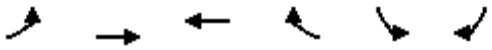
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	20	115	105	0	70
Future Volume (Veh/h)	30	20	115	105	0	70
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	22	125	114	0	76
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)					84	
pX, platoon unblocked						
vC, conflicting volume	402	38	76			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	402	38	76			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	98	92			
cM capacity (veh/h)	555	1034	1523			

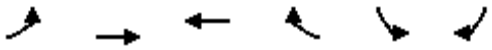
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	55	239	76
Volume Left	33	125	0
Volume Right	22	0	76
cSH	681	1523	1700
Volume to Capacity	0.08	0.08	0.04
Queue Length 95th (m)	2.1	2.1	0.0
Control Delay (s)	10.8	4.3	0.0
Lane LOS	B	A	
Approach Delay (s)	10.8	4.3	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	28.6%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	430	260	320	0	0	695
Future Volume (vph)	430	260	320	0	0	695
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	75.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt					0.865	
Flt Protected	0.950					
Satd. Flow (prot)	1770	3539	3539	0	1611	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	3539	3539	0	1611	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		182.4	224.2		204.3	
Travel Time (s)		13.1	16.1		14.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	467	283	348	0	0	755
Shared Lane Traffic (%)						
Lane Group Flow (vph)	467	283	348	0	755	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

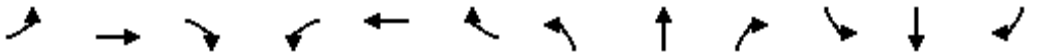
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 85.7%		ICU Level of Service E	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	430	260	320	0	0	695
Future Volume (Veh/h)	430	260	320	0	0	695
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	467	283	348	0	0	755
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		182				
pX, platoon unblocked						
vC, conflicting volume	348				1424	174
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	348				1424	174
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	61				100	10
cM capacity (veh/h)	1208				78	839

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	467	142	142	232	116	755
Volume Left	467	0	0	0	0	0
Volume Right	0	0	0	0	0	755
cSH	1208	1700	1700	1700	1700	839
Volume to Capacity	0.39	0.08	0.08	0.14	0.07	0.90
Queue Length 95th (m)	14.8	0.0	0.0	0.0	0.0	98.9
Control Delay (s)	9.8	0.0	0.0	0.0	0.0	34.1
Lane LOS	A					D
Approach Delay (s)	6.1			0.0		34.1
Approach LOS						D

Intersection Summary				
Average Delay	16.4			
Intersection Capacity Utilization	85.7%	ICU Level of Service		E
Analysis Period (min)	15			

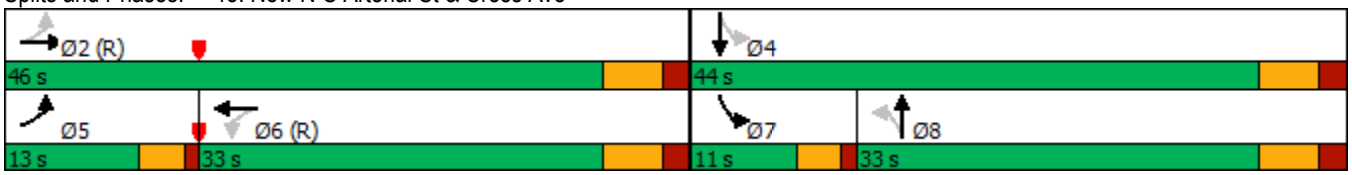


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	175	0	0	320	0	0	0	0	0	0	0
Future Volume (vph)	75	175	0	0	320	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	100.0		0.0	30.0		0.0	30.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Frt												
Flt Protected	0.950											
Satd. Flow (prot)	1770	3539	0	1863	3539	0	1863	1863	0	1863	3539	0
Flt Permitted	0.446											
Satd. Flow (perm)	831	3539	0	1863	3539	0	1863	1863	0	1863	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		141.0			372.9			75.5			174.5	
Travel Time (s)		10.2			26.8			5.4			12.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	190	0	0	348	0	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	190	0	0	348	0	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	25		100
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm			pm+pt		
Protected Phases	5	2			6			8		7	4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		6	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		20.0	20.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	9.0	33.0		33.0	33.0		33.0	33.0		9.0	33.0	
Total Split (s)	13.0	46.0		33.0	33.0		33.0	33.0		11.0	44.0	
Total Split (%)	14.4%	51.1%		36.7%	36.7%		36.7%	36.7%		12.2%	48.9%	
Maximum Green (s)	9.0	40.0		27.0	27.0		27.0	27.0		7.0	38.0	
Yellow Time (s)	3.0	4.0		4.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		2.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	5.0		5.0	5.0		5.0	5.0		3.0	5.0	
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		C-Min	C-Min		Max	Max		None	None	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)		20.0		20.0	20.0		20.0	20.0			20.0	
Pedestrian Calls (#/hr)		20		20	20		20	20			20	
Act Effct Green (s)	38.8	36.8			27.0							
Actuated g/C Ratio	0.43	0.41			0.30							
v/c Ratio	0.18	0.13			0.33							
Control Delay	15.4	16.3			16.9							
Queue Delay	0.0	0.0			0.0							
Total Delay	15.4	16.3			16.9							
LOS	B	B			B							
Approach Delay		16.0			16.9							
Approach LOS		B			B							

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.33			
Intersection Signal Delay: 16.5		Intersection LOS: B	
Intersection Capacity Utilization 41.7%		ICU Level of Service A	
Analysis Period (min) 15			

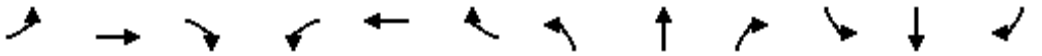
Splits and Phases: 45: New N-S Arterial St & Cross Ave





Lane Group	EBL	EBT	WBT
Lane Group Flow (vph)	82	190	348
v/c Ratio	0.18	0.13	0.33
Control Delay	15.4	16.3	16.9
Queue Delay	0.0	0.0	0.0
Total Delay	15.4	16.3	16.9
Queue Length 50th (m)	9.2	11.7	12.8
Queue Length 95th (m)	15.8	16.5	17.5
Internal Link Dist (m)		117.0	348.9
Turn Bay Length (m)	100.0		
Base Capacity (vph)	462	1612	1151
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.18	0.12	0.30

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	175	0	0	320	0	0	0	0	0	0	0
Future Volume (vph)	75	175	0	0	320	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.0			5.0							
Lane Util. Factor	1.00	0.95			0.95							
Frt	1.00	1.00			1.00							
Flt Protected	0.95	1.00			1.00							
Satd. Flow (prot)	1770	3539			3539							
Flt Permitted	0.45	1.00			1.00							
Satd. Flow (perm)	830	3539			3539							
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	190	0	0	348	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	82	190	0	0	348	0	0	0	0	0	0	0
Turn Type	pm+pt	NA		Perm	NA		Perm			pm+pt		
Protected Phases	5	2			6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.8	35.8			25.2							
Effective Green, g (s)	36.8	36.8			26.2							
Actuated g/C Ratio	0.41	0.41			0.29							
Clearance Time (s)	4.0	6.0			6.0							
Vehicle Extension (s)	3.0	3.0			3.0							
Lane Grp Cap (vph)	418	1447			1030							
v/s Ratio Prot	c0.02	0.05			c0.10							
v/s Ratio Perm	0.06											
v/c Ratio	0.20	0.13			0.34							
Uniform Delay, d1	16.7	16.6			25.1							
Progression Factor	1.00	1.00			0.64							
Incremental Delay, d2	0.2	0.2			0.9							
Delay (s)	16.9	16.8			17.0							
Level of Service	B	B			B							
Approach Delay (s)		16.8			17.0			0.0			0.0	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.14		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	41.7%	ICU Level of Service	A
Analysis Period (min)	15		

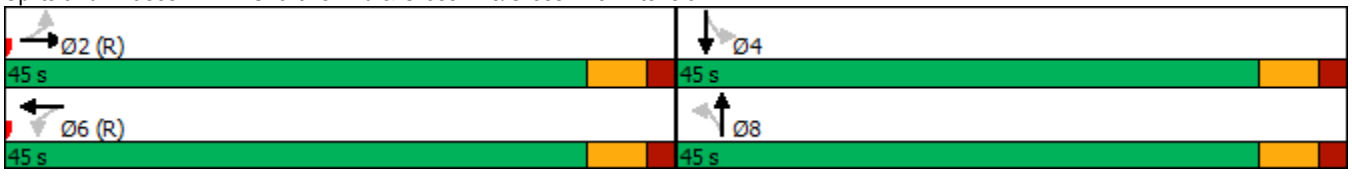
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	150	20	0	295	0	20	425	0	0	280	0
Future Volume (vph)	0	150	20	0	295	0	20	425	0	0	280	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	50.0		0.0	100.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.982										
Flt Protected								0.998				
Satd. Flow (prot)	0	3476	0	0	3539	0	0	1859	0	0	1863	0
Flt Permitted								0.976				
Satd. Flow (perm)	0	3476	0	0	3539	0	0	1818	0	0	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21										
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		372.9			79.1			116.5			339.1	
Travel Time (s)		26.8			5.7			8.4			24.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	163	22	0	321	0	22	462	0	0	304	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	185	0	0	321	0	0	484	0	0	304	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA			NA		Perm	NA			NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	33.0	33.0		33.0	33.0		33.0	33.0		33.0	33.0	
Total Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	39.0	39.0		39.0	39.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	20	20		20	20		20	20		20	20	
Act Effct Green (s)		49.3			49.3			30.7			30.7	
Actuated g/C Ratio		0.55			0.55			0.34			0.34	
v/c Ratio		0.10			0.17			0.78			0.48	
Control Delay		8.5			11.6			35.4			17.6	
Queue Delay		0.0			0.0			1.5			0.0	
Total Delay		8.5			11.6			36.9			17.6	
LOS		A			B			D			B	
Approach Delay		8.5			11.6			36.9			17.6	
Approach LOS		A			B			D			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 22.0		Intersection LOS: C	
Intersection Capacity Utilization 63.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 47: Chartwell Rd & Cross Ave/Cross Ave Extension



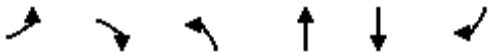
Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	185	321	484	304
v/c Ratio	0.10	0.17	0.78	0.48
Control Delay	8.5	11.6	35.4	17.6
Queue Delay	0.0	0.0	1.5	0.0
Total Delay	8.5	11.6	36.9	17.6
Queue Length 50th (m)	4.2	14.4	77.8	27.0
Queue Length 95th (m)	7.3	26.1	100.1	39.4
Internal Link Dist (m)	348.9	55.1	92.5	315.1
Turn Bay Length (m)				
Base Capacity (vph)	1914	1939	808	828
Starvation Cap Reductn	0	0	163	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.17	0.75	0.37

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	150	20	0	295	0	20	425	0	0	280	0
Future Volume (vph)	0	150	20	0	295	0	20	425	0	0	280	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.98			1.00			1.00			1.00	
Flt Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3476			3539			1859			1863	
Flt Permitted		1.00			1.00			0.98			1.00	
Satd. Flow (perm)		3476			3539			1817			1863	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	163	22	0	321	0	22	462	0	0	304	0
RTOR Reduction (vph)	0	9	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	176	0	0	321	0	0	484	0	0	304	0
Turn Type		NA			NA		Perm	NA			NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		48.3			48.3			29.7			29.7	
Effective Green, g (s)		49.3			49.3			30.7			30.7	
Actuated g/C Ratio		0.55			0.55			0.34			0.34	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1904			1938			619			635	
v/s Ratio Prot		0.05			c0.09						0.16	
v/s Ratio Perm								c0.27				
v/c Ratio		0.09			0.17			0.78			0.48	
Uniform Delay, d1		9.7			10.1			26.6			23.3	
Progression Factor		0.84			1.00			1.00			0.67	
Incremental Delay, d2		0.1			0.2			6.4			0.6	
Delay (s)		8.2			10.3			33.0			16.3	
Level of Service		A			B			C			B	
Approach Delay (s)		8.2			10.3			33.0			16.3	
Approach LOS		A			B			C			B	

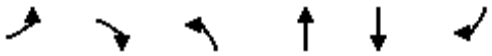
Intersection Summary			
HCM 2000 Control Delay	19.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	125	160	40	55	45
Future Volume (vph)	0	125	160	40	55	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865				0.939	
Flt Protected				0.961		
Satd. Flow (prot)	1611	0	0	1790	1749	0
Flt Permitted				0.961		
Satd. Flow (perm)	1611	0	0	1790	1749	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	40.6			89.5	88.6	
Travel Time (s)	2.9			6.4	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	136	174	43	60	49
Shared Lane Traffic (%)						
Lane Group Flow (vph)	136	0	0	217	109	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	125	160	40	55	45
Future Volume (Veh/h)	0	125	160	40	55	45
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	136	174	43	60	49
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	476	84	109			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	476	84	109			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	86	88			
cM capacity (veh/h)	484	975	1481			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	136	217	109
Volume Left	0	174	0
Volume Right	136	0	49
cSH	975	1481	1700
Volume to Capacity	0.14	0.12	0.06
Queue Length 95th (m)	3.9	3.2	0.0
Control Delay (s)	9.3	6.4	0.0
Lane LOS	A	A	
Approach Delay (s)	9.3	6.4	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	32.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	75	20	90	200	25	30
Future Volume (vph)	75	20	90	200	25	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.971				0.926	
Flt Protected				0.985	0.978	
Satd. Flow (prot)	1809	0	0	1835	1687	0
Flt Permitted				0.985	0.978	
Satd. Flow (perm)	1809	0	0	1835	1687	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	96.4			57.6	36.0	
Travel Time (s)	6.9			4.1	2.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	22	98	217	27	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	104	0	0	315	60	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	75	20	90	200	25	30
Future Volume (Veh/h)	75	20	90	200	25	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	82	22	98	217	27	33
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				222		
pX, platoon unblocked						
vC, conflicting volume			104		506	93
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			104		506	93
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		95	97
cM capacity (veh/h)			1488		491	964

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	104	315	60
Volume Left	0	98	27
Volume Right	22	0	33
cSH	1700	1488	673
Volume to Capacity	0.06	0.07	0.09
Queue Length 95th (m)	0.0	1.7	2.3
Control Delay (s)	0.0	2.8	10.9
Lane LOS		A	B
Approach Delay (s)	0.0	2.8	10.9
Approach LOS			B

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	32.2%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	85	20	100	265	25	40
Future Volume (vph)	85	20	100	265	25	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.974				0.917	
Flt Protected				0.986	0.981	
Satd. Flow (prot)	1814	0	0	1837	1676	0
Flt Permitted				0.986	0.981	
Satd. Flow (perm)	1814	0	0	1837	1676	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	57.6			163.9	50.7	
Travel Time (s)	4.1			11.8	3.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	92	22	109	288	27	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	114	0	0	397	70	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	85	20	100	265	25	40
Future Volume (Veh/h)	85	20	100	265	25	40
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	92	22	109	288	27	43
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				164		
pX, platoon unblocked						
vC, conflicting volume			114		609	103
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			114		609	103
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		94	95
cM capacity (veh/h)			1475		424	952

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	114	397	70
Volume Left	0	109	27
Volume Right	22	0	43
cSH	1700	1475	643
Volume to Capacity	0.07	0.07	0.11
Queue Length 95th (m)	0.0	1.9	2.9
Control Delay (s)	0.0	2.6	11.3
Lane LOS		A	B
Approach Delay (s)	0.0	2.6	11.3
Approach LOS			B

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	36.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	60	25	45	530	70	30
Future Volume (vph)	60	25	45	530	70	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.960				0.959	
Flt Protected				0.996	0.966	
Satd. Flow (prot)	1788	0	0	1855	1726	0
Flt Permitted				0.996	0.966	
Satd. Flow (perm)	1788	0	0	1855	1726	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	98.9			48.3	30.5	
Travel Time (s)	7.1			3.5	2.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	27	49	576	76	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	92	0	0	625	109	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	100		25	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	60	25	45	530	70	30
Future Volume (Veh/h)	60	25	45	530	70	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	27	49	576	76	33
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				48		
pX, platoon unblocked					0.88	
vC, conflicting volume			92		752	78
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			92		654	78
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		79	97
cM capacity (veh/h)			1503		369	982

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	92	625	109
Volume Left	0	49	76
Volume Right	27	0	33
cSH	1700	1503	455
Volume to Capacity	0.05	0.03	0.24
Queue Length 95th (m)	0.0	0.8	7.4
Control Delay (s)	0.0	0.9	15.4
Lane LOS		A	C
Approach Delay (s)	0.0	0.9	15.4
Approach LOS			C

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1215	60	130	1320	30	75
Future Volume (vph)	1215	60	130	1320	30	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		0.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.993					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3514	0	1770	3539	1770	1583
Flt Permitted			0.125		0.950	
Satd. Flow (perm)	3514	0	233	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	6					82
Link Speed (k/h)	50			50	50	
Link Distance (m)	106.6			164.5	249.7	
Travel Time (s)	7.7			11.8	18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1321	65	141	1435	33	82
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1386	0	141	1435	33	82
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (m)	10.0		2.0	10.0	2.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	0.6		2.0	0.6	2.0	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)	9.4			9.4		
Detector 2 Size(m)	0.6			0.6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases			6		8	8

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0		5.0	10.0	10.0	10.0
Minimum Split (s)	33.0		9.0	33.0	33.0	33.0
Total Split (s)	49.0		18.0	67.0	33.0	33.0
Total Split (%)	49.0%		18.0%	67.0%	33.0%	33.0%
Maximum Green (s)	43.0		14.0	61.0	27.0	27.0
Yellow Time (s)	4.0		3.0	4.0	4.0	4.0
All-Red Time (s)	2.0		1.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0		3.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	C-Min		None	C-Min	Min	Min
Walk Time (s)	7.0			7.0	7.0	7.0
Flash Dont Walk (s)	20.0			20.0	20.0	20.0
Pedestrian Calls (#/hr)	5			5	5	5
Act Effct Green (s)	62.7		77.6	75.6	14.4	14.4
Actuated g/C Ratio	0.63		0.78	0.76	0.14	0.14
v/c Ratio	0.63		0.42	0.54	0.13	0.28
Control Delay	15.1		7.7	6.9	35.7	9.8
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	15.1		7.7	6.9	35.7	9.8
LOS	B		A	A	D	A
Approach Delay	15.1			7.0	17.2	
Approach LOS	B			A	B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 11.0		Intersection LOS: B	
Intersection Capacity Utilization 62.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 60: New N-S Arterial St & Iroquois Shore Blvd





Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1386	141	1435	33	82
v/c Ratio	0.63	0.42	0.54	0.13	0.28
Control Delay	15.1	7.7	6.9	35.7	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	15.1	7.7	6.9	35.7	9.8
Queue Length 50th (m)	72.9	4.5	42.3	6.2	0.0
Queue Length 95th (m)	#166.5	17.8	113.0	12.5	11.1
Internal Link Dist (m)	82.6		140.5	225.7	
Turn Bay Length (m)		50.0			
Base Capacity (vph)	2206	411	2675	495	502
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.63	0.34	0.54	0.07	0.16

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1215	60	130	1320	30	75
Future Volume (vph)	1215	60	130	1320	30	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		3.0	5.0	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3514		1770	3539	1770	1583
Flt Permitted	1.00		0.13	1.00	0.95	1.00
Satd. Flow (perm)	3514		233	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1321	65	141	1435	33	82
RTOR Reduction (vph)	2	0	0	0	0	70
Lane Group Flow (vph)	1384	0	141	1435	33	12
Turn Type	NA		pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases			6		8	8
Actuated Green, G (s)	61.7		74.6	74.6	13.4	13.4
Effective Green, g (s)	62.7		75.6	75.6	14.4	14.4
Actuated g/C Ratio	0.63		0.76	0.76	0.14	0.14
Clearance Time (s)	6.0		4.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2203		328	2675	254	227
v/s Ratio Prot	c0.39		0.04	c0.41		
v/s Ratio Perm			0.28		c0.02	0.01
v/c Ratio	0.63		0.43	0.54	0.13	0.05
Uniform Delay, d1	11.5		7.7	5.0	37.3	36.9
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.4		0.9	0.8	0.2	0.1
Delay (s)	12.8		8.6	5.8	37.6	37.0
Level of Service	B		A	A	D	D
Approach Delay (s)	12.8			6.0	37.2	
Approach LOS	B			A	D	

Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

12) 2046 Future Total Traffic Conditions (Without Corridor Growth)

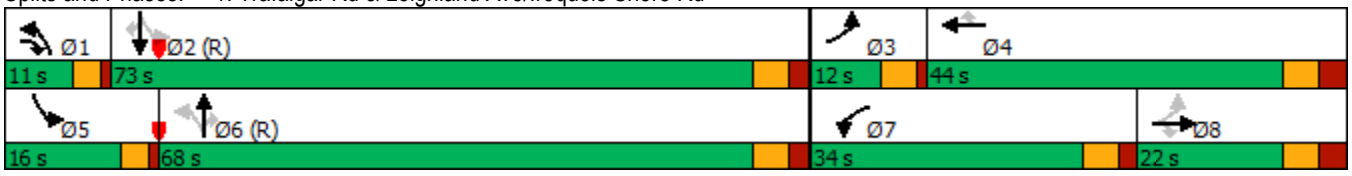
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	100	335	685	55	425	145	1085	775	265	2050	50
Future Volume (vph)	35	100	335	685	55	425	145	1085	775	265	2050	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.96					0.95			0.97	1.00		0.93
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1863	1568	3367	1827	1553	1719	4988	1568	1787	5085	1524
Flt Permitted	0.720			0.950			0.063			0.174		
Satd. Flow (perm)	1277	1863	1568	3367	1827	1470	114	4988	1525	327	5085	1424
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136			221			691			142
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			301.7			275.4			339.2	
Travel Time (s)		27.7			21.7			19.8			24.4	
Confl. Peds. (#/hr)	35					35	35		10	10		35
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Adj. Flow (vph)	35	101	338	692	56	429	146	1096	783	268	2071	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	101	338	692	56	429	146	1096	783	268	2071	51
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

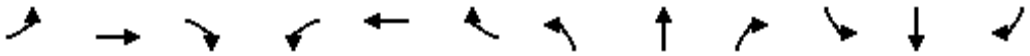
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	11.0	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	12.0	22.0	11.0	34.0	44.0	44.0	11.0	68.0	68.0	16.0	73.0	73.0
Total Split (%)	8.6%	15.7%	7.9%	24.3%	31.4%	31.4%	7.9%	48.6%	48.6%	11.4%	52.1%	52.1%
Maximum Green (s)	7.3	15.2	7.0	28.3	37.2	37.2	7.0	61.9	61.9	12.0	66.9	66.9
Yellow Time (s)	3.7	3.7	3.0	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	1.0	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					20	20		25	25		25	25
Act Effct Green (s)	24.1	13.8	30.0	29.3	38.3	38.3	76.8	64.3	64.3	82.8	67.9	67.9
Actuated g/C Ratio	0.17	0.10	0.21	0.21	0.27	0.27	0.55	0.46	0.46	0.59	0.48	0.48
v/c Ratio	0.14	0.55	0.76	0.98	0.11	0.76	0.81	0.48	0.73	0.79	0.84	0.07
Control Delay	32.6	71.4	42.8	84.7	39.7	32.3	62.5	18.7	12.8	32.6	35.3	0.2
Queue Delay	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.2	0.0
Total Delay	32.6	71.4	47.8	84.7	39.7	32.3	62.5	18.7	13.3	32.6	35.5	0.2
LOS	C	E	D	F	D	C	E	B	B	C	D	A
Approach Delay		51.7			63.5			19.7			34.5	
Approach LOS		D			E			B			C	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 36.5 Intersection LOS: D
Intersection Capacity Utilization 91.4% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd

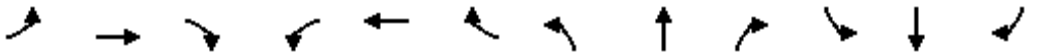




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	35	101	338	692	56	429	146	1096	783	268	2071	51
v/c Ratio	0.14	0.55	0.76	0.98	0.11	0.76	0.81	0.48	0.73	0.79	0.84	0.07
Control Delay	32.6	71.4	42.8	84.7	39.7	32.3	62.5	18.7	12.8	32.6	35.3	0.2
Queue Delay	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.2	0.0
Total Delay	32.6	71.4	47.8	84.7	39.7	32.3	62.5	18.7	13.3	32.6	35.5	0.2
Queue Length 50th (m)	6.7	28.5	57.2	104.5	12.6	59.8	27.8	71.7	54.1	35.6	188.0	0.0
Queue Length 95th (m)	14.4	48.0	96.0	#145.7	23.9	103.6	#71.5	85.9	219.6	#68.2	209.6	0.0
Internal Link Dist (m)		361.1			277.7			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	248	215	442	704	516	573	181	2291	1073	339	2466	763
Starvation Cap Reductn	0	0	0	0	0	0	0	0	59	0	0	0
Spillback Cap Reductn	0	0	58	0	0	0	0	0	0	0	64	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.47	0.88	0.98	0.11	0.75	0.81	0.48	0.77	0.79	0.86	0.07

Intersection Summary

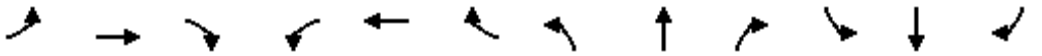
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	100	335	685	55	425	145	1085	775	265	2050	50
Future Volume (vph)	35	100	335	685	55	425	145	1085	775	265	2050	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.97	1.00	1.00	0.93
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1704	1863	1568	3367	1827	1470	1719	4988	1525	1787	5085	1424
Flt Permitted	0.72	1.00	1.00	0.95	1.00	1.00	0.06	1.00	1.00	0.17	1.00	1.00
Satd. Flow (perm)	1293	1863	1568	3367	1827	1470	114	4988	1525	327	5085	1424
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	35	101	338	692	56	429	146	1096	783	268	2071	51
RTOR Reduction (vph)	0	0	112	0	0	161	0	0	379	0	0	27
Lane Group Flow (vph)	35	101	226	692	56	268	146	1096	404	268	2071	24
Confl. Peds. (#/hr)	35					35	35		10	10		35
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	19.6	13.8	23.2	28.3	37.3	37.3	71.7	62.3	62.3	78.9	65.9	65.9
Effective Green, g (s)	21.6	14.8	25.2	29.3	38.3	38.3	73.7	63.3	63.3	80.3	66.9	66.9
Actuated g/C Ratio	0.15	0.11	0.18	0.21	0.27	0.27	0.53	0.45	0.45	0.57	0.48	0.48
Clearance Time (s)	4.7	6.8	4.0	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	219	196	282	704	499	402	179	2255	689	333	2429	680
v/s Ratio Prot	0.01	0.05	c0.06	c0.21	0.03		0.06	0.22		c0.08	c0.41	
v/s Ratio Perm	0.02		0.08			0.18	0.37		0.27	0.38		0.02
v/c Ratio	0.16	0.52	0.80	0.98	0.11	0.67	0.82	0.49	0.59	0.80	0.85	0.04
Uniform Delay, d1	51.1	59.2	55.0	55.1	38.1	45.2	35.3	26.9	28.6	18.3	32.2	19.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.17	0.68	2.26	1.00	1.00	1.00
Incremental Delay, d2	0.3	2.3	15.1	29.5	0.1	4.2	21.4	0.7	3.2	13.2	4.0	0.1
Delay (s)	51.5	61.5	70.1	84.6	38.2	49.4	62.8	18.9	67.8	31.5	36.2	19.5
Level of Service	D	E	E	F	D	D	E	B	E	C	D	B
Approach Delay (s)		66.9			69.5			41.0			35.4	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	46.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	91.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

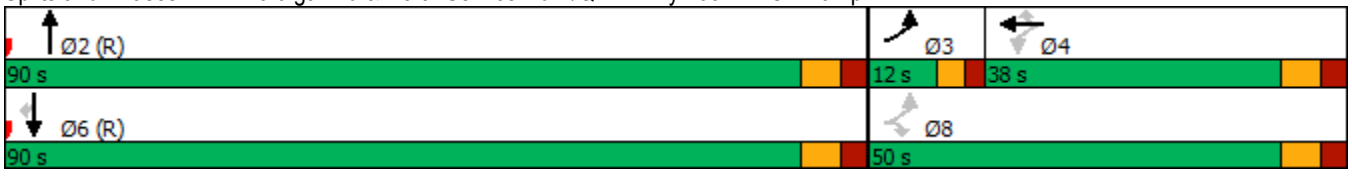


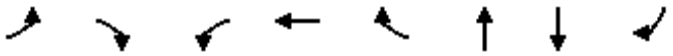
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	365	0	200	0	1815	0	0	3110	5
Future Volume (vph)	5	0	225	365	0	200	0	1815	0	0	3110	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.96
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.950							
Satd. Flow (prot)	1805	0	1599	1649	1649	1568	0	4988	0	0	5036	1615
Flt Permitted	0.357			0.950	0.950							
Satd. Flow (perm)	678	0	1599	1649	1649	1568	0	4988	0	0	5036	1543
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			95						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							10		5	5		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Adj. Flow (vph)	5	0	232	376	0	206	0	1871	0	0	3206	5
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	5	0	232	188	188	206	0	1871	0	0	3206	5
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	12.0		50.0	38.0	38.0	38.0		90.0			90.0	90.0
Total Split (%)	8.6%		35.7%	27.1%	27.1%	27.1%		64.3%			64.3%	64.3%
Maximum Green (s)	7.0		43.0	31.0	31.0	31.0		83.0			83.0	83.0
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		10			10	10
Act Effct Green (s)	28.6		26.6	24.2	24.2	24.2		101.4			101.4	101.4
Actuated g/C Ratio	0.20		0.19	0.17	0.17	0.17		0.72			0.72	0.72
v/c Ratio	0.02		0.71	0.66	0.66	0.59		0.52			0.88	0.00
Control Delay	38.0		56.2	64.6	64.6	34.4		7.7			24.3	0.0
Queue Delay	0.0		0.0	0.0	0.0	0.0		0.0			0.8	0.0
Total Delay	38.0		56.2	64.6	64.6	34.4		7.7			25.1	0.0
LOS	D		E	E	E	C		A			C	A
Approach Delay		55.8			53.9			7.7			25.1	
Approach LOS		E			D			A			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 23.7		Intersection LOS: C	
Intersection Capacity Utilization 99.1%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp

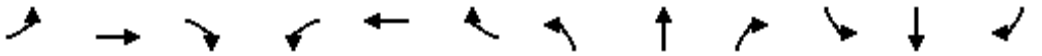




Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	5	232	188	188	206	1871	3206	5
v/c Ratio	0.02	0.71	0.66	0.66	0.59	0.52	0.88	0.00
Control Delay	38.0	56.2	64.6	64.6	34.4	7.7	24.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0
Total Delay	38.0	56.2	64.6	64.6	34.4	7.7	25.1	0.0
Queue Length 50th (m)	1.2	56.5	54.2	54.2	29.5	66.9	240.4	0.0
Queue Length 95th (m)	4.4	74.0	78.9	78.9	54.5	88.5	m#386.5	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	202	523	376	376	431	3612	3646	1136
Starvation Cap Reductn	0	0	0	0	0	0	186	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.44	0.50	0.50	0.48	0.52	0.93	0.00

Intersection Summary

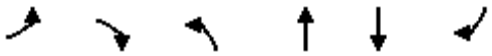
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



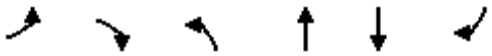
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	365	0	200	0	1815	0	0	3110	5
Future Volume (vph)	5	0	225	365	0	200	0	1815	0	0	3110	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.96
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1649	1649	1568		4988			5036	1543
Flt Permitted	0.36		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	678		1599	1649	1649	1568		4988			5036	1543
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	5	0	232	376	0	206	0	1871	0	0	3206	5
RTOR Reduction (vph)	0	0	24	0	0	79	0	0	0	0	0	2
Lane Group Flow (vph)	5	0	208	188	188	127	0	1871	0	0	3206	3
Confl. Peds. (#/hr)							10		5	5		10
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	29.6		29.6	23.2	23.2	23.2		96.4			96.4	96.4
Effective Green, g (s)	30.6		30.6	24.2	24.2	24.2		97.4			97.4	97.4
Actuated g/C Ratio	0.22		0.22	0.17	0.17	0.17		0.70			0.70	0.70
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	167		349	285	285	271		3470			3503	1073
v/s Ratio Prot	0.00							0.38			c0.64	
v/s Ratio Perm	0.01		c0.13	c0.11	0.11	0.08						0.00
v/c Ratio	0.03		0.60	0.66	0.66	0.47		0.54			0.92	0.00
Uniform Delay, d1	43.4		49.1	54.1	54.1	52.1		10.4			17.8	6.5
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.75			1.41	1.00
Incremental Delay, d2	0.1		2.9	5.4	5.4	1.3		0.5			2.7	0.0
Delay (s)	43.5		52.0	59.5	59.5	53.4		8.3			27.9	6.5
Level of Service	D		D	E	E	D		A			C	A
Approach Delay (s)		51.8			57.3			8.3			27.8	
Approach LOS		D			E			A			C	

Intersection Summary			
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	99.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



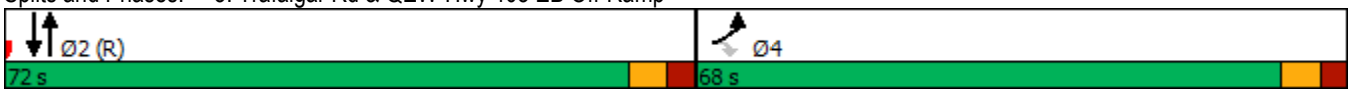
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	885	655	0	1470	2165	0
Future Volume (vph)	885	655	0	1470	2165	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3433	1583	0	4940	5036	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	1583	0	4940	5036	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		1				
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			80.8	331.3	
Travel Time (s)	15.4			5.8	23.9	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Adj. Flow (vph)	903	668	0	1500	2209	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	903	668	0	1500	2209	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	68.0	68.0		72.0	72.0	
Total Split (%)	48.6%	48.6%		51.4%	51.4%	
Maximum Green (s)	61.0	61.0		65.0	65.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		10	10	
Act Effct Green (s)	61.2	61.2		66.8	66.8	
Actuated g/C Ratio	0.44	0.44		0.48	0.48	
v/c Ratio	0.60	0.97		0.64	0.92	
Control Delay	32.0	65.0		24.3	34.7	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	32.0	65.0		24.3	34.7	
LOS	C	E		C	C	
Approach Delay	46.0			24.3	34.7	
Approach LOS	D			C	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 35.1		Intersection LOS: D	
Intersection Capacity Utilization 92.4%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp

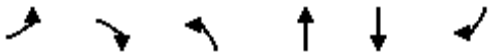




Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	903	668	1500	2209
v/c Ratio	0.60	0.97	0.64	0.92
Control Delay	32.0	65.0	24.3	34.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	32.0	65.0	24.3	34.7
Queue Length 50th (m)	101.1	184.7	66.4	191.8
Queue Length 95th (m)	122.8	#269.9	74.3	216.0
Internal Link Dist (m)	190.2		56.8	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1520	701	2355	2401
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.59	0.95	0.64	0.92

Intersection Summary

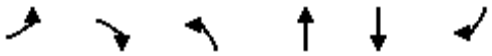
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	885	655	0	1470	2165	0
Future Volume (vph)	885	655	0	1470	2165	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	1583		4940	5036	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	1583		4940	5036	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	903	668	0	1500	2209	0
RTOR Reduction (vph)	0	1	0	0	0	0
Lane Group Flow (vph)	903	667	0	1500	2209	0
Confl. Peds. (#/hr)			10			10
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	60.2	60.2		65.8	65.8	
Effective Green, g (s)	61.2	61.2		66.8	66.8	
Actuated g/C Ratio	0.44	0.44		0.48	0.48	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1500	691		2357	2402	
v/s Ratio Prot	0.26			0.30	c0.44	
v/s Ratio Perm		c0.42				
v/c Ratio	0.60	0.97		0.64	0.92	
Uniform Delay, d1	30.1	38.4		27.5	34.1	
Progression Factor	1.00	1.00		0.84	0.88	
Incremental Delay, d2	0.7	25.8		0.9	4.2	
Delay (s)	30.8	64.2		24.0	34.2	
Level of Service	C	E		C	C	
Approach Delay (s)	45.0			24.0	34.2	
Approach LOS	D			C	C	

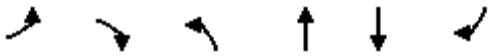
Intersection Summary			
HCM 2000 Control Delay	34.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	145	0	1530	2155	675
Future Volume (vph)	0	145	0	1530	2155	675
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.964	
Flt Protected						
Satd. Flow (prot)	0	1565	0	4940	4855	0
Flt Permitted						
Satd. Flow (perm)	0	1565	0	4940	4855	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	100.6			198.2	80.8	
Travel Time (s)	7.2			14.3	5.8	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	5%	0%	5%	3%	3%
Adj. Flow (vph)	0	156	0	1645	2317	726
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	156	0	1645	3043	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

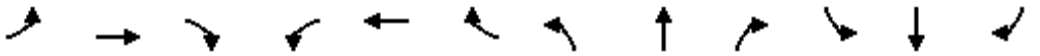
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 72.6%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	145	0	1530	2155	675
Future Volume (Veh/h)	0	145	0	1530	2155	675
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	156	0	1645	2317	726
Pedestrians	10					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				198	81	
pX, platoon unblocked	0.68	0.59	0.59			
vC, conflicting volume	3238	1145	3053			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	812	0	2032			
tC, single (s)	6.8	7.0	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	75	100			
cM capacity (veh/h)	216	625	164			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	156	548	548	548	927	927	1189
Volume Left	0	0	0	0	0	0	0
Volume Right	156	0	0	0	0	0	726
cSH	625	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.25	0.32	0.32	0.32	0.55	0.55	0.70
Queue Length 95th (m)	7.9	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	12.7	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	12.7	0.0			0.0		
Approach LOS	B						

Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	72.6%	ICU Level of Service		C
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	690	675	235	120	200	145	125	1180	35	295	1450	440
Future Volume (vph)	690	675	235	120	200	145	125	1180	35	295	1450	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		50.0	50.0		50.0	120.0		0.0	55.0		0.0
Storage Lanes	2		1	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor			0.98	1.00				1.00			0.99	
Frt			0.850			0.850		0.996			0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3273	3610	1482	1736	3438	1553	1671	5013	0	1736	4845	0
Flt Permitted	0.950			0.387			0.083			0.094		
Satd. Flow (perm)	3273	3610	1455	705	3438	1553	146	5013	0	172	4845	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			158			140		3			69	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		121.1			182.4			316.1			198.2	
Travel Time (s)		8.7			13.1			22.8			14.3	
Confl. Peds. (#/hr)			5	5			15		5	5		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Adj. Flow (vph)	711	696	242	124	206	149	129	1216	36	304	1495	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	711	696	242	124	206	149	129	1252	0	304	1949	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

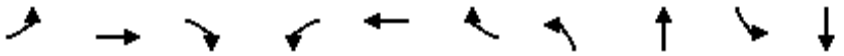
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4	8		8	2			6		
Detector Phase	7	4	4	3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	12.0	10.0	7.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0	42.0	19.0	17.0	11.0	12.0	34.0		11.0	34.0	
Total Split (s)	43.0	42.0	42.0	19.0	18.0	29.0	12.0	50.0		29.0	67.0	
Total Split (%)	30.7%	30.0%	30.0%	13.6%	12.9%	20.7%	8.6%	35.7%		20.7%	47.9%	
Maximum Green (s)	36.0	35.0	35.0	12.0	11.0	25.0	7.0	43.0		25.0	60.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	1.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0	4.0	3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0	7.0					7.0			7.0	
Flash Dont Walk (s)		28.0	28.0					20.0			20.0	
Pedestrian Calls (#/hr)		5	5					10			10	
Act Effct Green (s)	34.7	34.3	34.3	25.5	12.5	41.9	59.0	48.3		77.7	62.0	
Actuated g/C Ratio	0.25	0.24	0.24	0.18	0.09	0.30	0.42	0.34		0.56	0.44	
v/c Ratio	0.88	0.79	0.51	0.55	0.67	0.26	0.83	0.72		0.85	0.89	
Control Delay	63.2	56.5	19.5	42.0	73.3	7.6	58.6	42.5		56.4	42.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.2	
Total Delay	63.2	56.5	19.5	42.0	73.3	7.6	58.6	42.5		56.4	43.1	
LOS	E	E	B	D	E	A	E	D		E	D	
Approach Delay		54.0			44.7			44.0			44.9	
Approach LOS		D			D			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 47.3 Intersection LOS: D
Intersection Capacity Utilization 92.9% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 5: Trafalgar Rd & Cross Ave

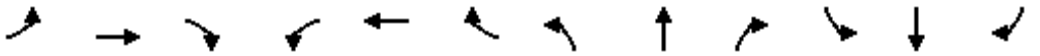




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	711	696	242	124	206	149	129	1252	304	1949
v/c Ratio	0.88	0.79	0.51	0.55	0.67	0.26	0.83	0.72	0.85	0.89
Control Delay	63.2	56.5	19.5	42.0	73.3	7.6	58.6	42.5	56.4	42.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Total Delay	63.2	56.5	19.5	42.0	73.3	7.6	58.6	42.5	56.4	43.1
Queue Length 50th (m)	101.5	98.8	19.5	23.5	31.1	1.8	27.3	96.7	72.6	153.9
Queue Length 95th (m)	125.6	122.3	47.4	38.6	45.6	18.2	m#38.9	m110.9	m81.9	m169.3
Internal Link Dist (m)		97.1			158.4			292.1		174.2
Turn Bay Length (m)	130.0		50.0	50.0		50.0	120.0		55.0	
Base Capacity (vph)	865	928	491	224	307	589	156	1732	385	2184
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	24
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.75	0.49	0.55	0.67	0.25	0.83	0.72	0.79	0.90

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	690	675	235	120	200	145	125	1180	35	295	1450	440
Future Volume (vph)	690	675	235	120	200	145	125	1180	35	295	1450	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3273	3610	1455	1734	3438	1553	1671	5011		1736	4846	
Flt Permitted	0.95	1.00	1.00	0.39	1.00	1.00	0.08	1.00		0.09	1.00	
Satd. Flow (perm)	3273	3610	1455	706	3438	1553	146	5011		172	4846	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	711	696	242	124	206	149	129	1216	36	304	1495	454
RTOR Reduction (vph)	0	0	119	0	0	104	0	2	0	0	38	0
Lane Group Flow (vph)	711	696	123	124	206	45	129	1250	0	304	1911	0
Confl. Peds. (#/hr)			5	5			15		5	5		15
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Turn Type	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4	8		8	2			6		
Actuated Green, G (s)	33.7	33.3	33.3	23.6	11.6	34.0	55.0	47.3		73.7	61.0	
Effective Green, g (s)	34.7	34.3	34.3	25.6	12.6	36.0	57.0	48.3		74.7	62.0	
Actuated g/C Ratio	0.25	0.24	0.24	0.18	0.09	0.26	0.41	0.34		0.53	0.44	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	4.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0	4.0	3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	811	884	356	224	309	399	154	1728		353	2146	
v/s Ratio Prot	c0.22	c0.19		0.05	0.06	0.02	0.05	0.25		c0.14	c0.39	
v/s Ratio Perm			0.08	0.05		0.01	0.29			0.31		
v/c Ratio	0.88	0.79	0.34	0.55	0.67	0.11	0.84	0.72		0.86	0.89	
Uniform Delay, d1	50.6	49.4	43.6	50.3	61.7	39.8	31.8	40.0		38.4	35.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.03	1.00		1.27	1.12	
Incremental Delay, d2	10.5	5.0	0.8	3.2	5.9	0.1	20.5	1.6		11.3	3.4	
Delay (s)	61.1	54.4	44.4	53.6	67.5	39.9	53.4	41.4		60.0	43.8	
Level of Service	E	D	D	D	E	D	D	D		E	D	
Approach Delay (s)		55.8			55.3			42.6			46.0	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	48.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	92.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	450	70	105	400	640	50	420	85	675	765	405
Future Volume (vph)	300	450	70	105	400	640	50	420	85	675	765	405
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.98	0.99		0.99		0.95	1.00	1.00		0.99		0.96
Frt		0.980				0.850		0.975				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3367	3326	0	1736	3438	1553	1770	3414	0	3400	1881	1553
Flt Permitted	0.950			0.345			0.164			0.950		
Satd. Flow (perm)	3303	3326	0	621	3438	1483	304	3414	0	3367	1881	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12				480		17				288
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			316.1	
Travel Time (s)		41.4			45.2			10.0			22.8	
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Adj. Flow (vph)	313	469	73	109	417	667	52	438	89	703	797	422
Shared Lane Traffic (%)												
Lane Group Flow (vph)	313	542	0	109	417	667	52	527	0	703	797	422
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

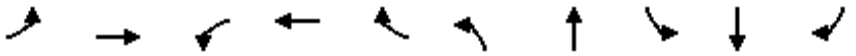
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	18.0	44.0		12.0	38.0	38.0	11.0	47.0		37.0	73.0	73.0
Total Split (%)	12.9%	31.4%		8.6%	27.1%	27.1%	7.9%	33.6%		26.4%	52.1%	52.1%
Maximum Green (s)	12.3	37.6		7.0	31.6	31.6	7.0	40.1		32.0	66.1	66.1
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		20			20	20		15			15	15
Act Effct Green (s)	15.1	36.9		39.9	29.8	29.8	53.9	43.0		32.1	70.3	70.3
Actuated g/C Ratio	0.11	0.26		0.28	0.21	0.21	0.38	0.31		0.23	0.50	0.50
v/c Ratio	0.86	0.61		0.44	0.57	0.96	0.26	0.50		0.90	0.84	0.47
Control Delay	85.6	52.0		36.8	52.1	41.0	20.2	40.9		79.3	35.6	11.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	85.6	52.0		36.8	52.1	41.0	20.2	40.9		79.3	35.6	11.5
LOS	F	D		D	D	D	C	D		E	D	B
Approach Delay		64.3			44.5			39.1			46.3	
Approach LOS		E			D			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 48.3 Intersection LOS: D
Intersection Capacity Utilization 93.1% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd

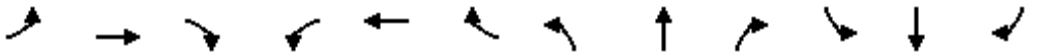




Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	313	542	109	417	667	52	527	703	797	422
v/c Ratio	0.86	0.61	0.44	0.57	0.96	0.26	0.50	0.90	0.84	0.47
Control Delay	85.6	52.0	36.8	52.1	41.0	20.2	40.9	79.3	35.6	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.6	52.0	36.8	52.1	41.0	20.2	40.9	79.3	35.6	11.5
Queue Length 50th (m)	48.0	70.0	21.2	56.3	65.0	6.3	65.3	111.3	117.7	22.5
Queue Length 95th (m)	#80.4	93.6	35.7	73.9	#150.5	12.6	84.1	m127.3	m#150.1	m35.2
Internal Link Dist (m)		551.4		604.3			115.4		292.1	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	362	931	246	800	713	200	1078	801	954	901
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.58	0.44	0.52	0.94	0.26	0.49	0.88	0.84	0.47

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	450	70	105	400	640	50	420	85	675	765	405
Future Volume (vph)	300	450	70	105	400	640	50	420	85	675	765	405
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.95	1.00	1.00		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3367	3326		1728	3438	1483	1768	3413		3400	1881	1498
Flt Permitted	0.95	1.00		0.35	1.00	1.00	0.16	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3367	3326		628	3438	1483	306	3413		3400	1881	1498
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	312	469	73	109	417	667	52	438	89	703	797	422
RTOR Reduction (vph)	0	9	0	0	0	378	0	12	0	0	0	145
Lane Group Flow (vph)	313	533	0	109	417	289	52	515	0	703	797	277
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	14.1	35.9		36.5	28.8	28.8	47.6	42.0		31.1	68.5	68.5
Effective Green, g (s)	15.1	36.9		38.5	29.8	29.8	49.6	43.0		32.1	69.5	69.5
Actuated g/C Ratio	0.11	0.26		0.28	0.21	0.21	0.35	0.31		0.23	0.50	0.50
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	363	876		241	731	315	177	1048		779	933	743
v/s Ratio Prot	c0.09	0.16		0.03	0.12		0.01	0.15		c0.21	c0.42	
v/s Ratio Perm				0.10		c0.20	0.09					0.18
v/c Ratio	0.86	0.61		0.45	0.57	0.92	0.29	0.49		0.90	0.85	0.37
Uniform Delay, d1	61.4	45.2		39.5	49.4	53.9	32.2	39.6		52.4	30.8	21.8
Progression Factor	1.03	1.11		1.00	1.00	1.00	1.00	1.00		1.33	0.93	1.43
Incremental Delay, d2	18.1	1.2		1.3	1.1	30.1	0.9	1.6		8.8	6.1	0.8
Delay (s)	81.6	51.4		40.8	50.4	84.0	33.2	41.2		78.4	34.7	32.0
Level of Service	F	D		D	D	F	C	D		E	C	C
Approach Delay (s)		62.4			68.4			40.5			50.1	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	56.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	93.1%	ICU Level of Service	F
Analysis Period (min)	15		

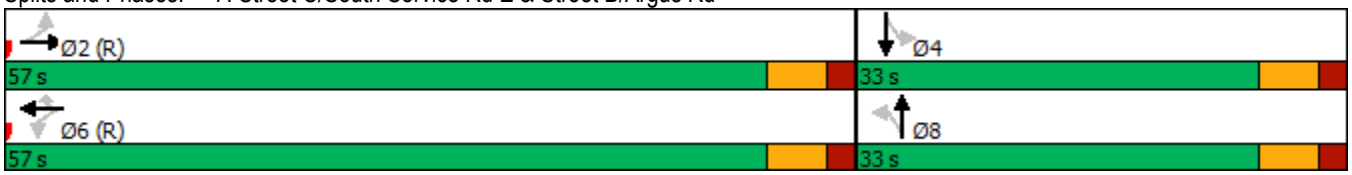
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	85	5	20	610	195	0	35	60	75	5	220
Future Volume (vph)	0	85	5	20	610	195	0	35	60	75	5	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.97		0.98		
Frt		0.992				0.850		0.915			0.854	
Flt Protected					0.998					0.950		
Satd. Flow (prot)	0	1781	0	0	1860	1568	0	1692	0	1805	1392	0
Flt Permitted					0.991					0.689		
Satd. Flow (perm)	0	1781	0	0	1847	1568	0	1692	0	1284	1392	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				219		67			232	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		48.3			119.5			83.7			163.9	
Travel Time (s)		3.5			8.6			6.0			11.8	
Confl. Peds. (#/hr)			5	5					10	10		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	6%	0%	0%	2%	3%	0%	0%	0%	0%	0%	17%
Adj. Flow (vph)	0	96	6	22	685	219	0	39	67	84	6	247
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	102	0	0	707	219	0	106	0	84	253	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA		Perm	NA	Perm		NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	26.0	26.0		26.0	26.0	
Total Split (s)	57.0	57.0		57.0	57.0	57.0	33.0	33.0		33.0	33.0	
Total Split (%)	63.3%	63.3%		63.3%	63.3%	63.3%	36.7%	36.7%		36.7%	36.7%	
Maximum Green (s)	51.0	51.0		51.0	51.0	51.0	27.0	27.0		27.0	27.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0		-1.0		-1.0	-1.0	
Total Lost Time (s)		5.0			5.0	5.0		5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min	C-Min	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		66.7			66.7	66.7		13.3		13.3	13.3	
Actuated g/C Ratio		0.74			0.74	0.74		0.15		0.15	0.15	
v/c Ratio		0.08			0.52	0.18		0.35		0.44	0.63	
Control Delay		3.6			15.3	3.9		17.7		41.9	13.7	
Queue Delay		0.0			34.1	0.0		0.0		0.0	0.0	
Total Delay		3.6			49.4	3.9		17.7		41.9	13.7	
LOS		A			D	A		B		D	B	
Approach Delay		3.6			38.6			17.7			20.8	
Approach LOS		A			D			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 30.6		Intersection LOS: C	
Intersection Capacity Utilization 62.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 7: Street C/South Service Rd E & Street B/Argus Rd

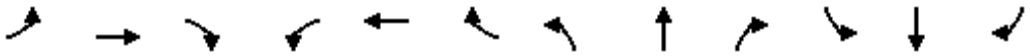




Lane Group	EBT	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	102	707	219	106	84	253
v/c Ratio	0.08	0.52	0.18	0.35	0.44	0.63
Control Delay	3.6	15.3	3.9	17.7	41.9	13.7
Queue Delay	0.0	34.1	0.0	0.0	0.0	0.0
Total Delay	3.6	49.4	3.9	17.7	41.9	13.7
Queue Length 50th (m)	3.7	117.4	8.4	6.4	14.4	3.4
Queue Length 95th (m)	9.6	151.5	m15.4	19.5	26.7	23.9
Internal Link Dist (m)	24.3	95.5		59.7		139.9
Turn Bay Length (m)						
Base Capacity (vph)	1321	1369	1219	572	399	592
Starvation Cap Reductn	0	697	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	1.05	0.18	0.19	0.21	0.43

Intersection Summary

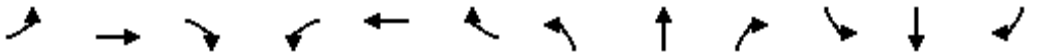
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	85	5	20	610	195	0	35	60	75	5	220
Future Volume (vph)	0	85	5	20	610	195	0	35	60	75	5	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	5.0		5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Frpb, ped/bikes		1.00			1.00	1.00		0.97		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00		0.98	1.00	
Frt		0.99			1.00	0.85		0.91		1.00	0.85	
Flt Protected		1.00			1.00	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1781			1860	1568		1692		1770	1391	
Flt Permitted		1.00			0.99	1.00		1.00		0.69	1.00	
Satd. Flow (perm)		1781			1847	1568		1692		1283	1391	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	96	6	22	685	219	0	39	67	84	6	247
RTOR Reduction (vph)	0	2	0	0	0	57	0	57	0	0	198	0
Lane Group Flow (vph)	0	100	0	0	707	162	0	49	0	84	55	0
Confl. Peds. (#/hr)			5	5					10	10		
Heavy Vehicles (%)	0%	6%	0%	0%	2%	3%	0%	0%	0%	0%	0%	17%
Turn Type		NA		Perm	NA	Perm		NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		65.7			65.7	65.7		12.3		12.3	12.3	
Effective Green, g (s)		66.7			66.7	66.7		13.3		13.3	13.3	
Actuated g/C Ratio		0.74			0.74	0.74		0.15		0.15	0.15	
Clearance Time (s)		6.0			6.0	6.0		6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		1319			1368	1162		250		189	205	
v/s Ratio Prot		0.06						0.03			0.04	
v/s Ratio Perm					c0.38	0.10				c0.07		
v/c Ratio		0.08			0.52	0.14		0.20		0.44	0.27	
Uniform Delay, d1		3.2			4.9	3.4		33.7		35.0	34.0	
Progression Factor		1.00			2.56	5.38		1.00		1.00	1.00	
Incremental Delay, d2		0.1			1.1	0.2		0.4		1.7	0.7	
Delay (s)		3.3			13.6	18.3		34.0		36.6	34.8	
Level of Service		A			B	B		C		D	C	
Approach Delay (s)		3.3			14.7			34.0			35.2	
Approach LOS		A			B			C			D	

Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

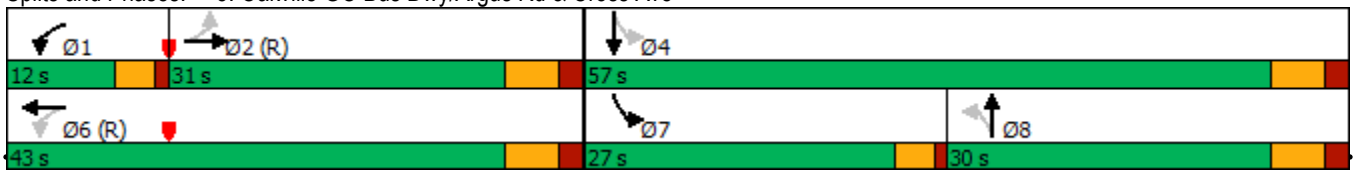


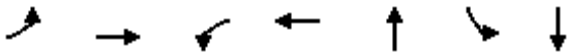
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	950	15	20	720	15	15	0	30	610	10	440
Future Volume (vph)	25	950	15	20	720	15	15	0	30	610	10	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	30.0			15.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00			1.00			0.97		0.98	0.96	
Frt		0.998			0.997			0.909			0.853	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1719	3513	0	950	3557	0	0	845	0	1719	1528	0
Flt Permitted	0.345			0.146				0.776		0.726		
Satd. Flow (perm)	621	3513	0	146	3557	0	0	664	0	1284	1528	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			2			120			75	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		126.2			104.6			107.0			123.1	
Travel Time (s)		9.1			7.5			7.7			8.9	
Confl. Peds. (#/hr)	10		10	10		10	20		20	20		20
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	1%	100%	90%	1%	7%	100%	100%	94%	5%	100%	0%
Adj. Flow (vph)	26	979	15	21	742	15	15	0	31	629	10	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	994	0	21	757	0	0	46	0	629	464	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	22.0	22.0		8.0	22.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	29.0	29.0		12.0	29.0		29.0	29.0		9.0	29.0	
Total Split (s)	31.0	31.0		12.0	43.0		30.0	30.0		27.0	57.0	
Total Split (%)	31.0%	31.0%		12.0%	43.0%		30.0%	30.0%		27.0%	57.0%	
Maximum Green (s)	25.0	25.0		8.0	37.0		24.0	24.0		23.0	51.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	5.0	5.0		2.5	5.0		4.0	4.0		3.0	4.0	
Recall Mode	C-Min	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	16.0	16.0			16.0		16.0	16.0			16.0	
Pedestrian Calls (#/hr)	10	10			10		20	20			20	
Act Effct Green (s)	45.0	45.0		52.0	50.0			16.2		42.0	40.0	
Actuated g/C Ratio	0.45	0.45		0.52	0.50			0.16		0.42	0.40	
v/c Ratio	0.09	0.63		0.14	0.43			0.22		0.98	0.71	
Control Delay	25.8	28.2		18.5	19.0			2.5		56.6	25.6	
Queue Delay	0.0	3.3		0.0	0.0			0.0		0.0	0.0	
Total Delay	25.8	31.5		18.5	19.0			2.5		56.6	25.6	
LOS	C	C		B	B			A		E	C	
Approach Delay		31.3			19.0			2.5			43.4	
Approach LOS		C			B			A			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 32.1		Intersection LOS: C	
Intersection Capacity Utilization 75.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 8: Oakville GO Bus Dwy/Argus Rd & Cross Ave



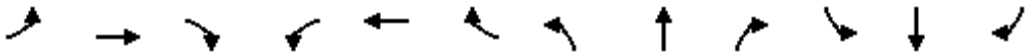


Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	26	994	21	757	46	629	464
v/c Ratio	0.09	0.63	0.14	0.43	0.22	0.98	0.71
Control Delay	25.8	28.2	18.5	19.0	2.5	56.6	25.6
Queue Delay	0.0	3.3	0.0	0.0	0.0	0.0	0.0
Total Delay	25.8	31.5	18.5	19.0	2.5	56.6	25.6
Queue Length 50th (m)	2.6	68.1	1.9	47.1	0.0	~122.6	68.1
Queue Length 95th (m)	11.5	#160.7	7.4	80.3	0.0	#134.5	83.3
Internal Link Dist (m)		102.2		80.6	83.0		99.1
Turn Bay Length (m)	20.0		20.0			15.0	
Base Capacity (vph)	279	1583	149	1778	256	644	830
Starvation Cap Reductn	0	474	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.90	0.14	0.43	0.18	0.98	0.56

Intersection Summary

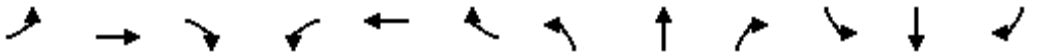
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	950	15	20	720	15	15	0	30	610	10	440
Future Volume (vph)	25	950	15	20	720	15	15	0	30	610	10	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.97		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		0.98	1.00	
Frt	1.00	1.00		1.00	1.00			0.91		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1712	3512		950	3558			842		1691	1529	
Flt Permitted	0.34	1.00		0.15	1.00			0.78		0.73	1.00	
Satd. Flow (perm)	621	3512		146	3558			664		1292	1529	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	26	979	15	21	742	15	15	0	31	629	10	454
RTOR Reduction (vph)	0	1	0	0	1	0	0	39	0	0	44	0
Lane Group Flow (vph)	26	993	0	21	756	0	0	7	0	629	420	0
Confl. Peds. (#/hr)	10		10	10		10	20		20	20		20
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	5%	1%	100%	90%	1%	7%	100%	100%	94%	5%	100%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	40.5	40.5		47.8	47.8			13.2		40.2	40.2	
Effective Green, g (s)	41.5	41.5		48.8	48.8			14.2		41.2	41.2	
Actuated g/C Ratio	0.42	0.42		0.49	0.49			0.14		0.41	0.41	
Clearance Time (s)	6.0	6.0		4.0	6.0			6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0		2.5	5.0			4.0		3.0	4.0	
Lane Grp Cap (vph)	257	1457		105	1736			94		628	629	
v/s Ratio Prot		c0.28		0.01	c0.21					c0.24	0.27	
v/s Ratio Perm	0.04			0.09				0.01		c0.17		
v/c Ratio	0.10	0.68		0.20	0.44			0.07		1.00	0.67	
Uniform Delay, d1	17.9	23.9		16.0	16.6			37.2		28.6	23.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.8	2.6		0.7	0.8			0.4		36.3	3.0	
Delay (s)	18.6	26.5		16.7	17.4			37.6		64.9	26.8	
Level of Service	B	C		B	B			D		E	C	
Approach Delay (s)		26.3			17.4			37.6			48.7	
Approach LOS		C			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	32.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



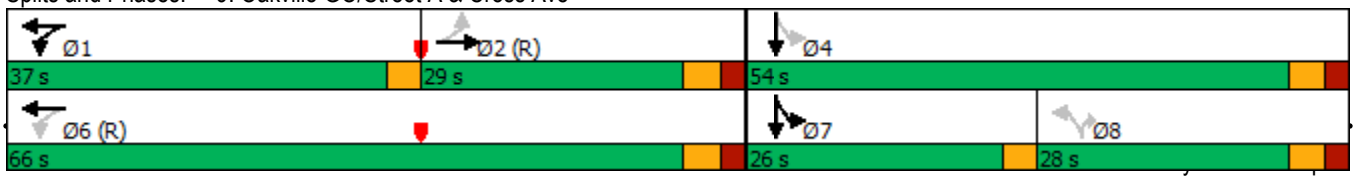
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	300	90	650	540	70	60	0	235	445	0	135
Future Volume (vph)	35	300	90	650	540	70	60	0	235	445	0	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	100.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99				1.00		1.00		0.97		0.99	
Frt		0.965			0.992				0.850		0.969	
Flt Protected	0.950				0.975		0.950				0.963	
Satd. Flow (prot)	1805	3258	0	0	3397	0	1805	0	1615	0	1767	0
Flt Permitted	0.198				0.560		0.482				0.963	
Satd. Flow (perm)	374	3258	0	0	1951	0	913	0	1570	0	1757	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			8				255		51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		120.6			126.2			63.3			76.3	
Travel Time (s)		8.7			9.1			4.6			5.5	
Confl. Peds. (#/hr)	15					15	5		10	10		5
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	38	326	98	707	587	76	65	0	255	484	0	147
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	424	0	0	1370	0	65	0	255	0	631	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	100		100
Number of Detectors	1	2		1	2		1		1	1	2	
Detector Template	Left	Thru		Left	Thru		Left		Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0		2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0		2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4						9.4	
Detector 2 Size(m)		0.6			0.6						0.6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												

Lane Group	Ø4	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type	Perm	NA		custom	NA		Perm		Perm	custom	NA	
Protected Phases		2		1	1 6					7	7 4	
Permitted Phases	2			6			8		8	4		
Detector Phase	2	2		1	1 6		8		8	7	7 4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		8.0			10.0		10.0	8.0		
Minimum Split (s)	27.6	27.6		11.0			27.6		27.6	11.0		
Total Split (s)	29.0	29.0		37.0			28.0		28.0	26.0		
Total Split (%)	24.2%	24.2%		30.8%			23.3%		23.3%	21.7%		
Maximum Green (s)	23.4	23.4		34.0			22.4		22.4	23.0		
Yellow Time (s)	3.3	3.3		3.0			3.3		3.3	3.0		
All-Red Time (s)	2.3	2.3		0.0			2.3		2.3	0.0		
Lost Time Adjust (s)	-1.0	-1.0					-1.0		-1.0			
Total Lost Time (s)	4.6	4.6					4.6		4.6			
Lead/Lag	Lag	Lag		Lead			Lag		Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes		
Vehicle Extension (s)	5.0	5.0		2.5			3.5		3.5	3.0		
Recall Mode	C-Min	C-Min		None			None		None	None		
Walk Time (s)	7.0	7.0					7.0		7.0			
Flash Dont Walk (s)	15.0	15.0					15.0		15.0			
Pedestrian Calls (#/hr)	10	10					10		10			
Act Effct Green (s)	26.6	26.6			67.5		19.2		19.2		48.5	
Actuated g/C Ratio	0.22	0.22			0.56		0.16		0.16		0.40	
v/c Ratio	0.46	0.57			1.00dl		0.45		0.55		0.85	
Control Delay	62.5	42.7			29.1		54.0		9.8		41.5	
Queue Delay	0.0	0.0			46.7		0.0		0.0		0.0	
Total Delay	62.5	42.7			75.7		54.0		9.8		41.5	
LOS	E	D			E		D		A		D	
Approach Delay		44.3			75.7			18.7			41.5	
Approach LOS		D			E			B			D	

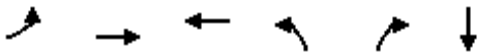
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 56.2		Intersection LOS: E	
Intersection Capacity Utilization 103.0%		ICU Level of Service G	
Analysis Period (min) 15			
dl Defacto Left Lane. Recode with 1 though lane as a left lane.			

Splits and Phases: 9: Oakville GO/Street A & Cross Ave



Lane Group	Ø4	Ø6
Detector 2 Extend (s)		
Turn Type		
Protected Phases	4	6
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	10.0	20.0
Minimum Split (s)	27.6	27.6
Total Split (s)	54.0	66.0
Total Split (%)	45%	55%
Maximum Green (s)	48.4	60.4
Yellow Time (s)	3.3	3.3
All-Red Time (s)	2.3	2.3
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	5.0
Recall Mode	None	C-Min
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	15.0	15.0
Pedestrian Calls (#/hr)	10	10
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary



Lane Group	EBL	EBT	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	38	424	1370	65	255	631
v/c Ratio	0.46	0.57	1.00dl	0.45	0.55	0.85
Control Delay	62.5	42.7	29.1	54.0	9.8	41.5
Queue Delay	0.0	0.0	46.7	0.0	0.0	0.0
Total Delay	62.5	42.7	75.7	54.0	9.8	41.5
Queue Length 50th (m)	8.4	47.2	127.9	14.4	0.0	127.5
Queue Length 95th (m)	#24.2	65.2	#179.6	28.9	22.8	174.9
Internal Link Dist (m)		96.6	102.2			52.3
Turn Bay Length (m)						
Base Capacity (vph)	83	746	1541	178	511	792
Starvation Cap Reductn	0	0	298	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.57	1.10	0.37	0.50	0.80

Intersection Summary

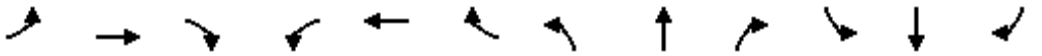
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	300	90	650	540	70	60	0	235	445	0	135
Future Volume (vph)	35	300	90	650	540	70	60	0	235	445	0	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6			2.0		4.6		4.6		2.0	
Lane Util. Factor	1.00	0.95			0.95		1.00		1.00		1.00	
Frpb, ped/bikes	1.00	1.00			1.00		1.00		0.97		1.00	
Flpb, ped/bikes	0.99	1.00			1.00		1.00		1.00		0.99	
Frt	1.00	0.97			0.99		1.00		0.85		0.97	
Flt Protected	0.95	1.00			0.97		0.95		1.00		0.96	
Satd. Flow (prot)	1794	3259			3395		1799		1570		1756	
Flt Permitted	0.20	1.00			0.56		0.48		1.00		0.96	
Satd. Flow (perm)	374	3259			1949		913		1570		1756	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	326	98	707	587	76	65	0	255	484	0	147
RTOR Reduction (vph)	0	23	0	0	4	0	0	0	214	0	31	0
Lane Group Flow (vph)	38	401	0	0	1366	0	65	0	41	0	600	0
Confl. Peds. (#/hr)	15					15	5		10	10		5
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	0%	9%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		custom	NA		Perm		Perm	custom	NA	
Protected Phases		2		1	1 6					7	7 4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	25.6	25.6			63.9		18.2		18.2		44.9	
Effective Green, g (s)	26.6	26.6			64.9		19.2		19.2		45.9	
Actuated g/C Ratio	0.22	0.22			0.54		0.16		0.16		0.38	
Clearance Time (s)	5.6	5.6					5.6		5.6			
Vehicle Extension (s)	5.0	5.0					3.5		3.5			
Lane Grp Cap (vph)	82	722			1491		146		251		671	
v/s Ratio Prot		0.12			c0.28						c0.18	
v/s Ratio Perm	0.10				0.22		0.07		0.03		0.16	
v/c Ratio	0.46	0.55			1.00dl		0.45		0.16		0.89	
Uniform Delay, d1	40.5	41.4			25.1		45.6		43.5		34.8	
Progression Factor	1.00	1.00			1.00		1.00		1.00		1.00	
Incremental Delay, d2	17.7	3.1			9.1		2.5		0.4		14.3	
Delay (s)	58.2	44.5			34.2		48.1		43.8		49.0	
Level of Service	E	D			C		D		D		D	
Approach Delay (s)		45.6			34.2			44.7			49.0	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	40.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	103.0%	ICU Level of Service	G
Analysis Period (min)	15		

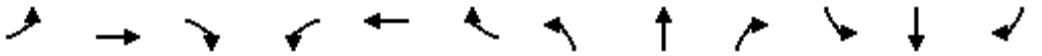
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	270	0	5	590	155	0	0	0	155	0	25
Future Volume (vph)	25	270	0	5	590	155	0	0	0	155	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (m)	25.0			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.969							0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1805	3312	0	0	3284	0	0	1900	0	1787	0	1509
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1805	3312	0	0	3284	0	0	1900	0	1787	0	1509
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		132.8			120.6			80.8			71.6	
Travel Time (s)		9.6			8.7			5.8			5.2	
Confl. Peds. (#/hr)	20		10	10		20						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	0%	0%	8%	1%	0%	0%	0%	1%	0%	7%
Adj. Flow (vph)	27	293	0	5	641	168	0	0	0	168	0	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	293	0	0	814	0	0	0	0	168	0	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

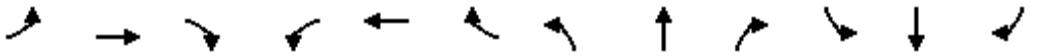
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 40.5%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	270	0	5	590	155	0	0	0	155	0	25
Future Volume (Veh/h)	25	270	0	5	590	155	0	0	0	155	0	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	293	0	5	641	168	0	0	0	168	0	27
Pedestrians								10			20	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			2	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		133			121							
pX, platoon unblocked												
vC, conflicting volume	829			303			714	1196	156	956	1112	424
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	829			303			714	1196	156	956	1112	424
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	7.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.4
p0 queue free %	97			100			100	100	100	16	100	95
cM capacity (veh/h)	798			1259			290	176	860	201	198	555

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	27	146	146	326	488	0	168	27
Volume Left	27	0	0	5	0	0	168	0
Volume Right	0	0	0	0	168	0	0	27
cSH	798	1700	1700	1259	1700	1700	201	555
Volume to Capacity	0.03	0.09	0.09	0.00	0.29	0.12	0.84	0.05
Queue Length 95th (m)	0.8	0.0	0.0	0.1	0.0	0.0	49.2	1.2
Control Delay (s)	9.7	0.0	0.0	0.2	0.0	0.0	76.2	11.8
Lane LOS	A			A		A	F	B
Approach Delay (s)	0.8			0.1		0.0	67.3	
Approach LOS						A	F	

Intersection Summary				
Average Delay	10.1			
Intersection Capacity Utilization	40.5%	ICU Level of Service		A
Analysis Period (min)	15			



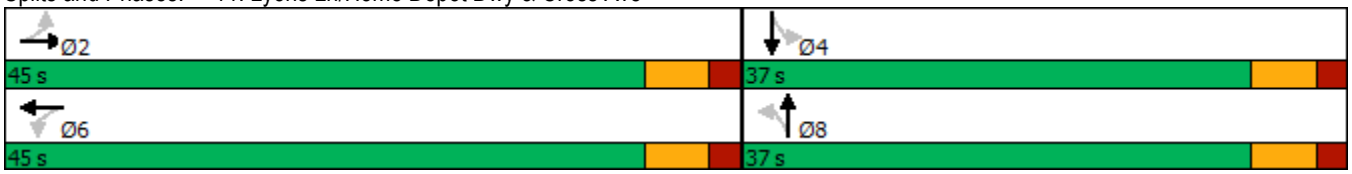
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	260	130	180	435	5	15	5	20	20	10	45
Future Volume (vph)	55	260	130	180	435	5	15	5	20	20	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	25.0		0.0	35.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00		0.99	0.99		0.99	0.99	
Frt		0.950			0.998			0.881			0.878	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3235	0	1787	3101	0	1805	1588	0	1703	1580	0
Flt Permitted	0.463			0.491			0.715			0.738		
Satd. Flow (perm)	876	3235	0	924	3101	0	1352	1588	0	1316	1580	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		149			2			23			52	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		47.5			132.8			89.0			69.0	
Travel Time (s)		3.4			9.6			6.4			5.0	
Confl. Peds. (#/hr)	5					5	5		5	5		5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	9%	0%	1%	16%	29%	0%	0%	5%	6%	0%	5%
Adj. Flow (vph)	64	302	151	209	506	6	17	6	23	23	12	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	453	0	209	512	0	17	29	0	23	64	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

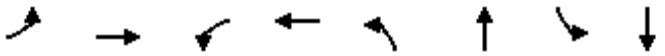
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		35.0	35.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	41.0	41.0		41.0	41.0		28.0	28.0		28.0	28.0	
Total Split (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Total Split (%)	54.9%	54.9%		54.9%	54.9%		45.1%	45.1%		45.1%	45.1%	
Maximum Green (s)	39.0	39.0		39.0	39.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	5	5		5	5		5	5		5	5	
Act Effct Green (s)	43.8	43.8		43.8	43.8		13.1	13.1		13.1	13.1	
Actuated g/C Ratio	0.76	0.76		0.76	0.76		0.23	0.23		0.23	0.23	
v/c Ratio	0.10	0.18		0.30	0.22		0.06	0.08		0.08	0.16	
Control Delay	6.3	3.6		7.7	5.2		17.8	9.8		18.1	8.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	6.3	3.6		7.7	5.2		17.8	9.8		18.1	8.5	
LOS	A	A		A	A		B	A		B	A	
Approach Delay		3.9			5.9			12.7			11.0	
Approach LOS		A			A			B			B	

Intersection Summary

Area Type: Other
Cycle Length: 82
Actuated Cycle Length: 57.9
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.30
Intersection Signal Delay: 5.7 Intersection LOS: A
Intersection Capacity Utilization 80.7% ICU Level of Service D
Analysis Period (min) 15

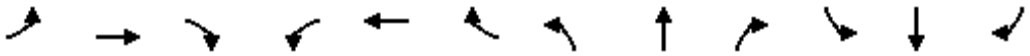
Splits and Phases: 11: Lyons Ln/Home Depot Dwy & Cross Ave





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	453	209	512	17	29	23	64
v/c Ratio	0.10	0.18	0.30	0.22	0.06	0.08	0.08	0.16
Control Delay	6.3	3.6	7.7	5.2	17.8	9.8	18.1	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.3	3.6	7.7	5.2	17.8	9.8	18.1	8.5
Queue Length 50th (m)	2.3	5.8	9.1	10.7	1.5	0.6	2.1	1.1
Queue Length 95th (m)	9.8	16.8	30.5	26.9	5.3	5.3	6.5	8.1
Internal Link Dist (m)		23.5		108.8		65.0		45.0
Turn Bay Length (m)			25.0		35.0			
Base Capacity (vph)	697	2606	736	2469	754	896	734	904
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.17	0.28	0.21	0.02	0.03	0.03	0.07

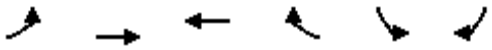
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	260	130	180	435	5	15	5	20	20	10	45
Future Volume (vph)	55	260	130	180	435	5	15	5	20	20	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	1.00		1.00	0.88		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1799	3235		1787	3102		1798	1590		1696	1582	
Flt Permitted	0.46	1.00		0.49	1.00		0.72	1.00		0.74	1.00	
Satd. Flow (perm)	877	3235		923	3102		1354	1590		1318	1582	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	64	302	151	209	506	6	17	6	23	23	12	52
RTOR Reduction (vph)	0	46	0	0	1	0	0	20	0	0	44	0
Lane Group Flow (vph)	64	407	0	209	511	0	17	9	0	23	20	0
Confl. Peds. (#/hr)	5					5	5		5	5		5
Heavy Vehicles (%)	0%	9%	0%	1%	16%	29%	0%	0%	5%	6%	0%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	40.7	40.7		40.7	40.7		7.8	7.8		7.8	7.8	
Effective Green, g (s)	41.7	41.7		41.7	41.7		8.8	8.8		8.8	8.8	
Actuated g/C Ratio	0.69	0.69		0.69	0.69		0.15	0.15		0.15	0.15	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	604	2229		636	2138		196	231		191	230	
v/s Ratio Prot		0.13			0.16			0.01			0.01	
v/s Ratio Perm	0.07			c0.23			0.01			c0.02		
v/c Ratio	0.11	0.18		0.33	0.24		0.09	0.04		0.12	0.09	
Uniform Delay, d1	3.2	3.3		3.8	3.5		22.4	22.2		22.5	22.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.1		0.6	0.1		0.3	0.1		0.4	0.2	
Delay (s)	3.3	3.4		4.4	3.6		22.6	22.3		22.9	22.6	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		3.4			3.8			22.4			22.7	
Approach LOS		A			A			C			C	

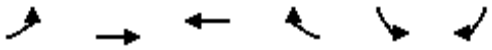
Intersection Summary			
HCM 2000 Control Delay	5.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	60.5	Sum of lost time (s)	10.0
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	400	490	5	50	30
Future Volume (vph)	10	400	490	5	50	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.998		0.950	
Flt Protected	0.950				0.970	
Satd. Flow (prot)	1805	3471	3249	0	1751	0
Flt Permitted	0.950				0.970	
Satd. Flow (perm)	1805	3471	3249	0	1751	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		443.3	47.5		121.4	
Travel Time (s)		31.9	3.4		8.7	
Confl. Peds. (#/hr)	5			5		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	4%	11%	0%	0%	0%
Adj. Flow (vph)	11	460	563	6	57	34
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	460	569	0	91	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

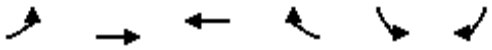
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.0%		ICU Level of Service A	
Analysis Period (min) 15			



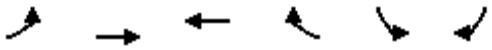
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	400	490	5	50	30
Future Volume (Veh/h)	10	400	490	5	50	30
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	11	460	563	6	57	34
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			48			
pX, platoon unblocked	0.95				0.95	0.95
vC, conflicting volume	574				823	290
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	452				714	154
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				84	96
cM capacity (veh/h)	1061				348	826

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	11	230	230	375	194	91
Volume Left	11	0	0	0	0	57
Volume Right	0	0	0	0	6	34
cSH	1061	1700	1700	1700	1700	444
Volume to Capacity	0.01	0.14	0.14	0.22	0.11	0.21
Queue Length 95th (m)	0.3	0.0	0.0	0.0	0.0	6.1
Control Delay (s)	8.4	0.0	0.0	0.0	0.0	15.2
Lane LOS	A					C
Approach Delay (s)	0.2			0.0		15.2
Approach LOS						C

Intersection Summary				
Average Delay	1.3			
Intersection Capacity Utilization	25.0%	ICU Level of Service		A
Analysis Period (min)	15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	335	755	665	40	125	425
Future Volume (vph)	335	755	665	40	125	425
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0			0.0	60.0	0.0
Storage Lanes	1			0	1	2
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.88
Ped Bike Factor	1.00		1.00			
Frt			0.992			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1703	3438	3414	0	1805	2561
Flt Permitted	0.325				0.950	
Satd. Flow (perm)	580	3438	3414	0	1805	2561
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			6			447
Link Speed (k/h)		50	50		50	
Link Distance (m)		209.5	575.4		443.3	
Travel Time (s)		15.1	41.4		31.9	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	5%	5%	0%	0%	11%
Adj. Flow (vph)	353	795	700	42	132	447
Shared Lane Traffic (%)						
Lane Group Flow (vph)	353	795	742	0	132	447
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		7.2	7.2		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			

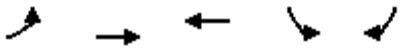


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	6.0	38.0	38.0		10.0	10.0
Minimum Split (s)	12.0	47.6	44.6		33.8	33.8
Total Split (s)	35.0	109.2	74.2		30.8	30.8
Total Split (%)	25.0%	78.0%	53.0%		22.0%	22.0%
Maximum Green (s)	29.0	102.6	67.6		25.0	25.0
Yellow Time (s)	4.0	3.7	3.7		3.3	3.3
All-Red Time (s)	2.0	2.9	2.9		2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.6	5.6		4.8	4.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Min	C-Min		None	None
Walk Time (s)		10.0	1.0		10.0	10.0
Flash Dont Walk (s)		31.0	31.0		18.0	18.0
Pedestrian Calls (#/hr)		10	10		0	0
Act Effct Green (s)	113.6	113.0	94.3		16.6	16.6
Actuated g/C Ratio	0.81	0.81	0.67		0.12	0.12
v/c Ratio	0.61	0.29	0.32		0.62	0.64
Control Delay	8.2	3.9	7.7		70.8	9.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	8.2	3.9	7.7		70.8	9.1
LOS	A	A	A		E	A
Approach Delay		5.2	7.7		23.2	
Approach LOS		A	A		C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 10.2		Intersection LOS: B	
Intersection Capacity Utilization 71.4%		ICU Level of Service C	
Analysis Period (min) 15			

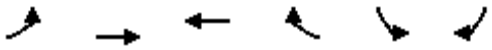
Splits and Phases: 13: Speers Rd/Cornwall Rd & Cross Ave





Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	353	795	742	132	447
v/c Ratio	0.61	0.29	0.32	0.62	0.64
Control Delay	8.2	3.9	7.7	70.8	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	8.2	3.9	7.7	70.8	9.1
Queue Length 50th (m)	20.1	25.2	35.0	37.2	0.0
Queue Length 95th (m)	36.4	39.5	40.2	57.4	16.8
Internal Link Dist (m)		185.5	551.4	419.3	
Turn Bay Length (m)	70.0			60.0	
Base Capacity (vph)	711	2775	2301	335	839
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.50	0.29	0.32	0.39	0.53

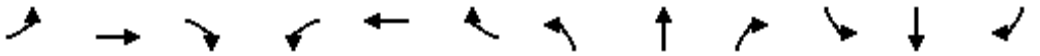
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	335	755	665	40	125	425
Future Volume (vph)	335	755	665	40	125	425
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		4.8	4.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1700	3438	3412		1805	2561
Flt Permitted	0.32	1.00	1.00		0.95	1.00
Satd. Flow (perm)	582	3438	3412		1805	2561
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	353	795	700	42	132	447
RTOR Reduction (vph)	0	0	2	0	0	394
Lane Group Flow (vph)	353	795	740	0	132	53
Confl. Peds. (#/hr)	15			15		
Heavy Vehicles (%)	6%	5%	5%	0%	0%	11%
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Actuated Green, G (s)	112.0	112.0	93.3		15.6	15.6
Effective Green, g (s)	113.0	113.0	94.3		16.6	16.6
Actuated g/C Ratio	0.81	0.81	0.67		0.12	0.12
Clearance Time (s)	6.0	6.6	6.6		5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	579	2774	2298		214	303
v/s Ratio Prot	c0.06	0.23	0.22			
v/s Ratio Perm	c0.43				c0.07	0.02
v/c Ratio	0.61	0.29	0.32		0.62	0.17
Uniform Delay, d1	4.4	3.4	9.5		58.7	55.5
Progression Factor	1.00	1.00	0.71		1.00	1.00
Incremental Delay, d2	1.8	0.3	0.3		5.2	0.3
Delay (s)	6.2	3.6	7.1		63.9	55.8
Level of Service	A	A	A		E	E
Approach Delay (s)		4.4	7.1		57.7	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

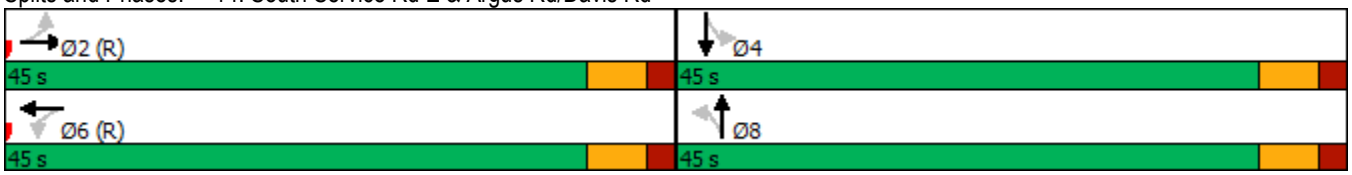


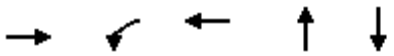
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	80	0	150	70	5	0	160	60	10	185	0
Future Volume (vph)	0	80	0	150	70	5	0	160	60	10	185	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.990			0.963				
Flt Protected				0.950							0.998	
Satd. Flow (prot)	1900	1900	0	1626	1881	0	0	1776	0	0	1844	0
Flt Permitted				0.697							0.976	
Satd. Flow (perm)	1900	1900	0	1193	1881	0	0	1776	0	0	1803	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					5			27				
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		170.6			203.3			204.3			287.4	
Travel Time (s)		12.3			14.6			14.7			20.7	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	11%	0%	0%	50%	3%	3%	0%	3%	0%
Adj. Flow (vph)	0	92	0	172	80	6	0	184	69	11	213	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	92	0	172	86	0	0	253	0	0	224	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA			NA		Perm	NA	
Protected Phases		2			6			8			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	26.0	26.0		26.0	26.0		26.0	26.0		26.0	26.0	
Total Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	39.0	39.0		39.0	39.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	20	20		20	20		20	20		20	20	
Act Effct Green (s)		61.8		61.8	61.8			18.2			18.2	
Actuated g/C Ratio		0.69		0.69	0.69			0.20			0.20	
v/c Ratio		0.07		0.21	0.07			0.67			0.62	
Control Delay		1.3		6.0	4.8			37.5			39.4	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		1.3		6.0	4.8			37.5			39.4	
LOS		A		A	A			D			D	
Approach Delay		1.3			5.6			37.5			39.4	
Approach LOS		A			A			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 24.0		Intersection LOS: C	
Intersection Capacity Utilization 42.9%		ICU Level of Service A	
Analysis Period (min) 15			

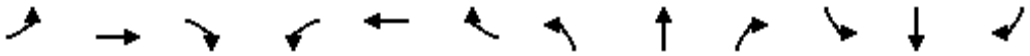
Splits and Phases: 14: South Service Rd E & Argus Rd/Davis Rd





Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	92	172	86	253	224
v/c Ratio	0.07	0.21	0.07	0.67	0.62
Control Delay	1.3	6.0	4.8	37.5	39.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	1.3	6.0	4.8	37.5	39.4
Queue Length 50th (m)	0.5	9.2	3.9	38.1	37.4
Queue Length 95th (m)	2.7	17.7	8.7	55.3	53.3
Internal Link Dist (m)	146.6		179.3	180.3	263.4
Turn Bay Length (m)		30.0			
Base Capacity (vph)	1305	819	1293	804	801
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.21	0.07	0.31	0.28

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	80	0	150	70	5	0	160	60	10	185	0
Future Volume (vph)	0	80	0	150	70	5	0	160	60	10	185	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.99			0.96			1.00	
Flt Protected		1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)		1900		1626	1880			1777			1843	
Flt Permitted		1.00		0.70	1.00			1.00			0.98	
Satd. Flow (perm)		1900		1194	1880			1777			1804	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	92	0	172	80	6	0	184	69	11	213	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	22	0	0	0	0
Lane Group Flow (vph)	0	92	0	172	84	0	0	231	0	0	224	0
Heavy Vehicles (%)	0%	0%	0%	11%	0%	0%	50%	3%	3%	0%	3%	0%
Turn Type	Perm	NA		Perm	NA			NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		60.8		60.8	60.8			17.2			17.2	
Effective Green, g (s)		61.8		61.8	61.8			18.2			18.2	
Actuated g/C Ratio		0.69		0.69	0.69			0.20			0.20	
Clearance Time (s)		6.0		6.0	6.0			6.0			6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		1304		819	1290			359			364	
v/s Ratio Prot		0.05			0.04			c0.13				
v/s Ratio Perm				c0.14							0.12	
v/c Ratio		0.07		0.21	0.07			0.64			0.62	
Uniform Delay, d1		4.6		5.2	4.6			32.9			32.7	
Progression Factor		0.21		0.86	0.86			1.00			1.00	
Incremental Delay, d2		0.1		0.6	0.1			3.9			3.1	
Delay (s)		1.1		5.0	4.1			36.9			35.8	
Level of Service		A		A	A			D			D	
Approach Delay (s)		1.1			4.7			36.9			35.8	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	42.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	60	165	95	150	100	20
Future Volume (vph)	60	165	95	150	100	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		100.0	100.0		100.0	0.0
Storage Lanes		0	0		0	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.901				0.978	
Flt Protected				0.981	0.960	
Satd. Flow (prot)	1681	0	0	1816	1755	0
Flt Permitted				0.981	0.960	
Satd. Flow (perm)	1681	0	0	1816	1755	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	252.8			547.4	339.1	
Travel Time (s)	18.2			39.4	24.4	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	7%	0%	2%	3%	1%	5%
Adj. Flow (vph)	73	201	116	183	122	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	274	0	0	299	146	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	60	165	95	150	100	20
Future Volume (Veh/h)	60	165	95	150	100	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	73	201	116	183	122	24
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			274		588	174
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			274		588	174
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			91		72	97
cM capacity (veh/h)			1289		430	862

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	274	299	146
Volume Left	0	116	122
Volume Right	201	0	24
cSH	1700	1289	469
Volume to Capacity	0.16	0.09	0.31
Queue Length 95th (m)	0.0	2.4	10.5
Control Delay (s)	0.0	3.6	16.1
Lane LOS		A	C
Approach Delay (s)	0.0	3.6	16.1
Approach LOS			C

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	685	225	40	525	35	230	65	60	110	170	25
Future Volume (vph)	25	685	225	40	525	35	230	65	60	110	170	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00		1.00	0.99		1.00		0.98
Frt		0.963			0.991			0.928				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	3335	0	1752	3436	0	1736	1732	0	1703	1881	1553
Flt Permitted	0.395			0.218			0.629			0.670		
Satd. Flow (perm)	686	3335	0	402	3436	0	1145	1732	0	1196	1881	1526
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		78			12			48				32
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			116.5	
Travel Time (s)		43.9			11.1			15.4			8.4	
Confl. Peds. (#/hr)	5					5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Adj. Flow (vph)	27	745	245	43	571	38	250	71	65	120	185	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	990	0	43	609	0	250	136	0	120	185	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	33.7	33.7		33.7	33.7		23.0	23.0		23.0	23.0	23.0
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.35	0.35		0.35	0.35	0.35
v/c Ratio	0.08	0.57		0.21	0.35		0.63	0.22		0.29	0.28	0.05
Control Delay	10.5	12.5		13.7	10.8		27.8	12.5		19.5	18.2	6.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	10.5	12.5		13.7	10.8		27.8	12.5		19.5	18.2	6.2
LOS	B	B		B	B		C	B		B	B	A
Approach Delay		12.4			11.0			22.4			17.7	
Approach LOS		B			B			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 66.6			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 14.4		Intersection LOS: B	
Intersection Capacity Utilization 68.6%		ICU Level of Service C	
Analysis Period (min) 15			

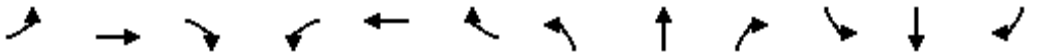
Splits and Phases: 16: Chartwell Rd & Cornwall Rd





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	27	990	43	609	250	136	120	185	27
v/c Ratio	0.08	0.57	0.21	0.35	0.63	0.22	0.29	0.28	0.05
Control Delay	10.5	12.5	13.7	10.8	27.8	12.5	19.5	18.2	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.5	12.5	13.7	10.8	27.8	12.5	19.5	18.2	6.2
Queue Length 50th (m)	1.7	39.8	2.9	22.6	26.0	7.6	10.9	16.7	0.0
Queue Length 95th (m)	6.4	69.8	10.5	40.6	61.6	22.9	28.5	38.9	4.8
Internal Link Dist (m)		585.1		130.4		189.6		92.5	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	596	2907	349	2986	566	881	592	931	771
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.34	0.12	0.20	0.44	0.15	0.20	0.20	0.04

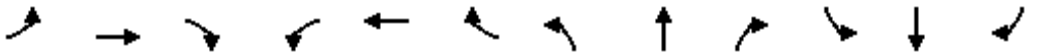
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	685	225	40	525	35	230	65	60	110	170	25
Future Volume (vph)	25	685	225	40	525	35	230	65	60	110	170	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.99		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1651	3334		1752	3435		1731	1734		1698	1881	1529
Flt Permitted	0.39	1.00		0.22	1.00		0.63	1.00		0.67	1.00	1.00
Satd. Flow (perm)	686	3334		402	3435		1145	1734		1197	1881	1529
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	745	245	43	571	38	250	71	65	120	185	27
RTOR Reduction (vph)	0	38	0	0	6	0	0	31	0	0	0	18
Lane Group Flow (vph)	27	952	0	43	603	0	250	105	0	120	185	9
Confl. Peds. (#/hr)	5					5	5		5	5		5
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	32.7	32.7		32.7	32.7		22.0	22.0		22.0	22.0	22.0
Effective Green, g (s)	33.7	33.7		33.7	33.7		23.0	23.0		23.0	23.0	23.0
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.35	0.35		0.35	0.35	0.35
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	349	1699		204	1751		398	603		416	654	532
v/s Ratio Prot		c0.29			0.18			0.06			0.10	
v/s Ratio Perm	0.04			0.11			c0.22			0.10		0.01
v/c Ratio	0.08	0.56		0.21	0.34		0.63	0.17		0.29	0.28	0.02
Uniform Delay, d1	8.3	11.1		8.9	9.6		18.0	15.0		15.6	15.6	14.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.8		1.3	0.3		3.5	0.2		0.5	0.3	0.0
Delay (s)	8.5	11.9		10.2	9.9		21.5	15.1		16.1	15.9	14.2
Level of Service	A	B		B	A		C	B		B	B	B
Approach Delay (s)		11.8			9.9			19.2			15.9	
Approach LOS		B			A			B			B	

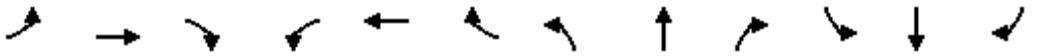
Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	66.1	Sum of lost time (s)	9.4
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1565	20	0	710	65	0	0	20	0	0	50
Future Volume (vph)	0	1565	20	0	710	65	0	0	20	0	0	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.998			0.987				0.865			0.865
Flt Protected												
Satd. Flow (prot)	0	3370	0	0	3407	0	0	0	1644	0	0	1644
Flt Permitted												
Satd. Flow (perm)	0	3370	0	0	3407	0	0	0	1644	0	0	1644
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		104.6			121.1			111.1			94.6	
Travel Time (s)		7.5			8.7			8.0			6.8	
Confl. Peds. (#/hr)	15		10	10		15	5		5	5		5
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	7%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	1630	21	0	740	68	0	0	21	0	0	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1651	0	0	808	0	0	0	21	0	0	52
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 55.4%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1565	20	0	710	65	0	0	20	0	0	50
Future Volume (Veh/h)	0	1565	20	0	710	65	0	0	20	0	0	50
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	1630	21	0	740	68	0	0	21	0	0	52
Pedestrians		5			5			10			15	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		105			121							
pX, platoon unblocked	0.95			0.77			0.79	0.79	0.77	0.79	0.79	0.95
vC, conflicting volume	823			1661			2078	2474	840	1630	2450	424
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	705			1258			1547	2046	190	984	2016	284
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	97	100	100	92
cM capacity (veh/h)	845			427			56	44	627	153	46	670

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	1087	564	493	315	21	52
Volume Left	0	0	0	0	0	0
Volume Right	0	21	0	68	21	52
cSH	1700	1700	1700	1700	627	670
Volume to Capacity	0.64	0.33	0.29	0.19	0.03	0.08
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.8	2.0
Control Delay (s)	0.0	0.0	0.0	0.0	10.9	10.8
Lane LOS					B	B
Approach Delay (s)	0.0		0.0		10.9	10.8
Approach LOS					B	B

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	55.4%	ICU Level of Service		B
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	125	0	180	40	0	15
Future Volume (vph)	125	0	180	40	0	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.961		
Satd. Flow (prot)	1863	0	0	1790	1611	0
Flt Permitted				0.961		
Satd. Flow (perm)	1863	0	0	1790	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	54.4			96.4	88.6	
Travel Time (s)	3.9			6.9	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	136	0	196	43	0	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	136	0	0	239	16	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

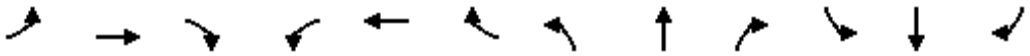
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	125	0	180	40	0	15
Future Volume (Veh/h)	125	0	180	40	0	15
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	136	0	196	43	0	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				318		
pX, platoon unblocked						
vC, conflicting volume			136		571	136
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			136		571	136
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			86		100	98
cM capacity (veh/h)			1448		417	913

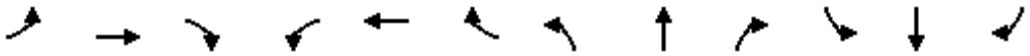
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	136	239	16
Volume Left	0	196	0
Volume Right	0	0	16
cSH	1700	1448	913
Volume to Capacity	0.08	0.14	0.02
Queue Length 95th (m)	0.0	3.7	0.4
Control Delay (s)	0.0	6.7	9.0
Lane LOS		A	A
Approach Delay (s)	0.0	6.7	9.0
Approach LOS			A

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	32.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	5	105	15	15	0	0	45	10	140	350	0
Future Volume (vph)	0	5	105	15	15	0	0	45	10	140	350	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.871						0.975				
Flt Protected					0.976						0.986	
Satd. Flow (prot)	0	1622	0	0	1818	0	0	1816	0	0	1837	0
Flt Permitted					0.976						0.986	
Satd. Flow (perm)	0	1622	0	0	1818	0	0	1816	0	0	1837	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		48.4			110.3			49.4			89.5	
Travel Time (s)		3.5			7.9			3.6			6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	5	114	16	16	0	0	49	11	152	380	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	119	0	0	32	0	0	60	0	0	532	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	5	105	15	15	0	0	45	10	140	350	0
Future Volume (vph)	0	5	105	15	15	0	0	45	10	140	350	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	5	114	16	16	0	0	49	11	152	380	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	119	32	60	532
Volume Left (vph)	0	16	0	152
Volume Right (vph)	114	0	11	0
Hadj (s)	-0.54	0.13	-0.08	0.09
Departure Headway (s)	4.8	5.6	4.8	4.5
Degree Utilization, x	0.16	0.05	0.08	0.66
Capacity (veh/h)	670	565	698	788
Control Delay (s)	8.7	8.9	8.2	15.6
Approach Delay (s)	8.7	8.9	8.2	15.6
Approach LOS	A	A	A	C

Intersection Summary				
Delay	13.6			
Level of Service	B			
Intersection Capacity Utilization	47.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	15	140	965	25	0	20
Future Volume (vph)	15	140	965	25	0	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.878					0.850
Flt Protected				0.954		
Satd. Flow (prot)	1635	0	0	1777	1863	1583
Flt Permitted				0.954		
Satd. Flow (perm)	1635	0	0	1777	1863	1583
Link Speed (k/h)	50			50	50	
Link Distance (m)	110.3			98.9	123.1	
Travel Time (s)	7.9			7.1	8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	152	1049	27	0	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	168	0	0	1076	0	22
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 70.9%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	15	140	965	25	0	20
Future Volume (Veh/h)	15	140	965	25	0	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	152	1049	27	0	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				147		
pX, platoon unblocked					0.83	
vC, conflicting volume			168		2217	92
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			168		2361	92
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			26		100	98
cM capacity (veh/h)			1410		8	965

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	168	1076	0	22
Volume Left	0	1049	0	0
Volume Right	152	0	0	22
cSH	1700	1410	1700	965
Volume to Capacity	0.10	0.74	0.00	0.02
Queue Length 95th (m)	0.0	59.9	0.0	0.6
Control Delay (s)	0.0	14.5	0.0	8.8
Lane LOS		B	A	A
Approach Delay (s)	0.0	14.5	8.8	
Approach LOS			A	

Intersection Summary			
Average Delay	12.4		
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	0	15	0	0	120
Future Volume (vph)	0	0	15	0	0	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.950		
Satd. Flow (prot)	1863	0	0	1770	1611	0
Flt Permitted				0.950		
Satd. Flow (perm)	1863	0	0	1770	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	39.6			48.4	40.7	
Travel Time (s)	2.9			3.5	2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	16	0	0	130
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	16	130	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

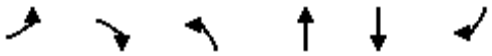
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 17.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	15	0	0	120
Future Volume (Veh/h)	0	0	15	0	0	120
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	16	0	0	130
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			0		32	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		32	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	88
cM capacity (veh/h)			1623		972	1085

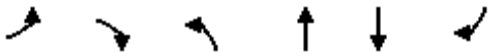
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	0	16	130
Volume Left	0	16	0
Volume Right	0	0	130
cSH	1700	1623	1085
Volume to Capacity	0.00	0.01	0.12
Queue Length 95th (m)	0.0	0.2	3.3
Control Delay (s)	0.0	7.2	8.8
Lane LOS		A	A
Approach Delay (s)	0.0	7.2	8.8
Approach LOS			A

Intersection Summary			
Average Delay	8.6		
Intersection Capacity Utilization	17.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	105	30	50	455	15
Future Volume (vph)	5	105	30	50	455	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.871				0.996	
Flt Protected	0.998			0.981		
Satd. Flow (prot)	1619	0	0	1827	1855	0
Flt Permitted	0.998			0.981		
Satd. Flow (perm)	1619	0	0	1827	1855	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	28.2			76.3	49.4	
Travel Time (s)	2.0			5.5	3.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	114	33	54	495	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	119	0	0	87	511	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 42.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	105	30	50	455	15
Future Volume (Veh/h)	5	105	30	50	455	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	114	33	54	495	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				76		
pX, platoon unblocked						
vC, conflicting volume	623	503	511			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	623	503	511			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	80	97			
cM capacity (veh/h)	436	569	1054			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	119	87	511
Volume Left	5	33	0
Volume Right	114	0	16
cSH	561	1054	1700
Volume to Capacity	0.21	0.03	0.30
Queue Length 95th (m)	6.4	0.8	0.0
Control Delay (s)	13.1	3.4	0.0
Lane LOS	B	A	
Approach Delay (s)	13.1	3.4	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	115	0	15	25	0	10
Future Volume (vph)	115	0	15	25	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.982		
Satd. Flow (prot)	1863	0	0	1829	1611	0
Flt Permitted				0.982		
Satd. Flow (perm)	1863	0	0	1829	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	51.2			54.4	40.3	
Travel Time (s)	3.7			3.9	2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	0	16	27	0	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	125	0	0	43	11	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	115	0	15	25	0	10
Future Volume (Veh/h)	115	0	15	25	0	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	125	0	16	27	0	11
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				372		
pX, platoon unblocked						
vC, conflicting volume			125		184	125
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			125		184	125
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	99
cM capacity (veh/h)			1462		796	926

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	125	43	11
Volume Left	0	16	0
Volume Right	0	0	11
cSH	1700	1462	926
Volume to Capacity	0.07	0.01	0.01
Queue Length 95th (m)	0.0	0.3	0.3
Control Delay (s)	0.0	2.8	8.9
Lane LOS		A	A
Approach Delay (s)	0.0	2.8	8.9
Approach LOS			A

Intersection Summary			
Average Delay		1.2	
Intersection Capacity Utilization		18.8%	ICU Level of Service A
Analysis Period (min)		15	

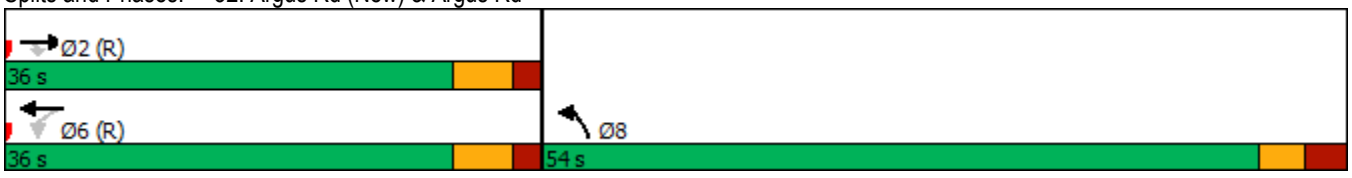


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	80	145	0	70	675	0
Future Volume (vph)	80	145	0	70	675	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		50.0	0.0		0.0	0.0
Storage Lanes		1	0		1	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected					0.950	
Satd. Flow (prot)	1863	1583	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1863	1583	0	1863	1770	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		158				
Link Speed (k/h)	50			50	50	
Link Distance (m)	119.5			170.6	100.6	
Travel Time (s)	8.6			12.3	7.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	158	0	76	734	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	87	158	0	76	734	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Number of Detectors	2	1	1	2	1	
Detector Template	Thru	Right	Left	Thru	Left	
Leading Detector (m)	10.0	2.0	2.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	0.6	2.0	2.0	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)	9.4			9.4		
Detector 2 Size(m)	0.6			0.6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			6	8	
Permitted Phases		2	6			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2	2	6	6	8	
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	27.0	27.0	27.0	27.0	27.0	
Total Split (s)	36.0	36.0	36.0	36.0	54.0	
Total Split (%)	40.0%	40.0%	40.0%	40.0%	60.0%	
Maximum Green (s)	30.0	30.0	30.0	30.0	48.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	13.0	13.0	13.0	13.0	13.0	
Pedestrian Calls (#/hr)	5	5	5	5	5	
Act Effct Green (s)	36.3	36.3		36.3	43.7	
Actuated g/C Ratio	0.40	0.40		0.40	0.49	
v/c Ratio	0.12	0.22		0.10	0.85	
Control Delay	21.5	10.1		12.4	30.8	
Queue Delay	0.0	0.0		0.0	3.8	
Total Delay	21.5	10.1		12.4	34.7	
LOS	C	B		B	C	
Approach Delay	14.1			12.4	34.7	
Approach LOS	B			B	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 28.3		Intersection LOS: C	
Intersection Capacity Utilization 54.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 32: Argus Rd (New) & Argus Rd





Lane Group	EBT	EBR	WBT	NBL
Lane Group Flow (vph)	87	158	76	734
v/c Ratio	0.12	0.22	0.10	0.85
Control Delay	21.5	10.1	12.4	30.8
Queue Delay	0.0	0.0	0.0	3.8
Total Delay	21.5	10.1	12.4	34.7
Queue Length 50th (m)	13.4	0.0	8.1	106.6
Queue Length 95th (m)	27.7	21.7	15.3	152.2
Internal Link Dist (m)	95.5		146.6	76.6
Turn Bay Length (m)		50.0		
Base Capacity (vph)	750	732	750	963
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	3	152
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.12	0.22	0.10	0.91

Intersection Summary



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	80	145	0	70	675	0
Future Volume (vph)	80	145	0	70	675	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	1.00	1.00		1.00	0.95	
Satd. Flow (prot)	1863	1583		1863	1770	
Flt Permitted	1.00	1.00		1.00	0.95	
Satd. Flow (perm)	1863	1583		1863	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	158	0	76	734	0
RTOR Reduction (vph)	0	94	0	0	0	0
Lane Group Flow (vph)	87	64	0	76	734	0
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			6	8	
Permitted Phases		2	6			
Actuated Green, G (s)	35.3	35.3		35.3	42.7	
Effective Green, g (s)	36.3	36.3		36.3	43.7	
Actuated g/C Ratio	0.40	0.40		0.40	0.49	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	751	638		751	859	
v/s Ratio Prot	c0.05			0.04	c0.41	
v/s Ratio Perm		0.04				
v/c Ratio	0.12	0.10		0.10	0.85	
Uniform Delay, d1	16.8	16.7		16.7	20.4	
Progression Factor	1.11	2.59		0.64	1.00	
Incremental Delay, d2	0.3	0.3		0.3	8.3	
Delay (s)	19.0	43.6		10.9	28.7	
Level of Service	B	D		B	C	
Approach Delay (s)	34.9			10.9	28.7	
Approach LOS	C			B	C	

Intersection Summary			
HCM 2000 Control Delay	28.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	165	0	15	195	0	105
Future Volume (vph)	165	0	15	195	0	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.997		
Satd. Flow (prot)	1863	0	0	1857	1611	0
Flt Permitted				0.997		
Satd. Flow (perm)	1863	0	0	1857	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	114.5			296.0	104.6	
Travel Time (s)	8.2			21.3	7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	179	0	16	212	0	114
Shared Lane Traffic (%)						
Lane Group Flow (vph)	179	0	0	228	114	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	165	0	15	195	0	105
Future Volume (Veh/h)	165	0	15	195	0	105
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	179	0	16	212	0	114
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	402					
pX, platoon unblocked						
vC, conflicting volume			179		423	179
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			179		423	179
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	87
cM capacity (veh/h)			1397		581	864

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	179	228	114
Volume Left	0	16	0
Volume Right	0	0	114
cSH	1700	1397	864
Volume to Capacity	0.11	0.01	0.13
Queue Length 95th (m)	0.0	0.3	3.6
Control Delay (s)	0.0	0.6	9.8
Lane LOS		A	A
Approach Delay (s)	0.0	0.6	9.8
Approach LOS			A

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	35.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	270	0	15	210	0	0
Future Volume (vph)	270	0	15	210	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected				0.997		
Satd. Flow (prot)	1863	0	0	1857	1863	0
Flt Permitted				0.997		
Satd. Flow (perm)	1863	0	0	1857	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	296.0			252.8	95.7	
Travel Time (s)	21.3			18.2	6.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	293	0	16	228	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	293	0	0	244	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

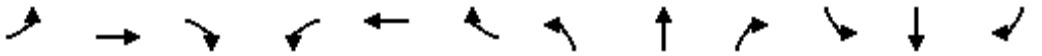
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	270	0	15	210	0	0
Future Volume (Veh/h)	270	0	15	210	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	293	0	16	228	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			293		553	293
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			293		553	293
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	100
cM capacity (veh/h)			1269		488	746

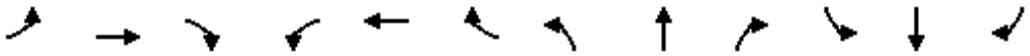
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	293	244	0
Volume Left	0	16	0
Volume Right	0	0	0
cSH	1700	1269	1700
Volume to Capacity	0.17	0.01	0.00
Queue Length 95th (m)	0.0	0.3	0.0
Control Delay (s)	0.0	0.6	0.0
Lane LOS		A	A
Approach Delay (s)	0.0	0.6	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	26.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	80	0	5	105	5	0	20	25	55	65	35
Future Volume (vph)	0	80	0	5	105	5	0	20	25	55	65	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.995			0.926			0.970	
Flt Protected					0.998						0.983	
Satd. Flow (prot)	0	1863	0	0	1850	0	0	1725	0	0	1776	0
Flt Permitted					0.998						0.983	
Satd. Flow (perm)	0	1863	0	0	1850	0	0	1725	0	0	1776	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		110.1			109.7			90.9			84.0	
Travel Time (s)		7.9			7.9			6.5			6.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	87	0	5	114	5	0	22	27	60	71	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	87	0	0	124	0	0	49	0	0	169	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Free			Free			Stop			Stop	

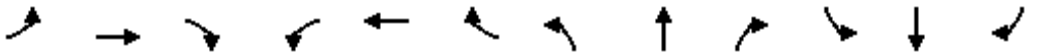
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	80	0	5	105	5	0	20	25	55	65	35
Future Volume (Veh/h)	0	80	0	5	105	5	0	20	25	55	65	35
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	87	0	5	114	5	0	22	27	60	71	38
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		313			152							
pX, platoon unblocked												
vC, conflicting volume	119			87			287	216	87	252	214	116
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	119			87			287	216	87	252	214	116
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	97	97	91	90	96
cM capacity (veh/h)	1469			1509			586	680	971	664	682	936

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	87	124	49	169
Volume Left	0	5	0	60
Volume Right	0	5	27	38
cSH	1469	1509	814	719
Volume to Capacity	0.00	0.00	0.06	0.24
Queue Length 95th (m)	0.0	0.1	1.5	7.3
Control Delay (s)	0.0	0.3	9.7	11.5
Lane LOS		A	A	B
Approach Delay (s)	0.0	0.3	9.7	11.5
Approach LOS			A	B

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	31.8%	ICU Level of Service	A
Analysis Period (min)	15		



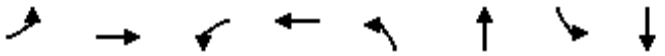
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	0	125	70	0	125	20	315	5	30	5	100
Future Volume (vph)	180	0	125	70	0	125	20	315	5	30	5	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.850			0.850			0.998			0.857	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1583	0	1770	1583	0	1770	3532	0	1770	3033	0
Flt Permitted	0.633			0.670			0.680			0.434		
Satd. Flow (perm)	1179	1583	0	1248	1583	0	1267	3532	0	808	3033	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1023			352			2			109	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		42.8			39.5			174.5			288.2	
Travel Time (s)		3.1			2.8			12.6			20.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	0	136	76	0	136	22	342	5	33	5	109
Shared Lane Traffic (%)												
Lane Group Flow (vph)	196	136	0	76	136	0	22	347	0	33	114	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		5.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	9.0	33.0		9.0	33.0		26.0	26.0		26.0	26.0	
Total Split (s)	17.0	46.0		11.0	40.0		33.0	33.0		33.0	33.0	
Total Split (%)	18.9%	51.1%		12.2%	44.4%		36.7%	36.7%		36.7%	36.7%	
Maximum Green (s)	13.0	40.0		7.0	34.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		20.0			20.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)		20			20		20	20		20	20	
Act Effct Green (s)	65.0	54.9		60.6	50.9		16.4	16.4		16.4	16.4	
Actuated g/C Ratio	0.72	0.61		0.67	0.57		0.18	0.18		0.18	0.18	
v/c Ratio	0.21	0.10		0.09	0.13		0.10	0.54		0.23	0.18	
Control Delay	6.2	0.1		4.8	0.3		19.1	23.8		33.4	7.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	6.2	0.1		4.8	0.3		19.1	23.8		33.4	7.2	
LOS	A	A		A	A		B	C		C	A	
Approach Delay		3.7			1.9			23.5			13.1	
Approach LOS		A			A			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 11.5		Intersection LOS: B	
Intersection Capacity Utilization 59.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 39: New N-S Arterial St & Davis Rd

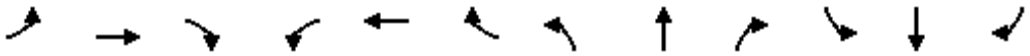




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	196	136	76	136	22	347	33	114
v/c Ratio	0.21	0.10	0.09	0.13	0.10	0.54	0.23	0.18
Control Delay	6.2	0.1	4.8	0.3	19.1	23.8	33.4	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.2	0.1	4.8	0.3	19.1	23.8	33.4	7.2
Queue Length 50th (m)	10.8	0.0	3.1	0.0	3.7	33.3	5.3	0.4
Queue Length 95th (m)	22.4	0.0	8.4	0.0	m7.0	49.0	13.2	7.1
Internal Link Dist (m)		18.8		15.5		150.5		264.2
Turn Bay Length (m)	30.0		30.0		30.0		30.0	
Base Capacity (vph)	952	1364	896	1048	394	1100	251	1018
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.10	0.08	0.13	0.06	0.32	0.13	0.11

Intersection Summary

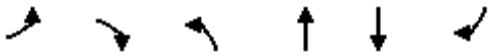
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	0	125	70	0	125	20	315	5	30	5	100
Future Volume (vph)	180	0	125	70	0	125	20	315	5	30	5	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.85		1.00	1.00		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1583		1770	1583		1770	3532		1770	3032	
Flt Permitted	0.63	1.00		0.67	1.00		0.68	1.00		0.43	1.00	
Satd. Flow (perm)	1179	1583		1248	1583		1266	3532		808	3032	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	0	136	76	0	136	22	342	5	33	5	109
RTOR Reduction (vph)	0	54	0	0	59	0	0	2	0	0	89	0
Lane Group Flow (vph)	196	82	0	76	77	0	22	345	0	33	25	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	61.7	53.0		55.5	49.9		15.4	15.4		15.4	15.4	
Effective Green, g (s)	63.6	54.0		57.5	50.9		16.4	16.4		16.4	16.4	
Actuated g/C Ratio	0.71	0.60		0.64	0.57		0.18	0.18		0.18	0.18	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	896	949		835	895		230	643		147	552	
v/s Ratio Prot	c0.02	0.05		0.01	0.05			c0.10			0.01	
v/s Ratio Perm	c0.13			0.05			0.02			0.04		
v/c Ratio	0.22	0.09		0.09	0.09		0.10	0.54		0.22	0.05	
Uniform Delay, d1	4.4	7.6		6.1	8.9		30.6	33.4		31.4	30.3	
Progression Factor	1.29	1.00		1.02	1.00		0.64	0.65		1.00	1.00	
Incremental Delay, d2	0.1	0.2		0.0	0.2		0.2	0.7		0.8	0.0	
Delay (s)	5.8	7.8		6.3	9.1		19.9	22.3		32.2	30.4	
Level of Service	A	A		A	A		B	C		C	C	
Approach Delay (s)		6.6			8.1			22.2			30.8	
Approach LOS		A			A			C			C	

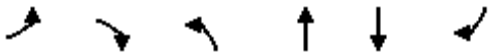
Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	140	30	15	160	0
Future Volume (vph)	0	140	30	15	160	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0	0.0	0.0			0.0
Storage Lanes	0	0	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.967		
Satd. Flow (prot)	1611	0	0	1801	1863	0
Flt Permitted				0.967		
Satd. Flow (perm)	1611	0	0	1801	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	91.1			89.3	87.0	
Travel Time (s)	6.6			6.4	6.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	152	33	16	174	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	0	0	49	174	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

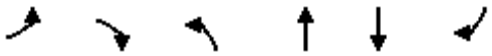
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	140	30	15	160	0
Future Volume (Veh/h)	0	140	30	15	160	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	152	33	16	174	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	256	174	174			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	256	174	174			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	83	98			
cM capacity (veh/h)	715	869	1403			

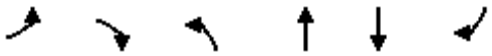
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	152	49	174
Volume Left	0	33	0
Volume Right	152	0	0
cSH	869	1403	1700
Volume to Capacity	0.17	0.02	0.10
Queue Length 95th (m)	5.0	0.6	0.0
Control Delay (s)	10.0	5.2	0.0
Lane LOS	B	A	
Approach Delay (s)	10.0	5.2	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	30.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	60	50	30	30	0	20
Future Volume (vph)	60	50	30	30	0	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.939				0.865	
Flt Protected	0.973			0.976		
Satd. Flow (prot)	1702	0	0	1818	1611	0
Flt Permitted	0.973			0.976		
Satd. Flow (perm)	1702	0	0	1818	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	46.3			94.6	83.7	
Travel Time (s)	3.3			6.8	6.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	54	33	33	0	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	119	0	0	66	22	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

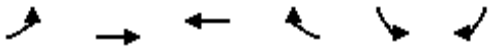
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	60	50	30	30	0	20
Future Volume (Veh/h)	60	50	30	30	0	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	54	33	33	0	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)					84	
pX, platoon unblocked						
vC, conflicting volume	110	11	22			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	110	11	22			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	95	98			
cM capacity (veh/h)	869	1070	1593			

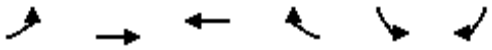
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	119	66	22
Volume Left	65	33	0
Volume Right	54	0	22
cSH	950	1593	1700
Volume to Capacity	0.13	0.02	0.01
Queue Length 95th (m)	3.4	0.5	0.0
Control Delay (s)	9.3	3.7	0.0
Lane LOS	A	A	
Approach Delay (s)	9.3	3.7	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	6.6		
Intersection Capacity Utilization	23.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	220	720	120	0	0	335
Future Volume (vph)	220	720	120	0	0	335
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	75.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt					0.865	
Flt Protected	0.950					
Satd. Flow (prot)	1770	3539	3539	0	1611	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	3539	3539	0	1611	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		182.4	224.2		204.3	
Travel Time (s)		13.1	16.1		14.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	783	130	0	0	364
Shared Lane Traffic (%)						
Lane Group Flow (vph)	239	783	130	0	364	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

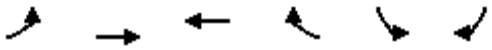
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	220	720	120	0	0	335
Future Volume (Veh/h)	220	720	120	0	0	335
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	239	783	130	0	0	364
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		182				
pX, platoon unblocked					0.85	
vC, conflicting volume	130				1000	65
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	130				633	65
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	84				100	63
cM capacity (veh/h)	1453				291	986

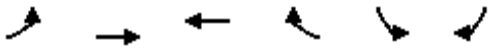
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	239	392	392	87	43	364
Volume Left	239	0	0	0	0	0
Volume Right	0	0	0	0	0	364
cSH	1453	1700	1700	1700	1700	986
Volume to Capacity	0.16	0.23	0.23	0.05	0.03	0.37
Queue Length 95th (m)	4.7	0.0	0.0	0.0	0.0	13.8
Control Delay (s)	8.0	0.0	0.0	0.0	0.0	10.8
Lane LOS	A					B
Approach Delay (s)	1.9			0.0		10.8
Approach LOS						B

Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	720	110	55	175	10
Future Volume (vph)	0	720	110	55	175	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0			0.0	30.0	0.0
Storage Lanes	1			0	1	1
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.950			0.850
Flt Protected					0.950	
Satd. Flow (prot)	1863	3539	3362	0	1770	1583
Flt Permitted					0.950	
Satd. Flow (perm)	1863	3539	3362	0	1770	1583
Link Speed (k/h)		50	50		50	
Link Distance (m)		111.2	141.0		85.9	
Travel Time (s)		8.0	10.2		6.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	783	120	60	190	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	783	180	0	190	11
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

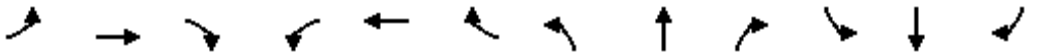
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	720	110	55	175	10
Future Volume (Veh/h)	0	720	110	55	175	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	783	120	60	190	11
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			141			
pX, platoon unblocked						
vC, conflicting volume	180				542	90
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	180				542	90
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				60	99
cM capacity (veh/h)	1393				471	950

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	0	392	392	80	100	190	11
Volume Left	0	0	0	0	0	190	0
Volume Right	0	0	0	0	60	0	11
cSH	1700	1700	1700	1700	1700	471	950
Volume to Capacity	0.00	0.23	0.23	0.05	0.06	0.40	0.01
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	15.4	0.3
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	17.7	8.8
Lane LOS						C	A
Approach Delay (s)	0.0			0.0		17.2	
Approach LOS						C	

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	36.3%	ICU Level of Service	A
Analysis Period (min)	15		

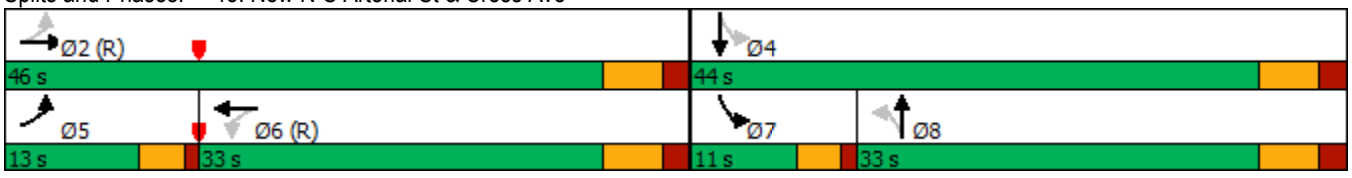


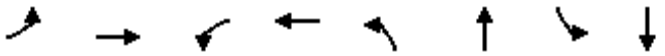
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	285	605	15	70	145	50	15	5	15	145	45	5
Future Volume (vph)	285	605	15	70	145	50	15	5	15	145	45	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	100.0		0.0	30.0		0.0	30.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.996			0.962			0.886			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3525	0	1770	3405	0	1770	1650	0	1770	3490	0
Flt Permitted	0.550			0.395			0.720			0.676		
Satd. Flow (perm)	1025	3525	0	736	3405	0	1341	1650	0	1259	3490	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			54			16			5	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		141.0			127.5			75.5			174.5	
Travel Time (s)		10.2			9.2			5.4			12.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	310	658	16	76	158	54	16	5	16	158	49	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	310	674	0	76	212	0	16	21	0	158	54	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	25		100
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2			6			8		7	4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		6	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		20.0	20.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	9.0	33.0		33.0	33.0		33.0	33.0		9.0	33.0	
Total Split (s)	13.0	46.0		33.0	33.0		33.0	33.0		11.0	44.0	
Total Split (%)	14.4%	51.1%		36.7%	36.7%		36.7%	36.7%		12.2%	48.9%	
Maximum Green (s)	9.0	40.0		27.0	27.0		27.0	27.0		7.0	38.0	
Yellow Time (s)	3.0	4.0		4.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		2.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	5.0		5.0	5.0		5.0	5.0		3.0	5.0	
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		C-Min	C-Min		Max	Max		None	None	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)		20.0		20.0	20.0		20.0	20.0			20.0	
Pedestrian Calls (#/hr)		20		20	20		20	20			20	
Act Effct Green (s)	38.8	36.8		23.8	23.8		29.9	29.9		45.2	43.2	
Actuated g/C Ratio	0.43	0.41		0.26	0.26		0.33	0.33		0.50	0.48	
v/c Ratio	0.59	0.47		0.39	0.23		0.04	0.04		0.23	0.03	
Control Delay	22.5	20.2		30.3	17.0		21.9	12.2		14.8	15.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	22.5	20.2		30.3	17.0		21.9	12.2		14.8	15.4	
LOS	C	C		C	B		C	B		B	B	
Approach Delay		20.9			20.5			16.4			15.0	
Approach LOS		C			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 19.9		Intersection LOS: B	
Intersection Capacity Utilization 61.1%		ICU Level of Service B	
Analysis Period (min) 15			

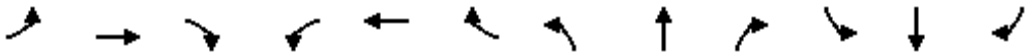
Splits and Phases: 45: New N-S Arterial St & Cross Ave





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	310	674	76	212	16	21	158	54
v/c Ratio	0.59	0.47	0.39	0.23	0.04	0.04	0.23	0.03
Control Delay	22.5	20.2	30.3	17.0	21.9	12.2	14.8	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.5	20.2	30.3	17.0	21.9	12.2	14.8	15.4
Queue Length 50th (m)	40.1	48.4	12.3	12.7	2.0	0.6	13.7	2.2
Queue Length 95th (m)	54.0	56.1	19.2	16.3	6.8	5.9	28.3	7.1
Internal Link Dist (m)		117.0		103.5		51.5		150.5
Turn Bay Length (m)	100.0		30.0		30.0		40.0	
Base Capacity (vph)	524	1607	228	1096	445	558	690	1678
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.42	0.33	0.19	0.04	0.04	0.23	0.03

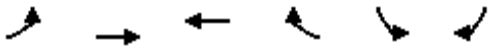
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	285	605	15	70	145	50	15	5	15	145	45	5
Future Volume (vph)	285	605	15	70	145	50	15	5	15	145	45	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.0		5.0	5.0		5.0	5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	0.95	
Frt	1.00	1.00		1.00	0.96		1.00	0.89		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3527		1770	3404		1770	1650		1770	3490	
Flt Permitted	0.55	1.00		0.40	1.00		0.72	1.00		0.68	1.00	
Satd. Flow (perm)	1024	3527		737	3404		1341	1650		1259	3490	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	310	658	16	76	158	54	16	5	16	158	49	5
RTOR Reduction (vph)	0	2	0	0	40	0	0	11	0	0	3	0
Lane Group Flow (vph)	310	672	0	76	172	0	16	10	0	158	51	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2			6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.8	35.8		22.8	22.8		28.9	28.9		42.2	42.2	
Effective Green, g (s)	36.8	36.8		23.8	23.8		29.9	29.9		43.2	43.2	
Actuated g/C Ratio	0.41	0.41		0.26	0.26		0.33	0.33		0.48	0.48	
Clearance Time (s)	4.0	6.0		6.0	6.0		6.0	6.0		4.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	501	1442		194	900		445	548		662	1675	
v/s Ratio Prot	c0.07	0.19			0.05			0.01		c0.03	0.01	
v/s Ratio Perm	c0.18			0.10			0.01			c0.09		
v/c Ratio	0.62	0.47		0.39	0.19		0.04	0.02		0.24	0.03	
Uniform Delay, d1	19.4	19.4		27.2	25.6		20.3	20.2		13.4	12.3	
Progression Factor	1.00	1.00		0.91	0.89		1.00	1.00		1.05	1.21	
Incremental Delay, d2	2.3	1.1		5.8	0.5		0.2	0.1		0.2	0.0	
Delay (s)	21.7	20.5		30.5	23.4		20.5	20.3		14.3	15.0	
Level of Service	C	C		C	C		C	C		B	B	
Approach Delay (s)		20.9			25.3			20.3			14.5	
Approach LOS		C			C			C			B	

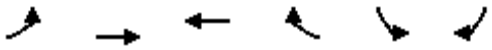
Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	15	745	130	45	265	135
Future Volume (vph)	15	745	130	45	265	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0			0.0	30.0	0.0
Storage Lanes	0			0	1	1
Taper Length (m)	7.5				7.5	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.961			0.850
Flt Protected		0.999			0.950	
Satd. Flow (prot)	0	3536	3401	0	1770	1583
Flt Permitted		0.999			0.950	
Satd. Flow (perm)	0	3536	3401	0	1770	1583
Link Speed (k/h)		50	50		50	
Link Distance (m)		127.5	245.4		81.5	
Travel Time (s)		9.2	17.7		5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	810	141	49	288	147
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	826	190	0	288	147
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	50.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	745	130	45	265	135
Future Volume (Veh/h)	15	745	130	45	265	135
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	810	141	49	288	147
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		127	245			
pX, platoon unblocked					0.87	
vC, conflicting volume	190				602	95
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	190				231	95
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				54	84
cM capacity (veh/h)	1381				630	943

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	286	540	94	96	288	147
Volume Left	16	0	0	0	288	0
Volume Right	0	0	0	49	0	147
cSH	1381	1700	1700	1700	630	943
Volume to Capacity	0.01	0.32	0.06	0.06	0.46	0.16
Queue Length 95th (m)	0.3	0.0	0.0	0.0	19.1	4.4
Control Delay (s)	0.5	0.0	0.0	0.0	15.4	9.5
Lane LOS	A				C	A
Approach Delay (s)	0.2		0.0		13.4	
Approach LOS					B	

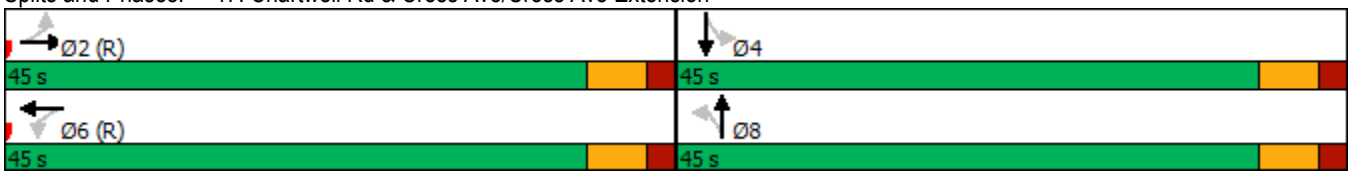
Intersection Summary			
Average Delay	4.1		
Intersection Capacity Utilization	50.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	840	150	0	160	30	30	125	0	105	135	0
Future Volume (vph)	0	840	150	0	160	30	30	125	0	105	135	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	50.0		0.0	100.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.976							
Flt Protected								0.990			0.979	
Satd. Flow (prot)	0	3458	0	0	3454	0	0	1844	0	0	1824	0
Flt Permitted								0.896			0.738	
Satd. Flow (perm)	0	3458	0	0	3454	0	0	1669	0	0	1375	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			31							
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		245.4			79.1			116.5			339.1	
Travel Time (s)		17.7			5.7			8.4			24.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	913	163	0	174	33	33	136	0	114	147	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1076	0	0	207	0	0	169	0	0	261	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA			NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	33.0	33.0		33.0	33.0		33.0	33.0		33.0	33.0	
Total Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	39.0	39.0		39.0	39.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	20	20		20	20		20	20		20	20	
Act Effct Green (s)		57.3			57.3			22.7			22.7	
Actuated g/C Ratio		0.64			0.64			0.25			0.25	
v/c Ratio		0.49			0.09			0.40			0.75	
Control Delay		10.7			6.5			29.5			36.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		10.7			6.5			29.5			36.4	
LOS		B			A			C			D	
Approach Delay		10.7			6.5			29.5			36.4	
Approach LOS		B			A			C			D	

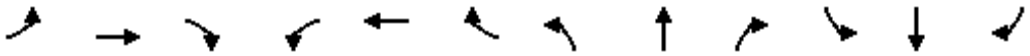
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 15.9		Intersection LOS: B	
Intersection Capacity Utilization 61.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 47: Chartwell Rd & Cross Ave/Cross Ave Extension



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	1076	207	169	261
v/c Ratio	0.49	0.09	0.40	0.75
Control Delay	10.7	6.5	29.5	36.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	10.7	6.5	29.5	36.4
Queue Length 50th (m)	57.1	5.7	25.8	32.7
Queue Length 95th (m)	48.7	12.4	39.6	69.6
Internal Link Dist (m)	221.4	55.1	92.5	315.1
Turn Bay Length (m)				
Base Capacity (vph)	2212	2210	741	611
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.49	0.09	0.23	0.43

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	840	150	0	160	30	30	125	0	105	135	0
Future Volume (vph)	0	840	150	0	160	30	30	125	0	105	135	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.98			0.98			1.00			1.00	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		3459			3455			1845			1823	
Flt Permitted		1.00			1.00			0.90			0.74	
Satd. Flow (perm)		3459			3455			1670			1375	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	913	163	0	174	33	33	136	0	114	147	0
RTOR Reduction (vph)	0	11	0	0	11	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1065	0	0	196	0	0	169	0	0	261	0
Turn Type		NA			NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		56.3			56.3			21.7			21.7	
Effective Green, g (s)		57.3			57.3			22.7			22.7	
Actuated g/C Ratio		0.64			0.64			0.25			0.25	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2202			2199			421			346	
v/s Ratio Prot		c0.31			0.06							
v/s Ratio Perm								0.10			c0.19	
v/c Ratio		0.48			0.09			0.40			0.75	
Uniform Delay, d1		8.6			6.3			28.0			31.1	
Progression Factor		1.05			1.00			1.00			0.74	
Incremental Delay, d2		0.7			0.1			0.6			9.0	
Delay (s)		9.8			6.4			28.6			32.0	
Level of Service		A			A			C			C	
Approach Delay (s)		9.8			6.4			28.6			32.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	61.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	165	105	0	20	15	0
Future Volume (vph)	165	105	0	20	15	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.947		0.865			
Flt Protected	0.970					0.950
Satd. Flow (prot)	1711	0	1611	0	0	1770
Flt Permitted	0.970					0.950
Satd. Flow (perm)	1711	0	1611	0	0	1770
Link Speed (k/h)	50		50			50
Link Distance (m)	59.6		84.0			104.6
Travel Time (s)	4.3		6.0			7.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	179	114	0	22	16	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	293	0	22	0	0	16
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100		100	100	
Sign Control	Stop		Free			Free

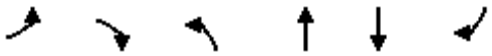
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	165	105	0	20	15	0
Future Volume (Veh/h)	165	105	0	20	15	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	179	114	0	22	16	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	43	11			22	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	43	11			22	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	81	89			99	
cM capacity (veh/h)	958	1070			1593	

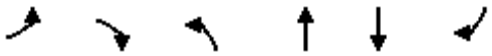
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	293	22	16
Volume Left	179	0	16
Volume Right	114	22	0
cSH	999	1700	1593
Volume to Capacity	0.29	0.01	0.01
Queue Length 95th (m)	9.8	0.0	0.2
Control Delay (s)	10.1	0.0	7.3
Lane LOS	B		A
Approach Delay (s)	10.1	0.0	7.3
Approach LOS	B		

Intersection Summary			
Average Delay	9.3		
Intersection Capacity Utilization	29.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	160	15	0	0	15
Future Volume (vph)	0	160	15	0	0	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865				0.865	
Flt Protected				0.950		
Satd. Flow (prot)	1611	0	0	1770	1611	0
Flt Permitted				0.950		
Satd. Flow (perm)	1611	0	0	1770	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	49.3			87.0	95.7	
Travel Time (s)	3.5			6.3	6.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	174	16	0	0	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	174	0	0	16	16	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

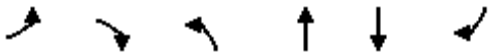
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	160	15	0	0	15
Future Volume (Veh/h)	0	160	15	0	0	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	174	16	0	0	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	40	8	16			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	40	8	16			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	84	99			
cM capacity (veh/h)	962	1074	1602			

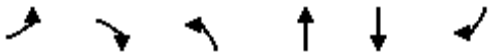
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	174	16	16
Volume Left	0	16	0
Volume Right	174	0	16
cSH	1074	1602	1700
Volume to Capacity	0.16	0.01	0.01
Queue Length 95th (m)	4.6	0.2	0.0
Control Delay (s)	9.0	7.3	0.0
Lane LOS	A	A	
Approach Delay (s)	9.0	7.3	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	8.2		
Intersection Capacity Utilization	24.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	20	95	25	30	295	0
Future Volume (vph)	20	95	25	30	295	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.889					
Flt Protected	0.991			0.978		
Satd. Flow (prot)	1641	0	0	1822	1863	0
Flt Permitted	0.991			0.978		
Satd. Flow (perm)	1641	0	0	1822	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	48.7			81.5	89.3	
Travel Time (s)	3.5			5.9	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	103	27	33	321	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	125	0	0	60	321	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

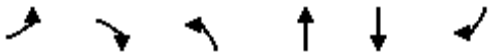
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	95	25	30	295	0
Future Volume (Veh/h)	20	95	25	30	295	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	103	27	33	321	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	408	321	321			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	408	321	321			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	86	98			
cM capacity (veh/h)	586	720	1239			

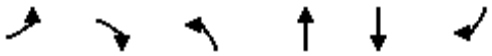
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	125	60	321
Volume Left	22	27	0
Volume Right	103	0	0
cSH	692	1239	1700
Volume to Capacity	0.18	0.02	0.19
Queue Length 95th (m)	5.2	0.5	0.0
Control Delay (s)	11.3	3.7	0.0
Lane LOS	B	A	
Approach Delay (s)	11.3	3.7	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	35.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	325	40	5	165	15
Future Volume (vph)	10	325	40	5	165	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.869				0.989	
Flt Protected	0.998			0.957		
Satd. Flow (prot)	1615	0	0	1783	1842	0
Flt Permitted	0.998			0.957		
Satd. Flow (perm)	1615	0	0	1783	1842	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	40.6			89.5	88.6	
Travel Time (s)	2.9			6.4	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	353	43	5	179	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	364	0	0	48	195	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	325	40	5	165	15
Future Volume (Veh/h)	10	325	40	5	165	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	353	43	5	179	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	278	187	195			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	278	187	195			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	59	97			
cM capacity (veh/h)	690	855	1378			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	364	48	195
Volume Left	11	43	0
Volume Right	353	0	16
cSH	849	1378	1700
Volume to Capacity	0.43	0.03	0.11
Queue Length 95th (m)	17.4	0.8	0.0
Control Delay (s)	12.4	6.9	0.0
Lane LOS	B	A	
Approach Delay (s)	12.4	6.9	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	8.0		
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	135	5	25	135	80	80
Future Volume (vph)	135	5	25	135	80	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.996				0.932	
Flt Protected				0.992	0.976	
Satd. Flow (prot)	1855	0	0	1848	1694	0
Flt Permitted				0.992	0.976	
Satd. Flow (perm)	1855	0	0	1848	1694	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	96.4			57.6	36.0	
Travel Time (s)	6.9			4.1	2.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	147	5	27	147	87	87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	0	0	174	174	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	135	5	25	135	80	80
Future Volume (Veh/h)	135	5	25	135	80	80
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	147	5	27	147	87	87
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				222		
pX, platoon unblocked						
vC, conflicting volume			152		350	150
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			152		350	150
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		86	90
cM capacity (veh/h)			1429		635	897

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	152	174	174
Volume Left	0	27	87
Volume Right	5	0	87
cSH	1700	1429	743
Volume to Capacity	0.09	0.02	0.23
Queue Length 95th (m)	0.0	0.5	7.2
Control Delay (s)	0.0	1.3	11.3
Lane LOS		A	B
Approach Delay (s)	0.0	1.3	11.3
Approach LOS			B

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	210	5	25	80	80	80
Future Volume (vph)	210	5	25	80	80	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997				0.932	
Flt Protected				0.988	0.976	
Satd. Flow (prot)	1857	0	0	1840	1694	0
Flt Permitted				0.988	0.976	
Satd. Flow (perm)	1857	0	0	1840	1694	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	57.6			163.9	50.7	
Travel Time (s)	4.1			11.8	3.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	228	5	27	87	87	87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	233	0	0	114	174	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	210	5	25	80	80	80
Future Volume (Veh/h)	210	5	25	80	80	80
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	228	5	27	87	87	87
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				164		
pX, platoon unblocked						
vC, conflicting volume			233		372	230
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			233		372	230
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		86	89
cM capacity (veh/h)			1335		616	809

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	233	114	174
Volume Left	0	27	87
Volume Right	5	0	87
cSH	1700	1335	700
Volume to Capacity	0.14	0.02	0.25
Queue Length 95th (m)	0.0	0.5	7.8
Control Delay (s)	0.0	2.0	11.8
Lane LOS		A	B
Approach Delay (s)	0.0	2.0	11.8
Approach LOS			B

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	36.3%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	30	5	15	815	175	60
Future Volume (vph)	30	5	15	815	175	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.982				0.966	
Flt Protected				0.999	0.964	
Satd. Flow (prot)	1829	0	0	1861	1735	0
Flt Permitted				0.999	0.964	
Satd. Flow (perm)	1829	0	0	1861	1735	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	98.9			48.3	30.5	
Travel Time (s)	7.1			3.5	2.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	5	16	886	190	65
Shared Lane Traffic (%)						
Lane Group Flow (vph)	38	0	0	902	255	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	100		25	100
Sign Control	Free			Free	Stop	

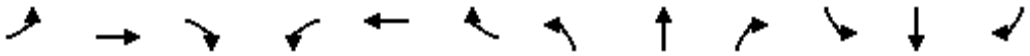
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 70.4%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	30	5	15	815	175	60
Future Volume (Veh/h)	30	5	15	815	175	60
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	5	16	886	190	65
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				48		
pX, platoon unblocked					0.84	
vC, conflicting volume			38		954	36
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			38		846	36
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		31	94
cM capacity (veh/h)			1572		275	1037

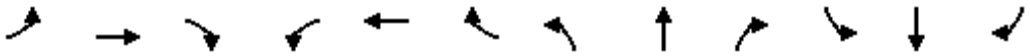
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	38	902	255
Volume Left	0	16	190
Volume Right	5	0	65
cSH	1700	1572	339
Volume to Capacity	0.02	0.01	0.75
Queue Length 95th (m)	0.0	0.2	46.9
Control Delay (s)	0.0	0.3	41.9
Lane LOS		A	E
Approach Delay (s)	0.0	0.3	41.9
Approach LOS			E

Intersection Summary			
Average Delay	9.1		
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	155	0	20	80	15	0	0	90	55	0	35
Future Volume (vph)	5	155	0	20	80	15	0	0	90	55	0	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.983			0.865			0.948	
Flt Protected		0.999			0.991						0.970	
Satd. Flow (prot)	0	1861	0	0	1815	0	0	1611	0	0	1713	0
Flt Permitted		0.999			0.991						0.970	
Satd. Flow (perm)	0	1861	0	0	1815	0	0	1611	0	0	1713	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		109.7			42.8			63.5			46.5	
Travel Time (s)		7.9			3.1			4.6			3.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	168	0	22	87	16	0	0	98	60	0	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	173	0	0	125	0	0	98	0	0	98	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Free			Free			Stop			Stop	

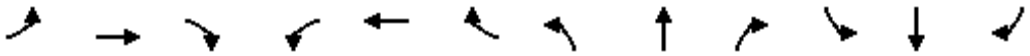
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	155	0	20	80	15	0	0	90	55	0	35
Future Volume (Veh/h)	5	155	0	20	80	15	0	0	90	55	0	35
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	168	0	22	87	16	0	0	98	60	0	38
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					43							
pX, platoon unblocked												
vC, conflicting volume	103			168			355	325	168	415	317	95
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	103			168			355	325	168	415	317	95
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			100	100	89	87	100	96
cM capacity (veh/h)	1489			1410			568	582	876	480	588	962

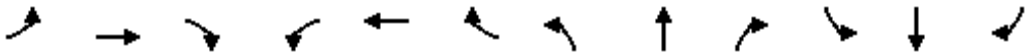
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	173	125	98	98
Volume Left	5	22	0	60
Volume Right	0	16	98	38
cSH	1489	1410	876	595
Volume to Capacity	0.00	0.02	0.11	0.16
Queue Length 95th (m)	0.1	0.4	3.0	4.7
Control Delay (s)	0.2	1.4	9.6	12.2
Lane LOS	A	A	A	B
Approach Delay (s)	0.2	1.4	9.6	12.2
Approach LOS			A	B

Intersection Summary				
Average Delay	4.8			
Intersection Capacity Utilization	33.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	0	15	10	20	5	75	0	25	110	0	95
Future Volume (vph)	20	0	15	10	20	5	75	0	25	110	0	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.943			0.982			0.967			0.938	
Flt Protected		0.972			0.986			0.964			0.974	
Satd. Flow (prot)	0	1707	0	0	1804	0	0	1736	0	0	1702	0
Flt Permitted		0.972			0.986			0.964			0.974	
Satd. Flow (perm)	0	1707	0	0	1804	0	0	1736	0	0	1702	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		39.5			91.1			43.6			47.6	
Travel Time (s)		2.8			6.6			3.1			3.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	0	16	11	22	5	82	0	27	120	0	103
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	0	0	38	0	0	109	0	0	223	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	0	15	10	20	5	75	0	25	110	0	95
Future Volume (Veh/h)	20	0	15	10	20	5	75	0	25	110	0	95
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	0	16	11	22	5	82	0	27	120	0	103
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		40										
pX, platoon unblocked				0.99			0.99	0.99	0.99	0.99	0.99	
vC, conflicting volume	27			16			202	101	8	126	106	24
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	27			6			193	92	0	116	97	24
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			88	100	97	85	100	90
cM capacity (veh/h)	1587			1604			676	777	1078	820	771	1052

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	38	38	109	223
Volume Left	22	11	82	120
Volume Right	16	5	27	103
cSH	1587	1604	745	913
Volume to Capacity	0.01	0.01	0.15	0.24
Queue Length 95th (m)	0.3	0.2	4.1	7.7
Control Delay (s)	4.3	2.1	10.7	10.2
Lane LOS	A	A	B	B
Approach Delay (s)	4.3	2.1	10.7	10.2
Approach LOS			B	B

Intersection Summary				
Average Delay	9.0			
Intersection Capacity Utilization	22.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	120	20	25	30	5	65
Future Volume (vph)	120	20	25	30	5	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.980		0.926			
Flt Protected	0.959					0.997
Satd. Flow (prot)	1751	0	1725	0	0	1857
Flt Permitted	0.959					0.997
Satd. Flow (perm)	1751	0	1725	0	0	1857
Link Speed (k/h)	50		50			50
Link Distance (m)	52.8		85.9			90.9
Travel Time (s)	3.8		6.2			6.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	22	27	33	5	71
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	0	60	0	0	76
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		3.6			3.6
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100		100	100	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	120	20	25	30	5	65
Future Volume (Veh/h)	120	20	25	30	5	65
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	130	22	27	33	5	71
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	124	44			60	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	124	44			60	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	85	98			100	
cM capacity (veh/h)	868	1027			1544	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	152	60	76
Volume Left	130	0	5
Volume Right	22	33	0
cSH	888	1700	1544
Volume to Capacity	0.17	0.04	0.00
Queue Length 95th (m)	4.9	0.0	0.1
Control Delay (s)	9.9	0.0	0.5
Lane LOS	A		A
Approach Delay (s)	9.9	0.0	0.5
Approach LOS	A		

Intersection Summary			
Average Delay	5.4		
Intersection Capacity Utilization	22.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1070	70	70	860	305	305
Future Volume (vph)	1070	70	70	860	305	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		0.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.991					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3507	0	1770	3539	1770	1583
Flt Permitted			0.174		0.950	
Satd. Flow (perm)	3507	0	324	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	11					75
Link Speed (k/h)	50			50	50	
Link Distance (m)	106.6			164.5	249.7	
Travel Time (s)	7.7			11.8	18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1163	76	76	935	332	332
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1239	0	76	935	332	332
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (m)	10.0		2.0	10.0	2.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	0.6		2.0	0.6	2.0	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)	9.4			9.4		
Detector 2 Size(m)	0.6			0.6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	2			6		
Permitted Phases			6		8	8

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		6	6	8	8
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	33.0		33.0	33.0	33.0	33.0
Total Split (s)	63.0		63.0	63.0	37.0	37.0
Total Split (%)	63.0%		63.0%	63.0%	37.0%	37.0%
Maximum Green (s)	57.0		57.0	57.0	31.0	31.0
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0		5.0	5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	C-Min		C-Min	C-Min	Min	Min
Walk Time (s)	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	20.0		20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)	5		5	5	5	5
Act Effct Green (s)	65.1		65.1	65.1	24.9	24.9
Actuated g/C Ratio	0.65		0.65	0.65	0.25	0.25
v/c Ratio	0.54		0.36	0.41	0.75	0.74
Control Delay	11.3		16.2	9.7	45.2	35.9
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	11.3		16.2	9.7	45.2	35.9
LOS	B		B	A	D	D
Approach Delay	11.3			10.2	40.6	
Approach LOS	B			B	D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 17.6		Intersection LOS: B	
Intersection Capacity Utilization 69.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 60: New N-S Arterial St & Iroquois Shore Blvd





Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1239	76	935	332	332
v/c Ratio	0.54	0.36	0.41	0.75	0.74
Control Delay	11.3	16.2	9.7	45.2	35.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.3	16.2	9.7	45.2	35.9
Queue Length 50th (m)	64.4	6.4	43.1	62.7	48.6
Queue Length 95th (m)	102.0	21.6	69.3	85.2	73.1
Internal Link Dist (m)	82.6		140.5	225.7	
Turn Bay Length (m)		50.0			
Base Capacity (vph)	2289	210	2306	568	559
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.54	0.36	0.41	0.58	0.59

Intersection Summary



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1070	70	70	860	305	305
Future Volume (vph)	1070	70	70	860	305	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3507		1770	3539	1770	1583
Flt Permitted	1.00		0.17	1.00	0.95	1.00
Satd. Flow (perm)	3507		325	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1163	76	76	935	332	332
RTOR Reduction (vph)	4	0	0	0	0	56
Lane Group Flow (vph)	1235	0	76	935	332	276
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	2			6		
Permitted Phases			6		8	8
Actuated Green, G (s)	64.1		64.1	64.1	23.9	23.9
Effective Green, g (s)	65.1		65.1	65.1	24.9	24.9
Actuated g/C Ratio	0.65		0.65	0.65	0.25	0.25
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2283		211	2303	440	394
v/s Ratio Prot	c0.35			0.26		
v/s Ratio Perm			0.23		c0.19	0.17
v/c Ratio	0.54		0.36	0.41	0.75	0.70
Uniform Delay, d1	9.4		8.0	8.3	34.7	34.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9		4.7	0.5	7.2	5.4
Delay (s)	10.3		12.7	8.8	41.9	39.5
Level of Service	B		B	A	D	D
Approach Delay (s)	10.3			9.1	40.7	
Approach LOS	B			A	D	

Intersection Summary			
HCM 2000 Control Delay	16.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		

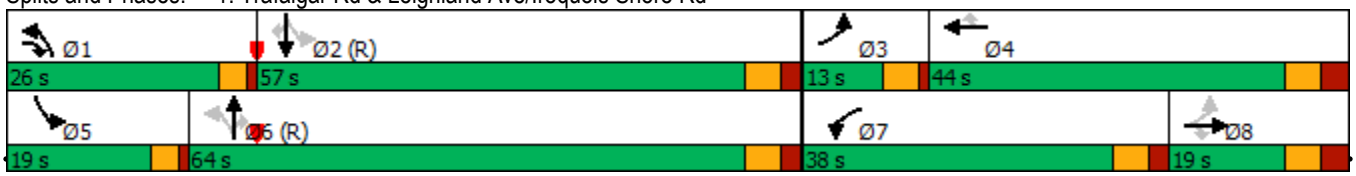
c Critical Lane Group

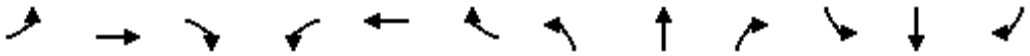
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	115	280	765	150	355	295	1810	875	250	1260	115
Future Volume (vph)	100	115	280	765	150	355	295	1810	875	250	1260	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.95					0.92			0.97			0.87
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1881	1599	3467	1881	1615	1787	5136	1599	1805	5085	1615
Flt Permitted	0.659			0.950			0.099			0.074		
Satd. Flow (perm)	1185	1881	1599	3467	1881	1485	186	5136	1543	141	5085	1399
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			240			624			173
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			301.7			275.4			339.2	
Travel Time (s)		27.7			21.7			19.8			24.4	
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Adj. Flow (vph)	103	119	289	789	155	366	304	1866	902	258	1299	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	119	289	789	155	366	304	1866	902	258	1299	119
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	11.0	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	13.0	19.0	26.0	38.0	44.0	44.0	26.0	64.0	64.0	19.0	57.0	57.0
Total Split (%)	9.3%	13.6%	18.6%	27.1%	31.4%	31.4%	18.6%	45.7%	45.7%	13.6%	40.7%	40.7%
Maximum Green (s)	8.3	12.2	22.0	32.3	37.2	37.2	22.0	57.9	57.9	15.0	50.9	50.9
Yellow Time (s)	3.7	3.7	3.0	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	1.0	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					30	30		50	50		50	50
Act Effct Green (s)	24.0	12.8	39.9	33.3	38.0	38.0	79.5	58.9	58.9	72.6	54.0	54.0
Actuated g/C Ratio	0.17	0.09	0.28	0.24	0.27	0.27	0.57	0.42	0.42	0.52	0.39	0.39
v/c Ratio	0.42	0.70	0.55	0.96	0.30	0.63	0.87	0.86	0.89	0.96	0.66	0.18
Control Delay	37.6	82.8	30.0	75.1	42.5	20.2	56.4	22.9	16.7	86.4	37.9	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.5	0.0	0.0	0.0
Total Delay	37.6	82.8	30.0	75.1	42.5	20.2	56.4	22.9	32.2	86.4	37.9	1.4
LOS	D	F	C	E	D	C	E	C	C	F	D	A
Approach Delay		43.9			55.9			29.0			42.8	
Approach LOS		D			E			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 39.0		Intersection LOS: D	
Intersection Capacity Utilization 96.2%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd

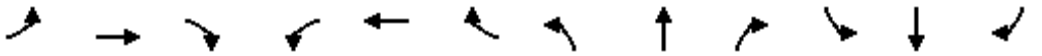




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	103	119	289	789	155	366	304	1866	902	258	1299	119
v/c Ratio	0.42	0.70	0.55	0.96	0.30	0.63	0.87	0.86	0.89	0.96	0.66	0.18
Control Delay	37.6	82.8	30.0	75.1	42.5	20.2	56.4	22.9	16.7	86.4	37.9	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.5	0.0	0.0	0.0
Total Delay	37.6	82.8	30.0	75.1	42.5	20.2	56.4	22.9	32.2	86.4	37.9	1.4
Queue Length 50th (m)	19.6	34.1	44.2	117.8	36.0	31.4	54.0	137.5	221.4	59.2	116.7	0.0
Queue Length 95th (m)	33.5	#60.7	74.6	#158.5	56.6	68.1	m76.7	162.6	#277.1	#118.5	134.2	3.0
Internal Link Dist (m)		361.1			277.7			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	245	177	548	824	513	579	370	2160	1010	268	1962	646
Starvation Cap Reductn	0	0	0	0	0	0	0	0	119	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.67	0.53	0.96	0.30	0.63	0.82	0.86	1.01	0.96	0.66	0.18

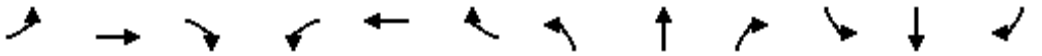
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	115	280	765	150	355	295	1810	875	250	1260	115
Future Volume (vph)	100	115	280	765	150	355	295	1810	875	250	1260	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.92	1.00	1.00	0.97	1.00	1.00	0.87
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1743	1881	1599	3467	1881	1485	1787	5136	1543	1805	5085	1399
Flt Permitted	0.66	1.00	1.00	0.95	1.00	1.00	0.10	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	1209	1881	1599	3467	1881	1485	187	5136	1543	141	5085	1399
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	103	119	289	789	155	366	304	1866	902	258	1299	119
RTOR Reduction (vph)	0	0	79	0	0	175	0	0	361	0	0	73
Lane Group Flow (vph)	103	119	210	789	155	191	304	1866	541	258	1299	46
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	19.9	11.8	32.1	32.3	37.0	37.0	77.3	57.9	57.9	68.4	53.0	53.0
Effective Green, g (s)	21.9	12.8	34.1	33.3	38.0	38.0	78.3	58.9	58.9	70.4	54.0	54.0
Actuated g/C Ratio	0.16	0.09	0.24	0.24	0.27	0.27	0.56	0.42	0.42	0.50	0.39	0.39
Clearance Time (s)	4.7	6.8	4.0	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	223	171	389	824	510	403	348	2160	649	265	1961	539
v/s Ratio Prot	0.03	c0.06	0.08	c0.23	0.08		c0.13	0.36		c0.11	0.26	
v/s Ratio Perm	0.04		0.05			0.13	0.36		0.35	c0.38		0.03
v/c Ratio	0.46	0.70	0.54	0.96	0.30	0.47	0.87	0.86	0.83	0.97	0.66	0.09
Uniform Delay, d1	52.9	61.7	46.1	52.7	40.5	42.6	36.5	36.9	36.2	43.7	35.5	27.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.30	0.54	0.84	1.00	1.00	1.00
Incremental Delay, d2	1.5	11.6	1.4	21.4	0.3	0.9	12.2	2.6	6.6	47.6	1.8	0.3
Delay (s)	54.5	73.3	47.5	74.0	40.8	43.5	59.5	22.7	37.1	91.3	37.3	27.6
Level of Service	D	E	D	E	D	D	E	C	D	F	D	C
Approach Delay (s)		54.9			61.6			30.6			44.9	
Approach LOS		D			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	42.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	96.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

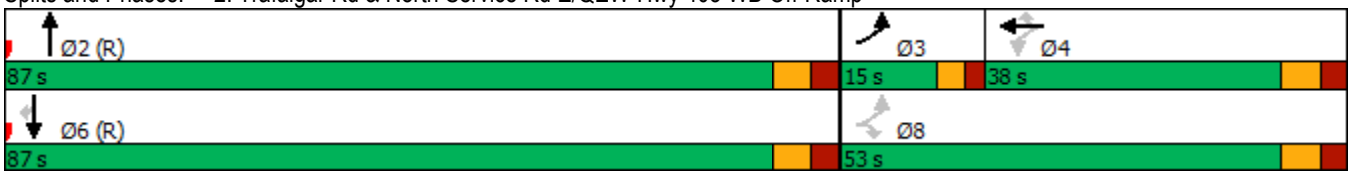


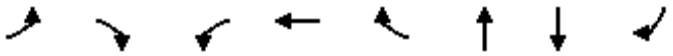
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	270	475	5	340	0	2630	0	0	2315	15
Future Volume (vph)	25	0	270	475	5	340	0	2630	0	0	2315	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.94
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.953							
Satd. Flow (prot)	1805	0	1599	1681	1687	1583	0	5136	0	0	5036	1524
Flt Permitted	0.277			0.950	0.953							
Satd. Flow (perm)	526	0	1599	1681	1687	1583	0	5136	0	0	5036	1437
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			98						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							15		10	10		15
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Adj. Flow (vph)	27	0	287	505	5	362	0	2798	0	0	2463	16
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	27	0	287	252	258	362	0	2798	0	0	2463	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	15.0		53.0	38.0	38.0	38.0		87.0			87.0	87.0
Total Split (%)	10.7%		37.9%	27.1%	27.1%	27.1%		62.1%			62.1%	62.1%
Maximum Green (s)	10.0		46.0	31.0	31.0	31.0		80.0			80.0	80.0
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		15			15	15
Act Effct Green (s)	39.7		37.7	29.2	29.2	29.2		90.3			90.3	90.3
Actuated g/C Ratio	0.28		0.27	0.21	0.21	0.21		0.64			0.64	0.64
v/c Ratio	0.11		0.63	0.72	0.74	0.89		0.84			0.76	0.02
Control Delay	32.7		45.0	63.3	64.3	62.5		15.0			25.2	0.1
Queue Delay	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	32.7		45.0	63.3	64.3	62.5		15.0			25.2	0.1
LOS	C		D	E	E	E		B			C	A
Approach Delay		43.9			63.3			15.0			25.1	
Approach LOS		D			E			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 26.8		Intersection LOS: C	
Intersection Capacity Utilization 89.7%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp

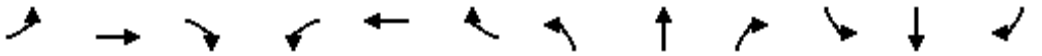




Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	27	287	252	258	362	2798	2463	16
v/c Ratio	0.11	0.63	0.72	0.74	0.89	0.84	0.76	0.02
Control Delay	32.7	45.0	63.3	64.3	62.5	15.0	25.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.7	45.0	63.3	64.3	62.5	15.0	25.2	0.1
Queue Length 50th (m)	5.2	60.6	70.3	72.2	75.4	124.8	199.9	0.0
Queue Length 95th (m)	12.3	89.6	104.0	106.5	#128.1	196.0	m220.9	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	249	557	388	389	440	3313	3248	951
Starvation Cap Reductn	0	0	0	0	0	7	0	0
Spillback Cap Reductn	0	0	0	0	0	23	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.52	0.65	0.66	0.82	0.85	0.76	0.02

Intersection Summary

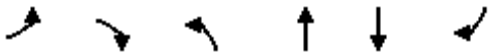
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



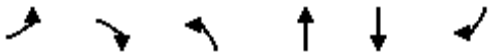
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	270	475	5	340	0	2630	0	0	2315	15
Future Volume (vph)	25	0	270	475	5	340	0	2630	0	0	2315	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.94
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1681	1688	1583		5136			5036	1437
Flt Permitted	0.28		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	526		1599	1681	1688	1583		5136			5036	1437
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	27	0	287	505	5	362	0	2798	0	0	2463	16
RTOR Reduction (vph)	0	0	22	0	0	78	0	0	0	0	0	6
Lane Group Flow (vph)	27	0	265	252	258	284	0	2798	0	0	2463	10
Confl. Peds. (#/hr)							15		10	10		15
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	38.7		38.7	28.2	28.2	28.2		87.3			87.3	87.3
Effective Green, g (s)	39.7		39.7	29.2	29.2	29.2		88.3			88.3	88.3
Actuated g/C Ratio	0.28		0.28	0.21	0.21	0.21		0.63			0.63	0.63
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	208		453	350	352	330		3239			3176	906
v/s Ratio Prot	0.01							c0.54			0.49	
v/s Ratio Perm	0.03		c0.17	0.15	0.15	c0.18						0.01
v/c Ratio	0.13		0.58	0.72	0.73	0.86		0.86			0.78	0.01
Uniform Delay, d1	37.6		43.1	51.6	51.8	53.5		21.0			18.7	9.6
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.59			1.23	1.00
Incremental Delay, d2	0.5		2.1	6.9	7.7	20.0		2.1			1.3	0.0
Delay (s)	38.1		45.1	58.5	59.4	73.4		14.5			24.3	9.6
Level of Service	D		D	E	E	E		B			C	A
Approach Delay (s)		44.5			65.0			14.5			24.2	
Approach LOS		D			E			B			C	

Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



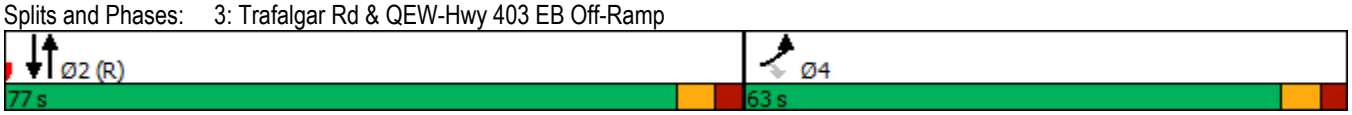
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1005	565	0	1940	1840	0
Future Volume (vph)	1005	565	0	1940	1840	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3467	1583	0	5085	5085	0
Flt Permitted	0.950					
Satd. Flow (perm)	3467	1583	0	5085	5085	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		5				
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			80.8	331.3	
Travel Time (s)	15.4			5.8	23.9	
Confl. Peds. (#/hr)			25			25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Adj. Flow (vph)	1058	595	0	2042	1937	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1058	595	0	2042	1937	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	63.0	63.0		77.0	77.0	
Total Split (%)	45.0%	45.0%		55.0%	55.0%	
Maximum Green (s)	56.0	56.0		70.0	70.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		15	15	
Act Effct Green (s)	55.6	55.6		72.4	72.4	
Actuated g/C Ratio	0.40	0.40		0.52	0.52	
v/c Ratio	0.77	0.94		0.78	0.74	
Control Delay	40.9	64.6		29.4	25.8	
Queue Delay	0.0	0.0		0.1	0.0	
Total Delay	40.9	64.6		29.6	25.8	
LOS	D	E		C	C	
Approach Delay	49.4			29.6	25.8	
Approach LOS	D			C	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 34.1		Intersection LOS: C	
Intersection Capacity Utilization 80.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp

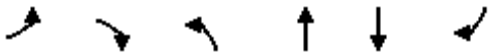




Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	1058	595	2042	1937
v/c Ratio	0.77	0.94	0.78	0.74
Control Delay	40.9	64.6	29.4	25.8
Queue Delay	0.0	0.0	0.1	0.0
Total Delay	40.9	64.6	29.6	25.8
Queue Length 50th (m)	134.3	161.6	175.5	102.3
Queue Length 95th (m)	161.1	#238.1	m133.5	131.9
Internal Link Dist (m)	190.2		56.8	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1411	647	2629	2629
Starvation Cap Reductn	0	0	83	0
Spillback Cap Reductn	0	0	66	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.75	0.92	0.80	0.74

Intersection Summary

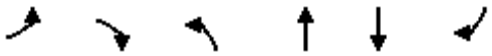
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1005	565	0	1940	1840	0
Future Volume (vph)	1005	565	0	1940	1840	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3467	1583		5085	5085	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3467	1583		5085	5085	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1058	595	0	2042	1937	0
RTOR Reduction (vph)	0	3	0	0	0	0
Lane Group Flow (vph)	1058	592	0	2042	1937	0
Confl. Peds. (#/hr)			25			25
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	54.6	54.6		71.4	71.4	
Effective Green, g (s)	55.6	55.6		72.4	72.4	
Actuated g/C Ratio	0.40	0.40		0.52	0.52	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1376	628		2629	2629	
v/s Ratio Prot	0.31			c0.40	0.38	
v/s Ratio Perm		c0.37				
v/c Ratio	0.77	0.94		0.78	0.74	
Uniform Delay, d1	36.6	40.7		27.3	26.4	
Progression Factor	1.00	1.00		1.01	0.91	
Incremental Delay, d2	2.6	22.7		1.4	1.3	
Delay (s)	39.3	63.3		28.8	25.3	
Level of Service	D	E		C	C	
Approach Delay (s)	47.9			28.8	25.3	
Approach LOS	D			C	C	

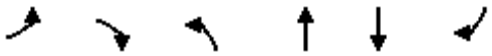
Intersection Summary			
HCM 2000 Control Delay	33.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	100	0	1970	1785	655
Future Volume (vph)	0	100	0	1970	1785	655
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.960	
Flt Protected						
Satd. Flow (prot)	0	1522	0	5085	4878	0
Flt Permitted						
Satd. Flow (perm)	0	1522	0	5085	4878	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	100.6			198.2	80.8	
Travel Time (s)	7.2			14.3	5.8	
Confl. Peds. (#/hr)			20			20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	8%	0%	2%	1%	5%
Adj. Flow (vph)	0	106	0	2096	1899	697
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	106	0	2096	2596	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 62.5%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	100	0	1970	1785	655
Future Volume (Veh/h)	0	100	0	1970	1785	655
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	106	0	2096	1899	697
Pedestrians	20					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	2					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				198	81	
pX, platoon unblocked	0.79	0.70	0.70			
vC, conflicting volume	2966	1002	2616			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1010	0	1809			
tC, single (s)	6.8	7.1	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	100	86	100			
cM capacity (veh/h)	186	733	237			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	106	699	699	699	760	760	1077
Volume Left	0	0	0	0	0	0	0
Volume Right	106	0	0	0	0	0	697
cSH	733	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.14	0.41	0.41	0.41	0.45	0.45	0.63
Queue Length 95th (m)	4.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	10.7	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.7	0.0			0.0		
Approach LOS	B						

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

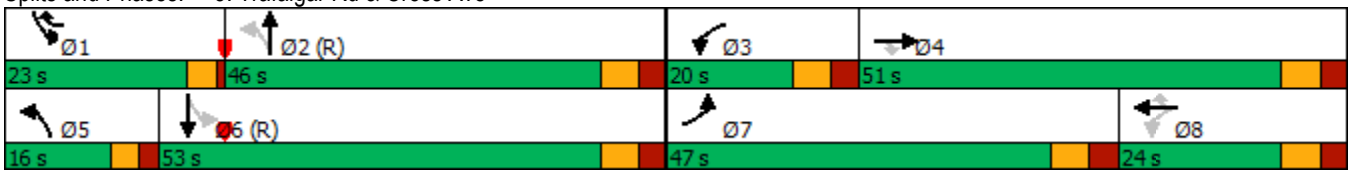
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	930	315	150	80	430	275	195	1085	30	190	1295	390
Future Volume (vph)	930	315	150	80	430	275	195	1085	30	190	1295	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		50.0	50.0		50.0	120.0		0.0	55.0		0.0
Storage Lanes	2		1	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor			0.96	0.98				1.00			0.99	
Frt			0.850			0.850		0.996			0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	3610	1524	1805	3610	1599	1719	5112	0	1752	4920	0
Flt Permitted	0.950			0.555			0.092			0.101		
Satd. Flow (perm)	3400	3610	1469	1038	3610	1599	166	5112	0	186	4920	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			156			140		3			58	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		121.1			182.4			316.1			198.2	
Travel Time (s)		8.7			13.1			22.8			14.3	
Confl. Peds. (#/hr)			20	20			15		15	15		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Adj. Flow (vph)	959	325	155	82	443	284	201	1119	31	196	1335	402
Shared Lane Traffic (%)												
Lane Group Flow (vph)	959	325	155	82	443	284	201	1150	0	196	1737	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

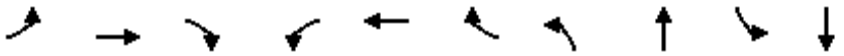
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4	8		8	2			6		
Detector Phase	7	4	4	3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	12.0	10.0	7.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0	42.0	19.0	17.0	11.0	12.0	34.0		11.0	34.0	
Total Split (s)	47.0	51.0	51.0	20.0	24.0	23.0	16.0	46.0		23.0	53.0	
Total Split (%)	33.6%	36.4%	36.4%	14.3%	17.1%	16.4%	11.4%	32.9%		16.4%	37.9%	
Maximum Green (s)	40.0	44.0	44.0	13.0	17.0	19.0	11.0	39.0		19.0	46.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	1.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0	4.0	3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0	7.0					7.0			7.0	
Flash Dont Walk (s)		28.0	28.0					20.0			20.0	
Pedestrian Calls (#/hr)		10	10					15			15	
Act Effct Green (s)	40.9	45.9	45.9	31.1	18.1	40.5	57.6	43.6		64.6	47.0	
Actuated g/C Ratio	0.29	0.33	0.33	0.22	0.13	0.29	0.41	0.31		0.46	0.34	
v/c Ratio	0.97	0.27	0.26	0.27	0.95	0.51	1.00	0.72		0.73	1.03	
Control Delay	70.1	35.5	5.9	28.0	91.1	23.1	89.1	50.7		53.3	71.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	70.1	35.5	5.9	28.0	91.1	23.1	89.1	50.7		53.3	71.1	
LOS	E	D	A	C	F	C	F	D		D	E	
Approach Delay		55.4			60.9			56.5			69.3	
Approach LOS		E			E			E			E	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 61.3 Intersection LOS: E
Intersection Capacity Utilization 101.6% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 5: Trafalgar Rd & Cross Ave





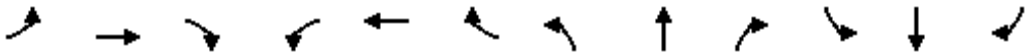
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	959	325	155	82	443	284	201	1150	196	1737
v/c Ratio	0.97	0.27	0.26	0.27	0.95	0.51	1.00	0.72	0.73	1.03
Control Delay	70.1	35.5	5.9	28.0	91.1	23.1	89.1	50.7	53.3	71.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.1	35.5	5.9	28.0	91.1	23.1	89.1	50.7	53.3	71.1
Queue Length 50th (m)	142.3	36.7	0.0	13.2	68.5	34.0	~51.0	97.8	43.4	~170.6
Queue Length 95th (m)	#186.1	50.1	16.0	23.7	#103.4	61.4	m#71.1	m114.8	m59.9	#220.5
Internal Link Dist (m)		97.1			158.4			292.1		174.2
Turn Bay Length (m)	130.0		50.0	50.0		50.0	120.0		55.0	
Base Capacity (vph)	995	1184	586	314	466	599	201	1594	311	1690
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.27	0.26	0.26	0.95	0.47	1.00	0.72	0.63	1.03

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

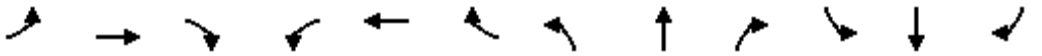
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	930	315	150	80	430	275	195	1085	30	190	1295	390
Future Volume (vph)	930	315	150	80	430	275	195	1085	30	190	1295	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3400	3610	1469	1790	3610	1599	1719	5111		1752	4921	
Flt Permitted	0.95	1.00	1.00	0.56	1.00	1.00	0.09	1.00		0.10	1.00	
Satd. Flow (perm)	3400	3610	1469	1046	3610	1599	166	5111		187	4921	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	959	325	155	82	443	284	201	1119	31	196	1335	402
RTOR Reduction (vph)	0	0	104	0	0	106	0	2	0	0	39	0
Lane Group Flow (vph)	959	325	51	82	443	179	201	1148	0	196	1698	0
Confl. Peds. (#/hr)			20	20			15		15	15		15
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Turn Type	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4	8		8	2			6		
Actuated Green, G (s)	39.9	44.9	44.9	29.2	17.1	32.5	53.6	42.6		61.4	46.0	
Effective Green, g (s)	40.9	45.9	45.9	31.2	18.1	34.5	55.6	43.6		63.0	47.0	
Actuated g/C Ratio	0.29	0.33	0.33	0.22	0.13	0.25	0.40	0.31		0.45	0.34	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	4.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0	4.0	3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	993	1183	481	302	466	394	199	1591		267	1652	
v/s Ratio Prot	c0.28	0.09		0.03	c0.12	0.05	c0.09	0.22		c0.09	c0.35	
v/s Ratio Perm			0.03	0.04		0.06	0.31			0.24		
v/c Ratio	0.97	0.27	0.11	0.27	0.95	0.45	1.01	0.72		0.73	1.03	
Uniform Delay, d1	48.9	34.8	32.8	44.3	60.5	44.7	40.0	42.8		29.7	46.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.24	1.13		1.49	1.04	
Incremental Delay, d2	20.5	0.2	0.1	0.6	29.6	0.8	47.9	1.5		6.9	25.9	
Delay (s)	69.4	34.9	32.9	44.9	90.1	45.6	97.6	50.0		51.2	74.3	
Level of Service	E	C	C	D	F	D	F	D		D	E	
Approach Delay (s)		57.7			69.9			57.1			71.9	
Approach LOS		E			E			E			E	

Intersection Summary			
HCM 2000 Control Delay	64.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



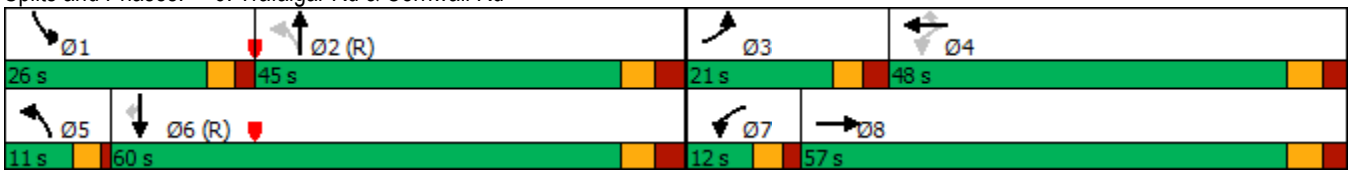
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	460	45	85	575	615	60	575	140	495	600	305
Future Volume (vph)	360	460	45	85	575	615	60	575	140	495	600	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.97	1.00		0.99		0.93	1.00	0.99		0.99		0.98
Frt		0.987				0.850		0.971				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	3486	0	1805	3539	1583	1770	3481	0	3433	1881	1553
Flt Permitted	0.950			0.453			0.196			0.950		
Satd. Flow (perm)	3374	3486	0	851	3539	1470	364	3481	0	3384	1881	1516
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				316		21				234
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			316.1	
Travel Time (s)		41.4			45.2			10.0			22.8	
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Adj. Flow (vph)	371	474	46	88	593	634	62	593	144	510	619	314
Shared Lane Traffic (%)												
Lane Group Flow (vph)	371	520	0	88	593	634	62	737	0	510	619	314
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

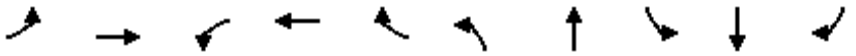
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	21.0	57.0		12.0	48.0	48.0	11.0	45.0		26.0	60.0	60.0
Total Split (%)	15.0%	40.7%		8.6%	34.3%	34.3%	7.9%	32.1%		18.6%	42.9%	42.9%
Maximum Green (s)	15.3	50.6		7.0	41.6	41.6	7.0	38.1		21.0	53.1	53.1
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		30			30	30		15			15	15
Act Effct Green (s)	17.5	50.9		50.5	40.9	40.9	50.2	39.3		22.3	56.8	56.8
Actuated g/C Ratio	0.12	0.36		0.36	0.29	0.29	0.36	0.28		0.16	0.41	0.41
v/c Ratio	0.86	0.41		0.24	0.57	0.97	0.29	0.74		0.93	0.81	0.42
Control Delay	80.1	40.4		23.6	44.4	53.2	24.7	50.0		88.2	49.4	19.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	80.1	40.4		23.6	44.4	53.2	24.7	50.0		88.2	49.4	19.5
LOS	F	D		C	D	D	C	D		F	D	B
Approach Delay		56.9			47.2			48.0			56.6	
Approach LOS		E			D			D			E	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 52.4 Intersection LOS: D
Intersection Capacity Utilization 94.5% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd

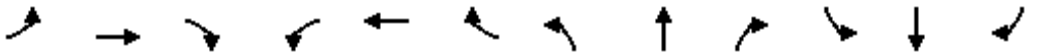




Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	371	520	88	593	634	62	737	510	619	314
v/c Ratio	0.86	0.41	0.24	0.57	0.97	0.29	0.74	0.93	0.81	0.42
Control Delay	80.1	40.4	23.6	44.4	53.2	24.7	50.0	88.2	49.4	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.1	40.4	23.6	44.4	53.2	24.7	50.0	88.2	49.4	19.5
Queue Length 50th (m)	56.4	63.3	14.2	76.2	106.2	9.4	100.7	81.0	108.6	30.6
Queue Length 95th (m)	#87.0	83.4	24.9	96.0	#190.3	18.1	124.8	m82.2	m110.8	m30.9
Internal Link Dist (m)		551.4		604.3			115.4		292.1	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	433	1307	362	1077	667	211	1016	546	775	762
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.40	0.24	0.55	0.95	0.29	0.73	0.93	0.80	0.41

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	460	45	85	575	615	60	575	140	495	600	305
Future Volume (vph)	360	460	45	85	575	615	60	575	140	495	600	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.93	1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3467	3485		1797	3539	1470	1769	3480		3433	1881	1516
Flt Permitted	0.95	1.00		0.45	1.00	1.00	0.20	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3467	3485		857	3539	1470	364	3480		3433	1881	1516
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	371	474	46	88	593	634	62	593	144	510	619	314
RTOR Reduction (vph)	0	5	0	0	0	224	0	15	0	0	0	140
Lane Group Flow (vph)	371	515	0	88	593	410	62	722	0	510	619	174
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	16.5	49.9		47.1	39.9	39.9	43.9	38.3		21.3	55.0	55.0
Effective Green, g (s)	17.5	50.9		49.1	40.9	40.9	45.9	39.3		22.3	56.0	56.0
Actuated g/C Ratio	0.12	0.36		0.35	0.29	0.29	0.33	0.28		0.16	0.40	0.40
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	433	1267		355	1033	429	185	976		546	752	606
v/s Ratio Prot	c0.11	0.15		0.01	0.17		0.02	0.21		c0.15	c0.33	
v/s Ratio Perm				0.07		c0.28	0.09					0.11
v/c Ratio	0.86	0.41		0.25	0.57	0.96	0.34	0.74		0.93	0.82	0.29
Uniform Delay, d1	60.0	33.3		31.0	42.1	48.7	34.6	45.7		58.1	37.6	28.5
Progression Factor	1.02	1.20		1.00	1.00	1.00	1.00	1.00		1.32	1.18	2.27
Incremental Delay, d2	15.0	0.2		0.4	0.8	32.1	1.1	5.0		11.7	4.2	0.5
Delay (s)	76.4	40.3		31.4	42.9	80.8	35.6	50.7		88.4	48.6	65.2
Level of Service	E	D		C	D	F	D	D		F	D	E
Approach Delay (s)		55.3			60.4			49.6			66.3	
Approach LOS		E			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	59.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	94.5%	ICU Level of Service	F
Analysis Period (min)	15		

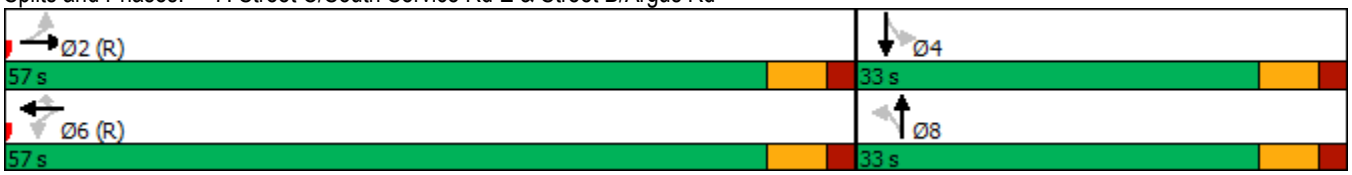
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	55	20	50	470	350	5	105	25	50	5	110
Future Volume (vph)	15	55	20	50	470	350	5	105	25	50	5	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00			0.99		0.98		
Frt		0.969				0.850		0.975			0.856	
Flt Protected		0.992			0.995			0.998		0.950		
Satd. Flow (prot)	0	1766	0	0	1778	1615	0	1834	0	1805	1626	0
Flt Permitted		0.910			0.965			0.988		0.518		
Satd. Flow (perm)	0	1620	0	0	1721	1615	0	1816	0	968	1626	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22				376		13			118	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		48.3			119.5			83.7			163.9	
Travel Time (s)		3.5			8.6			6.0			11.8	
Confl. Peds. (#/hr)			10	10					10	10		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	4%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	16	59	22	54	505	376	5	113	27	54	5	118
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	97	0	0	559	376	0	145	0	54	123	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	26.0	26.0		26.0	26.0	
Total Split (s)	57.0	57.0		57.0	57.0	57.0	33.0	33.0		33.0	33.0	
Total Split (%)	63.3%	63.3%		63.3%	63.3%	63.3%	36.7%	36.7%		36.7%	36.7%	
Maximum Green (s)	51.0	51.0		51.0	51.0	51.0	27.0	27.0		27.0	27.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0		-1.0		-1.0	-1.0	
Total Lost Time (s)		5.0			5.0	5.0		5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min	C-Min	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		66.5			66.5	66.5		13.5		13.5	13.5	
Actuated g/C Ratio		0.74			0.74	0.74		0.15		0.15	0.15	
v/c Ratio		0.08			0.44	0.29		0.51		0.37	0.36	
Control Delay		3.1			9.8	3.0		38.0		41.1	10.1	
Queue Delay		0.0			2.2	0.7		0.0		0.0	0.0	
Total Delay		3.1			12.0	3.7		38.0		41.1	10.1	
LOS		A			B	A		D		D	B	
Approach Delay		3.1			8.7			38.0			19.6	
Approach LOS		A			A			D			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 12.8		Intersection LOS: B	
Intersection Capacity Utilization 63.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 7: Street C/South Service Rd E & Street B/Argus Rd





Lane Group	EBT	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	97	559	376	145	54	123
v/c Ratio	0.08	0.44	0.29	0.51	0.37	0.36
Control Delay	3.1	9.8	3.0	38.0	41.1	10.1
Queue Delay	0.0	2.2	0.7	0.0	0.0	0.0
Total Delay	3.1	12.0	3.7	38.0	41.1	10.1
Queue Length 50th (m)	3.0	73.0	11.4	22.5	9.1	0.8
Queue Length 95th (m)	8.4	112.9	m21.9	38.9	19.6	15.1
Internal Link Dist (m)	24.3	95.5		59.7		139.9
Turn Bay Length (m)						
Base Capacity (vph)	1202	1271	1291	573	301	587
Starvation Cap Reductn	0	549	580	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.77	0.53	0.25	0.18	0.21

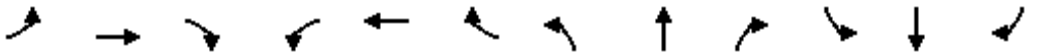
Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	55	20	50	470	350	5	105	25	50	5	110
Future Volume (vph)	15	55	20	50	470	350	5	105	25	50	5	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	5.0		5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00	1.00		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00		0.98	1.00	
Frt		0.97			1.00	0.85		0.97		1.00	0.86	
Flt Protected		0.99			1.00	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1766			1775	1615		1835		1777	1627	
Flt Permitted		0.91			0.96	1.00		0.99		0.52	1.00	
Satd. Flow (perm)		1621			1721	1615		1815		969	1627	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	16	59	22	54	505	376	5	113	27	54	5	118
RTOR Reduction (vph)	0	6	0	0	0	98	0	11	0	0	100	0
Lane Group Flow (vph)	0	91	0	0	559	278	0	134	0	54	23	0
Confl. Peds. (#/hr)			10	10					10	10		
Heavy Vehicles (%)	0%	4%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		65.5			65.5	65.5		12.5		12.5	12.5	
Effective Green, g (s)		66.5			66.5	66.5		13.5		13.5	13.5	
Actuated g/C Ratio		0.74			0.74	0.74		0.15		0.15	0.15	
Clearance Time (s)		6.0			6.0	6.0		6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		1197			1271	1193		272		145	244	
v/s Ratio Prot											0.01	
v/s Ratio Perm		0.06			c0.32	0.17		c0.07		0.06		
v/c Ratio		0.08			0.44	0.23		0.49		0.37	0.09	
Uniform Delay, d1		3.3			4.5	3.7		35.1		34.4	33.0	
Progression Factor		1.00			1.75	4.90		1.00		1.00	1.00	
Incremental Delay, d2		0.1			0.9	0.4		1.4		1.6	0.2	
Delay (s)		3.4			8.8	18.5		36.5		36.0	33.1	
Level of Service		A			A	B		D		D	C	
Approach Delay (s)		3.4			12.7			36.5			34.0	
Approach LOS		A			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



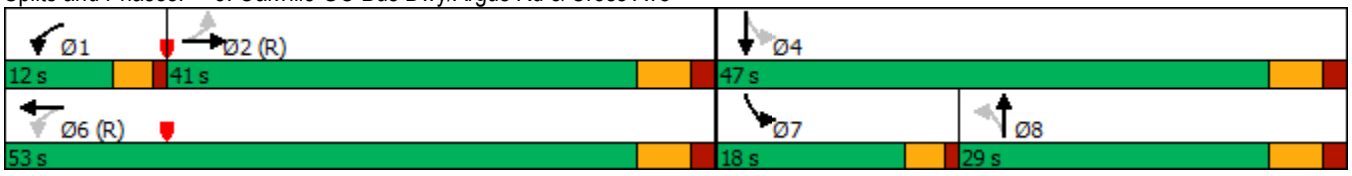
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	915	15	15	730	40	15	0	30	380	15	205
Future Volume (vph)	45	915	15	15	730	40	15	0	30	380	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	30.0			15.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00			1.00			0.94		0.95	0.94	
Frt		0.998			0.992			0.910			0.860	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1805	3544	0	902	3542	0	0	831	0	1787	1437	0
Flt Permitted	0.317			0.164				0.851		0.725		
Satd. Flow (perm)	599	3544	0	156	3542	0	0	708	0	1294	1437	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			8			120			115	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		126.2			104.6			107.0			123.1	
Travel Time (s)		9.1			7.5			7.7			8.9	
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Adj. Flow (vph)	48	984	16	16	785	43	16	0	32	409	16	220
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	1000	0	16	828	0	0	48	0	409	236	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

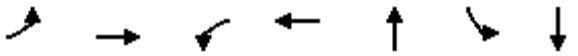
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	22.0	22.0		8.0	22.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	29.0	29.0		12.0	29.0		29.0	29.0		9.0	29.0	
Total Split (s)	41.0	41.0		12.0	53.0		29.0	29.0		18.0	47.0	
Total Split (%)	41.0%	41.0%		12.0%	53.0%		29.0%	29.0%		18.0%	47.0%	
Maximum Green (s)	35.0	35.0		8.0	47.0		23.0	23.0		14.0	41.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	5.0	5.0		2.5	5.0		4.0	4.0		3.0	4.0	
Recall Mode	C-Min	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	16.0	16.0			16.0		16.0	16.0			16.0	
Pedestrian Calls (#/hr)	15	15			15		45	45			45	
Act Effct Green (s)	48.8	48.8		55.6	53.6			18.8		38.4	36.4	
Actuated g/C Ratio	0.49	0.49		0.56	0.54			0.19		0.38	0.36	
v/c Ratio	0.16	0.58		0.10	0.44			0.21		0.70	0.40	
Control Delay	22.1	23.0		14.3	16.2			2.0		30.9	12.2	
Queue Delay	0.0	1.3		0.0	0.0			0.0		0.0	0.0	
Total Delay	22.1	24.3		14.3	16.2			2.0		30.9	12.2	
LOS	C	C		B	B			A		C	B	
Approach Delay		24.2			16.2			2.0			24.0	
Approach LOS		C			B			A			C	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 21.1 Intersection LOS: C
Intersection Capacity Utilization 73.4% ICU Level of Service D
Analysis Period (min) 15

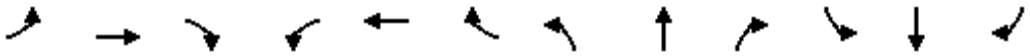
Splits and Phases: 8: Oakville GO Bus Dwy/Argus Rd & Cross Ave





Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	48	1000	16	828	48	409	236
v/c Ratio	0.16	0.58	0.10	0.44	0.21	0.70	0.40
Control Delay	22.1	23.0	14.3	16.2	2.0	30.9	12.2
Queue Delay	0.0	1.3	0.0	0.0	0.0	0.0	0.0
Total Delay	22.1	24.3	14.3	16.2	2.0	30.9	12.2
Queue Length 50th (m)	5.4	74.7	1.6	57.5	0.0	59.1	15.3
Queue Length 95th (m)	16.2	119.9	5.2	74.5	0.0	87.9	33.7
Internal Link Dist (m)		102.2		80.6	83.0		99.1
Turn Bay Length (m)	20.0		20.0			15.0	
Base Capacity (vph)	292	1731	154	1903	261	584	670
Starvation Cap Reductn	0	489	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.81	0.10	0.44	0.18	0.70	0.35

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	915	15	15	730	40	15	0	30	380	15	205
Future Volume (vph)	45	915	15	15	730	40	15	0	30	380	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.95		1.00	0.94	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			0.99		0.96	1.00	
Frt	1.00	1.00		1.00	0.99			0.91		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1795	3542		902	3542			819		1722	1437	
Flt Permitted	0.32	1.00		0.16	1.00			0.85		0.72	1.00	
Satd. Flow (perm)	599	3542		156	3542			708		1314	1437	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	48	984	16	16	785	43	16	0	32	409	16	220
RTOR Reduction (vph)	0	1	0	0	4	0	0	40	0	0	72	0
Lane Group Flow (vph)	48	999	0	16	824	0	0	8	0	409	164	0
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	44.2	44.2		51.4	51.4			15.8		36.6	36.6	
Effective Green, g (s)	45.2	45.2		52.4	52.4			16.8		37.6	37.6	
Actuated g/C Ratio	0.45	0.45		0.52	0.52			0.17		0.38	0.38	
Clearance Time (s)	6.0	6.0		4.0	6.0			6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0		2.5	5.0			4.0		3.0	4.0	
Lane Grp Cap (vph)	270	1600		113	1856			118		566	540	
v/s Ratio Prot		c0.28		0.01	c0.23					c0.13	0.11	
v/s Ratio Perm	0.08			0.07				0.01		c0.14		
v/c Ratio	0.18	0.62		0.14	0.44			0.07		0.72	0.30	
Uniform Delay, d1	16.3	20.9		13.8	14.8			35.0		25.8	22.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	1.4	1.8		0.4	0.8			0.3		4.5	0.4	
Delay (s)	17.8	22.8		14.2	15.5			35.3		30.4	22.4	
Level of Service	B	C		B	B			D		C	C	
Approach Delay (s)		22.5			15.5			35.3			27.5	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

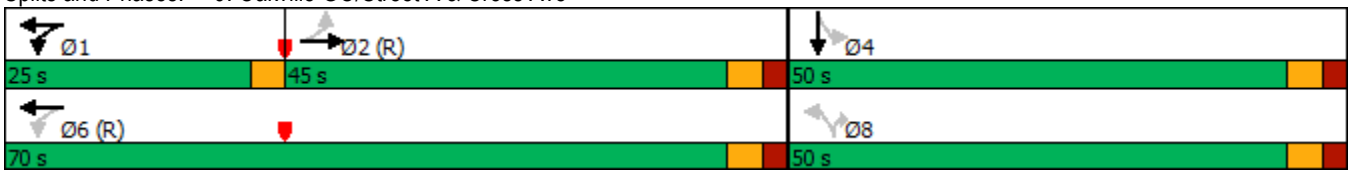
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	505	80	360	455	190	130	0	310	170	0	65
Future Volume (vph)	135	505	80	360	455	190	130	0	310	170	0	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	100.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98	0.99			0.99		0.99		0.97		0.98	
Frt		0.979			0.972				0.850		0.963	
Flt Protected	0.950				0.982		0.950				0.965	
Satd. Flow (prot)	1805	3394	0	0	3339	0	1805	0	1615	0	1752	0
Flt Permitted	0.261				0.587		0.691				0.965	
Satd. Flow (perm)	487	3394	0	0	1991	0	1302	0	1570	0	1731	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			39				337		51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		120.6			126.2			63.3			76.3	
Travel Time (s)		8.7			9.1			4.6			5.5	
Confl. Peds. (#/hr)	30		10	10		30	10		10	10		10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	147	549	87	391	495	207	141	0	337	185	0	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	147	636	0	0	1093	0	141	0	337	0	256	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	100		100
Number of Detectors	1	2		1	2		1		1	1	2	
Detector Template	Left	Thru		Left	Thru		Left		Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0		2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0		2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4						9.4	
Detector 2 Size(m)		0.6			0.6						0.6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	

Lane Group	Ø6
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (m)	
Storage Lanes	
Taper Length (m)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (k/h)	
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(m)	
Detector 2 Size(m)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		custom	NA		Perm		Perm	Perm	NA	
Protected Phases		2		1	1 6						4	
Permitted Phases	2			6			8		8	4		
Detector Phase	2	2		1	1 6		8		8	4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		8.0			10.0		10.0	10.0	10.0	
Minimum Split (s)	40.6	40.6		11.0			27.6		27.6	27.6	27.6	
Total Split (s)	45.0	45.0		25.0			50.0		50.0	50.0	50.0	
Total Split (%)	37.5%	37.5%		20.8%			41.7%		41.7%	41.7%	41.7%	
Maximum Green (s)	39.4	39.4		22.0			44.4		44.4	44.4	44.4	
Yellow Time (s)	3.3	3.3		3.0			3.3		3.3	3.3	3.3	
All-Red Time (s)	2.3	2.3		0.0			2.3		2.3	2.3	2.3	
Lost Time Adjust (s)	-1.0	-1.0					-1.0		-1.0		-1.0	
Total Lost Time (s)	4.6	4.6					4.6		4.6		4.6	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	5.0	5.0		2.5			3.5		3.5	3.0	3.0	
Recall Mode	C-Min	C-Min		None			None		None	None	None	
Walk Time (s)	7.0	7.0					7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	15.0	15.0					15.0		15.0	15.0	15.0	
Pedestrian Calls (#/hr)	20	20					10		10	10	10	
Act Effct Green (s)	65.8	65.8			91.9		21.5		21.5		21.5	
Actuated g/C Ratio	0.55	0.55			0.77		0.18		0.18		0.18	
v/c Ratio	0.55	0.34			0.62		0.61		0.61		0.73	
Control Delay	32.7	17.7			7.0		55.1		8.9		48.4	
Queue Delay	0.0	0.0			1.2		0.0		0.0		0.0	
Total Delay	32.7	17.7			8.2		55.1		8.9		48.4	
LOS	C	B			A		E		A		D	
Approach Delay		20.5			8.2			22.5			48.4	
Approach LOS		C			A			C			D	

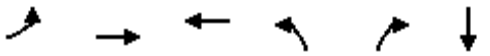
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 64 (53%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 18.4		Intersection LOS: B	
Intersection Capacity Utilization 90.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 9: Oakville GO/Street A & Cross Ave



Lane Group	Ø6
Turn Type	
Protected Phases	6
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	35.0
Minimum Split (s)	40.6
Total Split (s)	70.0
Total Split (%)	58%
Maximum Green (s)	64.4
Yellow Time (s)	3.3
All-Red Time (s)	2.3
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	5.0
Recall Mode	C-Min
Walk Time (s)	7.0
Flash Dont Walk (s)	15.0
Pedestrian Calls (#/hr)	20
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

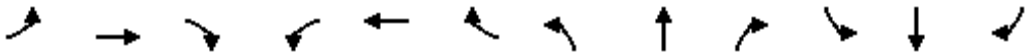
Intersection Summary



Lane Group	EBL	EBT	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	147	636	1093	141	337	256
v/c Ratio	0.55	0.34	0.62	0.61	0.61	0.73
Control Delay	32.7	17.7	7.0	55.1	8.9	48.4
Queue Delay	0.0	0.0	1.2	0.0	0.0	0.0
Total Delay	32.7	17.7	8.2	55.1	8.9	48.4
Queue Length 50th (m)	22.2	42.2	39.5	32.6	0.0	48.9
Queue Length 95th (m)	#70.0	77.7	70.5	49.9	23.6	71.4
Internal Link Dist (m)		96.6	102.2			52.3
Turn Bay Length (m)						
Base Capacity (vph)	266	1866	1815	492	803	686
Starvation Cap Reductn	0	0	458	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.34	0.81	0.29	0.42	0.37

Intersection Summary

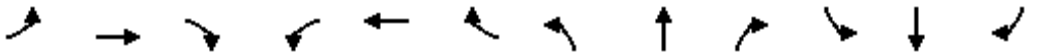
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	505	80	360	455	190	130	0	310	170	0	65
Future Volume (vph)	135	505	80	360	455	190	130	0	310	170	0	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6			2.0		4.6		4.6		4.6	
Lane Util. Factor	1.00	0.95			0.95		1.00		1.00		1.00	
Frpb, ped/bikes	1.00	0.99			0.99		1.00		0.97		0.99	
Flpb, ped/bikes	0.98	1.00			1.00		0.99		1.00		0.99	
Frt	1.00	0.98			0.97		1.00		0.85		0.96	
Flt Protected	0.95	1.00			0.98		0.95		1.00		0.97	
Satd. Flow (prot)	1773	3396			3338		1792		1570		1731	
Flt Permitted	0.26	1.00			0.59		0.69		1.00		0.97	
Satd. Flow (perm)	487	3396			1995		1304		1570		1731	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	147	549	87	391	495	207	141	0	337	185	0	71
RTOR Reduction (vph)	0	7	0	0	10	0	0	0	277	0	42	0
Lane Group Flow (vph)	147	629	0	0	1083	0	141	0	60	0	214	0
Confl. Peds. (#/hr)	30		10	10		30	10		10	10		10
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		custom	NA		Perm		Perm	Perm	NA	
Protected Phases		2		1	1 6						4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	64.7	64.7			88.3		20.5		20.5		20.5	
Effective Green, g (s)	65.7	65.7			89.3		21.5		21.5		21.5	
Actuated g/C Ratio	0.55	0.55			0.74		0.18		0.18		0.18	
Clearance Time (s)	5.6	5.6					5.6		5.6		5.6	
Vehicle Extension (s)	5.0	5.0					3.5		3.5		3.0	
Lane Grp Cap (vph)	266	1859			1726		233		281		310	
v/s Ratio Prot		0.19			c0.11							
v/s Ratio Perm	c0.30				0.35		0.11		0.04		0.12	
v/c Ratio	0.55	0.34			0.63		0.61		0.21		0.69	
Uniform Delay, d1	17.6	15.1			7.4		45.3		42.0		46.1	
Progression Factor	1.00	1.00			1.00		1.00		1.00		1.00	
Incremental Delay, d2	8.0	0.5			0.6		4.6		0.5		6.5	
Delay (s)	25.7	15.6			8.0		50.0		42.5		52.6	
Level of Service	C	B			A		D		D		D	
Approach Delay (s)		17.5			8.0			44.7			52.6	
Approach LOS		B			A			D			D	

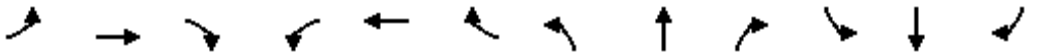
Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	515	0	0	520	130	0	0	80	120	0	95
Future Volume (vph)	40	515	0	0	520	130	0	0	80	120	0	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (m)	25.0			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.970			0.865				0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1805	3438	0	0	3387	0	0	1644	0	1805	0	1615
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1805	3438	0	0	3387	0	0	1644	0	1805	0	1615
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		132.8			120.6			80.8			71.6	
Travel Time (s)		9.6			8.7			5.8			5.2	
Confl. Peds. (#/hr)	15		10	10		15	5		5	5		5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	5%	0%	0%	4%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	45	585	0	0	591	148	0	0	91	136	0	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	585	0	0	739	0	0	91	0	136	0	108
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

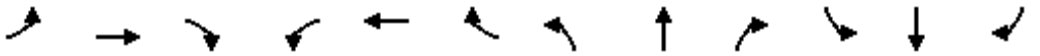
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.5%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	515	0	0	520	130	0	0	80	120	0	95
Future Volume (Veh/h)	40	515	0	0	520	130	0	0	80	120	0	95
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	45	585	0	0	591	148	0	0	91	136	0	108
Pedestrians		5			5			10			15	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		133			121							
pX, platoon unblocked				0.97			0.97	0.97	0.97	0.97	0.97	
vC, conflicting volume	754			595			1094	1439	308	1158	1365	390
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	754			515			1030	1387	218	1097	1311	390
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			100			100	100	88	0	100	82
cM capacity (veh/h)	854			1018			141	129	757	135	144	605

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	45	292	292	394	345	91	136	108
Volume Left	45	0	0	0	0	0	136	0
Volume Right	0	0	0	0	148	91	0	108
cSH	854	1700	1700	1700	1700	757	135	605
Volume to Capacity	0.05	0.17	0.17	0.23	0.20	0.12	1.01	0.18
Queue Length 95th (m)	1.3	0.0	0.0	0.0	0.0	3.3	57.9	5.2
Control Delay (s)	9.4	0.0	0.0	0.0	0.0	10.4	144.5	12.2
Lane LOS	A					B	F	B
Approach Delay (s)	0.7			0.0		10.4	86.0	
Approach LOS						B	F	

Intersection Summary				
Average Delay	13.1			
Intersection Capacity Utilization	45.5%	ICU Level of Service		A
Analysis Period (min)	15			



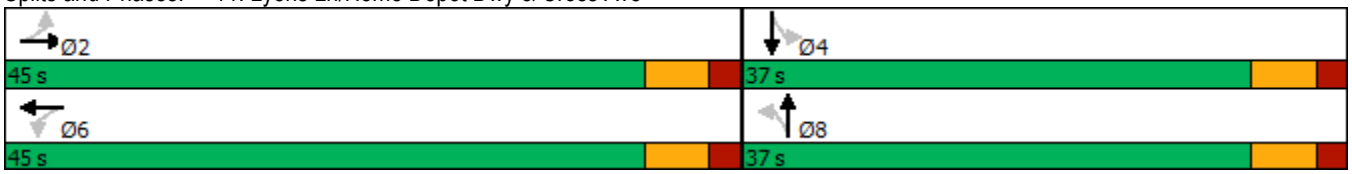
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	450	30	20	570	15	140	5	85	25	5	95
Future Volume (vph)	70	450	30	20	570	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	25.0		0.0	35.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		1.00	1.00		1.00	0.98		0.99	0.98	
Frt		0.991			0.996			0.858			0.858	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3381	0	1805	3456	0	1805	1595	0	1805	1588	0
Flt Permitted	0.374			0.440			0.681			0.689		
Satd. Flow (perm)	702	3381	0	833	3456	0	1288	1595	0	1296	1588	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			4			100			112	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		47.5			132.8			89.0			69.0	
Travel Time (s)		3.4			9.6			6.4			5.0	
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	82	529	35	24	671	18	165	6	100	29	6	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	564	0	24	689	0	165	106	0	29	118	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

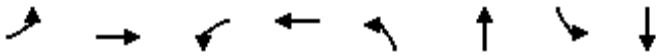
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		35.0	35.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	41.0	41.0		41.0	41.0		28.0	28.0		28.0	28.0	
Total Split (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Total Split (%)	54.9%	54.9%		54.9%	54.9%		45.1%	45.1%		45.1%	45.1%	
Maximum Green (s)	39.0	39.0		39.0	39.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	15	15		15	15		10	10		10	10	
Act Effct Green (s)	36.2	36.2		36.2	36.2		15.5	15.5		15.5	15.5	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
v/c Ratio	0.20	0.28		0.05	0.34		0.51	0.22		0.09	0.25	
Control Delay	8.9	7.3		7.3	7.8		25.5	6.1		17.5	5.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	8.9	7.3		7.3	7.8		25.5	6.1		17.5	5.9	
LOS	A	A		A	A		C	A		B	A	
Approach Delay		7.5			7.8			17.9			8.2	
Approach LOS		A			A			B			A	

Intersection Summary

Area Type: Other
Cycle Length: 82
Actuated Cycle Length: 61.7
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 9.3 Intersection LOS: A
Intersection Capacity Utilization 82.0% ICU Level of Service E
Analysis Period (min) 15

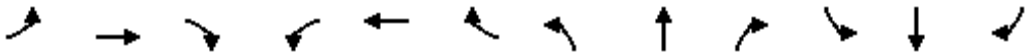
Splits and Phases: 11: Lyons Ln/Home Depot Dwy & Cross Ave





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	82	564	24	689	165	106	29	118
v/c Ratio	0.20	0.28	0.05	0.34	0.51	0.22	0.09	0.25
Control Delay	8.9	7.3	7.3	7.8	25.5	6.1	17.5	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.9	7.3	7.3	7.8	25.5	6.1	17.5	5.9
Queue Length 50th (m)	3.9	14.4	1.0	18.7	16.8	0.5	2.7	0.5
Queue Length 95th (m)	12.7	28.3	4.6	35.5	30.4	8.9	7.5	9.3
Internal Link Dist (m)		23.5		108.8		65.0		45.0
Turn Bay Length (m)			25.0		35.0			
Base Capacity (vph)	457	2206	542	2253	671	879	675	881
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.26	0.04	0.31	0.25	0.12	0.04	0.13

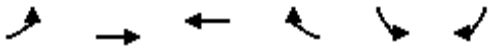
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	450	30	20	570	15	140	5	85	25	5	95
Future Volume (vph)	70	450	30	20	570	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1786	3380		1799	3457		1799	1600		1792	1589	
Flt Permitted	0.37	1.00		0.44	1.00		0.68	1.00		0.69	1.00	
Satd. Flow (perm)	704	3380		834	3457		1290	1600		1299	1589	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	82	529	35	24	671	18	165	6	100	29	6	112
RTOR Reduction (vph)	0	5	0	0	2	0	0	75	0	0	84	0
Lane Group Flow (vph)	82	559	0	24	687	0	165	31	0	29	34	0
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.2	35.2		35.2	35.2		14.4	14.4		14.4	14.4	
Effective Green, g (s)	36.2	36.2		36.2	36.2		15.4	15.4		15.4	15.4	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	413	1986		490	2031		322	400		324	397	
v/s Ratio Prot		0.17			c0.20			0.02			0.02	
v/s Ratio Perm	0.12			0.03			c0.13			0.02		
v/c Ratio	0.20	0.28		0.05	0.34		0.51	0.08		0.09	0.09	
Uniform Delay, d1	5.9	6.3		5.4	6.5		19.9	17.7		17.7	17.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.2		0.1	0.2		1.8	0.1		0.2	0.1	
Delay (s)	6.4	6.4		5.5	6.7		21.7	17.8		17.9	17.8	
Level of Service	A	A		A	A		C	B		B	B	
Approach Delay (s)		6.4			6.7			20.2			17.8	
Approach LOS		A			A			C			B	

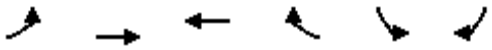
Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	61.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	545	775	30	20	25
Future Volume (vph)	25	545	775	30	20	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.994		0.926	
Flt Protected	0.950				0.978	
Satd. Flow (prot)	1805	3471	3488	0	1721	0
Flt Permitted	0.950				0.978	
Satd. Flow (perm)	1805	3471	3488	0	1721	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		443.3	47.5		121.4	
Travel Time (s)		31.9	3.4		8.7	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	4%	3%	0%	0%	0%
Adj. Flow (vph)	27	599	852	33	22	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	599	885	0	49	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

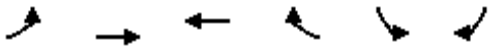
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.4%		ICU Level of Service A	
Analysis Period (min) 15			



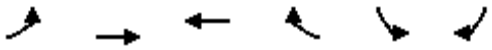
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	545	775	30	20	25
Future Volume (Veh/h)	25	545	775	30	20	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	27	599	852	33	22	27
Pedestrians					15	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			48			
pX, platoon unblocked	0.91				0.91	0.91
vC, conflicting volume	900				1237	458
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	683				1055	195
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				89	96
cM capacity (veh/h)	823				194	734

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	27	300	300	568	317	49
Volume Left	27	0	0	0	0	22
Volume Right	0	0	0	0	33	27
cSH	823	1700	1700	1700	1700	326
Volume to Capacity	0.03	0.18	0.18	0.33	0.19	0.15
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0	4.2
Control Delay (s)	9.5	0.0	0.0	0.0	0.0	18.0
Lane LOS	A					C
Approach Delay (s)	0.4			0.0		18.0
Approach LOS						C

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	32.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	410	710	915	130	120	670
Future Volume (vph)	410	710	915	130	120	670
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0			0.0	60.0	0.0
Storage Lanes	1			0	1	2
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.88
Ped Bike Factor			1.00			
Frt			0.981			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1719	3574	3497	0	1805	2760
Flt Permitted	0.166				0.950	
Satd. Flow (perm)	300	3574	3497	0	1805	2760
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			16			664
Link Speed (k/h)		50	50		50	
Link Distance (m)		209.5	575.4		443.3	
Travel Time (s)		15.1	41.4		31.9	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Adj. Flow (vph)	436	755	973	138	128	713
Shared Lane Traffic (%)						
Lane Group Flow (vph)	436	755	1111	0	128	713
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		7.2	7.2		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			

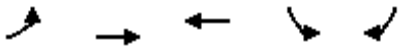


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	6.0	38.0	38.0		10.0	10.0
Minimum Split (s)	12.0	47.6	44.6		33.8	33.8
Total Split (s)	35.0	109.2	74.2		30.8	30.8
Total Split (%)	25.0%	78.0%	53.0%		22.0%	22.0%
Maximum Green (s)	29.0	102.6	67.6		25.0	25.0
Yellow Time (s)	4.0	3.7	3.7		3.3	3.3
All-Red Time (s)	2.0	2.9	2.9		2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.6	5.6		4.8	4.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Min	C-Min		None	None
Walk Time (s)		10.0	1.0		10.0	10.0
Flash Dont Walk (s)		31.0	31.0		18.0	18.0
Pedestrian Calls (#/hr)		10	10		0	0
Act Effct Green (s)	113.4	112.8	78.0		16.8	16.8
Actuated g/C Ratio	0.81	0.81	0.56		0.12	0.12
v/c Ratio	0.80	0.26	0.57		0.59	0.78
Control Delay	29.8	3.9	20.3		68.8	12.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	29.8	3.9	20.3		68.8	12.5
LOS	C	A	C		E	B
Approach Delay		13.4	20.3		21.1	
Approach LOS		B	C		C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 17.9		Intersection LOS: B	
Intersection Capacity Utilization 75.5%		ICU Level of Service D	
Analysis Period (min) 15			

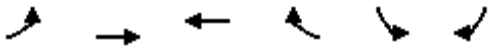
Splits and Phases: 13: Speers Rd/Cornwall Rd & Cross Ave





Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	436	755	1111	128	713
v/c Ratio	0.80	0.26	0.57	0.59	0.78
Control Delay	29.8	3.9	20.3	68.8	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	29.8	3.9	20.3	68.8	12.5
Queue Length 50th (m)	60.6	24.1	138.3	35.8	7.3
Queue Length 95th (m)	101.7	37.3	192.0	55.7	28.7
Internal Link Dist (m)		185.5	551.4	419.3	
Turn Bay Length (m)	70.0			60.0	
Base Capacity (vph)	583	2878	1992	335	1053
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.75	0.26	0.56	0.38	0.68

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	410	710	915	130	120	670
Future Volume (vph)	410	710	915	130	120	670
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		4.8	4.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1719	3574	3498		1805	2760
Flt Permitted	0.17	1.00	1.00		0.95	1.00
Satd. Flow (perm)	301	3574	3498		1805	2760
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	436	755	973	138	128	713
RTOR Reduction (vph)	0	0	7	0	0	584
Lane Group Flow (vph)	436	755	1104	0	128	129
Confl. Peds. (#/hr)	15			15		
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Actuated Green, G (s)	111.8	111.8	77.0		15.8	15.8
Effective Green, g (s)	112.8	112.8	78.0		16.8	16.8
Actuated g/C Ratio	0.81	0.81	0.56		0.12	0.12
Clearance Time (s)	6.0	6.6	6.6		5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	544	2879	1948		216	331
v/s Ratio Prot	c0.17	0.21	0.32			
v/s Ratio Perm	c0.48				c0.07	0.05
v/c Ratio	0.80	0.26	0.57		0.59	0.39
Uniform Delay, d1	24.7	3.4	20.1		58.4	56.9
Progression Factor	1.00	1.00	0.86		1.00	1.00
Incremental Delay, d2	8.3	0.2	1.1		4.3	0.8
Delay (s)	33.0	3.6	18.3		62.7	57.6
Level of Service	C	A	B		E	E
Approach Delay (s)		14.3	18.3		58.4	
Approach LOS		B	B		E	

Intersection Summary			
HCM 2000 Control Delay	27.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

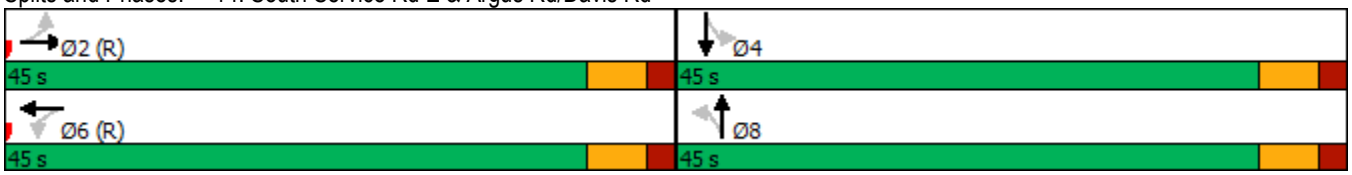
c Critical Lane Group

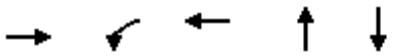
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	25	0	125	180	15	0	165	120	20	310	0
Future Volume (vph)	0	25	0	125	180	15	0	165	120	20	310	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.988			0.943				
Flt Protected				0.950							0.997	
Satd. Flow (prot)	1900	1900	0	1770	1877	0	0	1761	0	0	1894	0
Flt Permitted				0.738							0.915	
Satd. Flow (perm)	1900	1900	0	1375	1877	0	0	1761	0	0	1738	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					6			52				
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		170.6			203.3			204.3			287.4	
Travel Time (s)		12.3			14.6			14.7			20.7	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	0%	3%	0%	0%	0%	0%
Adj. Flow (vph)	0	29	0	147	212	18	0	194	141	24	365	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	29	0	147	230	0	0	335	0	0	389	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA			NA		Perm	NA	
Protected Phases		2			6			8			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	26.0	26.0		26.0	26.0		26.0	26.0		26.0	26.0	
Total Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	39.0	39.0		39.0	39.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	20	20		20	20		20	20		20	20	
Act Effct Green (s)		54.1		54.1	54.1			25.9			25.9	
Actuated g/C Ratio		0.60		0.60	0.60			0.29			0.29	
v/c Ratio		0.03		0.18	0.20			0.62			0.78	
Control Delay		2.1		8.4	8.1			27.4			40.0	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		2.1		8.4	8.1			27.4			40.0	
LOS		A		A	A			C			D	
Approach Delay		2.1			8.2			27.4			40.0	
Approach LOS		A			A			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 24.7		Intersection LOS: C	
Intersection Capacity Utilization 57.7%		ICU Level of Service B	
Analysis Period (min) 15			

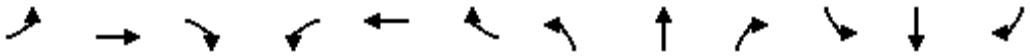
Splits and Phases: 14: South Service Rd E & Argus Rd/Davis Rd





Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	29	147	230	335	389
v/c Ratio	0.03	0.18	0.20	0.62	0.78
Control Delay	2.1	8.4	8.1	27.4	40.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	2.1	8.4	8.1	27.4	40.0
Queue Length 50th (m)	0.3	9.5	14.6	44.2	64.6
Queue Length 95th (m)	1.3	16.9	23.5	58.0	79.5
Internal Link Dist (m)	146.6		179.3	180.3	263.4
Turn Bay Length (m)		30.0			
Base Capacity (vph)	1142	826	1130	811	772
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.03	0.18	0.20	0.41	0.50

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	25	0	125	180	15	0	165	120	20	310	0
Future Volume (vph)	0	25	0	125	180	15	0	165	120	20	310	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.99			0.94			1.00	
Flt Protected		1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)		1900		1770	1878			1761			1894	
Flt Permitted		1.00		0.74	1.00			1.00			0.91	
Satd. Flow (perm)		1900		1375	1878			1761			1738	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	29	0	147	212	18	0	194	141	24	365	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	37	0	0	0	0
Lane Group Flow (vph)	0	29	0	147	228	0	0	298	0	0	389	0
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	0%	3%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA			NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		53.1		53.1	53.1			24.9			24.9	
Effective Green, g (s)		54.1		54.1	54.1			25.9			25.9	
Actuated g/C Ratio		0.60		0.60	0.60			0.29			0.29	
Clearance Time (s)		6.0		6.0	6.0			6.0			6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		1142		826	1128			506			500	
v/s Ratio Prot		0.02			c0.12			0.17				
v/s Ratio Perm				0.11							c0.22	
v/c Ratio		0.03		0.18	0.20			0.59			0.78	
Uniform Delay, d1		7.3		8.0	8.1			27.5			29.4	
Progression Factor		0.22		0.82	0.83			1.00			1.00	
Incremental Delay, d2		0.0		0.5	0.4			1.8			7.5	
Delay (s)		1.6		7.1	7.1			29.2			36.9	
Level of Service		A		A	A			C			D	
Approach Delay (s)		1.6			7.1			29.2			36.9	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	23.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	110	105	75	120	270	115
Future Volume (vph)	110	105	75	120	270	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		100.0	100.0		100.0	0.0
Storage Lanes		0	0		0	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.934				0.960	
Flt Protected				0.981	0.966	
Satd. Flow (prot)	1740	0	0	1864	1745	0
Flt Permitted				0.981	0.966	
Satd. Flow (perm)	1740	0	0	1864	1745	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	252.8			547.4	339.1	
Travel Time (s)	18.2			39.4	24.4	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	3%	0%	0%	1%	1%
Adj. Flow (vph)	124	118	84	135	303	129
Shared Lane Traffic (%)						
Lane Group Flow (vph)	242	0	0	219	432	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 54.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	110	105	75	120	270	115
Future Volume (Veh/h)	110	105	75	120	270	115
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	124	118	84	135	303	129
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			242		486	183
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			242		486	183
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			94		40	85
cM capacity (veh/h)			1336		508	862

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	242	219	432
Volume Left	0	84	303
Volume Right	118	0	129
cSH	1700	1336	579
Volume to Capacity	0.14	0.06	0.75
Queue Length 95th (m)	0.0	1.6	52.1
Control Delay (s)	0.0	3.4	27.2
Lane LOS		A	D
Approach Delay (s)	0.0	3.4	27.2
Approach LOS			D

Intersection Summary			
Average Delay	14.0		
Intersection Capacity Utilization	54.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	560	100	60	710	135	180	110	45	85	75	50
Future Volume (vph)	45	560	100	60	710	135	180	110	45	85	75	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		1.00					0.98
Frt		0.977			0.976			0.956				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3447	0	1805	3443	0	1770	1804	0	1805	1827	1553
Flt Permitted	0.273			0.364			0.705			0.653		
Satd. Flow (perm)	507	3447	0	689	3443	0	1307	1804	0	1241	1827	1520
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		35			39			22				53
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			116.5	
Travel Time (s)		43.9			11.1			15.4			8.4	
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Adj. Flow (vph)	48	596	106	64	755	144	191	117	48	90	80	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	702	0	64	899	0	191	165	0	90	80	53
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	29.5	29.5		29.5	29.5		15.8	15.8		15.8	15.8	15.8
Actuated g/C Ratio	0.54	0.54		0.54	0.54		0.29	0.29		0.29	0.29	0.29
v/c Ratio	0.18	0.38		0.17	0.48		0.51	0.31		0.25	0.15	0.11
Control Delay	9.6	8.1		8.9	9.0		22.7	15.8		18.2	16.4	6.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	9.6	8.1		8.9	9.0		22.7	15.8		18.2	16.4	6.2
LOS	A	A		A	A		C	B		B	B	A
Approach Delay		8.2			9.0			19.5			14.7	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 55.1			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 10.9		Intersection LOS: B	
Intersection Capacity Utilization 80.2%		ICU Level of Service D	
Analysis Period (min) 15			

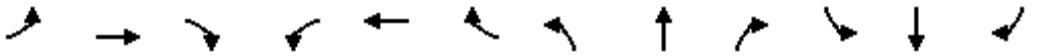
Splits and Phases: 16: Chartwell Rd & Cornwall Rd





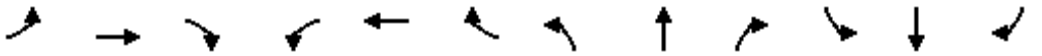
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	48	702	64	899	191	165	90	80	53
v/c Ratio	0.18	0.38	0.17	0.48	0.51	0.31	0.25	0.15	0.11
Control Delay	9.6	8.1	8.9	9.0	22.7	15.8	18.2	16.4	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.6	8.1	8.9	9.0	22.7	15.8	18.2	16.4	6.2
Queue Length 50th (m)	2.2	17.5	2.9	24.4	14.6	10.2	6.3	5.5	0.0
Queue Length 95th (m)	9.2	38.3	10.9	51.9	40.8	29.8	20.5	17.8	7.1
Internal Link Dist (m)		585.1		130.4		189.6		92.5	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	485	3302	660	3299	772	1074	733	1079	919
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.21	0.10	0.27	0.25	0.15	0.12	0.07	0.06

Intersection Summary



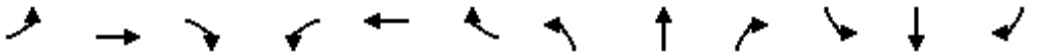
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	560	100	60	710	135	180	110	45	85	75	50
Future Volume (vph)	45	560	100	60	710	135	180	110	45	85	75	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1767	3451		1801	3446		1765	1804		1805	1827	1524
Flt Permitted	0.27	1.00		0.36	1.00		0.70	1.00		0.65	1.00	1.00
Satd. Flow (perm)	508	3451		690	3446		1310	1804		1240	1827	1524
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	48	596	106	64	755	144	191	117	48	90	80	53
RTOR Reduction (vph)	0	16	0	0	18	0	0	16	0	0	0	38
Lane Group Flow (vph)	48	686	0	64	881	0	191	149	0	90	80	15
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	28.5	28.5		28.5	28.5		14.8	14.8		14.8	14.8	14.8
Effective Green, g (s)	29.5	29.5		29.5	29.5		15.8	15.8		15.8	15.8	15.8
Actuated g/C Ratio	0.54	0.54		0.54	0.54		0.29	0.29		0.29	0.29	0.29
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	273	1861		372	1858		378	521		358	527	440
v/s Ratio Prot		0.20			c0.26			0.08			0.04	
v/s Ratio Perm	0.09			0.09			c0.15			0.07		0.01
v/c Ratio	0.18	0.37		0.17	0.47		0.51	0.29		0.25	0.15	0.03
Uniform Delay, d1	6.4	7.2		6.4	7.8		16.2	15.1		14.9	14.5	14.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.8	0.3		0.5	0.5		1.4	0.4		0.5	0.2	0.0
Delay (s)	7.2	7.5		6.9	8.3		17.6	15.5		15.4	14.6	14.0
Level of Service	A	A		A	A		B	B		B	B	B
Approach Delay (s)		7.5			8.2			16.6			14.8	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	54.7	Sum of lost time (s)	9.4
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1300	5	0	745	245	0	0	60	0	0	40
Future Volume (vph)	0	1300	5	0	745	245	0	0	60	0	0	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.999			0.963				0.865			0.865
Flt Protected												
Satd. Flow (prot)	0	3468	0	0	3375	0	0	0	1644	0	0	1644
Flt Permitted												
Satd. Flow (perm)	0	3468	0	0	3375	0	0	0	1644	0	0	1644
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		104.6			121.1			111.1			94.6	
Travel Time (s)		7.5			8.7			8.0			6.8	
Confl. Peds. (#/hr)	30		10	10		30	5					5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	4%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	1477	6	0	847	278	0	0	68	0	0	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1483	0	0	1125	0	0	0	68	0	0	45
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1300	5	0	745	245	0	0	60	0	0	40
Future Volume (Veh/h)	0	1300	5	0	745	245	0	0	60	0	0	40
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	1477	6	0	847	278	0	0	68	0	0	45
Pedestrians		5						10			30	
Lane Width (m)		3.6						3.6			3.6	
Walking Speed (m/s)		1.2						1.2			1.2	
Percent Blockage		0						1			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		105			121							
pX, platoon unblocked	0.88			0.78			0.84	0.84	0.78	0.84	0.84	0.88
vC, conflicting volume	1155			1493			1964	2645	752	1822	2509	598
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	907			1076			1137	1945	130	969	1784	274
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	90	100	100	93
cM capacity (veh/h)	652			509			120	53	701	152	67	624

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	985	498	565	560	68	45
Volume Left	0	0	0	0	0	0
Volume Right	0	6	0	278	68	45
cSH	1700	1700	1700	1700	701	624
Volume to Capacity	0.58	0.29	0.33	0.33	0.10	0.07
Queue Length 95th (m)	0.0	0.0	0.0	0.0	2.6	1.9
Control Delay (s)	0.0	0.0	0.0	0.0	10.7	11.2
Lane LOS					B	B
Approach Delay (s)	0.0		0.0		10.7	11.2
Approach LOS					B	B

Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	46.5%	ICU Level of Service		A
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	0	100	130	0	40
Future Volume (vph)	50	0	100	130	0	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.979		
Satd. Flow (prot)	1863	0	0	1824	1611	0
Flt Permitted				0.979		
Satd. Flow (perm)	1863	0	0	1824	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	54.4			96.4	88.6	
Travel Time (s)	3.9			6.9	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	0	109	141	0	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	0	250	43	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

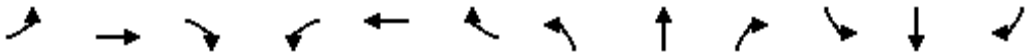
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	50	0	100	130	0	40
Future Volume (Veh/h)	50	0	100	130	0	40
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	0	109	141	0	43
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				318		
pX, platoon unblocked						
vC, conflicting volume			54		413	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			54		413	54
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		100	96
cM capacity (veh/h)			1551		554	1013

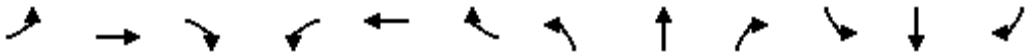
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	54	250	43
Volume Left	0	109	0
Volume Right	0	0	43
cSH	1700	1551	1013
Volume to Capacity	0.03	0.07	0.04
Queue Length 95th (m)	0.0	1.8	1.1
Control Delay (s)	0.0	3.6	8.7
Lane LOS		A	A
Approach Delay (s)	0.0	3.6	8.7
Approach LOS			A

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	29.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	40	30	30	10	0	190	20	50	120	10
Future Volume (vph)	0	0	40	30	30	10	0	190	20	50	120	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865			0.981			0.987			0.992	
Flt Protected					0.979						0.986	
Satd. Flow (prot)	0	1611	0	0	1789	0	0	1839	0	0	1822	0
Flt Permitted					0.979						0.986	
Satd. Flow (perm)	0	1611	0	0	1789	0	0	1839	0	0	1822	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		48.4			110.3			49.4			89.5	
Travel Time (s)		3.5			7.9			3.6			6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	43	33	33	11	0	207	22	54	130	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	43	0	0	77	0	0	229	0	0	195	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	41.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	40	30	30	10	0	190	20	50	120	10
Future Volume (vph)	0	0	40	30	30	10	0	190	20	50	120	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	43	33	33	11	0	207	22	54	130	11

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	43	77	229	195
Volume Left (vph)	0	33	0	54
Volume Right (vph)	43	11	22	11
Hadj (s)	-0.57	0.03	-0.02	0.06
Departure Headway (s)	4.4	5.0	4.4	4.5
Degree Utilization, x	0.05	0.11	0.28	0.24
Capacity (veh/h)	727	660	789	763
Control Delay (s)	7.7	8.5	9.1	9.0
Approach Delay (s)	7.7	8.5	9.1	9.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	8.9			
Level of Service	A			
Intersection Capacity Utilization	41.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	25	50	540	60	0	55
Future Volume (vph)	25	50	540	60	0	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.910					0.850
Flt Protected				0.957		
Satd. Flow (prot)	1695	0	0	1783	1863	1583
Flt Permitted				0.957		
Satd. Flow (perm)	1695	0	0	1783	1863	1583
Link Speed (k/h)	50			50	50	
Link Distance (m)	110.3			98.9	123.1	
Travel Time (s)	7.9			7.1	8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	54	587	65	0	60
Shared Lane Traffic (%)						
Lane Group Flow (vph)	81	0	0	652	0	60
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	25	50	540	60	0	55
Future Volume (Veh/h)	25	50	540	60	0	55
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	54	587	65	0	60
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				147		
pX, platoon unblocked					0.90	
vC, conflicting volume			81		1293	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			81		1271	54
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			61		100	94
cM capacity (veh/h)			1517		103	1013

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	81	652	0	60
Volume Left	0	587	0	0
Volume Right	54	0	0	60
cSH	1700	1517	1700	1013
Volume to Capacity	0.05	0.39	0.00	0.06
Queue Length 95th (m)	0.0	14.9	0.0	1.5
Control Delay (s)	0.0	8.3	0.0	8.8
Lane LOS		A	A	A
Approach Delay (s)	0.0	8.3	8.8	
Approach LOS			A	

Intersection Summary			
Average Delay	7.5		
Intersection Capacity Utilization	43.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	0	30	0	0	50
Future Volume (vph)	0	0	30	0	0	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.950		
Satd. Flow (prot)	1863	0	0	1770	1611	0
Flt Permitted				0.950		
Satd. Flow (perm)	1863	0	0	1770	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	39.6			48.4	40.7	
Travel Time (s)	2.9			3.5	2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	33	0	0	54
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	33	54	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

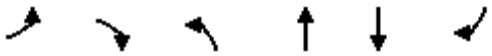
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	30	0	0	50
Future Volume (Veh/h)	0	0	30	0	0	50
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	33	0	0	54
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			0		66	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		66	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		100	95
cM capacity (veh/h)			1623		920	1085

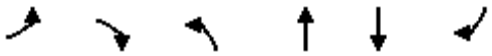
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	0	33	54
Volume Left	0	33	0
Volume Right	0	0	54
cSH	1700	1623	1085
Volume to Capacity	0.00	0.02	0.05
Queue Length 95th (m)	0.0	0.5	1.3
Control Delay (s)	0.0	7.3	8.5
Lane LOS		A	A
Approach Delay (s)	0.0	7.3	8.5
Approach LOS			A

Intersection Summary			
Average Delay	8.0		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	45	105	210	160	35
Future Volume (vph)	5	45	105	210	160	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.877				0.976	
Flt Protected	0.995			0.984		
Satd. Flow (prot)	1625	0	0	1833	1818	0
Flt Permitted	0.995			0.984		
Satd. Flow (perm)	1625	0	0	1833	1818	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	28.2			76.3	49.4	
Travel Time (s)	2.0			5.5	3.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	49	114	228	174	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	0	342	212	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 40.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	45	105	210	160	35
Future Volume (Veh/h)	5	45	105	210	160	35
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	49	114	228	174	38
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				76		
pX, platoon unblocked	0.97					
vC, conflicting volume	649	193	212			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	619	193	212			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	94	92			
cM capacity (veh/h)	400	849	1358			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	54	342	212
Volume Left	5	114	0
Volume Right	49	0	38
cSH	769	1358	1700
Volume to Capacity	0.07	0.08	0.12
Queue Length 95th (m)	1.8	2.2	0.0
Control Delay (s)	10.0	3.1	0.0
Lane LOS	B	A	
Approach Delay (s)	10.0	3.1	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	40.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	0	45	85	0	0
Future Volume (vph)	50	0	45	85	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected				0.983		
Satd. Flow (prot)	1863	0	0	1831	1863	0
Flt Permitted				0.983		
Satd. Flow (perm)	1863	0	0	1831	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	51.2			54.4	40.3	
Travel Time (s)	3.7			3.9	2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	0	49	92	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	0	141	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 17.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	50	0	45	85	0	0
Future Volume (Veh/h)	50	0	45	85	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	0	49	92	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				372		
pX, platoon unblocked						
vC, conflicting volume			54		244	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			54		244	54
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	100
cM capacity (veh/h)			1551		721	1013

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	54	141	0
Volume Left	0	49	0
Volume Right	0	0	0
cSH	1700	1551	1700
Volume to Capacity	0.03	0.03	0.01
Queue Length 95th (m)	0.0	0.8	0.0
Control Delay (s)	0.0	2.7	0.0
Lane LOS		A	A
Approach Delay (s)	0.0	2.7	0.0
Approach LOS			A

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	17.0%	ICU Level of Service	A
Analysis Period (min)	15		

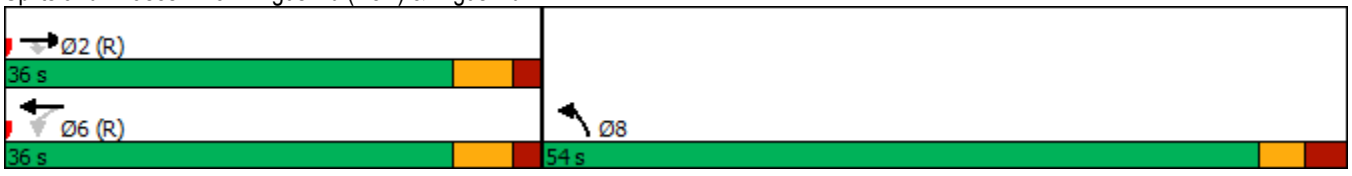


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	25	100	0	180	655	0
Future Volume (vph)	25	100	0	180	655	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		50.0	0.0		0.0	0.0
Storage Lanes		1	0		1	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected					0.950	
Satd. Flow (prot)	1863	1583	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1863	1583	0	1863	1770	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		109				
Link Speed (k/h)	50			50	50	
Link Distance (m)	119.5			170.6	100.6	
Travel Time (s)	8.6			12.3	7.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	109	0	196	712	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	109	0	196	712	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Number of Detectors	2	1	1	2	1	
Detector Template	Thru	Right	Left	Thru	Left	
Leading Detector (m)	10.0	2.0	2.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	0.6	2.0	2.0	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)	9.4			9.4		
Detector 2 Size(m)	0.6			0.6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			6	8	
Permitted Phases		2	6			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2	2	6	6	8	
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	27.0	27.0	27.0	27.0	27.0	
Total Split (s)	36.0	36.0	36.0	36.0	54.0	
Total Split (%)	40.0%	40.0%	40.0%	40.0%	60.0%	
Maximum Green (s)	30.0	30.0	30.0	30.0	48.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	13.0	13.0	13.0	13.0	13.0	
Pedestrian Calls (#/hr)	5	5	5	5	5	
Act Effct Green (s)	36.9	36.9		36.9	43.1	
Actuated g/C Ratio	0.41	0.41		0.41	0.48	
v/c Ratio	0.04	0.15		0.26	0.84	
Control Delay	24.2	14.3		9.6	30.1	
Queue Delay	0.0	0.0		0.0	0.4	
Total Delay	24.2	14.3		9.6	30.5	
LOS	C	B		A	C	
Approach Delay	16.3			9.6	30.5	
Approach LOS	B			A	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 24.7		Intersection LOS: C	
Intersection Capacity Utilization 54.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 32: Argus Rd (New) & Argus Rd





Lane Group	EBT	EBR	WBT	NBL
Lane Group Flow (vph)	27	109	196	712
v/c Ratio	0.04	0.15	0.26	0.84
Control Delay	24.2	14.3	9.6	30.1
Queue Delay	0.0	0.0	0.0	0.4
Total Delay	24.2	14.3	9.6	30.5
Queue Length 50th (m)	4.3	0.3	8.4	103.6
Queue Length 95th (m)	12.2	21.9	6.8	142.9
Internal Link Dist (m)	95.5		146.6	76.6
Turn Bay Length (m)		50.0		
Base Capacity (vph)	764	713	764	963
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	42
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.04	0.15	0.26	0.77

Intersection Summary



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	25	100	0	180	655	0
Future Volume (vph)	25	100	0	180	655	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	1.00	1.00		1.00	0.95	
Satd. Flow (prot)	1863	1583		1863	1770	
Flt Permitted	1.00	1.00		1.00	0.95	
Satd. Flow (perm)	1863	1583		1863	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	109	0	196	712	0
RTOR Reduction (vph)	0	64	0	0	0	0
Lane Group Flow (vph)	27	45	0	196	712	0
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			6	8	
Permitted Phases		2	6			
Actuated Green, G (s)	35.9	35.9		35.9	42.1	
Effective Green, g (s)	36.9	36.9		36.9	43.1	
Actuated g/C Ratio	0.41	0.41		0.41	0.48	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	763	649		763	847	
v/s Ratio Prot	0.01			c0.11	c0.40	
v/s Ratio Perm		0.03				
v/c Ratio	0.04	0.07		0.26	0.84	
Uniform Delay, d1	15.9	16.1		17.5	20.5	
Progression Factor	1.30	3.20		0.45	1.00	
Incremental Delay, d2	0.1	0.2		0.8	7.5	
Delay (s)	20.7	51.8		8.7	28.0	
Level of Service	C	D		A	C	
Approach Delay (s)	45.6			8.7	28.0	
Approach LOS	D			A	C	

Intersection Summary			
HCM 2000 Control Delay	26.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	165	0	60	330	0	35
Future Volume (vph)	165	0	60	330	0	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.992		
Satd. Flow (prot)	1863	0	0	1848	1611	0
Flt Permitted				0.992		
Satd. Flow (perm)	1863	0	0	1848	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	114.5			296.0	104.6	
Travel Time (s)	8.2			21.3	7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	179	0	65	359	0	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	179	0	0	424	38	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	165	0	60	330	0	35
Future Volume (Veh/h)	165	0	60	330	0	35
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	179	0	65	359	0	38
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	402					
pX, platoon unblocked						
vC, conflicting volume			179		668	179
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			179		668	179
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		100	96
cM capacity (veh/h)			1397		404	864

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	179	424	38
Volume Left	0	65	0
Volume Right	0	0	38
cSH	1700	1397	864
Volume to Capacity	0.11	0.05	0.04
Queue Length 95th (m)	0.0	1.2	1.1
Control Delay (s)	0.0	1.6	9.4
Lane LOS		A	A
Approach Delay (s)	0.0	1.6	9.4
Approach LOS			A

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	200	0	60	390	0	0
Future Volume (vph)	200	0	60	390	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected				0.993		
Satd. Flow (prot)	1863	0	0	1850	1863	0
Flt Permitted				0.993		
Satd. Flow (perm)	1863	0	0	1850	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	296.0			252.8	95.7	
Travel Time (s)	21.3			18.2	6.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	0	65	424	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	217	0	0	489	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

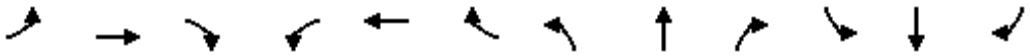
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	200	0	60	390	0	0
Future Volume (Veh/h)	200	0	60	390	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	217	0	65	424	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			217		771	217
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			217		771	217
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		100	100
cM capacity (veh/h)			1353		351	823

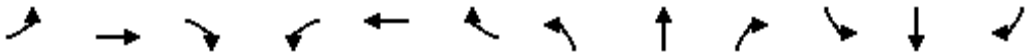
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	217	489	0
Volume Left	0	65	0
Volume Right	0	0	0
cSH	1700	1353	1700
Volume to Capacity	0.13	0.05	0.00
Queue Length 95th (m)	0.0	1.2	0.0
Control Delay (s)	0.0	1.5	0.0
Lane LOS		A	A
Approach Delay (s)	0.0	1.5	0.0
Approach LOS			A

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	40	0	15	190	15	0	65	35	30	25	10
Future Volume (vph)	15	40	0	15	190	15	0	65	35	30	25	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.991			0.953			0.979	
Flt Protected		0.987			0.997						0.977	
Satd. Flow (prot)	0	1839	0	0	1840	0	0	1775	0	0	1782	0
Flt Permitted		0.987			0.997						0.977	
Satd. Flow (perm)	0	1839	0	0	1840	0	0	1775	0	0	1782	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		110.1			109.7			90.9			84.0	
Travel Time (s)		7.9			7.9			6.5			6.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	43	0	16	207	16	0	71	38	33	27	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	59	0	0	239	0	0	109	0	0	71	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Free			Free			Stop			Stop	

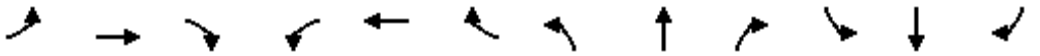
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	40	0	15	190	15	0	65	35	30	25	10
Future Volume (Veh/h)	15	40	0	15	190	15	0	65	35	30	25	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	43	0	16	207	16	0	71	38	33	27	11
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		313			152							
pX, platoon unblocked												
vC, conflicting volume	223			43			346	330	43	396	322	215
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	223			43			346	330	43	396	322	215
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			100	88	96	93	95	99
cM capacity (veh/h)	1346			1566			569	576	1027	484	582	825

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	59	239	109	71
Volume Left	16	16	0	33
Volume Right	0	16	38	11
cSH	1346	1566	680	555
Volume to Capacity	0.01	0.01	0.16	0.13
Queue Length 95th (m)	0.3	0.2	4.5	3.5
Control Delay (s)	2.2	0.6	11.3	12.4
Lane LOS	A	A	B	B
Approach Delay (s)	2.2	0.6	11.3	12.4
Approach LOS			B	B

Intersection Summary				
Average Delay	5.0			
Intersection Capacity Utilization	29.3%	ICU Level of Service	A	
Analysis Period (min)	15			



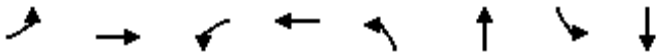
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	10	45	25	0	40	70	105	30	90	10	260
Future Volume (vph)	65	10	45	25	0	40	70	105	30	90	10	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.877			0.850			0.966			0.856	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1634	0	1770	1583	0	1770	3419	0	1770	3030	0
Flt Permitted	0.692			0.718			0.498			0.659		
Satd. Flow (perm)	1289	1634	0	1337	1583	0	928	3419	0	1228	3030	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		49			738			33			283	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		42.8			39.5			174.5			288.2	
Travel Time (s)		3.1			2.8			12.6			20.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	11	49	27	0	43	76	114	33	98	11	283
Shared Lane Traffic (%)												
Lane Group Flow (vph)	71	60	0	27	43	0	76	147	0	98	294	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		5.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	9.0	33.0		9.0	33.0		26.0	26.0		26.0	26.0	
Total Split (s)	17.0	46.0		11.0	40.0		33.0	33.0		33.0	33.0	
Total Split (%)	18.9%	51.1%		12.2%	44.4%		36.7%	36.7%		36.7%	36.7%	
Maximum Green (s)	13.0	40.0		7.0	34.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		20.0			20.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)		20			20		20	20		20	20	
Act Effct Green (s)	65.7	60.3		63.5	55.8		15.5	15.5		15.5	15.5	
Actuated g/C Ratio	0.73	0.67		0.71	0.62		0.17	0.17		0.17	0.17	
v/c Ratio	0.07	0.05		0.03	0.03		0.47	0.24		0.46	0.39	
Control Delay	4.1	3.5		4.6	0.1		32.7	16.1		39.5	5.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	4.1	3.5		4.6	0.1		32.7	16.1		39.5	5.9	
LOS	A	A		A	A		C	B		D	A	
Approach Delay		3.8			1.8			21.8			14.3	
Approach LOS		A			A			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.47			
Intersection Signal Delay: 13.6		Intersection LOS: B	
Intersection Capacity Utilization 46.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 39: New N-S Arterial St & Davis Rd

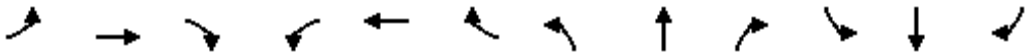




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	71	60	27	43	76	147	98	294
v/c Ratio	0.07	0.05	0.03	0.03	0.47	0.24	0.46	0.39
Control Delay	4.1	3.5	4.6	0.1	32.7	16.1	39.5	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.1	3.5	4.6	0.1	32.7	16.1	39.5	5.9
Queue Length 50th (m)	2.5	0.4	1.0	0.0	13.9	9.8	16.7	0.8
Queue Length 95th (m)	m7.3	m6.3	m4.1	m0.0	29.3	19.1	29.8	11.0
Internal Link Dist (m)		18.8		15.5		150.5		264.2
Turn Bay Length (m)	30.0		30.0		30.0		30.0	
Base Capacity (vph)	1026	1111	992	1261	288	1086	382	1137
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.05	0.03	0.03	0.26	0.14	0.26	0.26

Intersection Summary

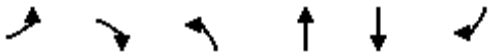
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	10	45	25	0	40	70	105	30	90	10	260
Future Volume (vph)	65	10	45	25	0	40	70	105	30	90	10	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.88		1.00	0.85		1.00	0.97		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1635		1770	1583		1770	3420		1770	3028	
Flt Permitted	0.69	1.00		0.72	1.00		0.50	1.00		0.66	1.00	
Satd. Flow (perm)	1290	1635		1337	1583		928	3420		1227	3028	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	11	49	27	0	43	76	114	33	98	11	283
RTOR Reduction (vph)	0	17	0	0	17	0	0	27	0	0	234	0
Lane Group Flow (vph)	71	43	0	27	26	0	76	120	0	98	60	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	62.4	56.9		56.6	54.0		14.5	14.5		14.5	14.5	
Effective Green, g (s)	64.4	57.9		58.6	55.0		15.5	15.5		15.5	15.5	
Actuated g/C Ratio	0.72	0.64		0.65	0.61		0.17	0.17		0.17	0.17	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	957	1051		887	967		159	589		211	521	
v/s Ratio Prot	c0.01	0.03		0.00	0.02			0.03			0.02	
v/s Ratio Perm	c0.05			0.02			c0.08			0.08		
v/c Ratio	0.07	0.04		0.03	0.03		0.48	0.20		0.46	0.11	
Uniform Delay, d1	3.8	5.9		5.6	6.9		33.6	32.0		33.5	31.5	
Progression Factor	0.96	0.90		1.05	1.00		0.72	0.65		1.00	1.00	
Incremental Delay, d2	0.0	0.1		0.0	0.1		2.2	0.2		1.6	0.1	
Delay (s)	3.7	5.4		5.8	7.0		26.3	20.9		35.1	31.6	
Level of Service	A	A		A	A		C	C		D	C	
Approach Delay (s)		4.5			6.5			22.7			32.4	
Approach LOS		A			A			C			C	

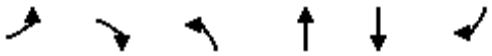
Intersection Summary			
HCM 2000 Control Delay	23.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	55	70	60	50	0
Future Volume (vph)	0	55	70	60	50	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0	0.0	0.0			0.0
Storage Lanes	0	0	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.974		
Satd. Flow (prot)	1611	0	0	1814	1863	0
Flt Permitted				0.974		
Satd. Flow (perm)	1611	0	0	1814	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	91.1			89.3	87.0	
Travel Time (s)	6.6			6.4	6.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	60	76	65	54	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	60	0	0	141	54	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

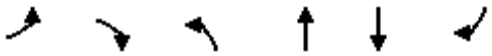
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	23.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	55	70	60	50	0
Future Volume (Veh/h)	0	55	70	60	50	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	60	76	65	54	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	271	54	54			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	271	54	54			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	94	95			
cM capacity (veh/h)	683	1013	1551			

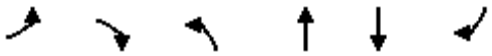
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	60	141	54
Volume Left	0	76	0
Volume Right	60	0	0
cSH	1013	1551	1700
Volume to Capacity	0.06	0.05	0.03
Queue Length 95th (m)	1.5	1.2	0.0
Control Delay (s)	8.8	4.2	0.0
Lane LOS	A	A	
Approach Delay (s)	8.8	4.2	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	23.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	30	20	115	105	0	70
Future Volume (vph)	30	20	115	105	0	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.946				0.865	
Flt Protected	0.971			0.975		
Satd. Flow (prot)	1711	0	0	1816	1611	0
Flt Permitted	0.971			0.975		
Satd. Flow (perm)	1711	0	0	1816	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	46.3			94.6	83.7	
Travel Time (s)	3.3			6.8	6.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	22	125	114	0	76
Shared Lane Traffic (%)						
Lane Group Flow (vph)	55	0	0	239	76	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

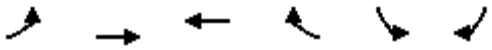
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	20	115	105	0	70
Future Volume (Veh/h)	30	20	115	105	0	70
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	22	125	114	0	76
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)					84	
pX, platoon unblocked						
vC, conflicting volume	402	38	76			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	402	38	76			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	98	92			
cM capacity (veh/h)	555	1034	1523			

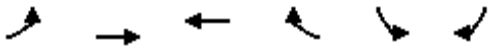
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	55	239	76
Volume Left	33	125	0
Volume Right	22	0	76
cSH	681	1523	1700
Volume to Capacity	0.08	0.08	0.04
Queue Length 95th (m)	2.1	2.1	0.0
Control Delay (s)	10.8	4.3	0.0
Lane LOS	B	A	
Approach Delay (s)	10.8	4.3	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	28.6%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	285	270	335	0	0	435
Future Volume (vph)	285	270	335	0	0	435
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	75.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt					0.865	
Flt Protected	0.950					
Satd. Flow (prot)	1770	3539	3539	0	1611	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	3539	3539	0	1611	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		182.4	224.2		204.3	
Travel Time (s)		13.1	16.1		14.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	310	293	364	0	0	473
Shared Lane Traffic (%)						
Lane Group Flow (vph)	310	293	364	0	473	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

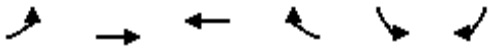
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	285	270	335	0	0	435
Future Volume (Veh/h)	285	270	335	0	0	435
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	310	293	364	0	0	473
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		182				
pX, platoon unblocked						
vC, conflicting volume	364				1130	182
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	364				1130	182
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	74				100	43
cM capacity (veh/h)	1191				146	829

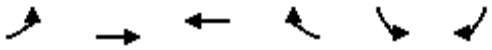
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	310	146	146	243	121	473
Volume Left	310	0	0	0	0	0
Volume Right	0	0	0	0	0	473
cSH	1191	1700	1700	1700	1700	829
Volume to Capacity	0.26	0.09	0.09	0.14	0.07	0.57
Queue Length 95th (m)	8.4	0.0	0.0	0.0	0.0	29.4
Control Delay (s)	9.1	0.0	0.0	0.0	0.0	14.9
Lane LOS	A					B
Approach Delay (s)	4.7			0.0		14.9
Approach LOS						B

Intersection Summary			
Average Delay	6.9		
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	15	265	330	195	85	15
Future Volume (vph)	15	265	330	195	85	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0			0.0	30.0	0.0
Storage Lanes	1			0	1	1
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.944			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3341	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	3341	0	1770	1583
Link Speed (k/h)		50	50		50	
Link Distance (m)		111.2	141.0		85.9	
Travel Time (s)		8.0	10.2		6.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	288	359	212	92	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	16	288	571	0	92	16
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

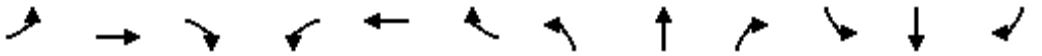
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	265	330	195	85	15
Future Volume (Veh/h)	15	265	330	195	85	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	288	359	212	92	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			141			
pX, platoon unblocked	0.88				0.88	0.88
vC, conflicting volume	571				641	286
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	245				324	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				84	98
cM capacity (veh/h)	1162				561	956

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	16	144	144	239	332	92	16
Volume Left	16	0	0	0	0	92	0
Volume Right	0	0	0	0	212	0	16
cSH	1162	1700	1700	1700	1700	561	956
Volume to Capacity	0.01	0.08	0.08	0.14	0.20	0.16	0.02
Queue Length 95th (m)	0.3	0.0	0.0	0.0	0.0	4.7	0.4
Control Delay (s)	8.1	0.0	0.0	0.0	0.0	12.7	8.8
Lane LOS	A					B	A
Approach Delay (s)	0.4			0.0		12.1	
Approach LOS						B	

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	26.7%	ICU Level of Service	A
Analysis Period (min)	15		

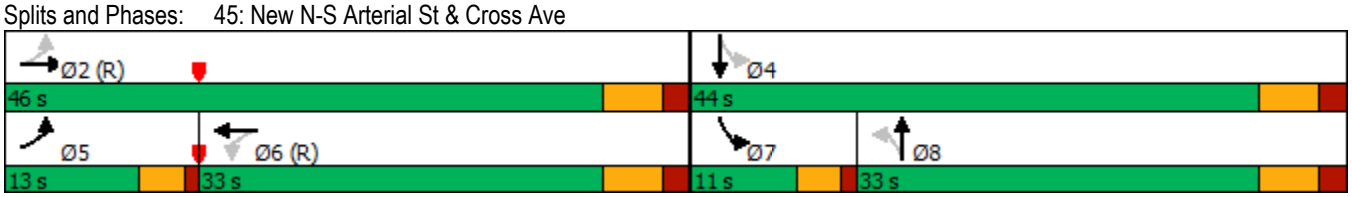


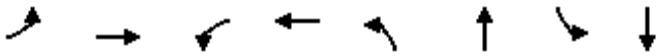
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	220	10	25	445	75	50	25	35	55	25	10
Future Volume (vph)	100	220	10	25	445	75	50	25	35	55	25	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	100.0		0.0	30.0		0.0	30.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.993			0.978			0.912			0.957	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3514	0	1770	3461	0	1770	1699	0	1770	3387	0
Flt Permitted	0.269			0.597			0.731			0.657		
Satd. Flow (perm)	501	3514	0	1112	3461	0	1362	1699	0	1224	3387	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			22			38			11	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		141.0			127.5			75.5			174.5	
Travel Time (s)		10.2			9.2			5.4			12.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	239	11	27	484	82	54	27	38	60	27	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	250	0	27	566	0	54	65	0	60	38	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	25		100
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2			6			8		7	4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		6	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		20.0	20.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	9.0	33.0		33.0	33.0		33.0	33.0		9.0	33.0	
Total Split (s)	13.0	46.0		33.0	33.0		33.0	33.0		11.0	44.0	
Total Split (%)	14.4%	51.1%		36.7%	36.7%		36.7%	36.7%		12.2%	48.9%	
Maximum Green (s)	9.0	40.0		27.0	27.0		27.0	27.0		7.0	38.0	
Yellow Time (s)	3.0	4.0		4.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		2.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	5.0		5.0	5.0		5.0	5.0		3.0	5.0	
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		C-Min	C-Min		Max	Max		None	None	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)		20.0		20.0	20.0		20.0	20.0			20.0	
Pedestrian Calls (#/hr)		20		20	20		20	20			20	
Act Effct Green (s)	38.8	36.8		26.6	26.6		34.1	34.1		45.2	43.2	
Actuated g/C Ratio	0.43	0.41		0.30	0.30		0.38	0.38		0.50	0.48	
v/c Ratio	0.32	0.17		0.08	0.54		0.10	0.10		0.09	0.02	
Control Delay	17.3	16.2		17.6	21.2		21.9	11.8		16.9	15.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	17.3	16.2		17.6	21.2		21.9	11.8		16.9	15.8	
LOS	B	B		B	C		C	B		B	B	
Approach Delay		16.5			21.0			16.4			16.4	
Approach LOS		B			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 18.8		Intersection LOS: B	
Intersection Capacity Utilization 55.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 45: New N-S Arterial St & Cross Ave

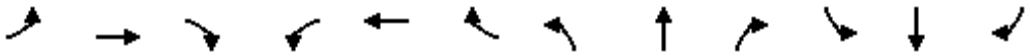




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	109	250	27	566	54	65	60	38
v/c Ratio	0.32	0.17	0.08	0.54	0.10	0.10	0.09	0.02
Control Delay	17.3	16.2	17.6	21.2	21.9	11.8	16.9	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.3	16.2	17.6	21.2	21.9	11.8	16.9	15.8
Queue Length 50th (m)	12.4	15.2	2.6	49.3	6.3	3.1	5.4	1.3
Queue Length 95th (m)	20.1	20.5	m6.0	32.7	15.9	12.7	15.5	5.7
Internal Link Dist (m)		117.0		103.5		51.5		150.5
Turn Bay Length (m)	100.0		30.0		30.0		40.0	
Base Capacity (vph)	357	1604	360	1137	516	667	664	1631
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.16	0.07	0.50	0.10	0.10	0.09	0.02

Intersection Summary

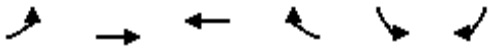
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	220	10	25	445	75	50	25	35	55	25	10
Future Volume (vph)	100	220	10	25	445	75	50	25	35	55	25	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.0		5.0	5.0		5.0	5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	0.95	
Frt	1.00	0.99		1.00	0.98		1.00	0.91		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3516		1770	3462		1770	1699		1770	3386	
Flt Permitted	0.27	1.00		0.60	1.00		0.73	1.00		0.66	1.00	
Satd. Flow (perm)	500	3516		1112	3462		1362	1699		1224	3386	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	239	11	27	484	82	54	27	38	60	27	11
RTOR Reduction (vph)	0	4	0	0	16	0	0	24	0	0	6	0
Lane Group Flow (vph)	109	246	0	27	550	0	54	41	0	60	32	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2			6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.0	35.0		24.0	24.0		33.1	33.1		43.0	43.0	
Effective Green, g (s)	36.0	36.0		25.0	25.0		34.1	34.1		44.0	44.0	
Actuated g/C Ratio	0.40	0.40		0.28	0.28		0.38	0.38		0.49	0.49	
Clearance Time (s)	4.0	6.0		6.0	6.0		6.0	6.0		4.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	312	1406		308	961		516	643		640	1655	
v/s Ratio Prot	c0.03	0.07			c0.16			0.02		c0.01	0.01	
v/s Ratio Perm	0.11			0.02			c0.04			0.04		
v/c Ratio	0.35	0.17		0.09	0.57		0.10	0.06		0.09	0.02	
Uniform Delay, d1	18.0	17.4		24.1	27.9		18.1	17.8		12.2	11.9	
Progression Factor	1.00	1.00		0.72	0.74		1.00	1.00		1.28	1.45	
Incremental Delay, d2	0.7	0.3		0.5	2.4		0.4	0.2		0.1	0.0	
Delay (s)	18.7	17.7		18.0	22.9		18.5	18.0		15.8	17.2	
Level of Service	B	B		B	C		B	B		B	B	
Approach Delay (s)		18.0			22.7			18.2			16.3	
Approach LOS		B			C			B			B	

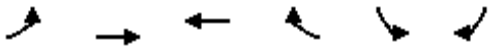
Intersection Summary			
HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	55	275	500	190	100	55
Future Volume (vph)	55	275	500	190	100	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0			0.0	30.0	0.0
Storage Lanes	0			0	1	1
Taper Length (m)	7.5				7.5	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.959			0.850
Flt Protected		0.992			0.950	
Satd. Flow (prot)	0	3511	3394	0	1770	1583
Flt Permitted		0.992			0.950	
Satd. Flow (perm)	0	3511	3394	0	1770	1583
Link Speed (k/h)		50	50		50	
Link Distance (m)		127.5	245.4		81.5	
Travel Time (s)		9.2	17.7		5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	299	543	207	109	60
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	359	750	0	109	60
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	44.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	55	275	500	190	100	55
Future Volume (Veh/h)	55	275	500	190	100	55
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	60	299	543	207	109	60
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		127	245			
pX, platoon unblocked	0.94				0.95	0.94
vC, conflicting volume	750				916	375
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	597				681	197
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				68	92
cM capacity (veh/h)	913				341	760

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	160	199	362	388	109	60
Volume Left	60	0	0	0	109	0
Volume Right	0	0	0	207	0	60
cSH	913	1700	1700	1700	341	760
Volume to Capacity	0.07	0.12	0.21	0.23	0.32	0.08
Queue Length 95th (m)	1.7	0.0	0.0	0.0	10.8	2.1
Control Delay (s)	3.9	0.0	0.0	0.0	20.5	10.1
Lane LOS	A				C	B
Approach Delay (s)	1.7		0.0		16.8	
Approach LOS					C	

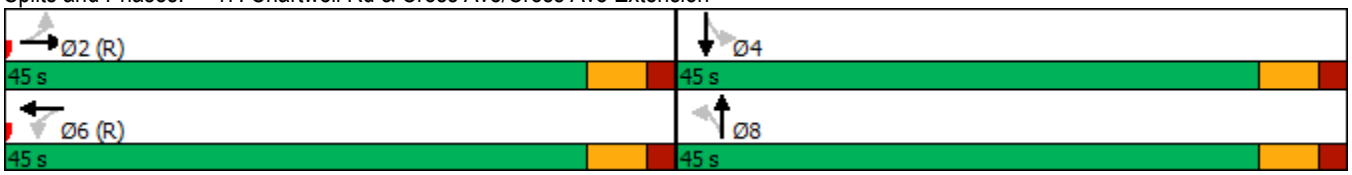
Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	44.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	290	55	0	580	120	100	210	0	35	165	0
Future Volume (vph)	0	290	55	0	580	120	100	210	0	35	165	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	50.0		0.0	100.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.976			0.974							
Flt Protected								0.984			0.991	
Satd. Flow (prot)	0	3454	0	0	3447	0	0	1833	0	0	1846	0
Flt Permitted								0.757			0.883	
Satd. Flow (perm)	0	3454	0	0	3447	0	0	1410	0	0	1645	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		32			35							
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		245.4			79.1			116.5			339.1	
Travel Time (s)		17.7			5.7			8.4			24.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	315	60	0	630	130	109	228	0	38	179	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	375	0	0	760	0	0	337	0	0	217	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA			NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	33.0	33.0		33.0	33.0		33.0	33.0		33.0	33.0	
Total Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	39.0	39.0		39.0	39.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	20	20		20	20		20	20		20	20	
Act Effct Green (s)		53.6			53.6			26.4			26.4	
Actuated g/C Ratio		0.60			0.60			0.29			0.29	
v/c Ratio		0.18			0.37			0.82			0.45	
Control Delay		7.3			10.6			44.8			21.0	
Queue Delay		0.0			0.0			0.1			0.0	
Total Delay		7.3			10.6			44.9			21.0	
LOS		A			B			D			C	
Approach Delay		7.3			10.6			44.9			21.0	
Approach LOS		A			B			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 18.0		Intersection LOS: B	
Intersection Capacity Utilization 57.2%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 47: Chartwell Rd & Cross Ave/Cross Ave Extension



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	375	760	337	217
v/c Ratio	0.18	0.37	0.82	0.45
Control Delay	7.3	10.6	44.8	21.0
Queue Delay	0.0	0.0	0.1	0.0
Total Delay	7.3	10.6	44.9	21.0
Queue Length 50th (m)	11.9	32.8	56.6	21.9
Queue Length 95th (m)	20.6	56.6	78.1	38.9
Internal Link Dist (m)	221.4	55.1	92.5	315.1
Turn Bay Length (m)				
Base Capacity (vph)	2070	2067	626	731
Starvation Cap Reductn	0	0	23	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.18	0.37	0.56	0.30

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	290	55	0	580	120	100	210	0	35	165	0
Future Volume (vph)	0	290	55	0	580	120	100	210	0	35	165	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.98			0.97			1.00			1.00	
Flt Protected		1.00			1.00			0.98			0.99	
Satd. Flow (prot)		3454			3448			1833			1847	
Flt Permitted		1.00			1.00			0.76			0.88	
Satd. Flow (perm)		3454			3448			1410			1644	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	315	60	0	630	130	109	228	0	38	179	0
RTOR Reduction (vph)	0	13	0	0	14	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	362	0	0	746	0	0	337	0	0	217	0
Turn Type		NA			NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		52.6			52.6			25.4			25.4	
Effective Green, g (s)		53.6			53.6			26.4			26.4	
Actuated g/C Ratio		0.60			0.60			0.29			0.29	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2057			2053			413			482	
v/s Ratio Prot		0.10			c0.22							
v/s Ratio Perm								c0.24			0.13	
v/c Ratio		0.18			0.36			0.82			0.45	
Uniform Delay, d1		8.2			9.4			29.5			25.9	
Progression Factor		0.82			1.00			1.00			0.73	
Incremental Delay, d2		0.2			0.5			11.8			0.7	
Delay (s)		6.9			9.9			41.3			19.6	
Level of Service		A			A			D			B	
Approach Delay (s)		6.9			9.9			41.3			19.6	
Approach LOS		A			A			D			B	

Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	60	35	0	95	60	0
Future Volume (vph)	60	35	0	95	60	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.950		0.865			
Flt Protected	0.969					0.950
Satd. Flow (prot)	1715	0	1611	0	0	1770
Flt Permitted	0.969					0.950
Satd. Flow (perm)	1715	0	1611	0	0	1770
Link Speed (k/h)	50		50			50
Link Distance (m)	59.6		84.0			104.6
Travel Time (s)	4.3		6.0			7.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	38	0	103	65	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	103	0	103	0	0	65
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100		100	100	
Sign Control	Stop		Free			Free

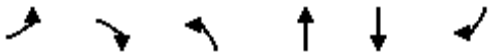
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	60	35	0	95	60	0
Future Volume (Veh/h)	60	35	0	95	60	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	38	0	103	65	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	182	52			103	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	182	52			103	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	96			96	
cM capacity (veh/h)	773	1016			1489	

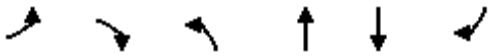
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	103	103	65
Volume Left	65	0	65
Volume Right	38	103	0
cSH	848	1700	1489
Volume to Capacity	0.12	0.06	0.04
Queue Length 95th (m)	3.3	0.0	1.1
Control Delay (s)	9.8	0.0	7.5
Lane LOS	A		A
Approach Delay (s)	9.8	0.0	7.5
Approach LOS	A		

Intersection Summary			
Average Delay	5.5		
Intersection Capacity Utilization	22.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	50	60	0	0	60
Future Volume (vph)	0	50	60	0	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865				0.865	
Flt Protected				0.950		
Satd. Flow (prot)	1611	0	0	1770	1611	0
Flt Permitted				0.950		
Satd. Flow (perm)	1611	0	0	1770	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	49.3			87.0	95.7	
Travel Time (s)	3.5			6.3	6.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	54	65	0	0	65
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	0	65	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

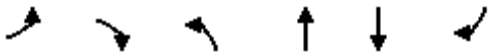
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	50	60	0	0	60
Future Volume (Veh/h)	0	50	60	0	0	60
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	54	65	0	0	65
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	162	32	65			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	162	32	65			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	95	96			
cM capacity (veh/h)	793	1041	1537			

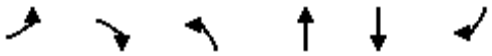
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	54	65	65
Volume Left	0	65	0
Volume Right	54	0	65
cSH	1041	1537	1700
Volume to Capacity	0.05	0.04	0.04
Queue Length 95th (m)	1.3	1.1	0.0
Control Delay (s)	8.6	7.4	0.0
Lane LOS	A	A	
Approach Delay (s)	8.6	7.4	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	20.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	65	120	125	95	10
Future Volume (vph)	10	65	120	125	95	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.883				0.987	
Flt Protected	0.993			0.976		
Satd. Flow (prot)	1633	0	0	1818	1839	0
Flt Permitted	0.993			0.976		
Satd. Flow (perm)	1633	0	0	1818	1839	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	48.7			81.5	89.3	
Travel Time (s)	3.5			5.9	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	71	130	136	103	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	82	0	0	266	114	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

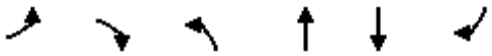
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	65	120	125	95	10
Future Volume (Veh/h)	10	65	120	125	95	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	71	130	136	103	11
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	504	108	114			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	504	108	114			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	92	91			
cM capacity (veh/h)	481	945	1475			

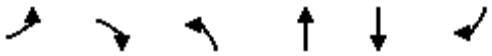
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	82	266	114
Volume Left	11	130	0
Volume Right	71	0	11
cSH	837	1475	1700
Volume to Capacity	0.10	0.09	0.07
Queue Length 95th (m)	2.6	2.3	0.0
Control Delay (s)	9.8	4.1	0.0
Lane LOS	A	A	
Approach Delay (s)	9.8	4.1	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	4.1		
Intersection Capacity Utilization	31.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	125	160	40	55	45
Future Volume (vph)	0	125	160	40	55	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865				0.939	
Flt Protected				0.961		
Satd. Flow (prot)	1611	0	0	1790	1749	0
Flt Permitted				0.961		
Satd. Flow (perm)	1611	0	0	1790	1749	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	40.6			89.5	88.6	
Travel Time (s)	2.9			6.4	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	136	174	43	60	49
Shared Lane Traffic (%)						
Lane Group Flow (vph)	136	0	0	217	109	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	125	160	40	55	45
Future Volume (Veh/h)	0	125	160	40	55	45
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	136	174	43	60	49
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	476	84	109			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	476	84	109			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	86	88			
cM capacity (veh/h)	484	975	1481			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	136	217	109
Volume Left	0	174	0
Volume Right	136	0	49
cSH	975	1481	1700
Volume to Capacity	0.14	0.12	0.06
Queue Length 95th (m)	3.9	3.2	0.0
Control Delay (s)	9.3	6.4	0.0
Lane LOS	A	A	
Approach Delay (s)	9.3	6.4	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	32.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	75	20	90	200	25	30
Future Volume (vph)	75	20	90	200	25	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.971				0.926	
Flt Protected				0.985	0.978	
Satd. Flow (prot)	1809	0	0	1835	1687	0
Flt Permitted				0.985	0.978	
Satd. Flow (perm)	1809	0	0	1835	1687	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	96.4			57.6	36.0	
Travel Time (s)	6.9			4.1	2.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	22	98	217	27	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	104	0	0	315	60	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	75	20	90	200	25	30
Future Volume (Veh/h)	75	20	90	200	25	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	82	22	98	217	27	33
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				222		
pX, platoon unblocked						
vC, conflicting volume			104		506	93
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			104		506	93
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		95	97
cM capacity (veh/h)			1488		491	964

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	104	315	60
Volume Left	0	98	27
Volume Right	22	0	33
cSH	1700	1488	673
Volume to Capacity	0.06	0.07	0.09
Queue Length 95th (m)	0.0	1.7	2.3
Control Delay (s)	0.0	2.8	10.9
Lane LOS		A	B
Approach Delay (s)	0.0	2.8	10.9
Approach LOS			B

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	32.2%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	85	20	100	265	25	40
Future Volume (vph)	85	20	100	265	25	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.974				0.917	
Flt Protected				0.986	0.981	
Satd. Flow (prot)	1814	0	0	1837	1676	0
Flt Permitted				0.986	0.981	
Satd. Flow (perm)	1814	0	0	1837	1676	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	57.6			163.9	50.7	
Travel Time (s)	4.1			11.8	3.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	92	22	109	288	27	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	114	0	0	397	70	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	85	20	100	265	25	40
Future Volume (Veh/h)	85	20	100	265	25	40
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	92	22	109	288	27	43
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				164		
pX, platoon unblocked						
vC, conflicting volume			114		609	103
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			114		609	103
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		94	95
cM capacity (veh/h)			1475		424	952

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	114	397	70
Volume Left	0	109	27
Volume Right	22	0	43
cSH	1700	1475	643
Volume to Capacity	0.07	0.07	0.11
Queue Length 95th (m)	0.0	1.9	2.9
Control Delay (s)	0.0	2.6	11.3
Lane LOS		A	B
Approach Delay (s)	0.0	2.6	11.3
Approach LOS			B

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	36.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	60	25	45	530	70	30
Future Volume (vph)	60	25	45	530	70	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.960				0.959	
Flt Protected				0.996	0.966	
Satd. Flow (prot)	1788	0	0	1855	1726	0
Flt Permitted				0.996	0.966	
Satd. Flow (perm)	1788	0	0	1855	1726	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	98.9			48.3	30.5	
Travel Time (s)	7.1			3.5	2.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	27	49	576	76	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	92	0	0	625	109	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	100		25	100
Sign Control	Free			Free	Stop	

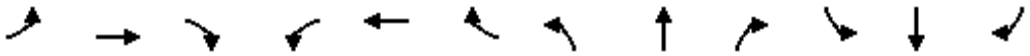
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	60	25	45	530	70	30
Future Volume (Veh/h)	60	25	45	530	70	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	27	49	576	76	33
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				48		
pX, platoon unblocked					0.88	
vC, conflicting volume			92		752	78
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			92		654	78
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		79	97
cM capacity (veh/h)			1503		369	982

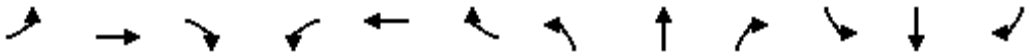
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	92	625	109
Volume Left	0	49	76
Volume Right	27	0	33
cSH	1700	1503	455
Volume to Capacity	0.05	0.03	0.24
Queue Length 95th (m)	0.0	0.8	7.4
Control Delay (s)	0.0	0.9	15.4
Lane LOS		A	C
Approach Delay (s)	0.0	0.9	15.4
Approach LOS			C

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	65	5	70	210	60	0	0	45	25	0	10
Future Volume (vph)	40	65	5	70	210	60	0	0	45	25	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.976			0.865			0.961	
Flt Protected		0.982			0.990						0.966	
Satd. Flow (prot)	0	1818	0	0	1800	0	0	1611	0	0	1729	0
Flt Permitted		0.982			0.990						0.966	
Satd. Flow (perm)	0	1818	0	0	1800	0	0	1611	0	0	1729	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		109.7			42.8			63.5			46.5	
Travel Time (s)		7.9			3.1			4.6			3.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	71	5	76	228	65	0	0	49	27	0	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	119	0	0	369	0	0	49	0	0	38	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Free			Free			Stop			Stop	

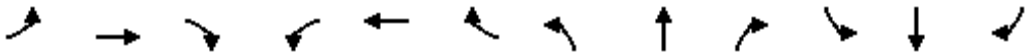
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	65	5	70	210	60	0	0	45	25	0	10
Future Volume (Veh/h)	40	65	5	70	210	60	0	0	45	25	0	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	71	5	76	228	65	0	0	49	27	0	11
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					43							
pX, platoon unblocked	0.97						0.97	0.97		0.97	0.97	0.97
vC, conflicting volume	293			76			583	604	74	621	574	260
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	252			76			552	574	74	591	543	219
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			95			100	100	95	93	100	99
cM capacity (veh/h)	1270			1523			397	381	988	360	397	794

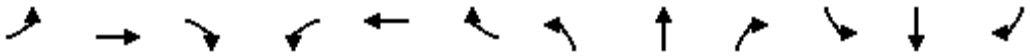
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	119	369	49	38
Volume Left	43	76	0	27
Volume Right	5	65	49	11
cSH	1270	1523	988	428
Volume to Capacity	0.03	0.05	0.05	0.09
Queue Length 95th (m)	0.8	1.3	1.3	2.3
Control Delay (s)	3.0	1.9	8.8	14.2
Lane LOS	A	A	A	B
Approach Delay (s)	3.0	1.9	8.8	14.2
Approach LOS			A	B

Intersection Summary				
Average Delay	3.5			
Intersection Capacity Utilization	36.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	10	40	25	10	50	30	0	10	40	0	40
Future Volume (vph)	85	10	40	25	10	50	30	0	10	40	0	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.960			0.921			0.966			0.932	
Flt Protected		0.969			0.986			0.964			0.976	
Satd. Flow (prot)	0	1733	0	0	1692	0	0	1735	0	0	1694	0
Flt Permitted		0.969			0.986			0.964			0.976	
Satd. Flow (perm)	0	1733	0	0	1692	0	0	1735	0	0	1694	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		39.5			91.1			43.6			47.6	
Travel Time (s)		2.8			6.6			3.1			3.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	92	11	43	27	11	54	33	0	11	43	0	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	146	0	0	92	0	0	44	0	0	86	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	10	40	25	10	50	30	0	10	40	0	40
Future Volume (Veh/h)	85	10	40	25	10	50	30	0	10	40	0	40
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	92	11	43	27	11	54	33	0	11	43	0	43
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		40										
pX, platoon unblocked				0.95			0.95	0.95	0.95	0.95	0.95	
vC, conflicting volume	65			54			352	336	32	320	330	38
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	65			0			297	280	0	264	275	38
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	94			98			94	100	99	93	100	96
cM capacity (veh/h)	1537			1550			565	554	1036	613	558	1034

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	146	92	44	86
Volume Left	92	27	33	43
Volume Right	43	54	11	43
cSH	1537	1550	637	770
Volume to Capacity	0.06	0.02	0.07	0.11
Queue Length 95th (m)	1.5	0.4	1.8	3.0
Control Delay (s)	4.9	2.3	11.1	10.3
Lane LOS	A	A	B	B
Approach Delay (s)	4.9	2.3	11.1	10.3
Approach LOS			B	B

Intersection Summary				
Average Delay	6.2			
Intersection Capacity Utilization	25.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	70	10	95	120	15	25
Future Volume (vph)	70	10	95	120	15	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.983		0.925			
Flt Protected	0.958					0.982
Satd. Flow (prot)	1754	0	1723	0	0	1829
Flt Permitted	0.958					0.982
Satd. Flow (perm)	1754	0	1723	0	0	1829
Link Speed (k/h)	50		50			50
Link Distance (m)	52.8		85.9			90.9
Travel Time (s)	3.8		6.2			6.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	11	103	130	16	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	87	0	233	0	0	43
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		3.6			3.6
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100		100	100	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	70	10	95	120	15	25
Future Volume (Veh/h)	70	10	95	120	15	25
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	11	103	130	16	27
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	227	168			233	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	227	168			233	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	90	99			99	
cM capacity (veh/h)	752	876			1335	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	87	233	43
Volume Left	76	0	16
Volume Right	11	130	0
cSH	766	1700	1335
Volume to Capacity	0.11	0.14	0.01
Queue Length 95th (m)	3.1	0.0	0.3
Control Delay (s)	10.3	0.0	2.9
Lane LOS	B		A
Approach Delay (s)	10.3	0.0	2.9
Approach LOS	B		

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	25.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1120	120	260	1200	70	160
Future Volume (vph)	1120	120	260	1200	70	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		0.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.986					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3490	0	1770	3539	1770	1583
Flt Permitted			0.112		0.950	
Satd. Flow (perm)	3490	0	209	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	14					174
Link Speed (k/h)	50			50	50	
Link Distance (m)	106.6			164.5	249.7	
Travel Time (s)	7.7			11.8	18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1217	130	283	1304	76	174
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1347	0	283	1304	76	174
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (m)	10.0		2.0	10.0	2.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	0.6		2.0	0.6	2.0	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)	9.4			9.4		
Detector 2 Size(m)	0.6			0.6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases			6		8	8

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0		5.0	10.0	10.0	10.0
Minimum Split (s)	33.0		9.0	33.0	33.0	33.0
Total Split (s)	49.0		18.0	67.0	33.0	33.0
Total Split (%)	49.0%		18.0%	67.0%	33.0%	33.0%
Maximum Green (s)	43.0		14.0	61.0	27.0	27.0
Yellow Time (s)	4.0		3.0	4.0	4.0	4.0
All-Red Time (s)	2.0		1.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0		3.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	C-Min		None	C-Min	Min	Min
Walk Time (s)	7.0			7.0	7.0	7.0
Flash Dont Walk (s)	20.0			20.0	20.0	20.0
Pedestrian Calls (#/hr)	5			5	5	5
Act Effct Green (s)	56.2		77.4	75.4	14.6	14.6
Actuated g/C Ratio	0.56		0.77	0.75	0.15	0.15
v/c Ratio	0.68		0.69	0.49	0.29	0.46
Control Delay	19.3		23.9	6.5	39.0	9.1
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	19.3		23.9	6.5	39.0	9.1
LOS	B		C	A	D	A
Approach Delay	19.3			9.6	18.2	
Approach LOS	B			A	B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 14.4		Intersection LOS: B	
Intersection Capacity Utilization 69.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 60: New N-S Arterial St & Iroquois Shore Blvd





Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1347	283	1304	76	174
v/c Ratio	0.68	0.69	0.49	0.29	0.46
Control Delay	19.3	23.9	6.5	39.0	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.3	23.9	6.5	39.0	9.1
Queue Length 50th (m)	90.9	22.1	36.3	14.6	0.0
Queue Length 95th (m)	159.2	#71.5	96.8	23.3	15.7
Internal Link Dist (m)	82.6		140.5	225.7	
Turn Bay Length (m)		50.0			
Base Capacity (vph)	1967	422	2666	495	568
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.68	0.67	0.49	0.15	0.31

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1120	120	260	1200	70	160
Future Volume (vph)	1120	120	260	1200	70	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		3.0	5.0	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3488		1770	3539	1770	1583
Flt Permitted	1.00		0.11	1.00	0.95	1.00
Satd. Flow (perm)	3488		209	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1217	130	283	1304	76	174
RTOR Reduction (vph)	6	0	0	0	0	149
Lane Group Flow (vph)	1341	0	283	1304	76	25
Turn Type	NA		pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases			6		8	8
Actuated Green, G (s)	55.2		74.4	74.4	13.6	13.6
Effective Green, g (s)	56.2		75.4	75.4	14.6	14.6
Actuated g/C Ratio	0.56		0.75	0.75	0.15	0.15
Clearance Time (s)	6.0		4.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1960		410	2668	258	231
v/s Ratio Prot	0.38		c0.11	0.37		
v/s Ratio Perm			c0.41		c0.04	0.02
v/c Ratio	0.68		0.69	0.49	0.29	0.11
Uniform Delay, d1	15.6		18.8	4.8	38.1	37.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0		5.0	0.6	0.6	0.2
Delay (s)	17.5		23.7	5.4	38.7	37.3
Level of Service	B		C	A	D	D
Approach Delay (s)	17.5			8.7	37.7	
Approach LOS	B			A	D	

Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

13) 2046 Future Total Traffic Conditions (With Corridor Growth)

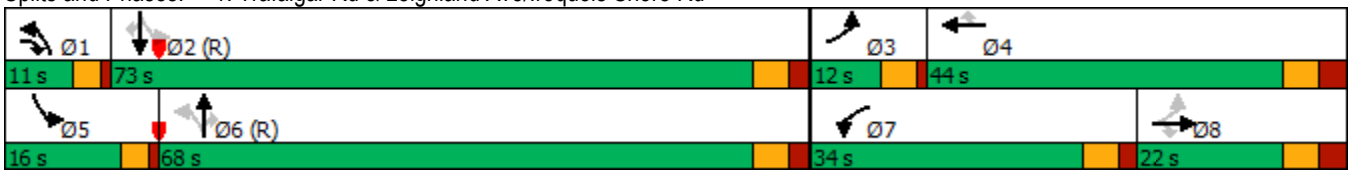
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	180	335	685	100	425	145	1845	775	265	3660	50
Future Volume (vph)	35	180	335	685	100	425	145	1845	775	265	3660	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.96					0.95			0.97			0.93
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1863	1568	3367	1827	1553	1719	4988	1568	1787	5085	1524
Flt Permitted	0.692			0.950			0.065			0.062		
Satd. Flow (perm)	1230	1863	1568	3367	1827	1470	118	4988	1525	117	5085	1424
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136			192			589			142
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			301.7			275.4			339.2	
Travel Time (s)		27.7			21.7			19.8			24.4	
Confl. Peds. (#/hr)	35					35	35		10	10		35
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Adj. Flow (vph)	35	182	338	692	101	429	146	1864	783	268	3697	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	182	338	692	101	429	146	1864	783	268	3697	51
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

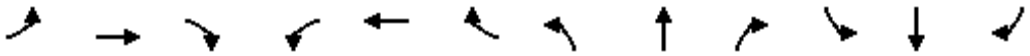
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	11.0	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	12.0	22.0	11.0	34.0	44.0	44.0	11.0	68.0	68.0	16.0	73.0	73.0
Total Split (%)	8.6%	15.7%	7.9%	24.3%	31.4%	31.4%	7.9%	48.6%	48.6%	11.4%	52.1%	52.1%
Maximum Green (s)	7.3	15.2	7.0	28.3	37.2	37.2	7.0	61.9	61.9	12.0	66.9	66.9
Yellow Time (s)	3.7	3.7	3.0	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	1.0	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					20	20		25	25		25	25
Act Effct Green (s)	26.2	15.9	30.0	29.3	40.4	40.4	73.3	62.9	62.9	81.3	67.9	67.9
Actuated g/C Ratio	0.19	0.11	0.21	0.21	0.29	0.29	0.52	0.45	0.45	0.58	0.48	0.48
v/c Ratio	0.13	0.86	0.76	0.98	0.19	0.77	0.94	0.83	0.78	1.19	1.50	0.07
Control Delay	31.9	95.1	42.8	84.7	39.9	35.3	62.4	19.4	8.0	154.9	256.2	0.2
Queue Delay	0.0	0.0	66.1	52.5	0.0	0.0	0.0	0.0	1.5	0.0	0.3	0.0
Total Delay	31.9	95.1	108.9	137.3	39.9	35.3	62.4	19.4	9.5	154.9	256.4	0.2
LOS	C	F	F	F	D	D	E	B	A	F	F	A
Approach Delay		99.5			93.4			18.9			246.4	
Approach LOS		F			F			B			F	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.50
Intersection Signal Delay: 141.1 Intersection LOS: F
Intersection Capacity Utilization 124.1% ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd





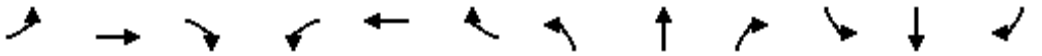
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	35	182	338	692	101	429	146	1864	783	268	3697	51
v/c Ratio	0.13	0.86	0.76	0.98	0.19	0.77	0.94	0.83	0.78	1.19	1.50	0.07
Control Delay	31.9	95.1	42.8	84.7	39.9	35.3	62.4	19.4	8.0	154.9	256.2	0.2
Queue Delay	0.0	0.0	66.1	52.5	0.0	0.0	0.0	0.0	1.5	0.0	0.3	0.0
Total Delay	31.9	95.1	108.9	137.3	39.9	35.3	62.4	19.4	9.5	154.9	256.4	0.2
Queue Length 50th (m)	6.5	52.8	57.2	104.5	22.7	67.6	24.7	145.8	69.4	~77.4	~545.7	0.0
Queue Length 95th (m)	14.4	#95.7	96.0	#145.7	39.1	#114.7	m24.9	m135.3	m70.7	#136.9	#564.9	0.0
Internal Link Dist (m)		361.1			277.7			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	262	215	442	704	527	560	156	2241	1009	226	2466	763
Starvation Cap Reductn	0	0	0	0	0	0	0	0	92	0	0	0
Spillback Cap Reductn	0	0	289	528	0	0	0	0	0	0	263	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.85	2.21	3.93	0.19	0.77	0.94	0.83	0.85	1.19	1.68	0.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

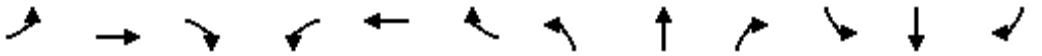
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	180	335	685	100	425	145	1845	775	265	3660	50
Future Volume (vph)	35	180	335	685	100	425	145	1845	775	265	3660	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.97	1.00	1.00	0.93
Flpb, ped/bikes	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1709	1863	1568	3367	1827	1470	1719	4988	1525	1787	5085	1424
Flt Permitted	0.69	1.00	1.00	0.95	1.00	1.00	0.06	1.00	1.00	0.06	1.00	1.00
Satd. Flow (perm)	1244	1863	1568	3367	1827	1470	117	4988	1525	116	5085	1424
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	35	182	338	692	101	429	146	1864	783	268	3697	51
RTOR Reduction (vph)	0	0	112	0	0	137	0	0	329	0	0	27
Lane Group Flow (vph)	35	182	226	692	101	292	146	1864	454	268	3697	24
Confl. Peds. (#/hr)	35					35	35		10	10		35
Heavy Vehicles (%)	3%	2%	3%	4%	4%	4%	5%	4%	3%	1%	2%	6%
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	21.7	15.9	23.2	28.3	39.4	39.4	68.2	60.9	60.9	77.2	65.9	65.9
Effective Green, g (s)	23.7	16.9	25.2	29.3	40.4	40.4	70.2	61.9	61.9	78.2	66.9	66.9
Actuated g/C Ratio	0.17	0.12	0.18	0.21	0.29	0.29	0.50	0.44	0.44	0.56	0.48	0.48
Clearance Time (s)	4.7	6.8	4.0	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	233	224	282	704	527	424	153	2205	674	223	2429	680
v/s Ratio Prot	0.01	c0.10	0.05	c0.21	0.06		0.06	0.37		c0.11	c0.73	
v/s Ratio Perm	0.02		0.10			0.20	0.42		0.30	0.56		0.02
v/c Ratio	0.15	0.81	0.80	0.98	0.19	0.69	0.95	0.85	0.67	1.20	1.52	0.04
Uniform Delay, d1	49.3	60.0	55.0	55.1	37.5	44.2	38.8	34.8	31.0	44.5	36.5	19.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.36	0.54	0.86	1.00	1.00	1.00
Incremental Delay, d2	0.3	19.7	15.1	29.5	0.2	4.6	24.8	1.1	1.3	125.6	237.1	0.1
Delay (s)	49.6	79.7	70.1	84.6	37.7	48.9	77.7	19.9	28.1	170.1	273.6	19.5
Level of Service	D	E	E	F	D	D	E	B	C	F	F	B
Approach Delay (s)		72.0			68.2			25.2			263.5	
Approach LOS		E			E			C			F	

Intersection Summary			
HCM 2000 Control Delay	145.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	124.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

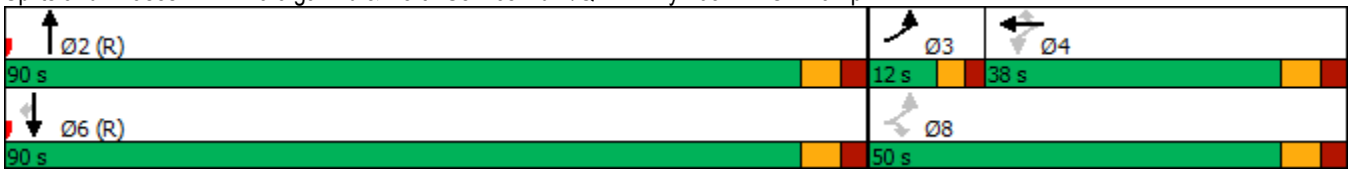


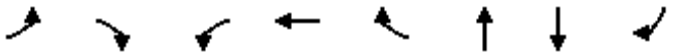
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	655	0	370	0	3165	0	0	5610	5
Future Volume (vph)	5	0	225	655	0	370	0	3165	0	0	5610	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.96
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.950							
Satd. Flow (prot)	1805	0	1599	1649	1649	1568	0	4988	0	0	5036	1615
Flt Permitted	0.214			0.950	0.950							
Satd. Flow (perm)	407	0	1599	1649	1649	1568	0	4988	0	0	5036	1543
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			81						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							10		5	5		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Adj. Flow (vph)	5	0	232	675	0	381	0	3263	0	0	5784	5
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	5	0	232	337	338	381	0	3263	0	0	5784	5
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	12.0		50.0	38.0	38.0	38.0		90.0			90.0	90.0
Total Split (%)	8.6%		35.7%	27.1%	27.1%	27.1%		64.3%			64.3%	64.3%
Maximum Green (s)	7.0		43.0	31.0	31.0	31.0		83.0			83.0	83.0
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		10			10	10
Act Effct Green (s)	39.5		37.5	35.1	35.1	35.1		90.5			90.5	90.5
Actuated g/C Ratio	0.28		0.27	0.25	0.25	0.25		0.65			0.65	0.65
v/c Ratio	0.03		0.51	0.82	0.82	0.84		1.01			1.78	0.00
Control Delay	32.8		40.6	65.3	65.5	55.5		27.2			374.7	0.0
Queue Delay	0.0		0.0	0.0	0.0	0.0		4.3			0.0	0.0
Total Delay	32.8		40.6	65.3	65.5	55.5		31.5			374.7	0.0
LOS	C		D	E	E	E		C			F	A
Approach Delay		40.5			61.8			31.5			374.3	
Approach LOS		D			E			C			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.78			
Intersection Signal Delay: 226.6		Intersection LOS: F	
Intersection Capacity Utilization 155.5%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp





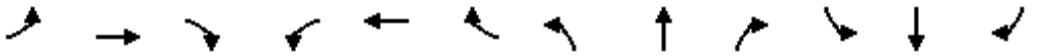
Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	5	232	337	338	381	3263	5784	5
v/c Ratio	0.03	0.51	0.82	0.82	0.84	1.01	1.78	0.00
Control Delay	32.8	40.6	65.3	65.5	55.5	27.2	374.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0
Total Delay	32.8	40.6	65.3	65.5	55.5	31.5	374.7	0.0
Queue Length 50th (m)	1.1	49.4	94.6	95.0	82.7	~367.4	~923.2	0.0
Queue Length 95th (m)	4.4	72.7	#160.7	#161.3	#150.2	m#343.9	m#671.0	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	194	523	422	422	461	3223	3254	1022
Starvation Cap Reductn	0	0	0	0	0	41	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.44	0.80	0.80	0.83	1.03	1.78	0.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

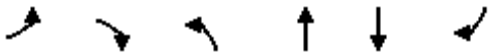
m Volume for 95th percentile queue is metered by upstream signal.



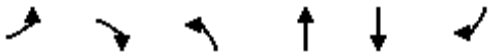
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	225	655	0	370	0	3165	0	0	5610	5
Future Volume (vph)	5	0	225	655	0	370	0	3165	0	0	5610	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.96
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1649	1649	1568		4988			5036	1543
Flt Permitted	0.21		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	407		1599	1649	1649	1568		4988			5036	1543
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	5	0	232	675	0	381	0	3263	0	0	5784	5
RTOR Reduction (vph)	0	0	22	0	0	61	0	0	0	0	0	2
Lane Group Flow (vph)	5	0	210	337	338	320	0	3263	0	0	5784	3
Confl. Peds. (#/hr)							10		5	5		10
Heavy Vehicles (%)	0%	0%	1%	4%	0%	3%	0%	4%	0%	0%	3%	0%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	40.5		40.5	34.1	34.1	34.1		85.5			85.5	85.5
Effective Green, g (s)	41.5		41.5	35.1	35.1	35.1		86.5			86.5	86.5
Actuated g/C Ratio	0.30		0.30	0.25	0.25	0.25		0.62			0.62	0.62
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	144		473	413	413	393		3081			3111	953
v/s Ratio Prot	0.00							0.65			c1.15	
v/s Ratio Perm	0.01		c0.13	0.20	0.20	0.20						0.00
v/c Ratio	0.03		0.44	0.82	0.82	0.82		1.06			1.86	0.00
Uniform Delay, d1	36.8		39.9	49.4	49.4	49.4		26.8			26.8	10.2
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.70			1.27	1.00
Incremental Delay, d2	0.2		0.8	11.8	11.9	12.2		27.5			386.8	0.0
Delay (s)	37.0		40.7	61.2	61.4	61.6		46.2			420.8	10.2
Level of Service	D		D	E	E	E		D			F	B
Approach Delay (s)		40.6			61.4			46.2			420.5	
Approach LOS		D			E			D			F	

Intersection Summary			
HCM 2000 Control Delay	257.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.54		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	155.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



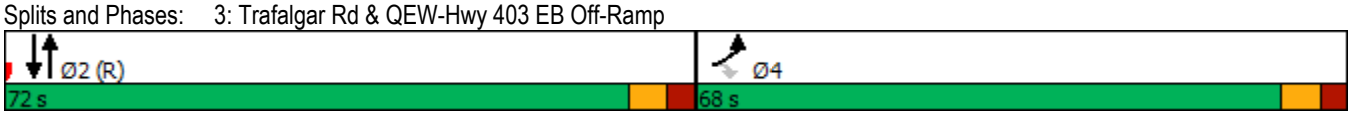
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1630	1145	0	2395	3850	0
Future Volume (vph)	1630	1145	0	2395	3850	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3433	1583	0	4940	5036	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	1583	0	4940	5036	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			80.8	331.3	
Travel Time (s)	15.4			5.8	23.9	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Adj. Flow (vph)	1663	1168	0	2444	3929	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1663	1168	0	2444	3929	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	68.0	68.0		72.0	72.0	
Total Split (%)	48.6%	48.6%		51.4%	51.4%	
Maximum Green (s)	61.0	61.0		65.0	65.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		10	10	
Act Effct Green (s)	62.0	62.0		66.0	66.0	
Actuated g/C Ratio	0.44	0.44		0.47	0.47	
v/c Ratio	1.09	1.67		1.05	1.66	
Control Delay	90.5	334.5		45.1	322.6	
Queue Delay	0.0	0.0		21.2	0.0	
Total Delay	90.5	334.5		66.4	322.6	
LOS	F	F		E	F	
Approach Delay	191.2			66.4	322.6	
Approach LOS	F			E	F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.67			
Intersection Signal Delay: 214.2		Intersection LOS: F	
Intersection Capacity Utilization 155.3%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp





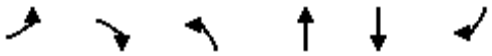
Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	1663	1168	2444	3929
v/c Ratio	1.09	1.67	1.05	1.66
Control Delay	90.5	334.5	45.1	322.6
Queue Delay	0.0	0.0	21.2	0.0
Total Delay	90.5	334.5	66.4	322.6
Queue Length 50th (m)	~281.3	~494.3	~282.3	~608.0
Queue Length 95th (m)	#325.0	#579.0	m66.1	m#277.5
Internal Link Dist (m)	190.2		56.8	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1520	701	2328	2374
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	328	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.09	1.67	1.22	1.66

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

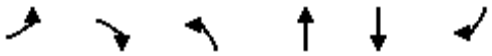
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1630	1145	0	2395	3850	0
Future Volume (vph)	1630	1145	0	2395	3850	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3433	1583		4940	5036	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3433	1583		4940	5036	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1663	1168	0	2444	3929	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1663	1168	0	2444	3929	0
Confl. Peds. (#/hr)			10			10
Heavy Vehicles (%)	2%	2%	0%	5%	3%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	61.0	61.0		65.0	65.0	
Effective Green, g (s)	62.0	62.0		66.0	66.0	
Actuated g/C Ratio	0.44	0.44		0.47	0.47	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1520	701		2328	2374	
v/s Ratio Prot	0.48			0.49	c0.78	
v/s Ratio Perm		c0.74				
v/c Ratio	1.09	1.67		1.05	1.66	
Uniform Delay, d1	39.0	39.0		37.0	37.0	
Progression Factor	1.00	1.00		0.54	0.99	
Incremental Delay, d2	53.3	306.1		23.8	294.9	
Delay (s)	92.3	345.1		43.9	331.5	
Level of Service	F	F		D	F	
Approach Delay (s)	196.6			43.9	331.5	
Approach LOS	F			D	F	

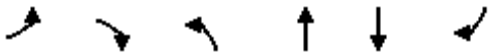
Intersection Summary			
HCM 2000 Control Delay	213.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.66		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	155.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	145	0	2455	3845	675
Future Volume (vph)	0	145	0	2455	3845	675
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.978	
Flt Protected						
Satd. Flow (prot)	0	1565	0	4940	4925	0
Flt Permitted						
Satd. Flow (perm)	0	1565	0	4940	4925	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	100.6			198.2	80.8	
Travel Time (s)	7.2			14.3	5.8	
Confl. Peds. (#/hr)			10			10
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	5%	0%	5%	3%	3%
Adj. Flow (vph)	0	156	0	2640	4134	726
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	156	0	2640	4860	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	105.1%	ICU Level of Service	G
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	145	0	2455	3845	675
Future Volume (Veh/h)	0	145	0	2455	3845	675
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	156	0	2640	4134	726
Pedestrians	10					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				198	81	
pX, platoon unblocked	0.70	0.53	0.53			
vC, conflicting volume	5387	1751	4870			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2597	0	5193			
tC, single (s)	6.8	7.0	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	73	100			
cM capacity (veh/h)	14	569	8			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	156	880	880	880	1654	1654	1553
Volume Left	0	0	0	0	0	0	0
Volume Right	156	0	0	0	0	0	726
cSH	569	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.27	0.52	0.52	0.52	0.97	0.97	0.91
Queue Length 95th (m)	8.9	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	13.7	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	13.7	0.0			0.0		
Approach LOS	B						

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	105.1%	ICU Level of Service	G	
Analysis Period (min)	15			

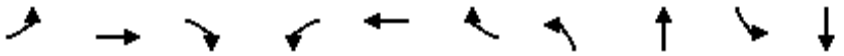
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	690	710	235	120	245	145	125	2070	35	295	2570	440
Future Volume (vph)	690	710	235	120	245	145	125	2070	35	295	2570	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		50.0	50.0		50.0	120.0		0.0	55.0		0.0
Storage Lanes	2		1	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor			0.98	1.00				1.00			0.99	
Frt			0.850			0.850		0.998			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3273	3610	1482	1736	3438	1553	1671	5024	0	1736	4934	0
Flt Permitted	0.950			0.347			0.084			0.079		
Satd. Flow (perm)	3273	3610	1455	633	3438	1553	148	5024	0	144	4934	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			156			140		2			30	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		121.1			182.4			316.1			198.2	
Travel Time (s)		8.7			13.1			22.8			14.3	
Confl. Peds. (#/hr)			5	5			15		5	5		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Adj. Flow (vph)	711	732	242	124	253	149	129	2134	36	304	2649	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	711	732	242	124	253	149	129	2170	0	304	3103	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4	8		8	2			6		
Detector Phase	7	4	4	3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	12.0	10.0	7.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0	42.0	19.0	17.0	11.0	12.0	34.0		11.0	34.0	
Total Split (s)	43.0	42.0	42.0	19.0	18.0	29.0	12.0	50.0		29.0	67.0	
Total Split (%)	30.7%	30.0%	30.0%	13.6%	12.9%	20.7%	8.6%	35.7%		20.7%	47.9%	
Maximum Green (s)	36.0	35.0	35.0	12.0	11.0	25.0	7.0	43.0		25.0	60.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	1.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0	4.0	3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0	7.0					7.0			7.0	
Flash Dont Walk (s)		28.0	28.0					20.0			20.0	
Pedestrian Calls (#/hr)		5	5					10			10	
Act Effct Green (s)	34.7	34.9	34.9	26.2	13.2	42.7	58.1	47.6		77.1	61.6	
Actuated g/C Ratio	0.25	0.25	0.25	0.19	0.09	0.30	0.42	0.34		0.55	0.44	
v/c Ratio	0.88	0.81	0.50	0.56	0.78	0.26	0.84	1.27		0.88	1.42	
Control Delay	63.2	57.5	19.6	43.0	79.2	7.5	63.0	163.6		48.6	223.6	
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2		0.0	0.4	
Total Delay	63.2	57.5	19.7	43.0	79.2	7.5	63.0	163.7		48.6	223.9	
LOS	E	E	B	D	E	A	E	F		D	F	
Approach Delay		54.5			50.3			158.1			208.3	
Approach LOS		D			D			F			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.42			
Intersection Signal Delay: 150.5		Intersection LOS: F	
Intersection Capacity Utilization 114.4%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 5: Trafalgar Rd & Cross Ave





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	711	732	242	124	253	149	129	2170	304	3103
v/c Ratio	0.88	0.81	0.50	0.56	0.78	0.26	0.84	1.27	0.88	1.42
Control Delay	63.2	57.5	19.6	43.0	79.2	7.5	63.0	163.6	48.6	223.6
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.4
Total Delay	63.2	57.5	19.7	43.0	79.2	7.5	63.0	163.7	48.6	223.9
Queue Length 50th (m)	101.5	105.2	20.0	23.5	38.7	1.8	25.0	~302.6	75.1	~442.5
Queue Length 95th (m)	125.6	129.7	48.0	40.0	#63.5	18.2	m#36.3	m#322.9	m42.0	m156.5
Internal Link Dist (m)		97.1			158.4			292.1		174.2
Turn Bay Length (m)	130.0		50.0	50.0		50.0	120.0		55.0	
Base Capacity (vph)	865	928	490	220	323	596	154	1709	374	2186
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	8	0	0	4	0	98	0	279
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.79	0.50	0.56	0.78	0.25	0.84	1.35	0.81	1.63

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	690	710	235	120	245	145	125	2070	35	295	2570	440
Future Volume (vph)	690	710	235	120	245	145	125	2070	35	295	2570	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3273	3610	1455	1734	3438	1553	1671	5022		1736	4934	
Flt Permitted	0.95	1.00	1.00	0.35	1.00	1.00	0.08	1.00		0.08	1.00	
Satd. Flow (perm)	3273	3610	1455	634	3438	1553	148	5022		144	4934	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	711	732	242	124	253	149	129	2134	36	304	2649	454
RTOR Reduction (vph)	0	0	117	0	0	103	0	1	0	0	17	0
Lane Group Flow (vph)	711	732	125	124	253	46	129	2169	0	304	3086	0
Confl. Peds. (#/hr)			5	5			15		5	5		15
Heavy Vehicles (%)	7%	0%	9%	4%	5%	4%	8%	3%	3%	4%	2%	4%
Turn Type	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4	8		8	2			6		
Actuated Green, G (s)	33.7	33.9	33.9	24.2	12.2	34.7	54.1	46.6		73.1	60.6	
Effective Green, g (s)	34.7	34.9	34.9	26.2	13.2	36.7	56.1	47.6		74.1	61.6	
Actuated g/C Ratio	0.25	0.25	0.25	0.19	0.09	0.26	0.40	0.34		0.53	0.44	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	4.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0	4.0	3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	811	899	362	220	324	407	151	1707		343	2170	
v/s Ratio Prot	c0.22	c0.20		0.05	0.07	0.02	0.05	0.43		c0.15	c0.63	
v/s Ratio Perm			0.09	0.05		0.01	0.29			0.32		
v/c Ratio	0.88	0.81	0.34	0.56	0.78	0.11	0.85	1.27		0.89	1.42	
Uniform Delay, d1	50.6	49.5	43.2	49.8	62.0	39.3	34.6	46.2		43.3	39.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.02		1.19	1.14	
Incremental Delay, d2	10.5	6.0	0.8	3.6	12.2	0.1	26.8	125.1		2.8	190.2	
Delay (s)	61.1	55.5	43.9	53.4	74.2	39.4	60.7	172.1		54.5	235.1	
Level of Service	E	E	D	D	E	D	E	F		D	F	
Approach Delay (s)		56.2			59.4			165.8			219.0	
Approach LOS		E			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	158.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	114.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

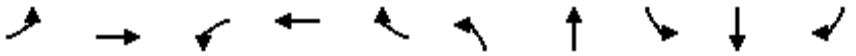
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	750	70	105	665	640	50	730	85	675	1235	405
Future Volume (vph)	300	750	70	105	665	640	50	730	85	675	1235	405
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.99	1.00		0.99		0.95		1.00		0.99		0.96
Frt		0.987				0.850		0.984				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3367	3354	0	1736	3438	1553	1770	3460	0	3400	1881	1553
Flt Permitted	0.950			0.123			0.095			0.950		
Satd. Flow (perm)	3323	3354	0	223	3438	1483	177	3460	0	3379	1881	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				422		9				178
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			316.1	
Travel Time (s)		41.4			45.2			10.0			22.8	
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Adj. Flow (vph)	313	781	73	109	693	667	52	760	89	703	1286	422
Shared Lane Traffic (%)												
Lane Group Flow (vph)	313	854	0	109	693	667	52	849	0	703	1286	422
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	18.0	44.0		12.0	38.0	38.0	11.0	47.0		37.0	73.0	73.0
Total Split (%)	12.9%	31.4%		8.6%	27.1%	27.1%	7.9%	33.6%		26.4%	52.1%	52.1%
Maximum Green (s)	12.3	37.6		7.0	31.6	31.6	7.0	40.1		32.0	66.1	66.1
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		20			20	20		15			15	15
Act Effct Green (s)	13.3	38.6		42.0	32.6	32.6	52.9	42.0		32.1	69.3	69.3
Actuated g/C Ratio	0.10	0.28		0.30	0.23	0.23	0.38	0.30		0.23	0.50	0.50
v/c Ratio	0.98	0.92		0.71	0.87	1.00	0.33	0.81		0.90	1.38	0.51
Control Delay	102.1	63.3		56.7	64.0	53.8	23.8	52.4		77.1	201.5	17.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	102.1	63.3		56.7	64.0	53.8	23.8	52.4		77.1	201.5	17.9
LOS	F	E		E	E	D	C	D		E	F	B
Approach Delay		73.7			58.8			50.8			133.1	
Approach LOS		E			E			D			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.38			
Intersection Signal Delay: 90.6		Intersection LOS: F	
Intersection Capacity Utilization 118.7%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd





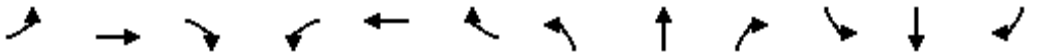
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	313	854	109	693	667	52	849	703	1286	422
v/c Ratio	0.98	0.92	0.71	0.87	1.00	0.33	0.81	0.90	1.38	0.51
Control Delay	102.1	63.3	56.7	64.0	53.8	23.8	52.4	77.1	201.5	17.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	102.1	63.3	56.7	64.0	53.8	23.8	52.4	77.1	201.5	17.9
Queue Length 50th (m)	48.0	128.3	21.2	103.0	90.1	6.3	120.9	112.2	~497.2	39.7
Queue Length 95th (m)	#80.1	#166.4	#43.1	#134.2	#178.2	12.6	147.6	m84.5	m#306.2	m27.9
Internal Link Dist (m)		551.4		604.3			115.4		292.1	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	319	929	153	800	669	157	1044	801	931	831
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.92	0.71	0.87	1.00	0.33	0.81	0.88	1.38	0.51

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	750	70	105	665	640	50	730	85	675	1235	405
Future Volume (vph)	300	750	70	105	665	640	50	730	85	675	1235	405
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.95	1.00	1.00		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3367	3355		1735	3438	1483	1770	3461		3400	1881	1498
Flt Permitted	0.95	1.00		0.12	1.00	1.00	0.10	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3367	3355		224	3438	1483	177	3461		3400	1881	1498
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	312	781	73	109	693	667	52	760	89	703	1286	422
RTOR Reduction (vph)	0	5	0	0	0	324	0	6	0	0	0	91
Lane Group Flow (vph)	313	849	0	109	693	343	52	843	0	703	1286	331
Confl. Peds. (#/hr)	25		15	15		25	20		10	10		20
Heavy Vehicles (%)	4%	6%	3%	4%	5%	4%	2%	2%	6%	3%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	12.3	37.6		38.6	31.6	31.6	46.6	41.0		31.1	67.5	67.5
Effective Green, g (s)	13.3	38.6		40.6	32.6	32.6	48.6	42.0		32.1	68.5	68.5
Actuated g/C Ratio	0.10	0.28		0.29	0.23	0.23	0.35	0.30		0.23	0.49	0.49
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	319	925		151	800	345	136	1038		779	920	732
v/s Ratio Prot	c0.09	0.25		0.04	0.20		0.02	0.24		c0.21	c0.68	
v/s Ratio Perm				0.17		c0.23	0.11					0.22
v/c Ratio	0.98	0.92		0.72	0.87	0.99	0.38	0.81		0.90	1.40	0.45
Uniform Delay, d1	63.2	49.2		39.8	51.6	53.6	36.0	45.3		52.4	35.8	23.4
Progression Factor	0.95	1.01		1.00	1.00	1.00	1.00	1.00		1.45	0.92	1.29
Incremental Delay, d2	41.8	12.2		15.6	9.7	46.8	1.8	6.9		1.6	179.6	0.2
Delay (s)	101.7	61.9		55.4	61.3	100.4	37.8	52.3		77.5	212.7	30.5
Level of Service	F	E		E	E	F	D	D		E	F	C
Approach Delay (s)		72.5			78.7			51.4			141.4	
Approach LOS		E			E			D			F	

Intersection Summary			
HCM 2000 Control Delay	98.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	118.7%	ICU Level of Service	H
Analysis Period (min)	15		

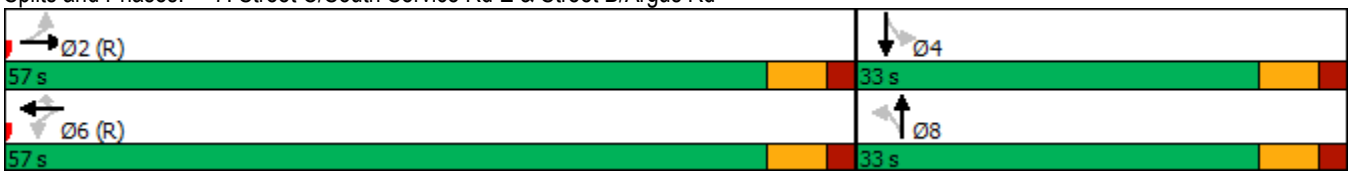
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	85	5	20	610	195	0	35	60	75	5	220
Future Volume (vph)	0	85	5	20	610	195	0	35	60	75	5	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.97		0.98		
Frt		0.992				0.850		0.915			0.854	
Flt Protected					0.998					0.950		
Satd. Flow (prot)	0	1781	0	0	1860	1568	0	1692	0	1805	1392	0
Flt Permitted					0.991					0.689		
Satd. Flow (perm)	0	1781	0	0	1847	1568	0	1692	0	1284	1392	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				219		67			232	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		48.3			119.5			83.7			163.9	
Travel Time (s)		3.5			8.6			6.0			11.8	
Confl. Peds. (#/hr)			5	5					10	10		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	6%	0%	0%	2%	3%	0%	0%	0%	0%	0%	17%
Adj. Flow (vph)	0	96	6	22	685	219	0	39	67	84	6	247
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	102	0	0	707	219	0	106	0	84	253	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA		Perm	NA	Perm		NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	26.0	26.0		26.0	26.0	
Total Split (s)	57.0	57.0		57.0	57.0	57.0	33.0	33.0		33.0	33.0	
Total Split (%)	63.3%	63.3%		63.3%	63.3%	63.3%	36.7%	36.7%		36.7%	36.7%	
Maximum Green (s)	51.0	51.0		51.0	51.0	51.0	27.0	27.0		27.0	27.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0		-1.0		-1.0	-1.0	
Total Lost Time (s)		5.0			5.0	5.0		5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min	C-Min	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		66.7			66.7	66.7		13.3		13.3	13.3	
Actuated g/C Ratio		0.74			0.74	0.74		0.15		0.15	0.15	
v/c Ratio		0.08			0.52	0.18		0.35		0.44	0.63	
Control Delay		3.6			15.3	3.9		17.7		41.9	13.7	
Queue Delay		0.0			34.1	0.0		0.0		0.0	0.0	
Total Delay		3.6			49.3	3.9		17.7		41.9	13.7	
LOS		A			D	A		B		D	B	
Approach Delay		3.6			38.6			17.7			20.8	
Approach LOS		A			D			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 30.6		Intersection LOS: C	
Intersection Capacity Utilization 62.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 7: Street C/South Service Rd E & Street B/Argus Rd





Lane Group	EBT	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	102	707	219	106	84	253
v/c Ratio	0.08	0.52	0.18	0.35	0.44	0.63
Control Delay	3.6	15.3	3.9	17.7	41.9	13.7
Queue Delay	0.0	34.1	0.0	0.0	0.0	0.0
Total Delay	3.6	49.3	3.9	17.7	41.9	13.7
Queue Length 50th (m)	3.7	117.4	8.4	6.4	14.4	3.4
Queue Length 95th (m)	9.6	151.5	m15.4	19.5	26.7	23.9
Internal Link Dist (m)	24.3	95.5		59.7		139.9
Turn Bay Length (m)						
Base Capacity (vph)	1321	1369	1219	572	399	592
Starvation Cap Reductn	0	697	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	1.05	0.18	0.19	0.21	0.43

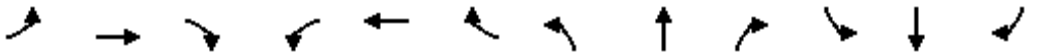
Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	85	5	20	610	195	0	35	60	75	5	220
Future Volume (vph)	0	85	5	20	610	195	0	35	60	75	5	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	5.0		5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Frpb, ped/bikes		1.00			1.00	1.00		0.97		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00		0.98	1.00	
Frt		0.99			1.00	0.85		0.91		1.00	0.85	
Flt Protected		1.00			1.00	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1781			1860	1568		1692		1770	1391	
Flt Permitted		1.00			0.99	1.00		1.00		0.69	1.00	
Satd. Flow (perm)		1781			1847	1568		1692		1283	1391	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	96	6	22	685	219	0	39	67	84	6	247
RTOR Reduction (vph)	0	2	0	0	0	57	0	57	0	0	198	0
Lane Group Flow (vph)	0	100	0	0	707	162	0	49	0	84	55	0
Confl. Peds. (#/hr)			5	5					10	10		
Heavy Vehicles (%)	0%	6%	0%	0%	2%	3%	0%	0%	0%	0%	0%	17%
Turn Type		NA		Perm	NA	Perm		NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		65.7			65.7	65.7		12.3		12.3	12.3	
Effective Green, g (s)		66.7			66.7	66.7		13.3		13.3	13.3	
Actuated g/C Ratio		0.74			0.74	0.74		0.15		0.15	0.15	
Clearance Time (s)		6.0			6.0	6.0		6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		1319			1368	1162		250		189	205	
v/s Ratio Prot		0.06						0.03			0.04	
v/s Ratio Perm					c0.38	0.10				c0.07		
v/c Ratio		0.08			0.52	0.14		0.20		0.44	0.27	
Uniform Delay, d1		3.2			4.9	3.4		33.7		35.0	34.0	
Progression Factor		1.00			2.56	5.38		1.00		1.00	1.00	
Incremental Delay, d2		0.1			1.1	0.2		0.4		1.7	0.7	
Delay (s)		3.3			13.6	18.3		34.0		36.6	34.8	
Level of Service		A			B	B		C		D	C	
Approach Delay (s)		3.3			14.7			34.0			35.2	
Approach LOS		A			B			C			D	

Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

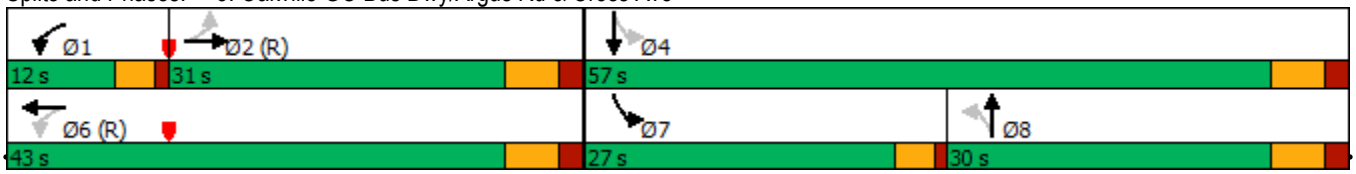


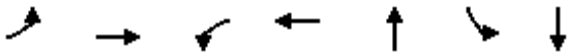
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1295	15	20	1155	15	15	0	30	610	10	440
Future Volume (vph)	25	1295	15	20	1155	15	15	0	30	610	10	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	30.0			15.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00			1.00			0.97		0.98	0.96	
Frt		0.998			0.998			0.909			0.853	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1719	3527	0	950	3563	0	0	845	0	1719	1528	0
Flt Permitted	0.141			0.092				0.776		0.726		
Satd. Flow (perm)	255	3527	0	92	3563	0	0	664	0	1284	1528	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			1			120			14	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		126.2			104.6			107.0			123.1	
Travel Time (s)		9.1			7.5			7.7			8.9	
Confl. Peds. (#/hr)	10		10	10		10	20		20	20		20
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	1%	100%	90%	1%	7%	100%	100%	94%	5%	100%	0%
Adj. Flow (vph)	26	1335	15	21	1191	15	15	0	31	629	10	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	1350	0	21	1206	0	0	46	0	629	464	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	22.0	22.0		8.0	22.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	29.0	29.0		12.0	29.0		29.0	29.0		9.0	29.0	
Total Split (s)	31.0	31.0		12.0	43.0		30.0	30.0		27.0	57.0	
Total Split (%)	31.0%	31.0%		12.0%	43.0%		30.0%	30.0%		27.0%	57.0%	
Maximum Green (s)	25.0	25.0		8.0	37.0		24.0	24.0		23.0	51.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	5.0	5.0		2.5	5.0		4.0	4.0		3.0	4.0	
Recall Mode	C-Min	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	16.0	16.0			16.0		16.0	16.0			16.0	
Pedestrian Calls (#/hr)	10	10			10		20	20			20	
Act Effct Green (s)	44.2	44.2		51.1	49.1			16.2		42.9	40.9	
Actuated g/C Ratio	0.44	0.44		0.51	0.49			0.16		0.43	0.41	
v/c Ratio	0.23	0.87		0.17	0.69			0.22		0.95	0.73	
Control Delay	33.8	36.2		19.4	24.4			2.5		51.3	30.4	
Queue Delay	0.0	47.5		0.0	0.0			0.0		0.0	0.0	
Total Delay	33.8	83.7		19.4	24.4			2.5		51.3	30.4	
LOS	C	F		B	C			A		D	C	
Approach Delay		82.8			24.3			2.5			42.4	
Approach LOS		F			C			A			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 50.8		Intersection LOS: D	
Intersection Capacity Utilization 85.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 8: Oakville GO Bus Dwy/Argus Rd & Cross Ave





Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	26	1350	21	1206	46	629	464
v/c Ratio	0.23	0.87	0.17	0.69	0.22	0.95	0.73
Control Delay	33.8	36.2	19.4	24.4	2.5	51.3	30.4
Queue Delay	0.0	47.5	0.0	0.0	0.0	0.0	0.0
Total Delay	33.8	83.7	19.4	24.4	2.5	51.3	30.4
Queue Length 50th (m)	2.7	107.4	1.9	89.5	0.0	~122.6	80.2
Queue Length 95th (m)	#14.1	#244.5	7.4	#148.1	0.0	#134.5	94.4
Internal Link Dist (m)		102.2		80.6	83.0		99.1
Turn Bay Length (m)	20.0		20.0			15.0	
Base Capacity (vph)	112	1558	125	1750	256	659	801
Starvation Cap Reductn	0	411	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	1.18	0.17	0.69	0.18	0.95	0.58

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1295	15	20	1155	15	15	0	30	610	10	440
Future Volume (vph)	25	1295	15	20	1155	15	15	0	30	610	10	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.97		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		0.98	1.00	
Frt	1.00	1.00		1.00	1.00			0.91		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1716	3528		950	3564			842		1691	1529	
Flt Permitted	0.14	1.00		0.09	1.00			0.78		0.73	1.00	
Satd. Flow (perm)	255	3528		92	3564			664		1292	1529	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	26	1335	15	21	1191	15	15	0	31	629	10	454
RTOR Reduction (vph)	0	1	0	0	1	0	0	39	0	0	8	0
Lane Group Flow (vph)	26	1349	0	21	1205	0	0	7	0	629	456	0
Confl. Peds. (#/hr)	10		10	10		10	20		20	20		20
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	5%	1%	100%	90%	1%	7%	100%	100%	94%	5%	100%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	39.6	39.6		46.9	46.9			13.2		41.1	41.1	
Effective Green, g (s)	40.6	40.6		47.9	47.9			14.2		42.1	42.1	
Actuated g/C Ratio	0.41	0.41		0.48	0.48			0.14		0.42	0.42	
Clearance Time (s)	6.0	6.0		4.0	6.0			6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0		2.5	5.0			4.0		3.0	4.0	
Lane Grp Cap (vph)	103	1432		80	1707			94		643	643	
v/s Ratio Prot		c0.38		0.01	c0.34					c0.24	0.30	
v/s Ratio Perm	0.10			0.11				0.01		c0.17		
v/c Ratio	0.25	0.94		0.26	0.71			0.07		0.98	0.71	
Uniform Delay, d1	19.7	28.6		20.9	20.5			37.2		27.7	23.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	5.8	13.5		1.3	2.5			0.4		29.7	3.8	
Delay (s)	25.5	42.1		22.2	23.0			37.6		57.4	27.7	
Level of Service	C	D		C	C			D		E	C	
Approach Delay (s)		41.8			23.0			37.6			44.8	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	36.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

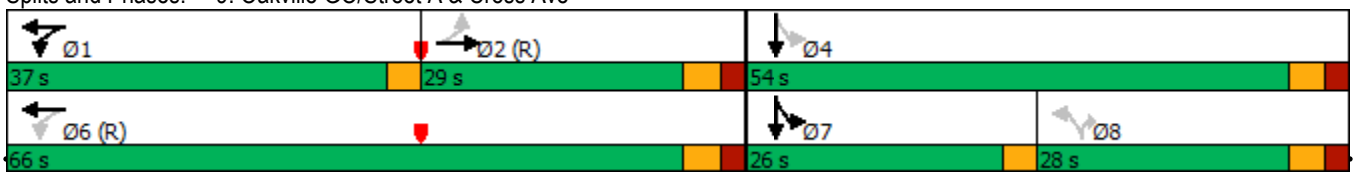
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	490	90	650	820	70	60	0	235	445	0	135
Future Volume (vph)	35	490	90	650	820	70	60	0	235	445	0	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	100.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00		1.00		0.97		0.99	
Frt		0.977			0.993				0.850		0.969	
Flt Protected	0.950				0.979		0.950				0.963	
Satd. Flow (prot)	1805	3278	0	0	3395	0	1805	0	1615	0	1767	0
Flt Permitted	0.164				0.569		0.489				0.963	
Satd. Flow (perm)	311	3278	0	0	1973	0	926	0	1570	0	1757	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			6				255		51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		120.6			126.2			63.3			76.3	
Travel Time (s)		8.7			9.1			4.6			5.5	
Confl. Peds. (#/hr)	15					15	5		10	10		5
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	38	533	98	707	891	76	65	0	255	484	0	147
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	631	0	0	1674	0	65	0	255	0	631	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	100		100
Number of Detectors	1	2		1	2		1		1	1	2	
Detector Template	Left	Thru		Left	Thru		Left		Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0		2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0		2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4						9.4	
Detector 2 Size(m)		0.6			0.6						0.6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												

Lane Group	Ø4	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type	Perm	NA		custom	NA		Perm		Perm	custom	NA	
Protected Phases		2		1	1 6					7	7 4	
Permitted Phases	2			6			8		8	4		
Detector Phase	2	2		1	1 6		8		8	7	7 4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		8.0			10.0		10.0	8.0		
Minimum Split (s)	27.6	27.6		11.0			27.6		27.6	11.0		
Total Split (s)	29.0	29.0		37.0			28.0		28.0	26.0		
Total Split (%)	24.2%	24.2%		30.8%			23.3%		23.3%	21.7%		
Maximum Green (s)	23.4	23.4		34.0			22.4		22.4	23.0		
Yellow Time (s)	3.3	3.3		3.0			3.3		3.3	3.0		
All-Red Time (s)	2.3	2.3		0.0			2.3		2.3	0.0		
Lost Time Adjust (s)	-1.0	-1.0					-1.0		-1.0			
Total Lost Time (s)	4.6	4.6					4.6		4.6			
Lead/Lag	Lag	Lag		Lead			Lag		Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes		Yes	Yes		
Vehicle Extension (s)	5.0	5.0		2.5			3.5		3.5	3.0		
Recall Mode	C-Min	C-Min		None			None		None	None		
Walk Time (s)	7.0	7.0					7.0		7.0			
Flash Dont Walk (s)	15.0	15.0					15.0		15.0			
Pedestrian Calls (#/hr)	10	10					10		10			
Act Effct Green (s)	24.4	24.4			68.2		19.2		19.2		47.8	
Actuated g/C Ratio	0.20	0.20			0.57		0.16		0.16		0.40	
v/c Ratio	0.60	0.93			1.05		0.44		0.55		0.86	
Control Delay	83.0	67.1			62.3		53.6		9.8		42.9	
Queue Delay	0.0	0.0			18.9		0.0		0.0		0.0	
Total Delay	83.0	67.1			81.2		53.6		9.8		42.9	
LOS	F	E			F		D		A		D	
Approach Delay		68.0			81.2			18.7			42.9	
Approach LOS		E			F			B			D	

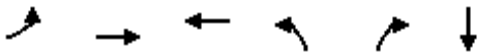
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.05			
Intersection Signal Delay: 65.1		Intersection LOS: E	
Intersection Capacity Utilization 110.7%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 9: Oakville GO/Street A & Cross Ave



Lane Group	Ø4	Ø6
Detector 2 Extend (s)		
Turn Type		
Protected Phases	4	6
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	10.0	20.0
Minimum Split (s)	27.6	27.6
Total Split (s)	54.0	66.0
Total Split (%)	45%	55%
Maximum Green (s)	48.4	60.4
Yellow Time (s)	3.3	3.3
All-Red Time (s)	2.3	2.3
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	5.0
Recall Mode	None	C-Min
Walk Time (s)	7.0	7.0
Flash Dont Walk (s)	15.0	15.0
Pedestrian Calls (#/hr)	10	10
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

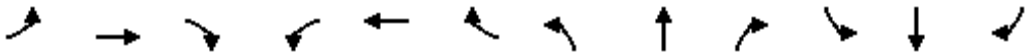


Lane Group	EBL	EBT	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	38	631	1674	65	255	631
v/c Ratio	0.60	0.93	1.05	0.44	0.55	0.86
Control Delay	83.0	67.1	62.3	53.6	9.8	42.9
Queue Delay	0.0	0.0	18.9	0.0	0.0	0.0
Total Delay	83.0	67.1	81.2	53.6	9.8	42.9
Queue Length 50th (m)	8.6	79.7	~224.4	14.4	0.0	127.5
Queue Length 95th (m)	#27.5	#115.7	#301.0	28.9	22.8	174.9
Internal Link Dist (m)		96.6	102.2			52.3
Turn Bay Length (m)						
Base Capacity (vph)	63	679	1587	180	511	792
Starvation Cap Reductn	0	0	199	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.93	1.21	0.36	0.50	0.80

Intersection Summary

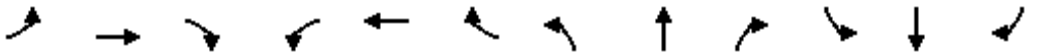
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



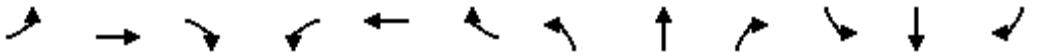
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	490	90	650	820	70	60	0	235	445	0	135
Future Volume (vph)	35	490	90	650	820	70	60	0	235	445	0	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6			2.0		4.6		4.6		2.0	
Lane Util. Factor	1.00	0.95			0.95		1.00		1.00		1.00	
Frpb, ped/bikes	1.00	1.00			1.00		1.00		0.97		1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00		1.00		0.99	
Frt	1.00	0.98			0.99		1.00		0.85		0.97	
Flt Protected	0.95	1.00			0.98		0.95		1.00		0.96	
Satd. Flow (prot)	1799	3277			3397		1799		1570		1755	
Flt Permitted	0.16	1.00			0.57		0.49		1.00		0.96	
Satd. Flow (perm)	310	3277			1975		926		1570		1755	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	533	98	707	891	76	65	0	255	484	0	147
RTOR Reduction (vph)	0	13	0	0	3	0	0	0	214	0	32	0
Lane Group Flow (vph)	38	618	0	0	1671	0	65	0	41	0	599	0
Confl. Peds. (#/hr)	15					15	5		10	10		5
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	0%	9%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		custom	NA		Perm		Perm	custom	NA	
Protected Phases		2		1	1 6					7	7 4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	23.4	23.4			64.6		18.2		18.2		44.2	
Effective Green, g (s)	24.4	24.4			65.6		19.2		19.2		45.2	
Actuated g/C Ratio	0.20	0.20			0.55		0.16		0.16		0.38	
Clearance Time (s)	5.6	5.6					5.6		5.6			
Vehicle Extension (s)	5.0	5.0					3.5		3.5			
Lane Grp Cap (vph)	63	666			1544		148		251		661	
v/s Ratio Prot		c0.19			c0.35						c0.18	
v/s Ratio Perm	0.12				0.24		0.07		0.03		0.16	
v/c Ratio	0.60	0.93			1.08		0.44		0.16		0.91	
Uniform Delay, d1	43.4	46.9			27.2		45.5		43.5		35.4	
Progression Factor	1.00	1.00			1.00		1.00		1.00		1.00	
Incremental Delay, d2	36.1	21.1			48.7		2.5		0.4		16.1	
Delay (s)	79.5	68.1			75.9		48.0		43.8		51.5	
Level of Service	E	E			E		D		D		D	
Approach Delay (s)		68.7			75.9			44.7			51.5	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	66.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	110.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	420	0	5	805	155	0	0	0	155	0	25
Future Volume (vph)	25	420	0	5	805	155	0	0	0	155	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (m)	25.0			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.976							0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1805	3312	0	0	3298	0	0	1900	0	1787	0	1509
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1805	3312	0	0	3298	0	0	1900	0	1787	0	1509
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		132.8			120.6			80.8			71.6	
Travel Time (s)		9.6			8.7			5.8			5.2	
Confl. Peds. (#/hr)	20		10	10		20						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	0%	0%	8%	1%	0%	0%	0%	1%	0%	7%
Adj. Flow (vph)	27	457	0	5	875	168	0	0	0	168	0	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	457	0	0	1048	0	0	0	0	168	0	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

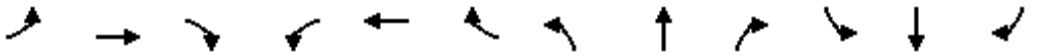
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 46.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	420	0	5	805	155	0	0	0	155	0	25
Future Volume (Veh/h)	25	420	0	5	805	155	0	0	0	155	0	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	457	0	5	875	168	0	0	0	168	0	27
Pedestrians								10			20	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			2	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		133			121							
pX, platoon unblocked												
vC, conflicting volume	1063			467			996	1594	238	1272	1510	542
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1063			467			996	1594	238	1272	1510	542
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	7.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.4
p0 queue free %	96			100			100	100	100	0	100	94
cM capacity (veh/h)	652			1096			178	101	762	117	113	464

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	27	228	228	442	606	0	168	27
Volume Left	27	0	0	5	0	0	168	0
Volume Right	0	0	0	0	168	0	0	27
cSH	652	1700	1700	1096	1700	1700	117	464
Volume to Capacity	0.04	0.13	0.13	0.00	0.36	0.12	1.44	0.06
Queue Length 95th (m)	1.0	0.0	0.0	0.1	0.0	0.0	93.9	1.5
Control Delay (s)	10.8	0.0	0.0	0.1	0.0	0.0	305.6	13.2
Lane LOS	B			A		A	F	B
Approach Delay (s)	0.6			0.1		0.0	265.1	
Approach LOS						A	F	

Intersection Summary				
Average Delay	30.1			
Intersection Capacity Utilization	46.3%	ICU Level of Service	A	
Analysis Period (min)	15			

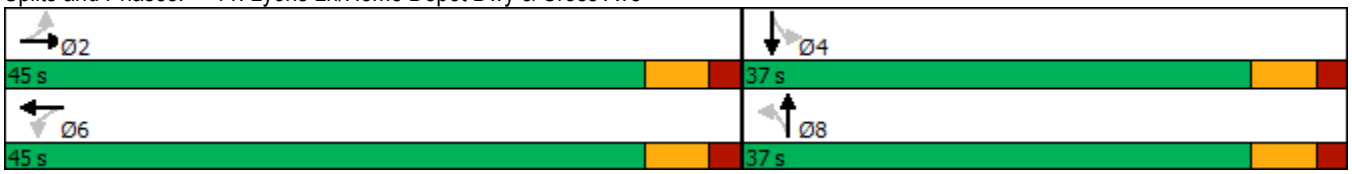


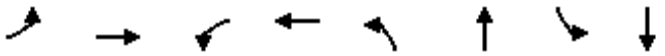
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	400	130	180	525	5	15	5	20	20	10	45
Future Volume (vph)	55	400	130	180	525	5	15	5	20	20	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	25.0		0.0	35.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00		0.99	0.99		0.99	0.99	
Frt		0.963			0.999			0.881			0.878	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3255	0	1787	3105	0	1805	1588	0	1703	1580	0
Flt Permitted	0.419			0.419			0.715			0.738		
Satd. Flow (perm)	793	3255	0	788	3105	0	1352	1588	0	1316	1580	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		75			2			23			52	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		47.5			132.8			89.0			69.0	
Travel Time (s)		3.4			9.6			6.4			5.0	
Confl. Peds. (#/hr)	5					5	5		5	5		5
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	9%	0%	1%	16%	29%	0%	0%	5%	6%	0%	5%
Adj. Flow (vph)	64	465	151	209	610	6	17	6	23	23	12	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	616	0	209	616	0	17	29	0	23	64	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		35.0	35.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	41.0	41.0		41.0	41.0		28.0	28.0		28.0	28.0	
Total Split (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Total Split (%)	54.9%	54.9%		54.9%	54.9%		45.1%	45.1%		45.1%	45.1%	
Maximum Green (s)	39.0	39.0		39.0	39.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	5	5		5	5		5	5		5	5	
Act Effct Green (s)	44.7	44.7		44.7	44.7		13.1	13.1		13.1	13.1	
Actuated g/C Ratio	0.76	0.76		0.76	0.76		0.22	0.22		0.22	0.22	
v/c Ratio	0.11	0.25		0.35	0.26		0.06	0.08		0.08	0.16	
Control Delay	6.2	4.6		8.6	5.2		18.7	10.3		19.0	8.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	6.2	4.6		8.6	5.2		18.7	10.3		19.0	8.9	
LOS	A	A		A	A		B	B		B	A	
Approach Delay		4.7			6.1			13.4			11.6	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 58.7			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.35			
Intersection Signal Delay: 6.0		Intersection LOS: A	
Intersection Capacity Utilization 80.7%		ICU Level of Service D	
Analysis Period (min) 15			

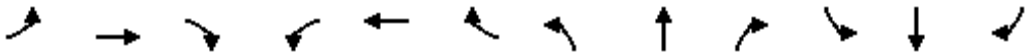
Splits and Phases: 11: Lyons Ln/Home Depot Dwy & Cross Ave





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	616	209	616	17	29	23	64
v/c Ratio	0.11	0.25	0.35	0.26	0.06	0.08	0.08	0.16
Control Delay	6.2	4.6	8.6	5.2	18.7	10.3	19.0	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.2	4.6	8.6	5.2	18.7	10.3	19.0	8.9
Queue Length 50th (m)	2.3	11.4	9.5	13.4	1.5	0.6	2.1	1.1
Queue Length 95th (m)	9.7	28.4	32.9	32.5	5.7	5.6	6.9	8.5
Internal Link Dist (m)		23.5		108.8		65.0		45.0
Turn Bay Length (m)			25.0		35.0			
Base Capacity (vph)	626	2588	622	2454	748	888	727	897
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.24	0.34	0.25	0.02	0.03	0.03	0.07

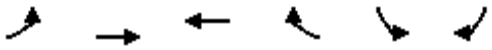
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	400	130	180	525	5	15	5	20	20	10	45
Future Volume (vph)	55	400	130	180	525	5	15	5	20	20	10	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	1.00		1.00	0.88		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1800	3256		1787	3103		1798	1590		1696	1582	
Flt Permitted	0.42	1.00		0.42	1.00		0.72	1.00		0.74	1.00	
Satd. Flow (perm)	793	3256		787	3103		1354	1590		1318	1582	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	64	465	151	209	610	6	17	6	23	23	12	52
RTOR Reduction (vph)	0	23	0	0	1	0	0	20	0	0	45	0
Lane Group Flow (vph)	64	593	0	209	615	0	17	9	0	23	19	0
Confl. Peds. (#/hr)	5					5	5		5	5		5
Heavy Vehicles (%)	0%	9%	0%	1%	16%	29%	0%	0%	5%	6%	0%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	41.5	41.5		41.5	41.5		7.7	7.7		7.7	7.7	
Effective Green, g (s)	42.5	42.5		42.5	42.5		8.7	8.7		8.7	8.7	
Actuated g/C Ratio	0.69	0.69		0.69	0.69		0.14	0.14		0.14	0.14	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	550	2261		546	2154		192	226		187	224	
v/s Ratio Prot		0.18			0.20			0.01			0.01	
v/s Ratio Perm	0.08			c0.27			0.01			c0.02		
v/c Ratio	0.12	0.26		0.38	0.29		0.09	0.04		0.12	0.09	
Uniform Delay, d1	3.1	3.5		3.9	3.6		22.8	22.7		22.9	22.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.1		0.9	0.2		0.3	0.1		0.4	0.2	
Delay (s)	3.3	3.6		4.8	3.7		23.1	22.8		23.3	23.0	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		3.6			4.0			22.9			23.1	
Approach LOS		A			A			C			C	

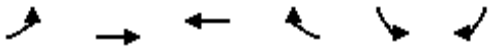
Intersection Summary			
HCM 2000 Control Delay	5.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	61.2	Sum of lost time (s)	10.0
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	690	625	5	50	30
Future Volume (vph)	10	690	625	5	50	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.999		0.950	
Flt Protected	0.950				0.970	
Satd. Flow (prot)	1805	3471	3252	0	1751	0
Flt Permitted	0.950				0.970	
Satd. Flow (perm)	1805	3471	3252	0	1751	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		443.3	47.5		121.4	
Travel Time (s)		31.9	3.4		8.7	
Confl. Peds. (#/hr)	5			5		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	4%	11%	0%	0%	0%
Adj. Flow (vph)	11	793	718	6	57	34
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	793	724	0	91	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

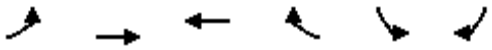
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.3%		ICU Level of Service A	
Analysis Period (min) 15			



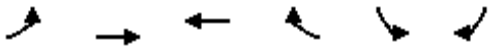
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	690	625	5	50	30
Future Volume (Veh/h)	10	690	625	5	50	30
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	11	793	718	6	57	34
Pedestrians					5	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			48			
pX, platoon unblocked	0.94				0.94	0.94
vC, conflicting volume	729				1144	367
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	572				1017	185
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				74	96
cM capacity (veh/h)	941				219	774

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	11	396	396	479	245	91
Volume Left	11	0	0	0	0	57
Volume Right	0	0	0	0	6	34
cSH	941	1700	1700	1700	1700	299
Volume to Capacity	0.01	0.23	0.23	0.28	0.14	0.30
Queue Length 95th (m)	0.3	0.0	0.0	0.0	0.0	10.0
Control Delay (s)	8.9	0.0	0.0	0.0	0.0	22.3
Lane LOS	A					C
Approach Delay (s)	0.1			0.0		22.3
Approach LOS						C

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	30.3%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	575	1360	1135	55	130	590
Future Volume (vph)	575	1360	1135	55	130	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0			0.0	60.0	0.0
Storage Lanes	1			0	1	2
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.88
Ped Bike Factor			1.00			
Frt			0.993			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1703	3438	3417	0	1805	2561
Flt Permitted	0.072				0.950	
Satd. Flow (perm)	129	3438	3417	0	1805	2561
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			5			621
Link Speed (k/h)		50	50		50	
Link Distance (m)		209.5	575.4		443.3	
Travel Time (s)		15.1	41.4		31.9	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	5%	5%	0%	0%	11%
Adj. Flow (vph)	605	1432	1195	58	137	621
Shared Lane Traffic (%)						
Lane Group Flow (vph)	605	1432	1253	0	137	621
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		7.2	7.2		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			

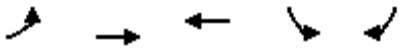


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	6.0	38.0	38.0		10.0	10.0
Minimum Split (s)	12.0	47.6	44.6		33.8	33.8
Total Split (s)	35.0	109.2	74.2		30.8	30.8
Total Split (%)	25.0%	78.0%	53.0%		22.0%	22.0%
Maximum Green (s)	29.0	102.6	67.6		25.0	25.0
Yellow Time (s)	4.0	3.7	3.7		3.3	3.3
All-Red Time (s)	2.0	2.9	2.9		2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.6	5.6		4.8	4.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Min	C-Min		None	None
Walk Time (s)		10.0	1.0		10.0	10.0
Flash Dont Walk (s)		31.0	31.0		18.0	18.0
Pedestrian Calls (#/hr)		10	10		0	0
Act Effct Green (s)	113.0	112.4	61.3		17.2	17.2
Actuated g/C Ratio	0.81	0.80	0.44		0.12	0.12
v/c Ratio	0.97	0.52	0.84		0.62	0.72
Control Delay	68.2	5.9	44.1		69.6	9.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	68.2	5.9	44.1		69.6	9.1
LOS	E	A	D		E	A
Approach Delay		24.4	44.1		20.1	
Approach LOS		C	D		C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 29.7		Intersection LOS: C	
Intersection Capacity Utilization 86.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 13: Speers Rd/Cornwall Rd & Cross Ave

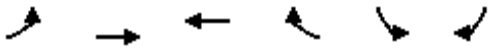




Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	605	1432	1253	137	621
v/c Ratio	0.97	0.52	0.84	0.62	0.72
Control Delay	68.2	5.9	44.1	69.6	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	68.2	5.9	44.1	69.6	9.1
Queue Length 50th (m)	153.9	61.2	184.5	38.6	0.0
Queue Length 95th (m)	#281.7	94.6	198.0	59.0	18.3
Internal Link Dist (m)		185.5	551.4	419.3	
Turn Bay Length (m)	70.0			60.0	
Base Capacity (vph)	622	2759	1676	335	981
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.97	0.52	0.75	0.41	0.63

Intersection Summary

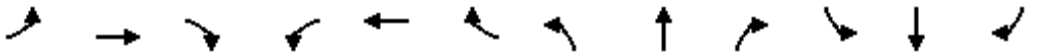
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	575	1360	1135	55	130	590
Future Volume (vph)	575	1360	1135	55	130	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		4.8	4.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1703	3438	3417		1805	2561
Flt Permitted	0.07	1.00	1.00		0.95	1.00
Satd. Flow (perm)	129	3438	3417		1805	2561
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	605	1432	1195	58	137	621
RTOR Reduction (vph)	0	0	3	0	0	545
Lane Group Flow (vph)	605	1432	1250	0	137	76
Confl. Peds. (#/hr)	15			15		
Heavy Vehicles (%)	6%	5%	5%	0%	0%	11%
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Actuated Green, G (s)	111.4	111.4	60.3		16.2	16.2
Effective Green, g (s)	112.4	112.4	61.3		17.2	17.2
Actuated g/C Ratio	0.80	0.80	0.44		0.12	0.12
Clearance Time (s)	6.0	6.6	6.6		5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	621	2760	1496		221	314
v/s Ratio Prot	c0.32	0.42	0.37			
v/s Ratio Perm	c0.46				c0.08	0.03
v/c Ratio	0.97	0.52	0.84		0.62	0.24
Uniform Delay, d1	40.2	4.7	34.9		58.3	55.5
Progression Factor	1.00	1.00	1.16		1.00	1.00
Incremental Delay, d2	29.5	0.7	4.3		5.1	0.4
Delay (s)	69.6	5.4	44.6		63.4	55.9
Level of Service	E	A	D		E	E
Approach Delay (s)		24.5	44.6		57.3	
Approach LOS		C	D		E	

Intersection Summary			
HCM 2000 Control Delay	36.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	86.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

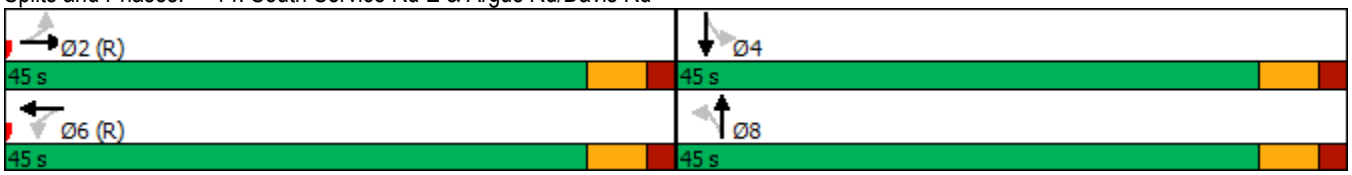


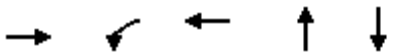
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	80	0	150	70	5	0	275	60	10	335	0
Future Volume (vph)	0	80	0	150	70	5	0	275	60	10	335	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.990			0.976				
Flt Protected				0.950							0.999	
Satd. Flow (prot)	1900	1900	0	1626	1881	0	0	1800	0	0	1844	0
Flt Permitted				0.697							0.985	
Satd. Flow (perm)	1900	1900	0	1193	1881	0	0	1800	0	0	1818	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					5			16				
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		170.6			203.3			204.3			287.4	
Travel Time (s)		12.3			14.6			14.7			20.7	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	11%	0%	0%	50%	3%	3%	0%	3%	0%
Adj. Flow (vph)	0	92	0	172	80	6	0	316	69	11	385	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	92	0	172	86	0	0	385	0	0	396	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA			NA		Perm	NA	
Protected Phases		2			6			8			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	26.0	26.0		26.0	26.0		26.0	26.0		26.0	26.0	
Total Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	39.0	39.0		39.0	39.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	20	20		20	20		20	20		20	20	
Act Effct Green (s)		53.6		53.6	53.6			26.4			26.4	
Actuated g/C Ratio		0.60		0.60	0.60			0.29			0.29	
v/c Ratio		0.08		0.24	0.08			0.71			0.74	
Control Delay		1.9		10.5	8.1			34.2			37.0	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		1.9		10.5	8.1			34.2			37.0	
LOS		A		B	A			C			D	
Approach Delay		1.9			9.7			34.2			37.0	
Approach LOS		A			A			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 26.9		Intersection LOS: C	
Intersection Capacity Utilization 50.7%		ICU Level of Service A	
Analysis Period (min) 15			

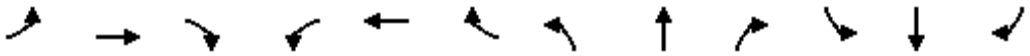
Splits and Phases: 14: South Service Rd E & Argus Rd/Davis Rd





Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	92	172	86	385	396
v/c Ratio	0.08	0.24	0.08	0.71	0.74
Control Delay	1.9	10.5	8.1	34.2	37.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	1.9	10.5	8.1	34.2	37.0
Queue Length 50th (m)	0.6	12.6	5.4	59.7	64.7
Queue Length 95th (m)	2.9	33.2	11.5	76.1	81.4
Internal Link Dist (m)	146.6		179.3	180.3	263.4
Turn Bay Length (m)		30.0			
Base Capacity (vph)	1131	710	1122	808	808
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.24	0.08	0.48	0.49

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	80	0	150	70	5	0	275	60	10	335	0
Future Volume (vph)	0	80	0	150	70	5	0	275	60	10	335	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.99			0.98			1.00	
Flt Protected		1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)		1900		1626	1880			1800			1844	
Flt Permitted		1.00		0.70	1.00			1.00			0.98	
Satd. Flow (perm)		1900		1194	1880			1800			1818	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	92	0	172	80	6	0	316	69	11	385	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	92	0	172	84	0	0	374	0	0	396	0
Heavy Vehicles (%)	0%	0%	0%	11%	0%	0%	50%	3%	3%	0%	3%	0%
Turn Type	Perm	NA		Perm	NA			NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		52.6		52.6	52.6			25.4			25.4	
Effective Green, g (s)		53.6		53.6	53.6			26.4			26.4	
Actuated g/C Ratio		0.60		0.60	0.60			0.29			0.29	
Clearance Time (s)		6.0		6.0	6.0			6.0			6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		1131		711	1119			528			533	
v/s Ratio Prot		0.05			0.04			0.21				
v/s Ratio Perm				c0.14							c0.22	
v/c Ratio		0.08		0.24	0.08			0.71			0.74	
Uniform Delay, d1		7.7		8.6	7.7			28.4			28.7	
Progression Factor		0.18		0.93	0.88			1.00			1.00	
Incremental Delay, d2		0.1		0.8	0.1			4.3			5.6	
Delay (s)		1.5		8.8	6.9			32.7			34.3	
Level of Service		A		A	A			C			C	
Approach Delay (s)		1.5			8.2			32.7			34.3	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	25.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	50.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	60	215	170	270	155	35
Future Volume (vph)	60	215	170	270	155	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		100.0	100.0		100.0	0.0
Storage Lanes		0	0		0	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.894				0.975	
Flt Protected				0.981	0.961	
Satd. Flow (prot)	1673	0	0	1816	1750	0
Flt Permitted				0.981	0.961	
Satd. Flow (perm)	1673	0	0	1816	1750	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	252.8			547.4	339.1	
Travel Time (s)	18.2			39.4	24.4	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	7%	0%	2%	3%	1%	5%
Adj. Flow (vph)	73	262	207	329	189	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	335	0	0	536	232	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.7%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	60	215	170	270	155	35
Future Volume (Veh/h)	60	215	170	270	155	35
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	73	262	207	329	189	43
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			335		947	204
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			335		947	204
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			83		22	95
cM capacity (veh/h)			1224		242	829

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	335	536	232
Volume Left	0	207	189
Volume Right	262	0	43
cSH	1700	1224	278
Volume to Capacity	0.20	0.17	0.83
Queue Length 95th (m)	0.0	4.9	55.0
Control Delay (s)	0.0	4.4	59.5
Lane LOS		A	F
Approach Delay (s)	0.0	4.4	59.5
Approach LOS			F

Intersection Summary			
Average Delay	14.7		
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1165	225	40	950	35	230	115	60	110	230	25
Future Volume (vph)	25	1165	225	40	950	35	230	115	60	110	230	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00				1.00		1.00	0.99		1.00		0.98
Frt		0.976			0.995			0.949				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	3383	0	1752	3451	0	1736	1780	0	1703	1881	1553
Flt Permitted	0.203			0.089			0.487			0.573		
Satd. Flow (perm)	353	3383	0	164	3451	0	887	1780	0	1023	1881	1526
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		39			6			27				32
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			116.5	
Travel Time (s)		43.9			11.1			15.4			8.4	
Confl. Peds. (#/hr)	5					5	5		5	5		5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Adj. Flow (vph)	27	1266	245	43	1033	38	250	125	65	120	250	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	1511	0	43	1071	0	250	190	0	120	250	27
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	54.6	54.6		54.6	54.6		30.0	30.0		30.0	30.0	30.0
Actuated g/C Ratio	0.58	0.58		0.58	0.58		0.32	0.32		0.32	0.32	0.32
v/c Ratio	0.13	0.76		0.46	0.53		0.89	0.32		0.37	0.42	0.05
Control Delay	11.1	17.7		30.2	13.2		64.8	23.6		30.2	28.8	7.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.7	0.0
Total Delay	11.1	17.7		30.2	13.2		64.8	23.6		30.2	29.5	7.7
LOS	B	B		C	B		E	C		C	C	A
Approach Delay		17.6			13.8			47.0			28.2	
Approach LOS		B			B			D			C	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 94.1
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 21.3 Intersection LOS: C
Intersection Capacity Utilization 77.4% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 16: Chartwell Rd & Cornwall Rd

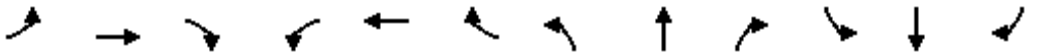




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	27	1511	43	1071	250	190	120	250	27
v/c Ratio	0.13	0.76	0.46	0.53	0.89	0.32	0.37	0.42	0.05
Control Delay	11.1	17.7	30.2	13.2	64.8	23.6	30.2	28.8	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0
Total Delay	11.1	17.7	30.2	13.2	64.8	23.6	30.2	29.5	7.7
Queue Length 50th (m)	2.3	108.1	4.5	63.0	48.4	25.0	18.9	40.0	0.0
Queue Length 95th (m)	6.8	136.8	#18.5	80.1	#96.2	43.8	35.6	62.9	5.4
Internal Link Dist (m)		585.1		130.4		189.6		92.5	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	224	2166	104	2197	300	621	347	637	538
Starvation Cap Reductn	0	0	0	0	0	0	0	165	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.70	0.41	0.49	0.83	0.31	0.35	0.53	0.05

Intersection Summary

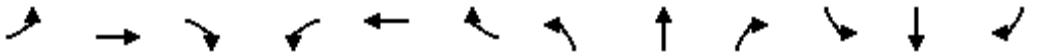
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	1165	225	40	950	35	230	115	60	110	230	25
Future Volume (vph)	25	1165	225	40	950	35	230	115	60	110	230	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1653	3381		1752	3450		1730	1780		1696	1881	1526
Flt Permitted	0.20	1.00		0.09	1.00		0.49	1.00		0.57	1.00	1.00
Satd. Flow (perm)	354	3381		164	3450		886	1780		1023	1881	1526
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	1266	245	43	1033	38	250	125	65	120	250	27
RTOR Reduction (vph)	0	16	0	0	3	0	0	18	0	0	0	18
Lane Group Flow (vph)	27	1495	0	43	1068	0	250	172	0	120	250	9
Confl. Peds. (#/hr)	5					5	5		5	5		5
Heavy Vehicles (%)	9%	4%	5%	3%	4%	3%	4%	0%	2%	6%	1%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	53.6	53.6		53.6	53.6		29.0	29.0		29.0	29.0	29.0
Effective Green, g (s)	54.6	54.6		54.6	54.6		30.0	30.0		30.0	30.0	30.0
Actuated g/C Ratio	0.58	0.58		0.58	0.58		0.32	0.32		0.32	0.32	0.32
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	205	1963		95	2003		282	568		326	600	487
v/s Ratio Prot		c0.44			0.31			0.10			0.13	
v/s Ratio Perm	0.08			0.26			c0.28			0.12		0.01
v/c Ratio	0.13	0.76		0.45	0.53		0.89	0.30		0.37	0.42	0.02
Uniform Delay, d1	8.9	14.8		11.2	12.0		30.4	24.1		24.7	25.1	21.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.7	2.2		8.2	0.6		27.1	0.4		1.0	0.6	0.0
Delay (s)	9.7	17.0		19.4	12.5		57.5	24.5		25.6	25.8	21.9
Level of Service	A	B		B	B		E	C		C	C	C
Approach Delay (s)		16.9			12.8			43.3			25.5	
Approach LOS		B			B			D			C	

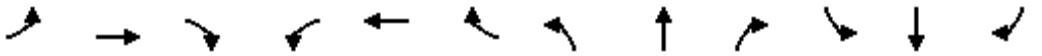
Intersection Summary			
HCM 2000 Control Delay	19.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	94.0	Sum of lost time (s)	9.4
Intersection Capacity Utilization	77.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1965	20	0	1180	65	0	0	20	0	0	50
Future Volume (vph)	0	1965	20	0	1180	65	0	0	20	0	0	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.998			0.992				0.865			0.865
Flt Protected												
Satd. Flow (prot)	0	3369	0	0	3419	0	0	0	1644	0	0	1644
Flt Permitted												
Satd. Flow (perm)	0	3369	0	0	3419	0	0	0	1644	0	0	1644
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		104.6			121.1			111.1			94.6	
Travel Time (s)		7.5			8.7			8.0			6.8	
Confl. Peds. (#/hr)	15		10	10		15	5		5	5		5
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	7%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	2047	21	0	1229	68	0	0	21	0	0	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2068	0	0	1297	0	0	0	21	0	0	52
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 66.5%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1965	20	0	1180	65	0	0	20	0	0	50
Future Volume (Veh/h)	0	1965	20	0	1180	65	0	0	20	0	0	50
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	2047	21	0	1229	68	0	0	21	0	0	52
Pedestrians		5			5			10			15	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		105			121							
pX, platoon unblocked	0.93			0.62			0.66	0.66	0.62	0.66	0.66	0.93
vC, conflicting volume	1312			2078			2739	3380	1049	2328	3356	668
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1192			1522			2150	3125	0	1523	3089	503
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	97	100	100	89
cM capacity (veh/h)	546			275			16	7	672	51	8	477

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	1365	703	819	478	21	52
Volume Left	0	0	0	0	0	0
Volume Right	0	21	0	68	21	52
cSH	1700	1700	1700	1700	672	477
Volume to Capacity	0.80	0.41	0.48	0.28	0.03	0.11
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.8	2.9
Control Delay (s)	0.0	0.0	0.0	0.0	10.5	13.5
Lane LOS					B	B
Approach Delay (s)	0.0		0.0		10.5	13.5
Approach LOS					B	B

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	66.5%	ICU Level of Service	C	
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	125	0	180	40	0	15
Future Volume (vph)	125	0	180	40	0	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.961		
Satd. Flow (prot)	1863	0	0	1790	1611	0
Flt Permitted				0.961		
Satd. Flow (perm)	1863	0	0	1790	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	54.4			96.4	88.6	
Travel Time (s)	3.9			6.9	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	136	0	196	43	0	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	136	0	0	239	16	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

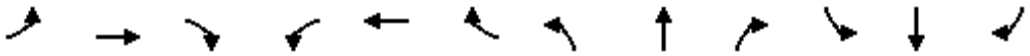
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	125	0	180	40	0	15
Future Volume (Veh/h)	125	0	180	40	0	15
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	136	0	196	43	0	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				318		
pX, platoon unblocked						
vC, conflicting volume			136		571	136
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			136		571	136
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			86		100	98
cM capacity (veh/h)			1448		417	913

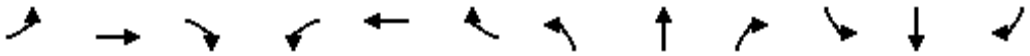
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	136	239	16
Volume Left	0	196	0
Volume Right	0	0	16
cSH	1700	1448	913
Volume to Capacity	0.08	0.14	0.02
Queue Length 95th (m)	0.0	3.7	0.4
Control Delay (s)	0.0	6.7	9.0
Lane LOS		A	A
Approach Delay (s)	0.0	6.7	9.0
Approach LOS			A

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	32.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	5	105	15	15	0	0	45	10	140	350	0
Future Volume (vph)	0	5	105	15	15	0	0	45	10	140	350	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.871						0.975				
Flt Protected					0.976						0.986	
Satd. Flow (prot)	0	1622	0	0	1818	0	0	1816	0	0	1837	0
Flt Permitted					0.976						0.986	
Satd. Flow (perm)	0	1622	0	0	1818	0	0	1816	0	0	1837	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		48.4			110.3			49.4			89.5	
Travel Time (s)		3.5			7.9			3.6			6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	5	114	16	16	0	0	49	11	152	380	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	119	0	0	32	0	0	60	0	0	532	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	5	105	15	15	0	0	45	10	140	350	0
Future Volume (vph)	0	5	105	15	15	0	0	45	10	140	350	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	5	114	16	16	0	0	49	11	152	380	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	119	32	60	532
Volume Left (vph)	0	16	0	152
Volume Right (vph)	114	0	11	0
Hadj (s)	-0.54	0.13	-0.08	0.09
Departure Headway (s)	4.8	5.6	4.8	4.5
Degree Utilization, x	0.16	0.05	0.08	0.66
Capacity (veh/h)	670	565	698	788
Control Delay (s)	8.7	8.9	8.2	15.6
Approach Delay (s)	8.7	8.9	8.2	15.6
Approach LOS	A	A	A	C

Intersection Summary				
Delay	13.6			
Level of Service	B			
Intersection Capacity Utilization	47.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	15	140	965	25	0	20
Future Volume (vph)	15	140	965	25	0	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.878					0.850
Flt Protected				0.954		
Satd. Flow (prot)	1635	0	0	1777	1863	1583
Flt Permitted				0.954		
Satd. Flow (perm)	1635	0	0	1777	1863	1583
Link Speed (k/h)	50			50	50	
Link Distance (m)	110.3			98.9	123.1	
Travel Time (s)	7.9			7.1	8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	152	1049	27	0	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	168	0	0	1076	0	22
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 70.9%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	15	140	965	25	0	20
Future Volume (Veh/h)	15	140	965	25	0	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	152	1049	27	0	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				147		
pX, platoon unblocked					0.83	
vC, conflicting volume			168		2217	92
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			168		2361	92
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			26		100	98
cM capacity (veh/h)			1410		8	965

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	168	1076	0	22
Volume Left	0	1049	0	0
Volume Right	152	0	0	22
cSH	1700	1410	1700	965
Volume to Capacity	0.10	0.74	0.00	0.02
Queue Length 95th (m)	0.0	59.9	0.0	0.6
Control Delay (s)	0.0	14.5	0.0	8.8
Lane LOS		B	A	A
Approach Delay (s)	0.0	14.5	8.8	
Approach LOS			A	

Intersection Summary			
Average Delay	12.4		
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	0	15	0	0	120
Future Volume (vph)	0	0	15	0	0	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.950		
Satd. Flow (prot)	1863	0	0	1770	1611	0
Flt Permitted				0.950		
Satd. Flow (perm)	1863	0	0	1770	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	39.6			48.4	40.7	
Travel Time (s)	2.9			3.5	2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	16	0	0	130
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	16	130	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

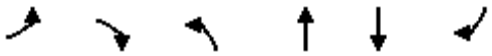
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 17.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	15	0	0	120
Future Volume (Veh/h)	0	0	15	0	0	120
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	16	0	0	130
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			0		32	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		32	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	88
cM capacity (veh/h)			1623		972	1085

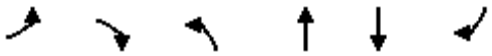
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	0	16	130
Volume Left	0	16	0
Volume Right	0	0	130
cSH	1700	1623	1085
Volume to Capacity	0.00	0.01	0.12
Queue Length 95th (m)	0.0	0.2	3.3
Control Delay (s)	0.0	7.2	8.8
Lane LOS		A	A
Approach Delay (s)	0.0	7.2	8.8
Approach LOS			A

Intersection Summary			
Average Delay	8.6		
Intersection Capacity Utilization	17.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	105	30	50	455	15
Future Volume (vph)	5	105	30	50	455	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.871				0.996	
Flt Protected	0.998			0.981		
Satd. Flow (prot)	1619	0	0	1827	1855	0
Flt Permitted	0.998			0.981		
Satd. Flow (perm)	1619	0	0	1827	1855	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	28.2			76.3	49.4	
Travel Time (s)	2.0			5.5	3.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	114	33	54	495	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	119	0	0	87	511	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 42.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	105	30	50	455	15
Future Volume (Veh/h)	5	105	30	50	455	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	114	33	54	495	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				76		
pX, platoon unblocked						
vC, conflicting volume	623	503	511			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	623	503	511			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	80	97			
cM capacity (veh/h)	436	569	1054			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	119	87	511
Volume Left	5	33	0
Volume Right	114	0	16
cSH	561	1054	1700
Volume to Capacity	0.21	0.03	0.30
Queue Length 95th (m)	6.4	0.8	0.0
Control Delay (s)	13.1	3.4	0.0
Lane LOS	B	A	
Approach Delay (s)	13.1	3.4	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	115	0	15	25	0	10
Future Volume (vph)	115	0	15	25	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.982		
Satd. Flow (prot)	1863	0	0	1829	1611	0
Flt Permitted				0.982		
Satd. Flow (perm)	1863	0	0	1829	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	51.2			54.4	40.3	
Travel Time (s)	3.7			3.9	2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	0	16	27	0	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	125	0	0	43	11	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	115	0	15	25	0	10
Future Volume (Veh/h)	115	0	15	25	0	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	125	0	16	27	0	11
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				372		
pX, platoon unblocked						
vC, conflicting volume			125		184	125
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			125		184	125
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	99
cM capacity (veh/h)			1462		796	926

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	125	43	11
Volume Left	0	16	0
Volume Right	0	0	11
cSH	1700	1462	926
Volume to Capacity	0.07	0.01	0.01
Queue Length 95th (m)	0.0	0.3	0.3
Control Delay (s)	0.0	2.8	8.9
Lane LOS		A	A
Approach Delay (s)	0.0	2.8	8.9
Approach LOS			A

Intersection Summary			
Average Delay		1.2	
Intersection Capacity Utilization		18.8%	ICU Level of Service
Analysis Period (min)		15	

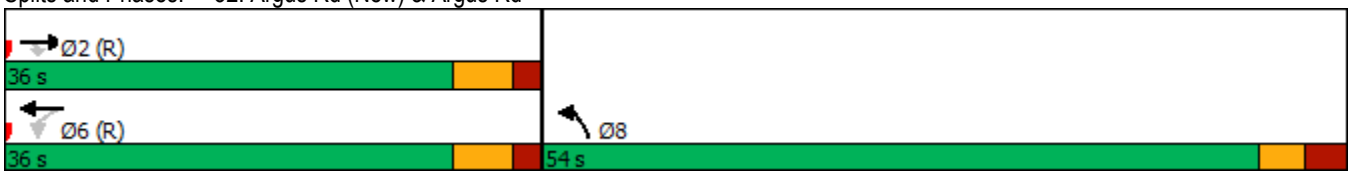


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	80	145	0	70	675	0
Future Volume (vph)	80	145	0	70	675	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		50.0	0.0		0.0	0.0
Storage Lanes		1	0		1	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected					0.950	
Satd. Flow (prot)	1863	1583	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1863	1583	0	1863	1770	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		158				
Link Speed (k/h)	50			50	50	
Link Distance (m)	119.5			170.6	100.6	
Travel Time (s)	8.6			12.3	7.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	158	0	76	734	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	87	158	0	76	734	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Number of Detectors	2	1	1	2	1	
Detector Template	Thru	Right	Left	Thru	Left	
Leading Detector (m)	10.0	2.0	2.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	0.6	2.0	2.0	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)	9.4			9.4		
Detector 2 Size(m)	0.6			0.6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			6	8	
Permitted Phases		2	6			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2	2	6	6	8	
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	27.0	27.0	27.0	27.0	27.0	
Total Split (s)	36.0	36.0	36.0	36.0	54.0	
Total Split (%)	40.0%	40.0%	40.0%	40.0%	60.0%	
Maximum Green (s)	30.0	30.0	30.0	30.0	48.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	13.0	13.0	13.0	13.0	13.0	
Pedestrian Calls (#/hr)	5	5	5	5	5	
Act Effct Green (s)	36.3	36.3		36.3	43.7	
Actuated g/C Ratio	0.40	0.40		0.40	0.49	
v/c Ratio	0.12	0.22		0.10	0.85	
Control Delay	21.5	10.1		9.8	30.8	
Queue Delay	0.0	0.0		0.0	3.8	
Total Delay	21.5	10.1		9.8	34.7	
LOS	C	B		A	C	
Approach Delay	14.1			9.8	34.7	
Approach LOS	B			A	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 28.1		Intersection LOS: C	
Intersection Capacity Utilization 54.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 32: Argus Rd (New) & Argus Rd





Lane Group	EBT	EBR	WBT	NBL
Lane Group Flow (vph)	87	158	76	734
v/c Ratio	0.12	0.22	0.10	0.85
Control Delay	21.5	10.1	9.8	30.8
Queue Delay	0.0	0.0	0.0	3.8
Total Delay	21.5	10.1	9.8	34.7
Queue Length 50th (m)	13.4	0.0	3.8	106.6
Queue Length 95th (m)	27.7	21.7	3.9	152.2
Internal Link Dist (m)	95.5		146.6	76.6
Turn Bay Length (m)		50.0		
Base Capacity (vph)	750	732	750	963
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	3	152
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.12	0.22	0.10	0.91

Intersection Summary



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	80	145	0	70	675	0
Future Volume (vph)	80	145	0	70	675	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	1.00	1.00		1.00	0.95	
Satd. Flow (prot)	1863	1583		1863	1770	
Flt Permitted	1.00	1.00		1.00	0.95	
Satd. Flow (perm)	1863	1583		1863	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	158	0	76	734	0
RTOR Reduction (vph)	0	94	0	0	0	0
Lane Group Flow (vph)	87	64	0	76	734	0
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			6	8	
Permitted Phases		2	6			
Actuated Green, G (s)	35.3	35.3		35.3	42.7	
Effective Green, g (s)	36.3	36.3		36.3	43.7	
Actuated g/C Ratio	0.40	0.40		0.40	0.49	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	751	638		751	859	
v/s Ratio Prot	c0.05			0.04	c0.41	
v/s Ratio Perm		0.04				
v/c Ratio	0.12	0.10		0.10	0.85	
Uniform Delay, d1	16.8	16.7		16.7	20.4	
Progression Factor	1.11	2.59		0.50	1.00	
Incremental Delay, d2	0.3	0.3		0.3	8.3	
Delay (s)	19.0	43.6		8.6	28.7	
Level of Service	B	D		A	C	
Approach Delay (s)	34.9			8.6	28.7	
Approach LOS	C			A	C	

Intersection Summary			
HCM 2000 Control Delay	28.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	280	0	15	345	0	105
Future Volume (vph)	280	0	15	345	0	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.998		
Satd. Flow (prot)	1863	0	0	1859	1611	0
Flt Permitted				0.998		
Satd. Flow (perm)	1863	0	0	1859	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	114.5			296.0	104.6	
Travel Time (s)	8.2			21.3	7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	304	0	16	375	0	114
Shared Lane Traffic (%)						
Lane Group Flow (vph)	304	0	0	391	114	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.5%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	280	0	15	345	0	105
Future Volume (Veh/h)	280	0	15	345	0	105
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	304	0	16	375	0	114
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	402					
pX, platoon unblocked			0.91		0.91	0.91
vC, conflicting volume			304		711	304
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			180		629	180
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	85
cM capacity (veh/h)			1264		399	782

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	304	391	114
Volume Left	0	16	0
Volume Right	0	0	114
cSH	1700	1264	782
Volume to Capacity	0.18	0.01	0.15
Queue Length 95th (m)	0.0	0.3	4.1
Control Delay (s)	0.0	0.4	10.4
Lane LOS		A	B
Approach Delay (s)	0.0	0.4	10.4
Approach LOS			B

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	385	0	15	360	0	0
Future Volume (vph)	385	0	15	360	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected				0.998		
Satd. Flow (prot)	1863	0	0	1859	1863	0
Flt Permitted				0.998		
Satd. Flow (perm)	1863	0	0	1859	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	296.0			252.8	95.7	
Travel Time (s)	21.3			18.2	6.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	418	0	16	391	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	418	0	0	407	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

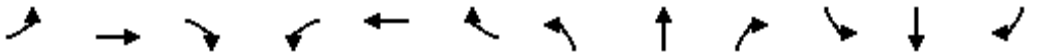
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	385	0	15	360	0	0
Future Volume (Veh/h)	385	0	15	360	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	418	0	16	391	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			418		841	418
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			418		841	418
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	100
cM capacity (veh/h)			1141		330	635

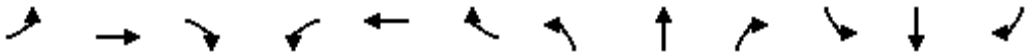
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	418	407	0
Volume Left	0	16	0
Volume Right	0	0	0
cSH	1700	1141	1700
Volume to Capacity	0.25	0.01	0.00
Queue Length 95th (m)	0.0	0.3	0.0
Control Delay (s)	0.0	0.5	0.0
Lane LOS		A	A
Approach Delay (s)	0.0	0.5	0.0
Approach LOS			A

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		34.4%	ICU Level of Service A
Analysis Period (min)		15	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	80	0	5	105	5	0	20	25	55	65	35
Future Volume (vph)	0	80	0	5	105	5	0	20	25	55	65	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.995			0.926			0.970	
Flt Protected					0.998						0.983	
Satd. Flow (prot)	0	1863	0	0	1850	0	0	1725	0	0	1776	0
Flt Permitted					0.998						0.983	
Satd. Flow (perm)	0	1863	0	0	1850	0	0	1725	0	0	1776	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		110.1			109.7			90.9			84.0	
Travel Time (s)		7.9			7.9			6.5			6.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	87	0	5	114	5	0	22	27	60	71	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	87	0	0	124	0	0	49	0	0	169	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Free			Free			Stop			Stop	

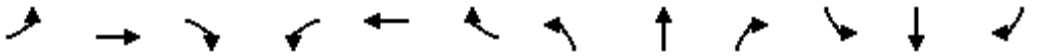
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	80	0	5	105	5	0	20	25	55	65	35
Future Volume (Veh/h)	0	80	0	5	105	5	0	20	25	55	65	35
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	87	0	5	114	5	0	22	27	60	71	38
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		313			152							
pX, platoon unblocked												
vC, conflicting volume	119			87			287	216	87	252	214	116
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	119			87			287	216	87	252	214	116
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	97	97	91	90	96
cM capacity (veh/h)	1469			1509			586	680	971	664	682	936

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	87	124	49	169
Volume Left	0	5	0	60
Volume Right	0	5	27	38
cSH	1469	1509	814	719
Volume to Capacity	0.00	0.00	0.06	0.24
Queue Length 95th (m)	0.0	0.1	1.5	7.3
Control Delay (s)	0.0	0.3	9.7	11.5
Lane LOS		A	A	B
Approach Delay (s)	0.0	0.3	9.7	11.5
Approach LOS			A	B

Intersection Summary				
Average Delay	5.7			
Intersection Capacity Utilization	31.8%	ICU Level of Service	A	
Analysis Period (min)	15			



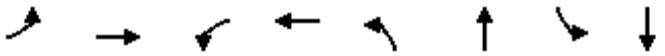
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	0	125	70	0	125	20	315	5	30	5	100
Future Volume (vph)	180	0	125	70	0	125	20	315	5	30	5	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.850			0.850			0.998			0.857	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1583	0	1770	1583	0	1770	3532	0	1770	3033	0
Flt Permitted	0.633			0.670			0.680			0.434		
Satd. Flow (perm)	1179	1583	0	1248	1583	0	1267	3532	0	808	3033	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1023			352			2			109	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		42.8			39.5			174.5			288.2	
Travel Time (s)		3.1			2.8			12.6			20.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	0	136	76	0	136	22	342	5	33	5	109
Shared Lane Traffic (%)												
Lane Group Flow (vph)	196	136	0	76	136	0	22	347	0	33	114	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		5.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	9.0	33.0		9.0	33.0		26.0	26.0		26.0	26.0	
Total Split (s)	17.0	46.0		11.0	40.0		33.0	33.0		33.0	33.0	
Total Split (%)	18.9%	51.1%		12.2%	44.4%		36.7%	36.7%		36.7%	36.7%	
Maximum Green (s)	13.0	40.0		7.0	34.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		20.0			20.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)		20			20		20	20		20	20	
Act Effct Green (s)	65.0	54.9		60.6	50.9		16.4	16.4		16.4	16.4	
Actuated g/C Ratio	0.72	0.61		0.67	0.57		0.18	0.18		0.18	0.18	
v/c Ratio	0.21	0.10		0.09	0.13		0.10	0.54		0.23	0.18	
Control Delay	6.1	0.1		5.0	0.3		19.0	23.7		33.4	7.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	6.1	0.1		5.0	0.3		19.0	23.7		33.4	7.2	
LOS	A	A		A	A		B	C		C	A	
Approach Delay		3.7			2.0			23.4			13.1	
Approach LOS		A			A			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 11.5		Intersection LOS: B	
Intersection Capacity Utilization 59.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 39: New N-S Arterial St & Davis Rd

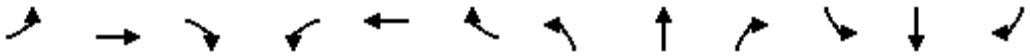




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	196	136	76	136	22	347	33	114
v/c Ratio	0.21	0.10	0.09	0.13	0.10	0.54	0.23	0.18
Control Delay	6.1	0.1	5.0	0.3	19.0	23.7	33.4	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.1	0.1	5.0	0.3	19.0	23.7	33.4	7.2
Queue Length 50th (m)	10.8	0.0	3.1	0.0	3.7	33.3	5.3	0.4
Queue Length 95th (m)	22.2	0.0	8.9	0.0	m7.0	48.3	13.2	7.1
Internal Link Dist (m)		18.8		15.5		150.5		264.2
Turn Bay Length (m)	30.0		30.0		30.0		30.0	
Base Capacity (vph)	952	1364	896	1048	394	1100	251	1018
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.10	0.08	0.13	0.06	0.32	0.13	0.11

Intersection Summary

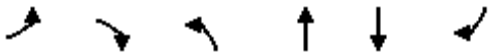
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	0	125	70	0	125	20	315	5	30	5	100
Future Volume (vph)	180	0	125	70	0	125	20	315	5	30	5	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.85		1.00	1.00		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1583		1770	1583		1770	3532		1770	3032	
Flt Permitted	0.63	1.00		0.67	1.00		0.68	1.00		0.43	1.00	
Satd. Flow (perm)	1179	1583		1248	1583		1266	3532		808	3032	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	0	136	76	0	136	22	342	5	33	5	109
RTOR Reduction (vph)	0	54	0	0	59	0	0	2	0	0	89	0
Lane Group Flow (vph)	196	82	0	76	77	0	22	345	0	33	25	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	61.7	53.0		55.5	49.9		15.4	15.4		15.4	15.4	
Effective Green, g (s)	63.6	54.0		57.5	50.9		16.4	16.4		16.4	16.4	
Actuated g/C Ratio	0.71	0.60		0.64	0.57		0.18	0.18		0.18	0.18	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	896	949		835	895		230	643		147	552	
v/s Ratio Prot	c0.02	0.05		0.01	0.05			c0.10			0.01	
v/s Ratio Perm	c0.13			0.05			0.02			0.04		
v/c Ratio	0.22	0.09		0.09	0.09		0.10	0.54		0.22	0.05	
Uniform Delay, d1	4.4	7.6		6.1	8.9		30.6	33.4		31.4	30.3	
Progression Factor	1.28	1.00		1.07	1.00		0.64	0.64		1.00	1.00	
Incremental Delay, d2	0.1	0.2		0.0	0.2		0.2	0.7		0.8	0.0	
Delay (s)	5.8	7.8		6.6	9.1		19.8	22.2		32.2	30.4	
Level of Service	A	A		A	A		B	C		C	C	
Approach Delay (s)		6.6			8.2			22.1			30.8	
Approach LOS		A			A			C			C	

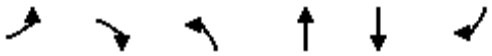
Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	140	30	15	160	0
Future Volume (vph)	0	140	30	15	160	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0	0.0	0.0			0.0
Storage Lanes	0	0	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.967		
Satd. Flow (prot)	1611	0	0	1801	1863	0
Flt Permitted				0.967		
Satd. Flow (perm)	1611	0	0	1801	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	91.1			89.3	87.0	
Travel Time (s)	6.6			6.4	6.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	152	33	16	174	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	0	0	49	174	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

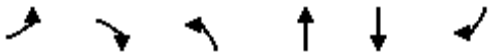
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	140	30	15	160	0
Future Volume (Veh/h)	0	140	30	15	160	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	152	33	16	174	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	256	174	174			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	256	174	174			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	83	98			
cM capacity (veh/h)	715	869	1403			

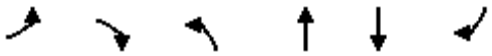
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	152	49	174
Volume Left	0	33	0
Volume Right	152	0	0
cSH	869	1403	1700
Volume to Capacity	0.17	0.02	0.10
Queue Length 95th (m)	5.0	0.6	0.0
Control Delay (s)	10.0	5.2	0.0
Lane LOS	B	A	
Approach Delay (s)	10.0	5.2	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	30.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	60	50	30	30	0	20
Future Volume (vph)	60	50	30	30	0	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.939				0.865	
Flt Protected	0.973			0.976		
Satd. Flow (prot)	1702	0	0	1818	1611	0
Flt Permitted	0.973			0.976		
Satd. Flow (perm)	1702	0	0	1818	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	46.3			94.6	83.7	
Travel Time (s)	3.3			6.8	6.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	54	33	33	0	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	119	0	0	66	22	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

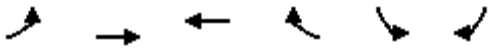
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	60	50	30	30	0	20
Future Volume (Veh/h)	60	50	30	30	0	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	54	33	33	0	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)					84	
pX, platoon unblocked						
vC, conflicting volume	110	11	22			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	110	11	22			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	95	98			
cM capacity (veh/h)	869	1070	1593			

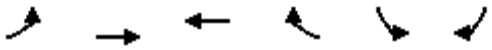
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	119	66	22
Volume Left	65	33	0
Volume Right	54	0	22
cSH	950	1593	1700
Volume to Capacity	0.13	0.02	0.01
Queue Length 95th (m)	3.4	0.5	0.0
Control Delay (s)	9.3	3.7	0.0
Lane LOS	A	A	
Approach Delay (s)	9.3	3.7	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	6.6		
Intersection Capacity Utilization	23.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	365	720	120	0	0	490
Future Volume (vph)	365	720	120	0	0	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	75.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt					0.865	
Flt Protected	0.950					
Satd. Flow (prot)	1770	3539	3539	0	1611	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	3539	3539	0	1611	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		182.4	224.2		204.3	
Travel Time (s)		13.1	16.1		14.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	397	783	130	0	0	533
Shared Lane Traffic (%)						
Lane Group Flow (vph)	397	783	130	0	533	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

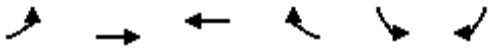
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.9%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	365	720	120	0	0	490
Future Volume (Veh/h)	365	720	120	0	0	490
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	397	783	130	0	0	533
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		182				
pX, platoon unblocked					0.85	
vC, conflicting volume	130				1316	65
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	130				1024	65
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	73				100	46
cM capacity (veh/h)	1453				143	986

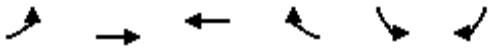
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	397	392	392	87	43	533
Volume Left	397	0	0	0	0	0
Volume Right	0	0	0	0	0	533
cSH	1453	1700	1700	1700	1700	986
Volume to Capacity	0.27	0.23	0.23	0.05	0.03	0.54
Queue Length 95th (m)	8.9	0.0	0.0	0.0	0.0	26.7
Control Delay (s)	8.4	0.0	0.0	0.0	0.0	12.9
Lane LOS	A					B
Approach Delay (s)	2.8			0.0		12.9
Approach LOS						B

Intersection Summary				
Average Delay	5.5			
Intersection Capacity Utilization	63.9%	ICU Level of Service		B
Analysis Period (min)	15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	720	110	55	175	10
Future Volume (vph)	0	720	110	55	175	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0			0.0	30.0	0.0
Storage Lanes	1			0	1	1
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.950			0.850
Flt Protected					0.950	
Satd. Flow (prot)	1863	3539	3362	0	1770	1583
Flt Permitted					0.950	
Satd. Flow (perm)	1863	3539	3362	0	1770	1583
Link Speed (k/h)		50	50		50	
Link Distance (m)		111.2	141.0		85.9	
Travel Time (s)		8.0	10.2		6.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	783	120	60	190	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	783	180	0	190	11
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

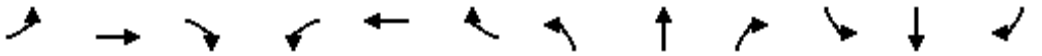
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	720	110	55	175	10
Future Volume (Veh/h)	0	720	110	55	175	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	783	120	60	190	11
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			141			
pX, platoon unblocked						
vC, conflicting volume	180				542	90
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	180				542	90
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				60	99
cM capacity (veh/h)	1393				471	950

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	0	392	392	80	100	190	11
Volume Left	0	0	0	0	0	190	0
Volume Right	0	0	0	0	60	0	11
cSH	1700	1700	1700	1700	1700	471	950
Volume to Capacity	0.00	0.23	0.23	0.05	0.06	0.40	0.01
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	15.4	0.3
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	17.7	8.8
Lane LOS						C	A
Approach Delay (s)	0.0			0.0		17.2	
Approach LOS						C	

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	36.3%	ICU Level of Service	A
Analysis Period (min)	15		

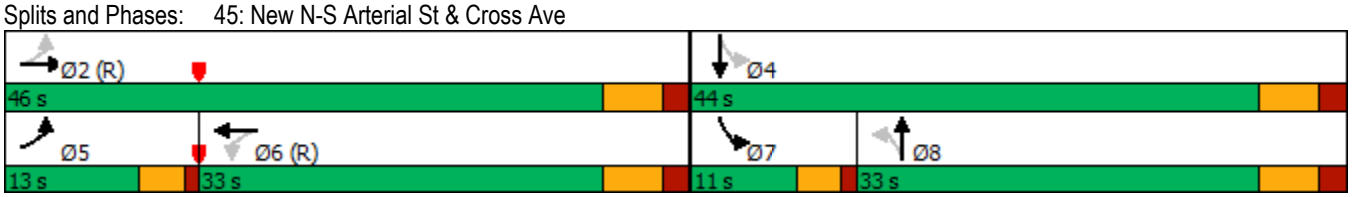


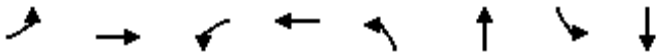
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	285	605	15	70	145	50	15	5	15	145	45	5
Future Volume (vph)	285	605	15	70	145	50	15	5	15	145	45	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	100.0		0.0	30.0		0.0	30.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.996			0.962			0.886			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3525	0	1770	3405	0	1770	1650	0	1770	3490	0
Flt Permitted	0.550			0.395			0.720			0.676		
Satd. Flow (perm)	1025	3525	0	736	3405	0	1341	1650	0	1259	3490	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			54			16			5	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		141.0			127.5			75.5			174.5	
Travel Time (s)		10.2			9.2			5.4			12.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	310	658	16	76	158	54	16	5	16	158	49	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	310	674	0	76	212	0	16	21	0	158	54	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	25		100
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2			6			8		7	4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		6	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		20.0	20.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	9.0	33.0		33.0	33.0		33.0	33.0		9.0	33.0	
Total Split (s)	13.0	46.0		33.0	33.0		33.0	33.0		11.0	44.0	
Total Split (%)	14.4%	51.1%		36.7%	36.7%		36.7%	36.7%		12.2%	48.9%	
Maximum Green (s)	9.0	40.0		27.0	27.0		27.0	27.0		7.0	38.0	
Yellow Time (s)	3.0	4.0		4.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		2.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	5.0		5.0	5.0		5.0	5.0		3.0	5.0	
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		C-Min	C-Min		Max	Max		None	None	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)		20.0		20.0	20.0		20.0	20.0			20.0	
Pedestrian Calls (#/hr)		20		20	20		20	20			20	
Act Effct Green (s)	38.8	36.8		23.8	23.8		29.9	29.9		45.2	43.2	
Actuated g/C Ratio	0.43	0.41		0.26	0.26		0.33	0.33		0.50	0.48	
v/c Ratio	0.59	0.47		0.39	0.23		0.04	0.04		0.23	0.03	
Control Delay	22.5	20.2		32.1	18.3		21.9	12.2		14.8	15.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	22.5	20.2		32.1	18.3		21.9	12.2		14.8	15.3	
LOS	C	C		C	B		C	B		B	B	
Approach Delay		20.9			21.9			16.4			15.0	
Approach LOS		C			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 20.2		Intersection LOS: C	
Intersection Capacity Utilization 61.1%		ICU Level of Service B	
Analysis Period (min) 15			

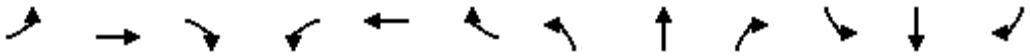
Splits and Phases: 45: New N-S Arterial St & Cross Ave





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	310	674	76	212	16	21	158	54
v/c Ratio	0.59	0.47	0.39	0.23	0.04	0.04	0.23	0.03
Control Delay	22.5	20.2	32.1	18.3	21.9	12.2	14.8	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.5	20.2	32.1	18.3	21.9	12.2	14.8	15.3
Queue Length 50th (m)	40.1	48.4	9.8	9.6	2.0	0.6	13.8	2.2
Queue Length 95th (m)	54.0	56.1	22.4	19.5	6.8	5.9	28.9	7.2
Internal Link Dist (m)		117.0		103.5		51.5		150.5
Turn Bay Length (m)	100.0		30.0		30.0		40.0	
Base Capacity (vph)	524	1607	228	1096	445	558	690	1678
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.42	0.33	0.19	0.04	0.04	0.23	0.03

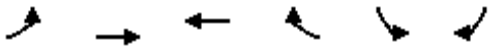
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	285	605	15	70	145	50	15	5	15	145	45	5
Future Volume (vph)	285	605	15	70	145	50	15	5	15	145	45	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.0		5.0	5.0		5.0	5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	0.95	
Frt	1.00	1.00		1.00	0.96		1.00	0.89		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3527		1770	3404		1770	1650		1770	3490	
Flt Permitted	0.55	1.00		0.40	1.00		0.72	1.00		0.68	1.00	
Satd. Flow (perm)	1024	3527		737	3404		1341	1650		1259	3490	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	310	658	16	76	158	54	16	5	16	158	49	5
RTOR Reduction (vph)	0	2	0	0	40	0	0	11	0	0	3	0
Lane Group Flow (vph)	310	672	0	76	172	0	16	10	0	158	51	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2			6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.8	35.8		22.8	22.8		28.9	28.9		42.2	42.2	
Effective Green, g (s)	36.8	36.8		23.8	23.8		29.9	29.9		43.2	43.2	
Actuated g/C Ratio	0.41	0.41		0.26	0.26		0.33	0.33		0.48	0.48	
Clearance Time (s)	4.0	6.0		6.0	6.0		6.0	6.0		4.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	501	1442		194	900		445	548		662	1675	
v/s Ratio Prot	c0.07	0.19			0.05			0.01		c0.03	0.01	
v/s Ratio Perm	c0.18			0.10			0.01			c0.09		
v/c Ratio	0.62	0.47		0.39	0.19		0.04	0.02		0.24	0.03	
Uniform Delay, d1	19.4	19.4		27.2	25.6		20.3	20.2		13.4	12.3	
Progression Factor	1.00	1.00		0.97	0.96		1.00	1.00		1.05	1.20	
Incremental Delay, d2	2.3	1.1		5.8	0.5		0.2	0.1		0.2	0.0	
Delay (s)	21.7	20.5		32.3	25.1		20.5	20.3		14.3	14.8	
Level of Service	C	C		C	C		C	C		B	B	
Approach Delay (s)		20.9			27.0			20.3			14.5	
Approach LOS		C			C			C			B	

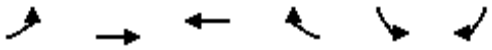
Intersection Summary			
HCM 2000 Control Delay	21.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	15	745	130	45	265	135
Future Volume (vph)	15	745	130	45	265	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0			0.0	30.0	0.0
Storage Lanes	0			0	1	1
Taper Length (m)	7.5				7.5	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.961			0.850
Flt Protected		0.999			0.950	
Satd. Flow (prot)	0	3536	3401	0	1770	1583
Flt Permitted		0.999			0.950	
Satd. Flow (perm)	0	3536	3401	0	1770	1583
Link Speed (k/h)		50	50		50	
Link Distance (m)		127.5	245.4		81.5	
Travel Time (s)		9.2	17.7		5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	810	141	49	288	147
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	826	190	0	288	147
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 50.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	745	130	45	265	135
Future Volume (Veh/h)	15	745	130	45	265	135
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	810	141	49	288	147
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		127	245			
pX, platoon unblocked					0.87	
vC, conflicting volume	190				602	95
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	190				231	95
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				54	84
cM capacity (veh/h)	1381				630	943

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	286	540	94	96	288	147
Volume Left	16	0	0	0	288	0
Volume Right	0	0	0	49	0	147
cSH	1381	1700	1700	1700	630	943
Volume to Capacity	0.01	0.32	0.06	0.06	0.46	0.16
Queue Length 95th (m)	0.3	0.0	0.0	0.0	19.1	4.4
Control Delay (s)	0.5	0.0	0.0	0.0	15.4	9.5
Lane LOS	A				C	A
Approach Delay (s)	0.2		0.0		13.4	
Approach LOS					B	

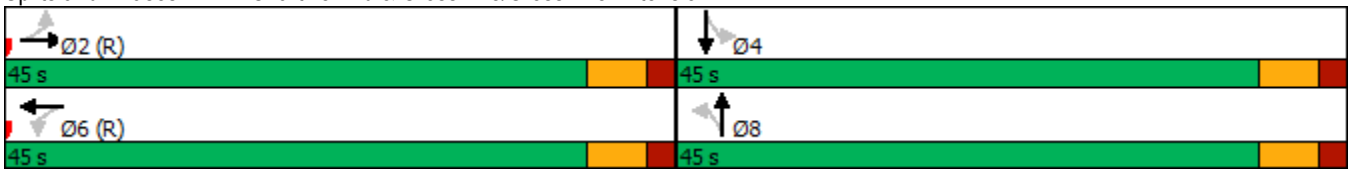
Intersection Summary			
Average Delay	4.1		
Intersection Capacity Utilization	50.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	840	150	0	160	30	30	195	0	105	260	0
Future Volume (vph)	0	840	150	0	160	30	30	195	0	105	260	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	50.0		0.0	100.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.976							
Flt Protected								0.993			0.986	
Satd. Flow (prot)	0	3458	0	0	3454	0	0	1850	0	0	1837	0
Flt Permitted								0.910			0.773	
Satd. Flow (perm)	0	3458	0	0	3454	0	0	1695	0	0	1440	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			31							
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		245.4			79.1			116.5			339.1	
Travel Time (s)		17.7			5.7			8.4			24.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	913	163	0	174	33	33	212	0	114	283	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1076	0	0	207	0	0	245	0	0	397	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA			NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	33.0	33.0		33.0	33.0		33.0	33.0		33.0	33.0	
Total Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	39.0	39.0		39.0	39.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	20	20		20	20		20	20		20	20	
Act Effct Green (s)		50.2			50.2			29.8			29.8	
Actuated g/C Ratio		0.56			0.56			0.33			0.33	
v/c Ratio		0.55			0.11			0.44			0.83	
Control Delay		13.0			9.4			24.8			35.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		13.0			9.4			24.8			35.8	
LOS		B			A			C			D	
Approach Delay		13.0			9.4			24.8			35.8	
Approach LOS		B			A			C			D	

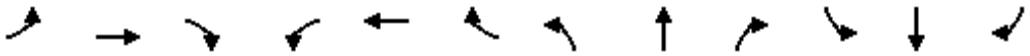
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 18.8		Intersection LOS: B	
Intersection Capacity Utilization 71.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 47: Chartwell Rd & Cross Ave/Cross Ave Extension



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	1076	207	245	397
v/c Ratio	0.55	0.11	0.44	0.83
Control Delay	13.0	9.4	24.8	35.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.0	9.4	24.8	35.8
Queue Length 50th (m)	49.2	7.4	34.3	68.1
Queue Length 95th (m)	50.6	15.7	47.4	98.7
Internal Link Dist (m)	221.4	55.1	92.5	315.1
Turn Bay Length (m)				
Base Capacity (vph)	1943	1941	753	640
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.55	0.11	0.33	0.62

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	840	150	0	160	30	30	195	0	105	260	0
Future Volume (vph)	0	840	150	0	160	30	30	195	0	105	260	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.98			0.98			1.00			1.00	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		3459			3455			1850			1836	
Flt Permitted		1.00			1.00			0.91			0.77	
Satd. Flow (perm)		3459			3455			1696			1440	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	913	163	0	174	33	33	212	0	114	283	0
RTOR Reduction (vph)	0	13	0	0	14	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1063	0	0	193	0	0	245	0	0	397	0
Turn Type		NA			NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		49.2			49.2			28.8			28.8	
Effective Green, g (s)		50.2			50.2			29.8			29.8	
Actuated g/C Ratio		0.56			0.56			0.33			0.33	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1929			1927			561			476	
v/s Ratio Prot		c0.31			0.06							
v/s Ratio Perm								0.14			c0.28	
v/c Ratio		0.55			0.10			0.44			0.83	
Uniform Delay, d1		12.7			9.3			23.5			27.8	
Progression Factor		0.86			1.00			1.00			0.75	
Incremental Delay, d2		1.1			0.1			0.5			11.8	
Delay (s)		12.0			9.4			24.1			32.6	
Level of Service		B			A			C			C	
Approach Delay (s)		12.0			9.4			24.1			32.6	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	165	105	0	20	15	0
Future Volume (vph)	165	105	0	20	15	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.947		0.865			
Flt Protected	0.970					0.950
Satd. Flow (prot)	1711	0	1611	0	0	1770
Flt Permitted	0.970					0.950
Satd. Flow (perm)	1711	0	1611	0	0	1770
Link Speed (k/h)	50		50			50
Link Distance (m)	59.6		84.0			104.6
Travel Time (s)	4.3		6.0			7.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	179	114	0	22	16	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	293	0	22	0	0	16
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100		100	100	
Sign Control	Stop		Free			Free

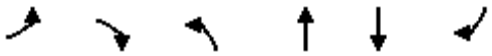
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	165	105	0	20	15	0
Future Volume (Veh/h)	165	105	0	20	15	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	179	114	0	22	16	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	43	11			22	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	43	11			22	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	81	89			99	
cM capacity (veh/h)	958	1070			1593	

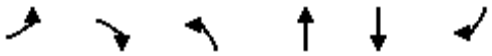
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	293	22	16
Volume Left	179	0	16
Volume Right	114	22	0
cSH	999	1700	1593
Volume to Capacity	0.29	0.01	0.01
Queue Length 95th (m)	9.8	0.0	0.2
Control Delay (s)	10.1	0.0	7.3
Lane LOS	B		A
Approach Delay (s)	10.1	0.0	7.3
Approach LOS	B		

Intersection Summary			
Average Delay	9.3		
Intersection Capacity Utilization	29.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	160	15	0	0	15
Future Volume (vph)	0	160	15	0	0	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865				0.865	
Flt Protected				0.950		
Satd. Flow (prot)	1611	0	0	1770	1611	0
Flt Permitted				0.950		
Satd. Flow (perm)	1611	0	0	1770	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	49.3			87.0	95.7	
Travel Time (s)	3.5			6.3	6.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	174	16	0	0	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	174	0	0	16	16	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

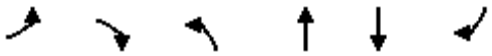
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	160	15	0	0	15
Future Volume (Veh/h)	0	160	15	0	0	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	174	16	0	0	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	40	8	16			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	40	8	16			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	84	99			
cM capacity (veh/h)	962	1074	1602			

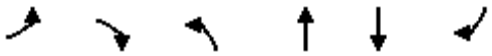
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	174	16	16
Volume Left	0	16	0
Volume Right	174	0	16
cSH	1074	1602	1700
Volume to Capacity	0.16	0.01	0.01
Queue Length 95th (m)	4.6	0.2	0.0
Control Delay (s)	9.0	7.3	0.0
Lane LOS	A	A	
Approach Delay (s)	9.0	7.3	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	8.2		
Intersection Capacity Utilization	24.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	20	95	25	30	295	0
Future Volume (vph)	20	95	25	30	295	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.889					
Flt Protected	0.991			0.978		
Satd. Flow (prot)	1641	0	0	1822	1863	0
Flt Permitted	0.991			0.978		
Satd. Flow (perm)	1641	0	0	1822	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	48.7			81.5	89.3	
Travel Time (s)	3.5			5.9	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	103	27	33	321	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	125	0	0	60	321	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

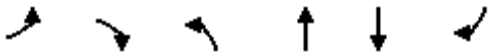
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	95	25	30	295	0
Future Volume (Veh/h)	20	95	25	30	295	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	103	27	33	321	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	408	321	321			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	408	321	321			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	86	98			
cM capacity (veh/h)	586	720	1239			

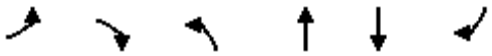
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	125	60	321
Volume Left	22	27	0
Volume Right	103	0	0
cSH	692	1239	1700
Volume to Capacity	0.18	0.02	0.19
Queue Length 95th (m)	5.2	0.5	0.0
Control Delay (s)	11.3	3.7	0.0
Lane LOS	B	A	
Approach Delay (s)	11.3	3.7	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	35.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	325	40	5	165	15
Future Volume (vph)	10	325	40	5	165	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.869				0.989	
Flt Protected	0.998			0.957		
Satd. Flow (prot)	1615	0	0	1783	1842	0
Flt Permitted	0.998			0.957		
Satd. Flow (perm)	1615	0	0	1783	1842	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	40.6			89.5	88.6	
Travel Time (s)	2.9			6.4	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	353	43	5	179	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	364	0	0	48	195	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	325	40	5	165	15
Future Volume (Veh/h)	10	325	40	5	165	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	353	43	5	179	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	278	187	195			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	278	187	195			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	59	97			
cM capacity (veh/h)	690	855	1378			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	364	48	195
Volume Left	11	43	0
Volume Right	353	0	16
cSH	849	1378	1700
Volume to Capacity	0.43	0.03	0.11
Queue Length 95th (m)	17.4	0.8	0.0
Control Delay (s)	12.4	6.9	0.0
Lane LOS	B	A	
Approach Delay (s)	12.4	6.9	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	8.0		
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	135	5	25	135	80	80
Future Volume (vph)	135	5	25	135	80	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.996				0.932	
Flt Protected				0.992	0.976	
Satd. Flow (prot)	1855	0	0	1848	1694	0
Flt Permitted				0.992	0.976	
Satd. Flow (perm)	1855	0	0	1848	1694	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	96.4			57.6	36.0	
Travel Time (s)	6.9			4.1	2.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	147	5	27	147	87	87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	0	0	174	174	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	135	5	25	135	80	80
Future Volume (Veh/h)	135	5	25	135	80	80
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	147	5	27	147	87	87
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				222		
pX, platoon unblocked						
vC, conflicting volume			152		350	150
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			152		350	150
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		86	90
cM capacity (veh/h)			1429		635	897

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	152	174	174
Volume Left	0	27	87
Volume Right	5	0	87
cSH	1700	1429	743
Volume to Capacity	0.09	0.02	0.23
Queue Length 95th (m)	0.0	0.5	7.2
Control Delay (s)	0.0	1.3	11.3
Lane LOS		A	B
Approach Delay (s)	0.0	1.3	11.3
Approach LOS			B

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	210	5	25	80	80	80
Future Volume (vph)	210	5	25	80	80	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997				0.932	
Flt Protected				0.988	0.976	
Satd. Flow (prot)	1857	0	0	1840	1694	0
Flt Permitted				0.988	0.976	
Satd. Flow (perm)	1857	0	0	1840	1694	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	57.6			163.9	50.7	
Travel Time (s)	4.1			11.8	3.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	228	5	27	87	87	87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	233	0	0	114	174	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	210	5	25	80	80	80
Future Volume (Veh/h)	210	5	25	80	80	80
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	228	5	27	87	87	87
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				164		
pX, platoon unblocked						
vC, conflicting volume			233		372	230
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			233		372	230
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		86	89
cM capacity (veh/h)			1335		616	809

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	233	114	174
Volume Left	0	27	87
Volume Right	5	0	87
cSH	1700	1335	700
Volume to Capacity	0.14	0.02	0.25
Queue Length 95th (m)	0.0	0.5	7.8
Control Delay (s)	0.0	2.0	11.8
Lane LOS		A	B
Approach Delay (s)	0.0	2.0	11.8
Approach LOS			B

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	36.3%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	30	5	15	815	175	60
Future Volume (vph)	30	5	15	815	175	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.982				0.966	
Flt Protected				0.999	0.964	
Satd. Flow (prot)	1829	0	0	1861	1735	0
Flt Permitted				0.999	0.964	
Satd. Flow (perm)	1829	0	0	1861	1735	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	98.9			48.3	30.5	
Travel Time (s)	7.1			3.5	2.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	5	16	886	190	65
Shared Lane Traffic (%)						
Lane Group Flow (vph)	38	0	0	902	255	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	100		25	100
Sign Control	Free			Free	Stop	

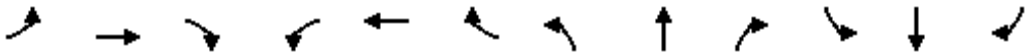
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 70.4%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	30	5	15	815	175	60
Future Volume (Veh/h)	30	5	15	815	175	60
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	5	16	886	190	65
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				48		
pX, platoon unblocked					0.84	
vC, conflicting volume			38		954	36
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			38		846	36
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		31	94
cM capacity (veh/h)			1572		275	1037

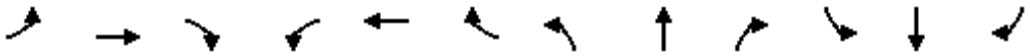
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	38	902	255
Volume Left	0	16	190
Volume Right	5	0	65
cSH	1700	1572	339
Volume to Capacity	0.02	0.01	0.75
Queue Length 95th (m)	0.0	0.2	46.9
Control Delay (s)	0.0	0.3	41.9
Lane LOS		A	E
Approach Delay (s)	0.0	0.3	41.9
Approach LOS			E

Intersection Summary			
Average Delay	9.1		
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	155	0	20	80	15	0	0	90	55	0	35
Future Volume (vph)	5	155	0	20	80	15	0	0	90	55	0	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.983			0.865			0.948	
Flt Protected		0.999			0.991						0.970	
Satd. Flow (prot)	0	1861	0	0	1815	0	0	1611	0	0	1713	0
Flt Permitted		0.999			0.991						0.970	
Satd. Flow (perm)	0	1861	0	0	1815	0	0	1611	0	0	1713	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		109.7			42.8			63.5			46.5	
Travel Time (s)		7.9			3.1			4.6			3.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	168	0	22	87	16	0	0	98	60	0	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	173	0	0	125	0	0	98	0	0	98	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Free			Free			Stop			Stop	

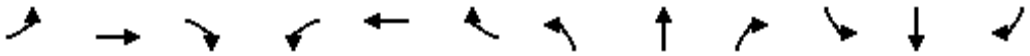
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	155	0	20	80	15	0	0	90	55	0	35
Future Volume (Veh/h)	5	155	0	20	80	15	0	0	90	55	0	35
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	168	0	22	87	16	0	0	98	60	0	38
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					43							
pX, platoon unblocked												
vC, conflicting volume	103			168			355	325	168	415	317	95
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	103			168			355	325	168	415	317	95
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			100	100	89	87	100	96
cM capacity (veh/h)	1489			1410			568	582	876	480	588	962

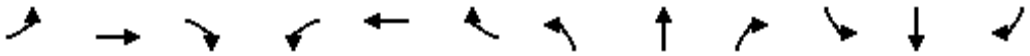
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	173	125	98	98
Volume Left	5	22	0	60
Volume Right	0	16	98	38
cSH	1489	1410	876	595
Volume to Capacity	0.00	0.02	0.11	0.16
Queue Length 95th (m)	0.1	0.4	3.0	4.7
Control Delay (s)	0.2	1.4	9.6	12.2
Lane LOS	A	A	A	B
Approach Delay (s)	0.2	1.4	9.6	12.2
Approach LOS			A	B

Intersection Summary				
Average Delay	4.8			
Intersection Capacity Utilization	33.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	0	15	10	20	5	75	0	25	110	0	95
Future Volume (vph)	20	0	15	10	20	5	75	0	25	110	0	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.943			0.982			0.967			0.938	
Flt Protected		0.972			0.986			0.964			0.974	
Satd. Flow (prot)	0	1707	0	0	1804	0	0	1736	0	0	1702	0
Flt Permitted		0.972			0.986			0.964			0.974	
Satd. Flow (perm)	0	1707	0	0	1804	0	0	1736	0	0	1702	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		39.5			91.1			43.6			47.6	
Travel Time (s)		2.8			6.6			3.1			3.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	0	16	11	22	5	82	0	27	120	0	103
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	0	0	38	0	0	109	0	0	223	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	0	15	10	20	5	75	0	25	110	0	95
Future Volume (Veh/h)	20	0	15	10	20	5	75	0	25	110	0	95
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	0	16	11	22	5	82	0	27	120	0	103
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		40										
pX, platoon unblocked				0.99			0.99	0.99	0.99	0.99	0.99	
vC, conflicting volume	27			16			202	101	8	126	106	24
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	27			6			193	92	0	116	97	24
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			88	100	97	85	100	90
cM capacity (veh/h)	1587			1604			676	777	1078	820	771	1052

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	38	38	109	223
Volume Left	22	11	82	120
Volume Right	16	5	27	103
cSH	1587	1604	745	913
Volume to Capacity	0.01	0.01	0.15	0.24
Queue Length 95th (m)	0.3	0.2	4.1	7.7
Control Delay (s)	4.3	2.1	10.7	10.2
Lane LOS	A	A	B	B
Approach Delay (s)	4.3	2.1	10.7	10.2
Approach LOS			B	B

Intersection Summary				
Average Delay	9.0			
Intersection Capacity Utilization	22.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	120	20	25	30	5	65
Future Volume (vph)	120	20	25	30	5	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.980		0.926			
Flt Protected	0.959					0.997
Satd. Flow (prot)	1751	0	1725	0	0	1857
Flt Permitted	0.959					0.997
Satd. Flow (perm)	1751	0	1725	0	0	1857
Link Speed (k/h)	50		50			50
Link Distance (m)	52.8		85.9			90.9
Travel Time (s)	3.8		6.2			6.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	130	22	27	33	5	71
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	0	60	0	0	76
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		3.6			3.6
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100		100	100	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	120	20	25	30	5	65
Future Volume (Veh/h)	120	20	25	30	5	65
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	130	22	27	33	5	71
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	124	44			60	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	124	44			60	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	85	98			100	
cM capacity (veh/h)	868	1027			1544	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	152	60	76
Volume Left	130	0	5
Volume Right	22	33	0
cSH	888	1700	1544
Volume to Capacity	0.17	0.04	0.00
Queue Length 95th (m)	4.9	0.0	0.1
Control Delay (s)	9.9	0.0	0.5
Lane LOS	A		A
Approach Delay (s)	9.9	0.0	0.5
Approach LOS	A		

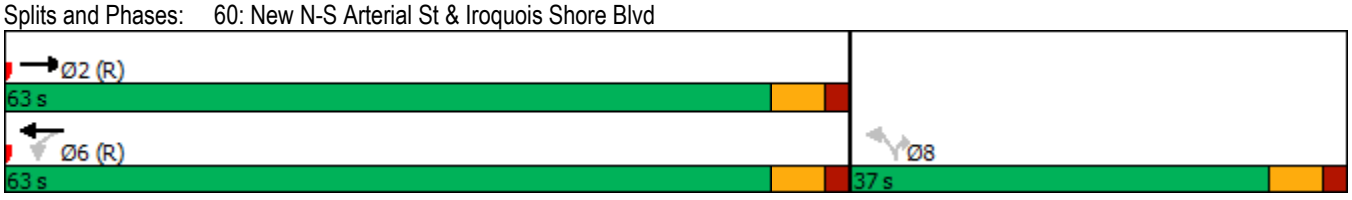
Intersection Summary			
Average Delay	5.4		
Intersection Capacity Utilization	22.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1150	70	70	905	305	305
Future Volume (vph)	1150	70	70	905	305	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		0.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.991					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3507	0	1770	3539	1770	1583
Flt Permitted			0.153		0.950	
Satd. Flow (perm)	3507	0	285	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	10					61
Link Speed (k/h)	50			50	50	
Link Distance (m)	106.6			164.5	249.7	
Travel Time (s)	7.7			11.8	18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1250	76	76	984	332	332
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1326	0	76	984	332	332
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (m)	10.0		2.0	10.0	2.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	0.6		2.0	0.6	2.0	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)	9.4			9.4		
Detector 2 Size(m)	0.6			0.6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	2			6		
Permitted Phases			6		8	8

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		6	6	8	8
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	10.0	10.0
Minimum Split (s)	33.0		33.0	33.0	33.0	33.0
Total Split (s)	63.0		63.0	63.0	37.0	37.0
Total Split (%)	63.0%		63.0%	63.0%	37.0%	37.0%
Maximum Green (s)	57.0		57.0	57.0	31.0	31.0
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0		5.0	5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	C-Min		C-Min	C-Min	Min	Min
Walk Time (s)	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	20.0		20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)	5		5	5	5	5
Act Effct Green (s)	65.2		65.2	65.2	24.8	24.8
Actuated g/C Ratio	0.65		0.65	0.65	0.25	0.25
v/c Ratio	0.58		0.41	0.43	0.76	0.76
Control Delay	11.8		18.9	9.9	45.6	39.0
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	11.8		18.9	9.9	45.6	39.0
LOS	B		B	A	D	D
Approach Delay	11.8			10.5	42.3	
Approach LOS	B			B	D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 18.0		Intersection LOS: B	
Intersection Capacity Utilization 71.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 60: New N-S Arterial St & Iroquois Shore Blvd





Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1326	76	984	332	332
v/c Ratio	0.58	0.41	0.43	0.76	0.76
Control Delay	11.8	18.9	9.9	45.6	39.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.8	18.9	9.9	45.6	39.0
Queue Length 50th (m)	71.7	6.7	46.2	62.7	51.6
Queue Length 95th (m)	111.7	24.0	73.2	85.9	76.7
Internal Link Dist (m)	82.6		140.5	225.7	
Turn Bay Length (m)		50.0			
Base Capacity (vph)	2288	185	2306	566	548
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.58	0.41	0.43	0.59	0.61

Intersection Summary



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1150	70	70	905	305	305
Future Volume (vph)	1150	70	70	905	305	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	5.0	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3509		1770	3539	1770	1583
Flt Permitted	1.00		0.15	1.00	0.95	1.00
Satd. Flow (perm)	3509		285	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1250	76	76	984	332	332
RTOR Reduction (vph)	3	0	0	0	0	46
Lane Group Flow (vph)	1323	0	76	984	332	286
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	2			6		
Permitted Phases			6		8	8
Actuated Green, G (s)	64.2		64.2	64.2	23.8	23.8
Effective Green, g (s)	65.2		65.2	65.2	24.8	24.8
Actuated g/C Ratio	0.65		0.65	0.65	0.25	0.25
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2287		185	2307	438	392
v/s Ratio Prot	c0.38			0.28		
v/s Ratio Perm			0.27		c0.19	0.18
v/c Ratio	0.58		0.41	0.43	0.76	0.73
Uniform Delay, d1	9.7		8.3	8.4	34.8	34.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1		6.6	0.6	7.4	6.7
Delay (s)	10.8		14.9	9.0	42.2	41.2
Level of Service	B		B	A	D	D
Approach Delay (s)	10.8			9.4	41.7	
Approach LOS	B			A	D	

Intersection Summary			
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		

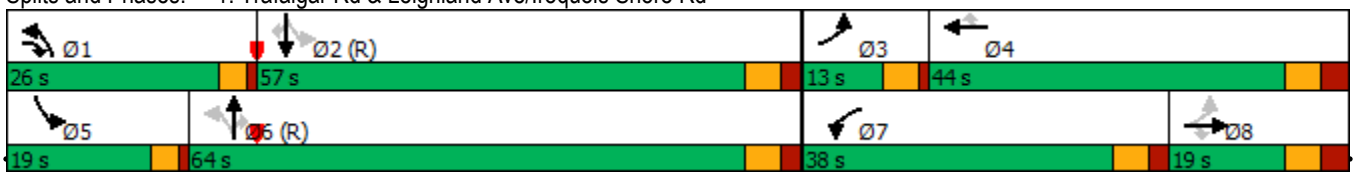
c Critical Lane Group

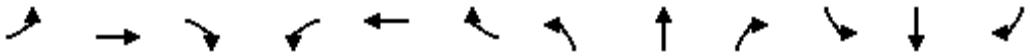
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	210	280	765	270	355	295	3210	875	250	2180	115
Future Volume (vph)	100	210	280	765	270	355	295	3210	875	250	2180	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		0.0	165.0		15.0	0.0		0.0	85.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor	0.96					0.92			0.97			0.87
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1881	1599	3467	1881	1615	1787	5136	1599	1805	5085	1615
Flt Permitted	0.589			0.950			0.072			0.076		
Satd. Flow (perm)	1069	1881	1599	3467	1881	1485	135	5136	1543	144	5085	1399
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			134			363			173
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		385.1			301.7			275.4			339.2	
Travel Time (s)		27.7			21.7			19.8			24.4	
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Adj. Flow (vph)	103	216	289	789	278	366	304	3309	902	258	2247	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	216	289	789	278	366	304	3309	902	258	2247	119
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Detector Phase	3	8	1	7	4	4	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	10.0	7.0	27.0	27.0	7.0	27.0	27.0
Minimum Split (s)	11.7	16.8	11.0	12.7	41.8	41.8	11.0	33.1	33.1	11.0	33.1	33.1
Total Split (s)	13.0	19.0	26.0	38.0	44.0	44.0	26.0	64.0	64.0	19.0	57.0	57.0
Total Split (%)	9.3%	13.6%	18.6%	27.1%	31.4%	31.4%	18.6%	45.7%	45.7%	13.6%	40.7%	40.7%
Maximum Green (s)	8.3	12.2	22.0	32.3	37.2	37.2	22.0	57.9	57.9	15.0	50.9	50.9
Yellow Time (s)	3.7	3.7	3.0	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	1.0	3.1	1.0	2.0	3.1	3.1	1.0	2.4	2.4	1.0	2.4	2.4
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Walk Time (s)					7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)					28.0	28.0		20.0	20.0		20.0	20.0
Pedestrian Calls (#/hr)					30	30		50	50		50	50
Act Effct Green (s)	24.4	13.2	41.1	33.3	38.4	38.4	79.9	58.9	58.9	70.9	52.8	52.8
Actuated g/C Ratio	0.17	0.09	0.29	0.24	0.27	0.27	0.57	0.42	0.42	0.51	0.38	0.38
v/c Ratio	0.44	1.22	0.53	0.96	0.54	0.73	0.90	1.53	1.05	0.98	1.17	0.19
Control Delay	38.1	190.3	29.5	75.1	47.9	38.1	54.2	262.3	36.5	92.2	122.0	1.5
Queue Delay	0.0	0.0	66.2	44.7	0.0	0.0	0.0	0.0	19.7	0.0	0.2	0.0
Total Delay	38.1	190.3	95.7	119.8	47.9	38.1	54.2	262.3	56.2	92.2	122.2	1.5
LOS	D	F	F	F	D	D	D	F	E	F	F	A
Approach Delay		119.6			85.0			207.1			113.8	
Approach LOS		F			F			F			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 43 (31%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.53			
Intersection Signal Delay: 155.6		Intersection LOS: F	
Intersection Capacity Utilization 125.1%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 1: Trafalgar Rd & Leighland Ave/Iroquois Shore Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	103	216	289	789	278	366	304	3309	902	258	2247	119
v/c Ratio	0.44	1.22	0.53	0.96	0.54	0.73	0.90	1.53	1.05	0.98	1.17	0.19
Control Delay	38.1	190.3	29.5	75.1	47.9	38.1	54.2	262.3	36.5	92.2	122.0	1.5
Queue Delay	0.0	0.0	66.2	44.7	0.0	0.0	0.0	0.0	19.7	0.0	0.2	0.0
Total Delay	38.1	190.3	95.7	119.8	47.9	38.1	54.2	262.3	56.2	92.2	122.2	1.5
Queue Length 50th (m)	19.6	~77.0	44.2	117.8	69.5	63.2	64.0	~491.9	~216.1	58.8	~288.9	0.0
Queue Length 95th (m)	33.5	#130.8	74.6	#158.5	99.7	103.4	m28.5	m170.6	m16.8	#117.8	#317.9	3.0
Internal Link Dist (m)		361.1			277.7			251.4			315.2	
Turn Bay Length (m)	80.0			165.0		15.0				85.0		80.0
Base Capacity (vph)	236	177	553	824	516	504	348	2160	859	262	1919	635
Starvation Cap Reductn	0	0	0	0	0	0	0	0	71	0	0	0
Spillback Cap Reductn	0	0	375	308	0	0	0	0	0	0	100	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	1.22	1.62	1.53	0.54	0.73	0.87	1.53	1.14	0.98	1.24	0.19

Intersection Summary

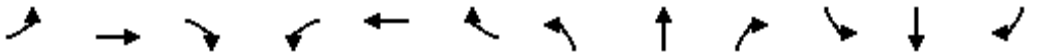
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	210	280	765	270	355	295	3210	875	250	2180	115
Future Volume (vph)	100	210	280	765	270	355	295	3210	875	250	2180	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	5.8	3.0	4.7	5.8	5.8	3.0	5.1	5.1	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.92	1.00	1.00	0.97	1.00	1.00	0.87
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1759	1881	1599	3467	1881	1485	1787	5136	1543	1805	5085	1399
Flt Permitted	0.59	1.00	1.00	0.95	1.00	1.00	0.07	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	1090	1881	1599	3467	1881	1485	135	5136	1543	144	5085	1399
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	103	216	289	789	278	366	304	3309	902	258	2247	119
RTOR Reduction (vph)	0	0	79	0	0	97	0	0	210	0	0	74
Lane Group Flow (vph)	103	216	210	789	278	269	304	3309	692	258	2247	45
Confl. Peds. (#/hr)	55					55	80		15	15		80
Confl. Bikes (#/hr)						5						
Heavy Vehicles (%)	0%	1%	1%	1%	1%	0%	1%	1%	1%	0%	2%	0%
Turn Type	pm+pt	NA	pm+ov	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8			4	6		6	2		2
Actuated Green, G (s)	20.3	12.2	33.3	32.3	37.4	37.4	76.9	57.9	57.9	66.8	51.8	51.8
Effective Green, g (s)	22.3	13.2	35.3	33.3	38.4	38.4	77.9	58.9	58.9	68.8	52.8	52.8
Actuated g/C Ratio	0.16	0.09	0.25	0.24	0.27	0.27	0.56	0.42	0.42	0.49	0.38	0.38
Clearance Time (s)	4.7	6.8	4.0	5.7	6.8	6.8	4.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	217	177	403	824	515	407	335	2160	649	260	1917	527
v/s Ratio Prot	0.03	c0.11	0.08	c0.23	0.15		0.14	c0.64		c0.11	0.44	
v/s Ratio Perm	0.04		0.05			0.18	0.36		0.45	0.37		0.03
v/c Ratio	0.47	1.22	0.52	0.96	0.54	0.66	0.91	1.53	1.07	0.99	1.17	0.09
Uniform Delay, d1	52.6	63.4	45.1	52.7	43.3	45.0	44.7	40.5	40.5	44.8	43.6	28.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.29	0.53	0.29	1.00	1.00	1.00
Incremental Delay, d2	1.6	139.3	1.2	21.4	1.1	4.0	3.7	239.6	33.2	53.5	83.4	0.3
Delay (s)	54.2	202.7	46.3	74.0	44.4	49.0	61.3	261.0	44.8	98.3	127.0	28.4
Level of Service	D	F	D	E	D	D	E	F	D	F	F	C
Approach Delay (s)		103.2			61.9			204.4			119.7	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	151.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.27		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.6
Intersection Capacity Utilization	125.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

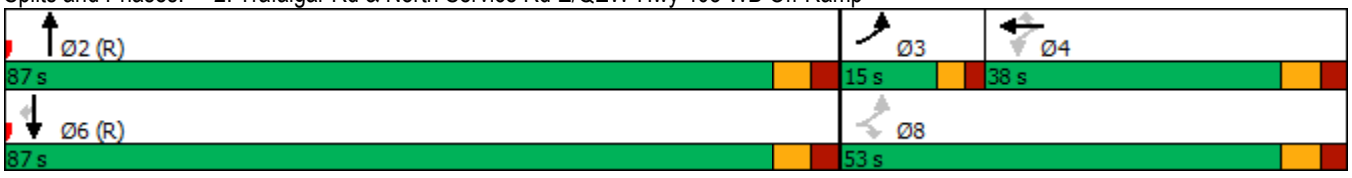


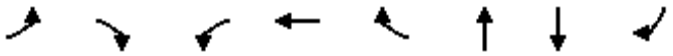
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	270	810	10	625	0	4690	0	0	4115	15
Future Volume (vph)	25	0	270	810	10	625	0	4690	0	0	4115	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor												0.94
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950	0.954							
Satd. Flow (prot)	1805	0	1599	1681	1689	1583	0	5136	0	0	5036	1524
Flt Permitted	0.119			0.950	0.954							
Satd. Flow (perm)	226	0	1599	1681	1689	1583	0	5136	0	0	5036	1437
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			89						70
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		351.0			372.8			331.3			275.4	
Travel Time (s)		25.3			26.8			23.9			19.8	
Confl. Peds. (#/hr)							15		10	10		15
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Adj. Flow (vph)	27	0	287	862	11	665	0	4989	0	0	4378	16
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	27	0	287	440	433	665	0	4989	0	0	4378	16
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1		1	1	2	1		2			2	1
Detector Template	Left		Right	Left	Thru	Right		Thru			Thru	Right
Leading Detector (m)	2.0		2.0	2.0	10.0	2.0		10.0			10.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Size(m)	2.0		2.0	2.0	0.6	2.0		0.6			0.6	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Detector 2 Position(m)					9.4			9.4			9.4	
Detector 2 Size(m)					0.6			0.6			0.6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3		8	4	4	4		2			6	6
Switch Phase												
Minimum Initial (s)	7.0		10.0	10.0	10.0	10.0		28.0			28.0	28.0
Minimum Split (s)	12.0		38.0	38.0	38.0	38.0		35.0			35.0	35.0
Total Split (s)	15.0		53.0	38.0	38.0	38.0		87.0			87.0	87.0
Total Split (%)	10.7%		37.9%	27.1%	27.1%	27.1%		62.1%			62.1%	62.1%
Maximum Green (s)	10.0		46.0	31.0	31.0	31.0		80.0			80.0	80.0
Yellow Time (s)	3.0		4.0	4.0	4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	2.0		3.0	3.0	3.0	3.0		3.0			3.0	3.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0		-1.0			-1.0	-1.0
Total Lost Time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Recall Mode	None		None	None	None	None		C-Min			C-Min	C-Min
Walk Time (s)			7.0	7.0	7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)			24.0	24.0	24.0	24.0		21.0			21.0	21.0
Pedestrian Calls (#/hr)			0	0	0	0		15			15	15
Act Effct Green (s)	49.0		47.0	38.5	38.5	38.5		81.0			81.0	81.0
Actuated g/C Ratio	0.35		0.34	0.28	0.28	0.28		0.58			0.58	0.58
v/c Ratio	0.15		0.52	0.95	0.93	1.33		1.68			1.50	0.02
Control Delay	32.0		37.0	81.4	77.7	196.6		328.6			257.4	0.0
Queue Delay	0.0		0.0	0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	32.0		37.0	81.4	77.7	196.6		328.6			257.4	0.0
LOS	C		D	F	E	F		F			F	A
Approach Delay		36.5			130.2			328.6			256.4	
Approach LOS		D			F			F			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.68			
Intersection Signal Delay: 265.1		Intersection LOS: F	
Intersection Capacity Utilization 146.0%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 2: Trafalgar Rd & North Service Rd E/QEW-Hwy 403 WB Off-Ramp





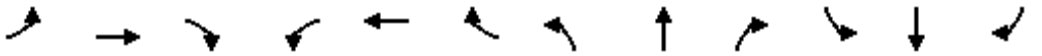
Lane Group	EBL	EBR	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	27	287	440	433	665	4989	4378	16
v/c Ratio	0.15	0.52	0.95	0.93	1.33	1.68	1.50	0.02
Control Delay	32.0	37.0	81.4	77.7	196.6	328.6	257.4	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.0	37.0	81.4	77.7	196.6	328.6	257.4	0.0
Queue Length 50th (m)	5.2	59.8	~151.2	~146.2	~247.4	~778.4	~642.9	0.0
Queue Length 95th (m)	12.3	89.6	#230.3	#224.6	#330.6	m#471.7	m#577.1	m0.0
Internal Link Dist (m)				348.8		307.3	251.4	
Turn Bay Length (m)								
Base Capacity (vph)	203	557	462	464	500	2971	2913	860
Starvation Cap Reductn	0	0	0	0	0	4	0	0
Spillback Cap Reductn	0	0	0	0	0	22	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.52	0.95	0.93	1.33	1.69	1.50	0.02

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

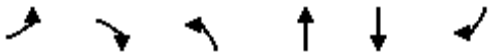
m Volume for 95th percentile queue is metered by upstream signal.



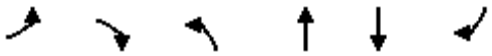
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	0	270	810	10	625	0	4690	0	0	4115	15
Future Volume (vph)	25	0	270	810	10	625	0	4690	0	0	4115	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		6.0	6.0	6.0	6.0		6.0			6.0	6.0
Lane Util. Factor	1.00		1.00	0.95	0.95	1.00		0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	0.94
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85		1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (prot)	1805		1599	1681	1688	1583		5136			5036	1437
Flt Permitted	0.12		1.00	0.95	0.95	1.00		1.00			1.00	1.00
Satd. Flow (perm)	225		1599	1681	1688	1583		5136			5036	1437
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	27	0	287	862	11	665	0	4989	0	0	4378	16
RTOR Reduction (vph)	0	0	20	0	0	65	0	0	0	0	0	7
Lane Group Flow (vph)	27	0	267	440	433	600	0	4989	0	0	4378	9
Confl. Peds. (#/hr)							15		10	10		15
Heavy Vehicles (%)	0%	0%	1%	2%	0%	2%	0%	1%	0%	0%	3%	6%
Turn Type	pm+pt		Perm	Perm	NA	Perm		NA			NA	Perm
Protected Phases	3				4			2			6	
Permitted Phases	8		8	4		4						6
Actuated Green, G (s)	48.0		48.0	37.5	37.5	37.5		78.0			78.0	78.0
Effective Green, g (s)	49.0		49.0	38.5	38.5	38.5		79.0			79.0	79.0
Actuated g/C Ratio	0.35		0.35	0.28	0.28	0.28		0.56			0.56	0.56
Clearance Time (s)	5.0		7.0	7.0	7.0	7.0		7.0			7.0	7.0
Vehicle Extension (s)	4.5		3.5	3.0	3.0	3.0		4.5			4.5	4.5
Lane Grp Cap (vph)	152		559	462	464	435		2898			2841	810
v/s Ratio Prot	0.01							c0.97			0.87	
v/s Ratio Perm	0.05		c0.17	0.26	0.26	c0.38						0.01
v/c Ratio	0.18		0.48	0.95	0.93	1.38		1.72			1.54	0.01
Uniform Delay, d1	33.9		35.5	49.8	49.5	50.8		30.5			30.5	13.4
Progression Factor	1.00		1.00	1.00	1.00	1.00		0.80			1.28	1.00
Incremental Delay, d2	1.0		0.8	29.9	25.9	185.1		324.8			244.5	0.0
Delay (s)	34.9		36.3	79.8	75.4	235.8		349.2			283.4	13.4
Level of Service	C		D	E	E	F		F			F	B
Approach Delay (s)		36.1			146.0			349.2			282.4	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	286.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.56		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	146.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



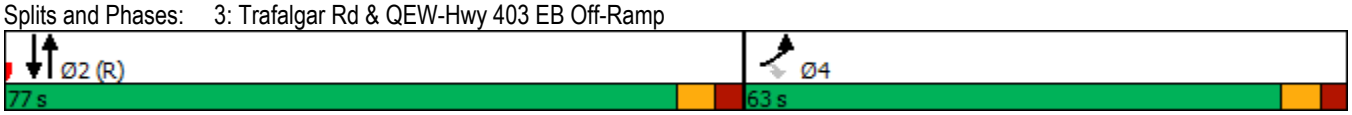
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1850	870	0	3375	3160	0
Future Volume (vph)	1850	870	0	3375	3160	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3467	1583	0	5085	5085	0
Flt Permitted	0.950					
Satd. Flow (perm)	3467	1583	0	5085	5085	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (k/h)	50			50	50	
Link Distance (m)	214.2			80.8	331.3	
Travel Time (s)	15.4			5.8	23.9	
Confl. Peds. (#/hr)			25			25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Adj. Flow (vph)	1947	916	0	3553	3326	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1947	916	0	3553	3326	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.2			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	2.0	2.0		10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	2.0		0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4		2	2	
Switch Phase						
Minimum Initial (s)	10.0	10.0		29.0	29.0	
Minimum Split (s)	38.0	38.0		36.0	36.0	
Total Split (s)	63.0	63.0		77.0	77.0	
Total Split (%)	45.0%	45.0%		55.0%	55.0%	
Maximum Green (s)	56.0	56.0		70.0	70.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	24.0	24.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0		15	15	
Act Effct Green (s)	57.0	57.0		71.0	71.0	
Actuated g/C Ratio	0.41	0.41		0.51	0.51	
v/c Ratio	1.38	1.42		1.38	1.29	
Control Delay	209.2	232.1		195.9	160.7	
Queue Delay	0.0	0.0		3.6	0.0	
Total Delay	209.2	232.1		199.5	160.7	
LOS	F	F		F	F	
Approach Delay	216.5			199.5	160.7	
Approach LOS	F			F	F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.42			
Intersection Signal Delay: 191.3		Intersection LOS: F	
Intersection Capacity Utilization 128.0%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 3: Trafalgar Rd & QEW-Hwy 403 EB Off-Ramp





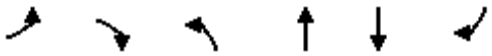
Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	1947	916	3553	3326
v/c Ratio	1.38	1.42	1.38	1.29
Control Delay	209.2	232.1	195.9	160.7
Queue Delay	0.0	0.0	3.6	0.0
Total Delay	209.2	232.1	199.5	160.7
Queue Length 50th (m)	~386.8	~359.0	~503.6	~449.9
Queue Length 95th (m)	#429.5	#440.7 m	#424.7 m	206.5
Internal Link Dist (m)	190.2		56.8	307.3
Turn Bay Length (m)				
Base Capacity (vph)	1411	644	2578	2578
Starvation Cap Reductn	0	0	55	0
Spillback Cap Reductn	0	0	1671	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.38	1.42	3.92	1.29

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

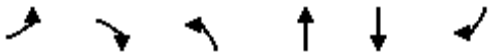
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1850	870	0	3375	3160	0
Future Volume (vph)	1850	870	0	3375	3160	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3467	1583		5085	5085	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3467	1583		5085	5085	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1947	916	0	3553	3326	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1947	916	0	3553	3326	0
Confl. Peds. (#/hr)			25			25
Heavy Vehicles (%)	1%	2%	0%	2%	2%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4				
Actuated Green, G (s)	56.0	56.0		70.0	70.0	
Effective Green, g (s)	57.0	57.0		71.0	71.0	
Actuated g/C Ratio	0.41	0.41		0.51	0.51	
Clearance Time (s)	7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		5.0	5.0	
Lane Grp Cap (vph)	1411	644		2578	2578	
v/s Ratio Prot	0.56			c0.70	0.65	
v/s Ratio Perm		c0.58				
v/c Ratio	1.38	1.42		1.38	1.29	
Uniform Delay, d1	41.5	41.5		34.5	34.5	
Progression Factor	1.00	1.00		0.72	0.94	
Incremental Delay, d2	175.5	199.0		170.9	130.8	
Delay (s)	217.0	240.5		195.8	163.1	
Level of Service	F	F		F	F	
Approach Delay (s)	224.5			195.8	163.1	
Approach LOS	F			F	F	

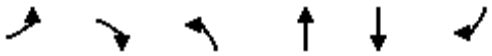
Intersection Summary			
HCM 2000 Control Delay	193.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	128.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	100	0	3400	3145	655
Future Volume (vph)	0	100	0	3400	3145	655
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	0	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor						
Frt		0.865			0.974	
Flt Protected						
Satd. Flow (prot)	0	1522	0	5085	4968	0
Flt Permitted						
Satd. Flow (perm)	0	1522	0	5085	4968	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	100.6			198.2	80.8	
Travel Time (s)	7.2			14.3	5.8	
Confl. Peds. (#/hr)			20			20
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	8%	0%	2%	1%	5%
Adj. Flow (vph)	0	106	0	3617	3346	697
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	106	0	3617	4043	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

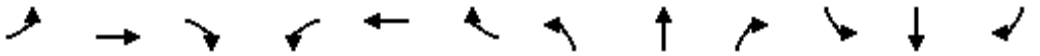
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	88.6%	ICU Level of Service	E
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	100	0	3400	3145	655
Future Volume (Veh/h)	0	100	0	3400	3145	655
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	106	0	3617	3346	697
Pedestrians	20					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	2					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				198	81	
pX, platoon unblocked	0.65	0.50	0.50			
vC, conflicting volume	4920	1484	4063			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2014	0	3622			
tC, single (s)	6.8	7.1	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	100	80	100			
cM capacity (veh/h)	33	522	32			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	106	1206	1206	1206	1338	1338	1366
Volume Left	0	0	0	0	0	0	0
Volume Right	106	0	0	0	0	0	697
cSH	522	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.20	0.71	0.71	0.71	0.79	0.79	0.80
Queue Length 95th (m)	6.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	13.7	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	13.7	0.0			0.0		
Approach LOS	B						

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	88.6%	ICU Level of Service	E
Analysis Period (min)	15		



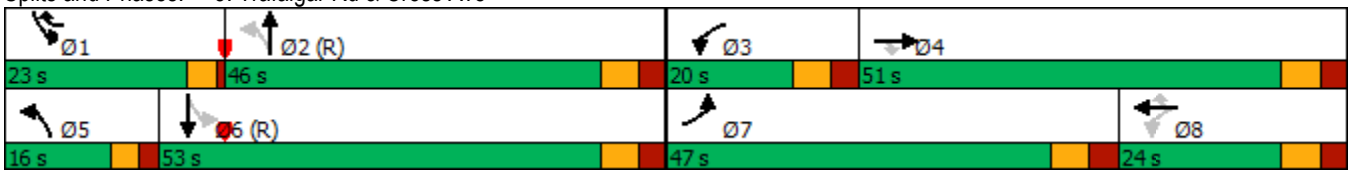
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	930	360	150	80	485	275	195	1915	30	190	2285	390
Future Volume (vph)	930	360	150	80	485	275	195	1915	30	190	2285	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	130.0		50.0	50.0		50.0	120.0		0.0	55.0		0.0
Storage Lanes	2		1	1		1	1		0	1		0
Taper Length (m)	15.0			15.0			10.0			15.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor			0.96	0.99				1.00			0.99	
Frt			0.850			0.850		0.998			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	3610	1524	1805	3610	1599	1719	5123	0	1752	5018	0
Flt Permitted	0.950			0.531			0.092			0.086		
Satd. Flow (perm)	3400	3610	1469	994	3610	1599	166	5123	0	159	5018	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			156			140		2			26	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		121.1			182.4			316.1			198.2	
Travel Time (s)		8.7			13.1			22.8			14.3	
Confl. Peds. (#/hr)			20	20			15		15	15		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Adj. Flow (vph)	959	371	155	82	500	284	201	1974	31	196	2356	402
Shared Lane Traffic (%)												
Lane Group Flow (vph)	959	371	155	82	500	284	201	2005	0	196	2758	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

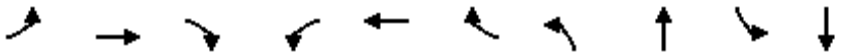
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4	8		8	2			6		
Detector Phase	7	4	4	3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	12.0	10.0	7.0	7.0	20.0		7.0	20.0	
Minimum Split (s)	17.0	42.0	42.0	19.0	17.0	11.0	12.0	34.0		11.0	34.0	
Total Split (s)	47.0	51.0	51.0	20.0	24.0	23.0	16.0	46.0		23.0	53.0	
Total Split (%)	33.6%	36.4%	36.4%	14.3%	17.1%	16.4%	11.4%	32.9%		16.4%	37.9%	
Maximum Green (s)	40.0	44.0	44.0	13.0	17.0	19.0	11.0	39.0		19.0	46.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	1.0	2.0	3.0		1.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0	4.0	3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0	7.0					7.0			7.0	
Flash Dont Walk (s)		28.0	28.0					20.0			20.0	
Pedestrian Calls (#/hr)		10	10					15			15	
Act Effct Green (s)	40.9	45.9	45.9	31.1	18.1	40.5	57.6	43.6		64.6	47.0	
Actuated g/C Ratio	0.29	0.33	0.33	0.22	0.13	0.29	0.41	0.31		0.46	0.34	
v/c Ratio	0.97	0.31	0.26	0.28	1.07	0.51	1.00	1.26		0.76	1.62	
Control Delay	70.1	36.1	5.9	28.1	118.9	23.1	82.8	162.2		44.1	314.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	3.0		0.0	0.0	
Total Delay	70.1	36.1	5.9	28.1	118.9	23.2	82.8	165.2		44.1	314.6	
LOS	E	D	A	C	F	C	F	F		D	F	
Approach Delay		54.9			78.9			157.7			296.7	
Approach LOS		D			E			F			F	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.62
Intersection Signal Delay: 183.0 Intersection LOS: F
Intersection Capacity Utilization 122.1% ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 5: Trafalgar Rd & Cross Ave





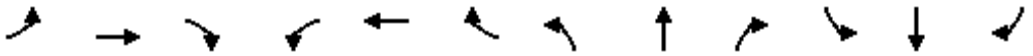
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	959	371	155	82	500	284	201	2005	196	2758
v/c Ratio	0.97	0.31	0.26	0.28	1.07	0.51	1.00	1.26	0.76	1.62
Control Delay	70.1	36.1	5.9	28.1	118.9	23.1	82.8	162.2	44.1	314.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1	0.0	3.0	0.0	0.0
Total Delay	70.1	36.1	5.9	28.1	118.9	23.2	82.8	165.2	44.1	314.6
Queue Length 50th (m)	142.3	42.5	0.0	13.2	~85.2	34.0	50.0	~265.4	45.4	~419.4
Queue Length 95th (m)	#186.1	57.0	16.0	23.7	#122.8	61.4	m#51.7	m#264.5	m33.4	m#277.0
Internal Link Dist (m)		97.1			158.4			292.1		174.2
Turn Bay Length (m)	130.0		50.0	50.0		50.0	120.0		55.0	
Base Capacity (vph)	995	1184	586	309	466	599	201	1597	302	1701
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	27	0	794	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.31	0.26	0.27	1.07	0.50	1.00	2.50	0.65	1.62

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	930	360	150	80	485	275	195	1915	30	190	2285	390
Future Volume (vph)	930	360	150	80	485	275	195	1915	30	190	2285	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	3.0	4.0	6.0		3.0	6.0	
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3400	3610	1469	1792	3610	1599	1719	5122		1752	5019	
Flt Permitted	0.95	1.00	1.00	0.53	1.00	1.00	0.09	1.00		0.09	1.00	
Satd. Flow (perm)	3400	3610	1469	1002	3610	1599	166	5122		158	5019	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	959	371	155	82	500	284	201	1974	31	196	2356	402
RTOR Reduction (vph)	0	0	104	0	0	106	0	1	0	0	17	0
Lane Group Flow (vph)	959	371	51	82	500	179	201	2004	0	196	2741	0
Confl. Peds. (#/hr)			20	20			15		15	15		15
Heavy Vehicles (%)	3%	0%	6%	0%	0%	1%	5%	1%	0%	3%	0%	4%
Turn Type	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4	8		8	2			6		
Actuated Green, G (s)	39.9	44.9	44.9	29.2	17.1	32.5	53.6	42.6		61.4	46.0	
Effective Green, g (s)	40.9	45.9	45.9	31.2	18.1	34.5	55.6	43.6		63.0	47.0	
Actuated g/C Ratio	0.29	0.33	0.33	0.22	0.13	0.25	0.40	0.31		0.45	0.34	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0	4.0	5.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	4.0	4.0	3.5	4.0	3.0	3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	993	1183	481	297	466	394	199	1595		257	1684	
v/s Ratio Prot	c0.28	0.10		0.03	c0.14	0.05	c0.09	0.39		c0.09	c0.55	
v/s Ratio Perm			0.03	0.04		0.06	0.31			0.25		
v/c Ratio	0.97	0.31	0.11	0.28	1.07	0.45	1.01	1.26		0.76	1.63	
Uniform Delay, d1	48.9	35.2	32.8	44.3	61.0	44.7	40.0	48.2		36.6	46.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.18		1.33	1.18	
Incremental Delay, d2	20.5	0.2	0.1	0.6	62.6	0.8	39.0	117.1		1.2	282.6	
Delay (s)	69.4	35.5	32.9	44.9	123.6	45.6	92.2	174.0		50.0	337.5	
Level of Service	E	D	C	D	F	D	F	F		D	F	
Approach Delay (s)		57.1			90.5			166.5			318.5	
Approach LOS		E			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	195.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	122.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

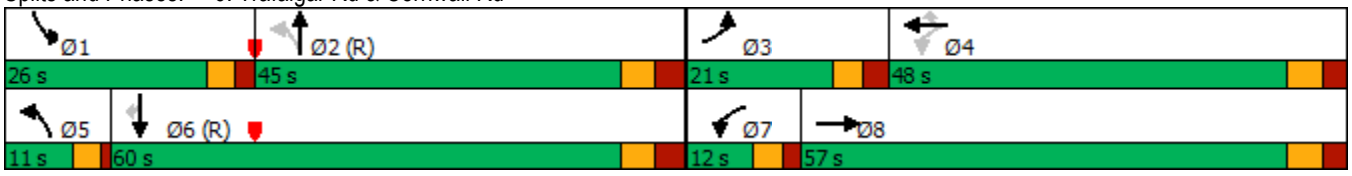
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	765	45	85	960	615	60	960	140	495	1025	305
Future Volume (vph)	360	765	45	85	960	615	60	960	140	495	1025	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		0.0	85.0		75.0	40.0		65.0	85.0		0.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			10.0		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95	0.97	1.00	1.00
Ped Bike Factor	0.98	1.00		0.99		0.93		1.00		0.99		0.98
Frt		0.992				0.850		0.981				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3467	3507	0	1805	3539	1583	1770	3525	0	3433	1881	1553
Flt Permitted	0.950			0.225			0.102			0.950		
Satd. Flow (perm)	3414	3507	0	425	3539	1470	190	3525	0	3405	1881	1516
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				290		11				141
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		575.4			628.3			139.4			316.1	
Travel Time (s)		41.4			45.2			10.0			22.8	
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Adj. Flow (vph)	371	789	46	88	990	634	62	990	144	510	1057	314
Shared Lane Traffic (%)												
Lane Group Flow (vph)	371	835	0	88	990	634	62	1134	0	510	1057	314
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

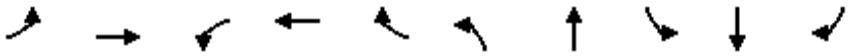
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Detector Phase	3	8		7	4	4	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	7.0	20.0		7.0	20.0	20.0
Minimum Split (s)	12.7	37.4		12.0	37.4	37.4	11.0	41.9		12.0	41.9	41.9
Total Split (s)	21.0	57.0		12.0	48.0	48.0	11.0	45.0		26.0	60.0	60.0
Total Split (%)	15.0%	40.7%		8.6%	34.3%	34.3%	7.9%	32.1%		18.6%	42.9%	42.9%
Maximum Green (s)	15.3	50.6		7.0	41.6	41.6	7.0	38.1		21.0	53.1	53.1
Yellow Time (s)	3.0	3.7		3.0	3.7	3.7	3.0	3.7		3.0	3.7	3.7
All-Red Time (s)	2.7	2.7		2.0	2.7	2.7	1.0	3.2		2.0	3.2	3.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		28.0			28.0	28.0
Pedestrian Calls (#/hr)		30			30	30		15			15	15
Act Effct Green (s)	16.3	51.5		51.9	42.5	42.5	50.0	39.1		22.1	56.4	56.4
Actuated g/C Ratio	0.12	0.37		0.37	0.30	0.30	0.36	0.28		0.16	0.40	0.40
v/c Ratio	0.92	0.65		0.37	0.92	0.98	0.39	1.14		0.94	1.40	0.45
Control Delay	81.7	38.1		26.7	61.4	56.5	28.8	121.2		84.0	216.1	25.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	81.7	38.1		26.7	61.4	56.5	28.8	121.2		84.0	216.1	25.9
LOS	F	D		C	E	E	C	F		F	F	C
Approach Delay		51.5			57.8			116.4			148.5	
Approach LOS		D			E			F			F	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 135
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.40
Intersection Signal Delay: 96.7 Intersection LOS: F
Intersection Capacity Utilization 113.3% ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 6: Trafalgar Rd & Cornwall Rd





Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	371	835	88	990	634	62	1134	510	1057	314
v/c Ratio	0.92	0.65	0.37	0.92	0.98	0.39	1.14	0.94	1.40	0.45
Control Delay	81.7	38.1	26.7	61.4	56.5	28.8	121.2	84.0	216.1	25.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.7	38.1	26.7	61.4	56.5	28.8	121.2	84.0	216.1	25.9
Queue Length 50th (m)	56.4	109.4	14.2	147.0	116.1	9.4	~202.3	81.3	~406.4	38.1
Queue Length 95th (m)	#87.0	132.6	24.9	#187.3	#201.5	18.1	#247.5	m54.7	m120.7	m23.3
Internal Link Dist (m)		551.4		604.3			115.4		292.1	
Turn Bay Length (m)	85.0		85.0		75.0	40.0		85.0		
Base Capacity (vph)	403	1295	236	1076	649	158	992	541	757	694
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.64	0.37	0.92	0.98	0.39	1.14	0.94	1.40	0.45

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	765	45	85	960	615	60	960	140	495	1025	305
Future Volume (vph)	360	765	45	85	960	615	60	960	140	495	1025	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.7	5.4		4.0	5.4	5.4	3.0	5.9		4.0	5.9	5.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.93	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3467	3506		1803	3539	1470	1770	3525		3433	1881	1516
Flt Permitted	0.95	1.00		0.22	1.00	1.00	0.10	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3467	3506		427	3539	1470	191	3525		3433	1881	1516
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	371	789	46	88	990	634	62	990	144	510	1057	314
RTOR Reduction (vph)	0	3	0	0	0	202	0	8	0	0	0	85
Lane Group Flow (vph)	371	832	0	88	990	432	62	1126	0	510	1057	229
Confl. Peds. (#/hr)	45		10	10		45	10		20	20		10
Heavy Vehicles (%)	1%	2%	0%	0%	2%	2%	2%	0%	0%	2%	1%	4%
Turn Type	Prot	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases				4		4	2					6
Actuated Green, G (s)	15.3	50.5		48.5	41.5	41.5	43.7	38.1		21.1	54.6	54.6
Effective Green, g (s)	16.3	51.5		50.5	42.5	42.5	45.7	39.1		22.1	55.6	55.6
Actuated g/C Ratio	0.12	0.37		0.36	0.30	0.30	0.33	0.28		0.16	0.40	0.40
Clearance Time (s)	5.7	6.4		5.0	6.4	6.4	4.0	6.9		5.0	6.9	6.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	403	1289		232	1074	446	136	984		541	747	602
v/s Ratio Prot	c0.11	0.24		0.02	0.28		0.02	0.32		c0.15	c0.56	
v/s Ratio Perm				0.11		c0.29	0.13					0.15
v/c Ratio	0.92	0.65		0.38	0.92	0.97	0.46	1.14		0.94	1.41	0.38
Uniform Delay, d1	61.2	36.7		30.9	47.1	48.1	37.5	50.5		58.3	42.2	30.0
Progression Factor	0.90	0.98		1.00	1.00	1.00	1.00	1.00		1.40	1.16	1.52
Incremental Delay, d2	23.8	1.0		1.0	12.7	34.1	2.4	77.2		3.9	187.5	0.2
Delay (s)	79.2	36.9		31.9	59.8	82.2	39.9	127.6		85.4	236.4	45.8
Level of Service	E	D		C	E	F	D	F		F	F	D
Approach Delay (s)		49.9			66.7			123.1			163.6	
Approach LOS		D			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	105.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	113.3%	ICU Level of Service	H
Analysis Period (min)	15		

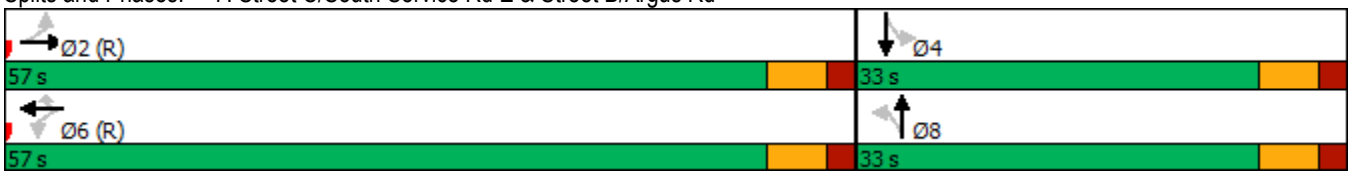
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	55	20	50	470	350	5	105	25	50	5	110
Future Volume (vph)	15	55	20	50	470	350	5	105	25	50	5	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00			0.99		0.98		
Frt		0.969				0.850		0.975			0.856	
Flt Protected		0.992			0.995			0.998		0.950		
Satd. Flow (prot)	0	1766	0	0	1778	1615	0	1834	0	1805	1626	0
Flt Permitted		0.910			0.965			0.988		0.518		
Satd. Flow (perm)	0	1620	0	0	1721	1615	0	1816	0	968	1626	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22				376		13			118	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		48.3			119.5			83.7			163.9	
Travel Time (s)		3.5			8.6			6.0			11.8	
Confl. Peds. (#/hr)			10	10					10	10		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	4%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	16	59	22	54	505	376	5	113	27	54	5	118
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	97	0	0	559	376	0	145	0	54	123	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	26.0	26.0		26.0	26.0	26.0	26.0	26.0		26.0	26.0	
Total Split (s)	57.0	57.0		57.0	57.0	57.0	33.0	33.0		33.0	33.0	
Total Split (%)	63.3%	63.3%		63.3%	63.3%	63.3%	36.7%	36.7%		36.7%	36.7%	
Maximum Green (s)	51.0	51.0		51.0	51.0	51.0	27.0	27.0		27.0	27.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0		-1.0		-1.0	-1.0	
Total Lost Time (s)		5.0			5.0	5.0		5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min	C-Min	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0	13.0	13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		66.5			66.5	66.5		13.5		13.5	13.5	
Actuated g/C Ratio		0.74			0.74	0.74		0.15		0.15	0.15	
v/c Ratio		0.08			0.44	0.29		0.51		0.37	0.36	
Control Delay		3.1			9.8	3.0		38.0		41.1	10.1	
Queue Delay		0.0			2.2	0.7		0.0		0.0	0.0	
Total Delay		3.1			12.0	3.7		38.0		41.1	10.1	
LOS		A			B	A		D		D	B	
Approach Delay		3.1			8.7			38.0			19.6	
Approach LOS		A			A			D			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 12.8		Intersection LOS: B	
Intersection Capacity Utilization 63.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 7: Street C/South Service Rd E & Street B/Argus Rd





Lane Group	EBT	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	97	559	376	145	54	123
v/c Ratio	0.08	0.44	0.29	0.51	0.37	0.36
Control Delay	3.1	9.8	3.0	38.0	41.1	10.1
Queue Delay	0.0	2.2	0.7	0.0	0.0	0.0
Total Delay	3.1	12.0	3.7	38.0	41.1	10.1
Queue Length 50th (m)	3.0	73.0	11.4	22.5	9.1	0.8
Queue Length 95th (m)	8.4	112.8	m21.9	38.9	19.6	15.1
Internal Link Dist (m)	24.3	95.5		59.7		139.9
Turn Bay Length (m)						
Base Capacity (vph)	1202	1271	1291	573	301	587
Starvation Cap Reductn	0	549	580	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.77	0.53	0.25	0.18	0.21

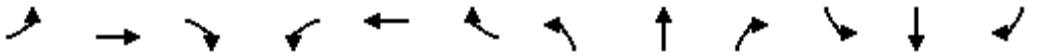
Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	55	20	50	470	350	5	105	25	50	5	110
Future Volume (vph)	15	55	20	50	470	350	5	105	25	50	5	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0	5.0		5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00	1.00		0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00		0.98	1.00	
Frt		0.97			1.00	0.85		0.97		1.00	0.86	
Flt Protected		0.99			1.00	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1766			1775	1615		1835		1777	1627	
Flt Permitted		0.91			0.96	1.00		0.99		0.52	1.00	
Satd. Flow (perm)		1621			1721	1615		1815		969	1627	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	16	59	22	54	505	376	5	113	27	54	5	118
RTOR Reduction (vph)	0	6	0	0	0	98	0	11	0	0	100	0
Lane Group Flow (vph)	0	91	0	0	559	278	0	134	0	54	23	0
Confl. Peds. (#/hr)			10	10					10	10		
Heavy Vehicles (%)	0%	4%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		65.5			65.5	65.5		12.5		12.5	12.5	
Effective Green, g (s)		66.5			66.5	66.5		13.5		13.5	13.5	
Actuated g/C Ratio		0.74			0.74	0.74		0.15		0.15	0.15	
Clearance Time (s)		6.0			6.0	6.0		6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		1197			1271	1193		272		145	244	
v/s Ratio Prot											0.01	
v/s Ratio Perm		0.06			c0.32	0.17		c0.07		0.06		
v/c Ratio		0.08			0.44	0.23		0.49		0.37	0.09	
Uniform Delay, d1		3.3			4.5	3.7		35.1		34.4	33.0	
Progression Factor		1.00			1.74	4.89		1.00		1.00	1.00	
Incremental Delay, d2		0.1			0.9	0.4		1.4		1.6	0.2	
Delay (s)		3.4			8.8	18.5		36.5		36.0	33.1	
Level of Service		A			A	B		D		D	C	
Approach Delay (s)		3.4			12.7			36.5			34.0	
Approach LOS		A			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



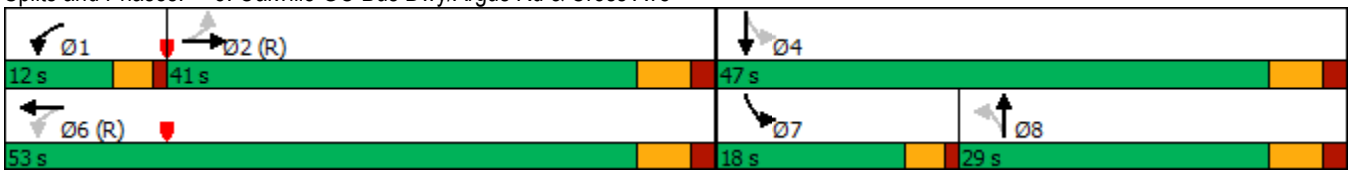
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	1465	15	15	1110	40	15	0	30	380	15	205
Future Volume (vph)	45	1465	15	15	1110	40	15	0	30	380	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	20.0		0.0	0.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	30.0			15.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00			1.00			0.94		0.95	0.94	
Frt		0.998			0.995			0.910			0.860	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1805	3565	0	902	3554	0	0	831	0	1787	1437	0
Flt Permitted	0.164			0.078				0.851		0.725		
Satd. Flow (perm)	311	3565	0	74	3554	0	0	708	0	1294	1437	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			5			120			35	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		126.2			104.6			107.0			123.1	
Travel Time (s)		9.1			7.5			7.7			8.9	
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Adj. Flow (vph)	48	1575	16	16	1194	43	16	0	32	409	16	220
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	1591	0	16	1237	0	0	48	0	409	236	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

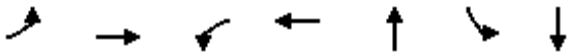
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		1	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	22.0	22.0		8.0	22.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	29.0	29.0		12.0	29.0		29.0	29.0		9.0	29.0	
Total Split (s)	41.0	41.0		12.0	53.0		29.0	29.0		18.0	47.0	
Total Split (%)	41.0%	41.0%		12.0%	53.0%		29.0%	29.0%		18.0%	47.0%	
Maximum Green (s)	35.0	35.0		8.0	47.0		23.0	23.0		14.0	41.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	5.0	5.0		2.5	5.0		4.0	4.0		3.0	4.0	
Recall Mode	C-Min	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	16.0	16.0			16.0		16.0	16.0			16.0	
Pedestrian Calls (#/hr)	15	15			15		45	45			45	
Act Effct Green (s)	51.6	51.6		58.4	56.4			18.8		35.6	33.6	
Actuated g/C Ratio	0.52	0.52		0.58	0.56			0.19		0.36	0.34	
v/c Ratio	0.30	0.87		0.14	0.62			0.21		0.76	0.47	
Control Delay	28.8	31.9		15.3	18.5			2.0		35.8	23.1	
Queue Delay	0.0	42.3		0.0	0.0			0.0		0.0	0.0	
Total Delay	28.8	74.2		15.3	18.5			2.0		35.8	23.1	
LOS	C	E		B	B			A		D	C	
Approach Delay		72.8			18.5			2.0			31.2	
Approach LOS		E			B			A			C	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 45.4 Intersection LOS: D
Intersection Capacity Utilization 77.0% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 8: Oakville GO Bus Dwy/Argus Rd & Cross Ave

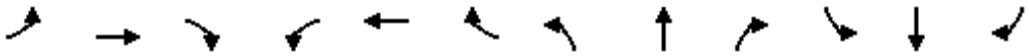




Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	48	1591	16	1237	48	409	236
v/c Ratio	0.30	0.87	0.14	0.62	0.21	0.76	0.47
Control Delay	28.8	31.9	15.3	18.5	2.0	35.8	23.1
Queue Delay	0.0	42.3	0.0	0.0	0.0	0.0	0.0
Total Delay	28.8	74.2	15.3	18.5	2.0	35.8	23.1
Queue Length 50th (m)	5.8	154.4	1.6	101.7	0.0	59.1	27.3
Queue Length 95th (m)	20.1	#259.5	5.2	127.7	0.0	87.9	47.4
Internal Link Dist (m)		102.2		80.6	83.0		99.1
Turn Bay Length (m)	20.0		20.0			15.0	
Base Capacity (vph)	160	1839	117	2005	261	535	623
Starvation Cap Reductn	0	378	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	1.09	0.14	0.62	0.18	0.76	0.38

Intersection Summary

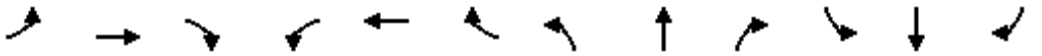
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	1465	15	15	1110	40	15	0	30	380	15	205
Future Volume (vph)	45	1465	15	15	1110	40	15	0	30	380	15	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		3.0	5.0			5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.95		1.00	0.94	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99		0.96	1.00	
Frt	1.00	1.00		1.00	0.99			0.91		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1800	3567		902	3553			819		1722	1437	
Flt Permitted	0.16	1.00		0.08	1.00			0.85		0.72	1.00	
Satd. Flow (perm)	311	3567		75	3553			708		1314	1437	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	48	1575	16	16	1194	43	16	0	32	409	16	220
RTOR Reduction (vph)	0	1	0	0	2	0	0	40	0	0	23	0
Lane Group Flow (vph)	48	1590	0	16	1235	0	0	8	0	409	213	0
Confl. Peds. (#/hr)	15		10	10		15	45		45	45		45
Heavy Vehicles (%)	0%	0%	100%	100%	1%	0%	86%	100%	100%	1%	94%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	47.0	47.0		54.2	54.2			15.8		33.8	33.8	
Effective Green, g (s)	48.0	48.0		55.2	55.2			16.8		34.8	34.8	
Actuated g/C Ratio	0.48	0.48		0.55	0.55			0.17		0.35	0.35	
Clearance Time (s)	6.0	6.0		4.0	6.0			6.0		4.0	6.0	
Vehicle Extension (s)	5.0	5.0		2.5	5.0			4.0		3.0	4.0	
Lane Grp Cap (vph)	149	1712		76	1961			118		518	500	
v/s Ratio Prot		c0.45		0.01	c0.35					c0.12	0.15	
v/s Ratio Perm	0.15			0.11				0.01		c0.16		
v/c Ratio	0.32	0.93		0.21	0.63			0.07		0.79	0.43	
Uniform Delay, d1	16.0	24.4		19.9	15.4			35.0		28.7	25.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	5.6	10.4		1.0	1.5			0.3		7.9	0.8	
Delay (s)	21.6	34.8		20.9	16.9			35.3		36.6	25.8	
Level of Service	C	C		C	B			D		D	C	
Approach Delay (s)		34.4			17.0			35.3			32.6	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	28.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



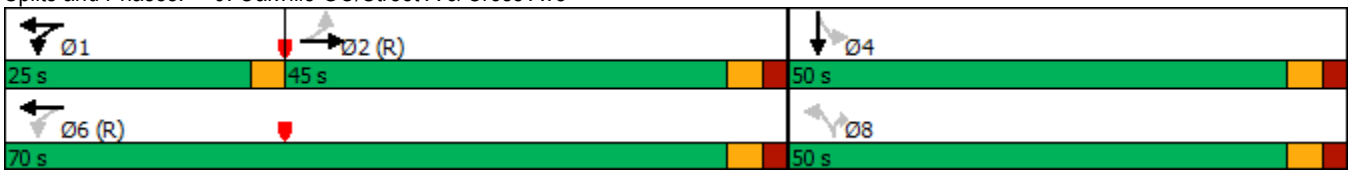
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	830	80	360	715	190	130	0	310	170	0	65
Future Volume (vph)	135	830	80	360	715	190	130	0	310	170	0	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	100.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	1		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00			0.99		0.99		0.97		0.98	
Frt		0.987			0.977				0.850		0.963	
Flt Protected	0.950				0.986		0.950				0.965	
Satd. Flow (prot)	1805	3424	0	0	3358	0	1805	0	1615	0	1752	0
Flt Permitted	0.197				0.508		0.691				0.965	
Satd. Flow (perm)	371	3424	0	0	1730	0	1302	0	1570	0	1731	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			28				337		51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		120.6			126.2			63.3			76.3	
Travel Time (s)		8.7			9.1			4.6			5.5	
Confl. Peds. (#/hr)	30		10	10		30	10		10	10		10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	147	902	87	391	777	207	141	0	337	185	0	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	147	989	0	0	1375	0	141	0	337	0	256	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	100		100
Number of Detectors	1	2		1	2		1		1	1	2	
Detector Template	Left	Thru		Left	Thru		Left		Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0		2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0		2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4						9.4	
Detector 2 Size(m)		0.6			0.6						0.6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	

Lane Group	Ø6
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (m)	
Storage Lanes	
Taper Length (m)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (k/h)	
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(m)	
Detector 2 Size(m)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		custom	NA		Perm		Perm	Perm	NA	
Protected Phases		2		1	1 6						4	
Permitted Phases	2			6			8		8	4		
Detector Phase	2	2		1	1 6		8		8	4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		8.0			10.0		10.0	10.0	10.0	
Minimum Split (s)	40.6	40.6		11.0			27.6		27.6	27.6	27.6	
Total Split (s)	45.0	45.0		25.0			50.0		50.0	50.0	50.0	
Total Split (%)	37.5%	37.5%		20.8%			41.7%		41.7%	41.7%	41.7%	
Maximum Green (s)	39.4	39.4		22.0			44.4		44.4	44.4	44.4	
Yellow Time (s)	3.3	3.3		3.0			3.3		3.3	3.3	3.3	
All-Red Time (s)	2.3	2.3		0.0			2.3		2.3	2.3	2.3	
Lost Time Adjust (s)	-1.0	-1.0					-1.0		-1.0		-1.0	
Total Lost Time (s)	4.6	4.6					4.6		4.6		4.6	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	5.0	5.0		2.5			3.5		3.5	3.0	3.0	
Recall Mode	C-Min	C-Min		None			None		None	None	None	
Walk Time (s)	7.0	7.0					7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	15.0	15.0					15.0		15.0	15.0	15.0	
Pedestrian Calls (#/hr)	20	20					10		10	10	10	
Act Effct Green (s)	48.7	48.7			91.9		21.5		21.5		21.5	
Actuated g/C Ratio	0.41	0.41			0.77		0.18		0.18		0.18	
v/c Ratio	0.98	0.71			0.74		0.61		0.61		0.73	
Control Delay	107.3	34.0			9.0		55.1		8.9		48.4	
Queue Delay	0.0	0.0			1.8		0.0		0.0		0.0	
Total Delay	107.3	34.0			10.8		55.1		8.9		48.4	
LOS	F	C			B		E		A		D	
Approach Delay		43.4			10.8			22.5			48.4	
Approach LOS		D			B			C			D	

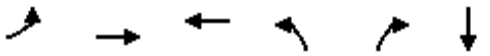
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 64 (53%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 26.9		Intersection LOS: C	
Intersection Capacity Utilization 97.2%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 9: Oakville GO/Street A & Cross Ave



Lane Group	Ø6
Turn Type	
Protected Phases	6
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	35.0
Minimum Split (s)	40.6
Total Split (s)	70.0
Total Split (%)	58%
Maximum Green (s)	64.4
Yellow Time (s)	3.3
All-Red Time (s)	2.3
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	5.0
Recall Mode	C-Min
Walk Time (s)	7.0
Flash Dont Walk (s)	15.0
Pedestrian Calls (#/hr)	20
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

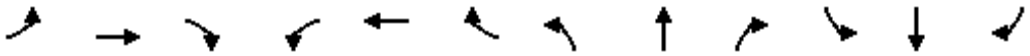
Intersection Summary



Lane Group	EBL	EBT	WBT	NBL	NBR	SBT
Lane Group Flow (vph)	147	989	1375	141	337	256
v/c Ratio	0.98	0.71	0.74	0.61	0.61	0.73
Control Delay	107.3	34.0	9.0	55.1	8.9	48.4
Queue Delay	0.0	0.0	1.8	0.0	0.0	0.0
Total Delay	107.3	34.0	10.8	55.1	8.9	48.4
Queue Length 50th (m)	34.5	102.6	57.8	32.6	0.0	48.9
Queue Length 95th (m)	#86.4	146.7	101.4	49.9	23.6	71.4
Internal Link Dist (m)		96.6	102.2			52.3
Turn Bay Length (m)						
Base Capacity (vph)	150	1393	1856	492	803	686
Starvation Cap Reductn	0	0	306	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.71	0.89	0.29	0.42	0.37

Intersection Summary

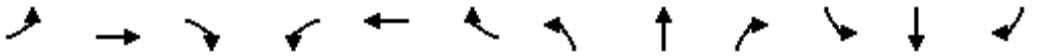
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	830	80	360	715	190	130	0	310	170	0	65
Future Volume (vph)	135	830	80	360	715	190	130	0	310	170	0	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6			2.0		4.6		4.6		4.6	
Lane Util. Factor	1.00	0.95			0.95		1.00		1.00		1.00	
Frpb, ped/bikes	1.00	1.00			0.99		1.00		0.97		0.99	
Flpb, ped/bikes	0.99	1.00			1.00		0.99		1.00		0.99	
Frt	1.00	0.99			0.98		1.00		0.85		0.96	
Flt Protected	0.95	1.00			0.99		0.95		1.00		0.97	
Satd. Flow (prot)	1783	3423			3363		1792		1570		1731	
Flt Permitted	0.20	1.00			0.51		0.69		1.00		0.97	
Satd. Flow (perm)	369	3423			1731		1304		1570		1731	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	147	902	87	391	777	207	141	0	337	185	0	71
RTOR Reduction (vph)	0	5	0	0	7	0	0	0	277	0	42	0
Lane Group Flow (vph)	147	984	0	0	1368	0	141	0	60	0	214	0
Confl. Peds. (#/hr)	30		10	10		30	10		10	10		10
Heavy Vehicles (%)	0%	4%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		custom	NA		Perm		Perm	Perm	NA	
Protected Phases		2		1	1 6						4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	47.6	47.6			88.3		20.5		20.5		20.5	
Effective Green, g (s)	48.6	48.6			89.3		21.5		21.5		21.5	
Actuated g/C Ratio	0.41	0.41			0.74		0.18		0.18		0.18	
Clearance Time (s)	5.6	5.6					5.6		5.6		5.6	
Vehicle Extension (s)	5.0	5.0					3.5		3.5		3.0	
Lane Grp Cap (vph)	149	1386			1814		233		281		310	
v/s Ratio Prot		0.29			c0.24							
v/s Ratio Perm	c0.40				0.32		0.11		0.04		0.12	
v/c Ratio	0.99	0.71			0.75		0.61		0.21		0.69	
Uniform Delay, d1	35.4	29.8			8.9		45.3		42.0		46.1	
Progression Factor	1.00	1.00			1.00		1.00		1.00		1.00	
Incremental Delay, d2	70.3	3.1			1.7		4.6		0.5		6.5	
Delay (s)	105.7	32.9			10.7		50.0		42.5		52.6	
Level of Service	F	C			B		D		D		D	
Approach Delay (s)		42.3			10.7			44.7			52.6	
Approach LOS		D			B			D			D	

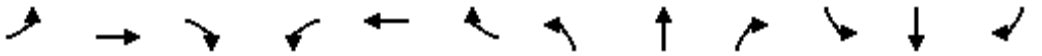
Intersection Summary			
HCM 2000 Control Delay	30.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	97.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	745	0	0	800	130	0	0	80	120	0	95
Future Volume (vph)	40	745	0	0	800	130	0	0	80	120	0	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	1		1
Taper Length (m)	25.0			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.979			0.865				0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1805	3438	0	0	3412	0	0	1644	0	1805	0	1615
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1805	3438	0	0	3412	0	0	1644	0	1805	0	1615
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		132.8			120.6			80.8			71.6	
Travel Time (s)		9.6			8.7			5.8			5.2	
Confl. Peds. (#/hr)	15		10	10		15	5		5	5		5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	5%	0%	0%	4%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	45	847	0	0	909	148	0	0	91	136	0	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	847	0	0	1057	0	0	91	0	136	0	108
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

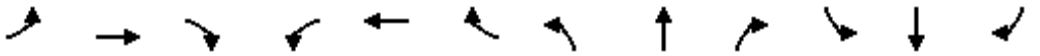
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	745	0	0	800	130	0	0	80	120	0	95
Future Volume (Veh/h)	40	745	0	0	800	130	0	0	80	120	0	95
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	45	847	0	0	909	148	0	0	91	136	0	108
Pedestrians		5			5			10			15	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		133			121							
pX, platoon unblocked				0.91			0.91	0.91	0.91	0.91	0.91	
vC, conflicting volume	1072			857			1514	2019	438	1608	1945	548
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1072			635			1361	1917	173	1463	1836	548
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	93			100			100	100	88	0	100	77
cM capacity (veh/h)	650			861			70	56	757	67	63	477

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total	45	424	424	606	451	91	136	108
Volume Left	45	0	0	0	0	0	136	0
Volume Right	0	0	0	0	148	91	0	108
cSH	650	1700	1700	1700	1700	757	67	477
Volume to Capacity	0.07	0.25	0.25	0.36	0.27	0.12	2.03	0.23
Queue Length 95th (m)	1.8	0.0	0.0	0.0	0.0	3.3	101.4	6.9
Control Delay (s)	11.0	0.0	0.0	0.0	0.0	10.4	613.5	14.7
Lane LOS	B					B	F	B
Approach Delay (s)	0.6			0.0		10.4	348.5	
Approach LOS						B	F	

Intersection Summary				
Average Delay	37.9			
Intersection Capacity Utilization	53.1%	ICU Level of Service		A
Analysis Period (min)	15			

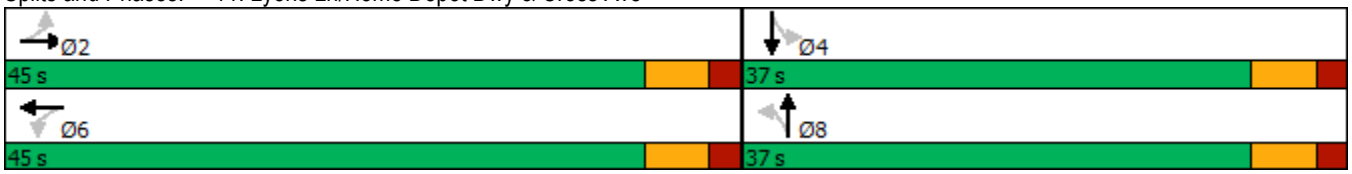


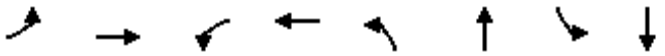
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	625	30	20	890	15	140	5	85	25	5	95
Future Volume (vph)	70	625	30	20	890	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	25.0		0.0	35.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		1.00	1.00		1.00	0.98		0.99	0.98	
Frt		0.993			0.997			0.858			0.858	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3386	0	1805	3460	0	1805	1595	0	1805	1588	0
Flt Permitted	0.221			0.336			0.681			0.689		
Satd. Flow (perm)	417	3386	0	637	3460	0	1288	1595	0	1296	1588	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			3			100			55	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		47.5			132.8			89.0			69.0	
Travel Time (s)		3.4			9.6			6.4			5.0	
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	82	735	35	24	1047	18	165	6	100	29	6	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	770	0	24	1065	0	165	106	0	29	118	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0		35.0	35.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	41.0	41.0		41.0	41.0		28.0	28.0		28.0	28.0	
Total Split (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Total Split (%)	54.9%	54.9%		54.9%	54.9%		45.1%	45.1%		45.1%	45.1%	
Maximum Green (s)	39.0	39.0		39.0	39.0		31.0	31.0		31.0	31.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)	15	15		15	15		10	10		10	10	
Act Effct Green (s)	37.0	37.0		37.0	37.0		15.6	15.6		15.6	15.6	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
v/c Ratio	0.33	0.38		0.06	0.52		0.52	0.22		0.09	0.27	
Control Delay	12.8	8.0		7.5	9.4		26.4	6.4		18.4	12.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	12.8	8.0		7.5	9.4		26.4	6.4		18.4	12.7	
LOS	B	A		A	A		C	A		B	B	
Approach Delay		8.5			9.3			18.6			13.8	
Approach LOS		A			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 62.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay: 10.4		Intersection LOS: B	
Intersection Capacity Utilization 82.0%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 11: Lyons Ln/Home Depot Dwy & Cross Ave





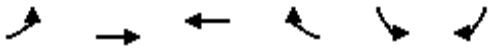
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	82	770	24	1065	165	106	29	118
v/c Ratio	0.33	0.38	0.06	0.52	0.52	0.22	0.09	0.27
Control Delay	12.8	8.0	7.5	9.4	26.4	6.4	18.4	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.8	8.0	7.5	9.4	26.4	6.4	18.4	12.7
Queue Length 50th (m)	4.2	21.5	1.1	33.4	16.8	0.5	2.7	5.8
Queue Length 95th (m)	15.5	40.0	4.7	59.8	32.8	9.4	8.0	16.5
Internal Link Dist (m)		23.5		108.8		65.0		45.0
Turn Bay Length (m)			25.0		35.0			
Base Capacity (vph)	268	2182	410	2228	663	869	667	844
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.35	0.06	0.48	0.25	0.12	0.04	0.14

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	625	30	20	890	15	140	5	85	25	5	95
Future Volume (vph)	70	625	30	20	890	15	140	5	85	25	5	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1795	3387		1801	3462		1798	1600		1792	1589	
Flt Permitted	0.22	1.00		0.34	1.00		0.68	1.00		0.69	1.00	
Satd. Flow (perm)	417	3387		637	3462		1289	1600		1299	1589	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	82	735	35	24	1047	18	165	6	100	29	6	112
RTOR Reduction (vph)	0	3	0	0	1	0	0	75	0	0	41	0
Lane Group Flow (vph)	82	767	0	24	1064	0	165	31	0	29	77	0
Confl. Peds. (#/hr)	20		5	5		20	5		10	10		5
Heavy Vehicles (%)	0%	6%	0%	0%	4%	0%	0%	0%	0%	0%	0%	1%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	36.0	36.0		36.0	36.0		14.6	14.6		14.6	14.6	
Effective Green, g (s)	37.0	37.0		37.0	37.0		15.6	15.6		15.6	15.6	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.25	0.25		0.25	0.25	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	246	2001		376	2046		321	398		323	395	
v/s Ratio Prot		0.23			c0.31			0.02			0.05	
v/s Ratio Perm	0.20			0.04			c0.13			0.02		
v/c Ratio	0.33	0.38		0.06	0.52		0.51	0.08		0.09	0.19	
Uniform Delay, d1	6.5	6.8		5.4	7.6		20.2	18.0		18.0	18.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.7	0.3		0.2	0.4		1.8	0.1		0.2	0.3	
Delay (s)	8.2	7.0		5.6	8.0		22.1	18.1		18.2	18.9	
Level of Service	A	A		A	A		C	B		B	B	
Approach Delay (s)		7.1			8.0			20.5			18.7	
Approach LOS		A			A			C			B	

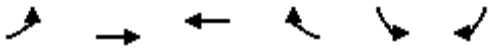
Intersection Summary			
HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	62.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	805	1285	30	20	25
Future Volume (vph)	25	805	1285	30	20	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt			0.997		0.926	
Flt Protected	0.950				0.978	
Satd. Flow (prot)	1805	3471	3497	0	1721	0
Flt Permitted	0.950				0.978	
Satd. Flow (perm)	1805	3471	3497	0	1721	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		443.3	47.5		121.4	
Travel Time (s)		31.9	3.4		8.7	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	4%	3%	0%	0%	0%
Adj. Flow (vph)	27	885	1412	33	22	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	885	1445	0	49	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

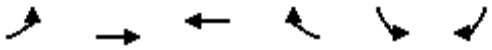
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 46.5%		ICU Level of Service A	
Analysis Period (min) 15			



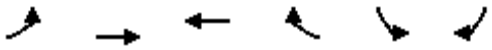
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	805	1285	30	20	25
Future Volume (Veh/h)	25	805	1285	30	20	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	27	885	1412	33	22	27
Pedestrians					15	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			48			
pX, platoon unblocked	0.82				0.82	0.82
vC, conflicting volume	1460				1940	738
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1117				1704	233
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				66	96
cM capacity (veh/h)	511				64	626

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	27	442	442	941	504	49
Volume Left	27	0	0	0	0	22
Volume Right	0	0	0	0	33	27
cSH	511	1700	1700	1700	1700	127
Volume to Capacity	0.05	0.26	0.26	0.55	0.30	0.38
Queue Length 95th (m)	1.3	0.0	0.0	0.0	0.0	12.9
Control Delay (s)	12.4	0.0	0.0	0.0	0.0	49.9
Lane LOS	B					E
Approach Delay (s)	0.4			0.0		49.9
Approach LOS						E

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	625	1245	1630	175	155	1150
Future Volume (vph)	625	1245	1630	175	155	1150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0			0.0	60.0	0.0
Storage Lanes	1			0	1	2
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.88
Ped Bike Factor			1.00			
Frt			0.985			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1719	3574	3513	0	1805	2760
Flt Permitted	0.054				0.950	
Satd. Flow (perm)	98	3574	3513	0	1805	2760
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			11			586
Link Speed (k/h)		50	50		50	
Link Distance (m)		209.5	575.4		443.3	
Travel Time (s)		15.1	41.4		31.9	
Confl. Peds. (#/hr)	15			15		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Adj. Flow (vph)	665	1324	1734	186	165	1223
Shared Lane Traffic (%)						
Lane Group Flow (vph)	665	1324	1920	0	165	1223
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		7.2	7.2		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			

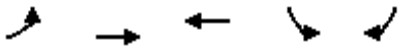


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Detector Phase	5	2	6		4	4
Switch Phase						
Minimum Initial (s)	6.0	38.0	38.0		10.0	10.0
Minimum Split (s)	12.0	47.6	44.6		33.8	33.8
Total Split (s)	35.0	109.2	74.2		30.8	30.8
Total Split (%)	25.0%	78.0%	53.0%		22.0%	22.0%
Maximum Green (s)	29.0	102.6	67.6		25.0	25.0
Yellow Time (s)	4.0	3.7	3.7		3.3	3.3
All-Red Time (s)	2.0	2.9	2.9		2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	5.0	5.6	5.6		4.8	4.8
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Min	C-Min		None	None
Walk Time (s)		10.0	1.0		10.0	10.0
Flash Dont Walk (s)		31.0	31.0		18.0	18.0
Pedestrian Calls (#/hr)		10	10		0	0
Act Effct Green (s)	104.2	103.6	68.6		26.0	26.0
Actuated g/C Ratio	0.74	0.74	0.49		0.19	0.19
v/c Ratio	1.58	0.50	1.11		0.49	1.24
Control Delay	305.2	8.3	96.1		56.9	139.7
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	305.2	8.3	96.1		56.9	139.7
LOS	F	A	F		E	F
Approach Delay		107.6	96.1		129.9	
Approach LOS		F	F		F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.58			
Intersection Signal Delay: 109.3		Intersection LOS: F	
Intersection Capacity Utilization 106.8%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 13: Speers Rd/Cornwall Rd & Cross Ave



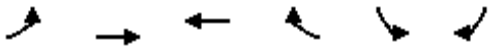


Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	665	1324	1920	165	1223
v/c Ratio	1.58	0.50	1.11	0.49	1.24
Control Delay	305.2	8.3	96.1	56.9	139.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	305.2	8.3	96.1	56.9	139.7
Queue Length 50th (m)	~261.0	74.8	~339.1	43.6	~166.9
Queue Length 95th (m)	#338.9	88.3	#383.1	68.1	#216.1
Internal Link Dist (m)		185.5	551.4	419.3	
Turn Bay Length (m)	70.0			60.0	
Base Capacity (vph)	420	2644	1726	335	989
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.58	0.50	1.11	0.49	1.24

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

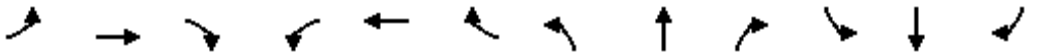
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	625	1245	1630	175	155	1150
Future Volume (vph)	625	1245	1630	175	155	1150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.6	5.6		4.8	4.8
Lane Util. Factor	1.00	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1719	3574	3515		1805	2760
Flt Permitted	0.05	1.00	1.00		0.95	1.00
Satd. Flow (perm)	98	3574	3515		1805	2760
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	665	1324	1734	186	165	1223
RTOR Reduction (vph)	0	0	6	0	0	477
Lane Group Flow (vph)	665	1324	1914	0	165	746
Confl. Peds. (#/hr)	15			15		
Heavy Vehicles (%)	5%	1%	1%	0%	0%	3%
Turn Type	pm+pt	NA	NA		Perm	Perm
Protected Phases	5	2	6			
Permitted Phases	2				4	4
Actuated Green, G (s)	102.6	102.6	67.6		25.0	25.0
Effective Green, g (s)	103.6	103.6	68.6		26.0	26.0
Actuated g/C Ratio	0.74	0.74	0.49		0.19	0.19
Clearance Time (s)	6.0	6.6	6.6		5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	419	2644	1722		335	512
v/s Ratio Prot	c0.34	0.37	0.54			
v/s Ratio Perm	c0.83				0.09	c0.27
v/c Ratio	1.59	0.50	1.11		0.49	1.46
Uniform Delay, d1	48.4	7.5	35.7		51.1	57.0
Progression Factor	1.00	1.00	1.14		1.00	1.00
Incremental Delay, d2	275.3	0.7	57.8		1.1	216.2
Delay (s)	323.7	8.2	98.6		52.2	273.2
Level of Service	F	A	F		D	F
Approach Delay (s)		113.7	98.6		246.9	
Approach LOS		F	F		F	

Intersection Summary			
HCM 2000 Control Delay	143.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.60		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	106.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

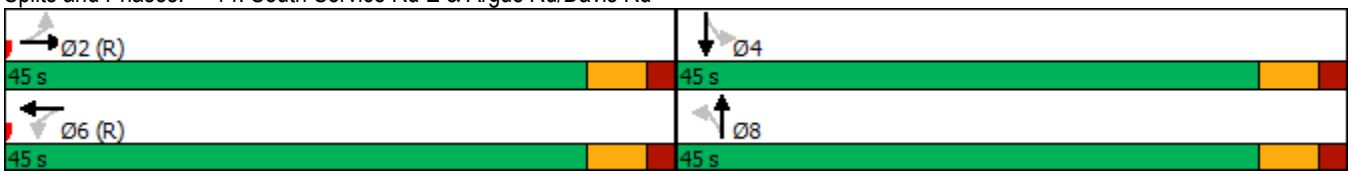


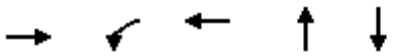
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	25	0	125	180	15	0	295	120	20	545	0
Future Volume (vph)	0	25	0	125	180	15	0	295	120	20	545	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		65.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.988			0.961				
Flt Protected				0.950							0.998	
Satd. Flow (prot)	1900	1900	0	1770	1877	0	0	1788	0	0	1896	0
Flt Permitted				0.738							0.973	
Satd. Flow (perm)	1900	1900	0	1375	1877	0	0	1788	0	0	1849	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					6			29				
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		170.6			203.3			204.3			287.4	
Travel Time (s)		12.3			14.6			14.7			20.7	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	0%	3%	0%	0%	0%	0%
Adj. Flow (vph)	0	29	0	147	212	18	0	347	141	24	641	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	29	0	147	230	0	0	488	0	0	665	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA			NA		Perm	NA	
Protected Phases		2			6			8			4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	26.0	26.0		26.0	26.0		26.0	26.0		26.0	26.0	
Total Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	39.0	39.0		39.0	39.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	20	20		20	20		20	20		20	20	
Act Effct Green (s)		42.5		42.5	42.5			37.5			37.5	
Actuated g/C Ratio		0.47		0.47	0.47			0.42			0.42	
v/c Ratio		0.03		0.23	0.26			0.64			0.86	
Control Delay		2.7		15.5	15.0			23.3			36.3	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		2.7		15.5	15.0			23.3			36.3	
LOS		A		B	B			C			D	
Approach Delay		2.7			15.2			23.3			36.3	
Approach LOS		A			B			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 26.5		Intersection LOS: C	
Intersection Capacity Utilization 69.9%		ICU Level of Service C	
Analysis Period (min) 15			

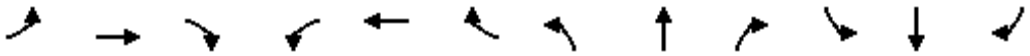
Splits and Phases: 14: South Service Rd E & Argus Rd/Davis Rd





Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	29	147	230	488	665
v/c Ratio	0.03	0.23	0.26	0.64	0.86
Control Delay	2.7	15.5	15.0	23.3	36.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	2.7	15.5	15.0	23.3	36.3
Queue Length 50th (m)	0.3	17.5	27.2	62.8	104.1
Queue Length 95th (m)	1.3	31.6	44.7	82.5	130.9
Internal Link Dist (m)	146.6		179.3	180.3	263.4
Turn Bay Length (m)		30.0			
Base Capacity (vph)	911	659	903	823	834
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.03	0.22	0.25	0.59	0.80

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	25	0	125	180	15	0	295	120	20	545	0
Future Volume (vph)	0	25	0	125	180	15	0	295	120	20	545	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0			5.0			5.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.99			0.96			1.00	
Flt Protected		1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)		1900		1770	1878			1788			1897	
Flt Permitted		1.00		0.74	1.00			1.00			0.97	
Satd. Flow (perm)		1900		1375	1878			1788			1849	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	29	0	147	212	18	0	347	141	24	641	0
RTOR Reduction (vph)	0	0	0	0	3	0	0	17	0	0	0	0
Lane Group Flow (vph)	0	29	0	147	227	0	0	471	0	0	665	0
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	0%	3%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA			NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		41.5		41.5	41.5			36.5			36.5	
Effective Green, g (s)		42.5		42.5	42.5			37.5			37.5	
Actuated g/C Ratio		0.47		0.47	0.47			0.42			0.42	
Clearance Time (s)		6.0		6.0	6.0			6.0			6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		897		649	886			745			770	
v/s Ratio Prot		0.02			c0.12			0.26				
v/s Ratio Perm				0.11							c0.36	
v/c Ratio		0.03		0.23	0.26			0.63			0.86	
Uniform Delay, d1		12.7		14.0	14.3			20.8			23.9	
Progression Factor		0.18		0.93	0.94			1.00			1.00	
Incremental Delay, d2		0.1		0.8	0.7			1.8			9.9	
Delay (s)		2.4		13.9	14.1			22.5			33.8	
Level of Service		A		B	B			C			C	
Approach Delay (s)		2.4			14.0			22.5			33.8	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	110	160	135	200	390	210
Future Volume (vph)	110	160	135	200	390	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		100.0	100.0		100.0	0.0
Storage Lanes		0	0		0	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.920				0.953	
Flt Protected				0.980	0.969	
Satd. Flow (prot)	1711	0	0	1862	1737	0
Flt Permitted				0.980	0.969	
Satd. Flow (perm)	1711	0	0	1862	1737	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	252.8			547.4	339.1	
Travel Time (s)	18.2			39.4	24.4	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	3%	0%	0%	1%	1%
Adj. Flow (vph)	124	180	152	225	438	236
Shared Lane Traffic (%)						
Lane Group Flow (vph)	304	0	0	377	674	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	78.0%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	110	160	135	200	390	210
Future Volume (Veh/h)	110	160	135	200	390	210
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	124	180	152	225	438	236
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			304		743	214
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			304		743	214
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			88		0	72
cM capacity (veh/h)			1268		338	829

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	304	377	674
Volume Left	0	152	438
Volume Right	180	0	236
cSH	1700	1268	426
Volume to Capacity	0.18	0.12	1.58
Queue Length 95th (m)	0.0	3.3	301.3
Control Delay (s)	0.0	4.0	296.0
Lane LOS		A	F
Approach Delay (s)	0.0	4.0	296.0
Approach LOS			F

Intersection Summary			
Average Delay	148.3		
Intersection Capacity Utilization	78.0%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	985	100	60	1240	135	180	175	45	85	115	50
Future Volume (vph)	45	985	100	60	1240	135	180	175	45	85	115	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		0.0	30.0		0.0	0.0		0.0	25.0		25.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		1.00	1.00		1.00					0.98
Frt		0.986			0.985			0.969				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3483	0	1805	3479	0	1770	1827	0	1805	1827	1553
Flt Permitted	0.117			0.195			0.679			0.485		
Satd. Flow (perm)	218	3483	0	370	3479	0	1259	1827	0	922	1827	1520
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			20			14				53
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		609.1			154.4			213.6			116.5	
Travel Time (s)		43.9			11.1			15.4			8.4	
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Adj. Flow (vph)	48	1048	106	64	1319	144	191	186	48	90	122	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	1154	0	64	1463	0	191	234	0	90	122	53
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	24.0	24.0		24.0	24.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	30.9	30.9		30.9	30.9		32.5	32.5		32.5	32.5	32.5
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0		36.0	36.0	36.0
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%		36.0%	36.0%	36.0%
Maximum Green (s)	58.1	58.1		58.1	58.1		30.5	30.5		30.5	30.5	30.5
Yellow Time (s)	3.7	3.7		3.7	3.7		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	2.2
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Recall Mode	Min	Min		Min	Min		None	None		None	None	None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	49.0	49.0		49.0	49.0		20.2	20.2		20.2	20.2	20.2
Actuated g/C Ratio	0.62	0.62		0.62	0.62		0.26	0.26		0.26	0.26	0.26
v/c Ratio	0.36	0.53		0.28	0.68		0.60	0.49		0.38	0.26	0.12
Control Delay	18.2	10.0		12.3	12.3		36.1	28.7		31.9	27.0	8.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	18.2	10.0		12.3	12.3		36.1	28.7		31.9	27.0	8.1
LOS	B	B		B	B		D	C		C	C	A
Approach Delay		10.3			12.3			32.0			24.9	
Approach LOS		B			B			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 79.2			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 15.0		Intersection LOS: B	
Intersection Capacity Utilization 81.9%		ICU Level of Service D	
Analysis Period (min) 15			

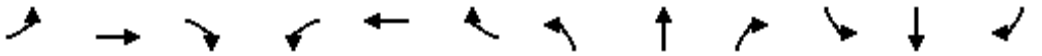
Splits and Phases: 16: Chartwell Rd & Cornwall Rd





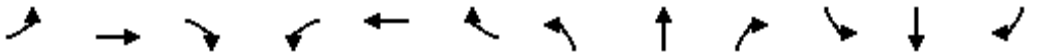
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	48	1154	64	1463	191	234	90	122	53
v/c Ratio	0.36	0.53	0.28	0.68	0.60	0.49	0.38	0.26	0.12
Control Delay	18.2	10.0	12.3	12.3	36.1	28.7	31.9	27.0	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.2	10.0	12.3	12.3	36.1	28.7	31.9	27.0	8.1
Queue Length 50th (m)	3.3	47.5	4.1	69.7	28.2	31.4	12.5	16.4	0.0
Queue Length 95th (m)	15.3	86.8	15.2	126.2	53.5	56.9	28.1	32.6	8.7
Internal Link Dist (m)		585.1		130.4		189.6		92.5	
Turn Bay Length (m)	45.0		30.0				25.0		25.0
Base Capacity (vph)	166	2659	282	2656	528	774	387	767	668
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.43	0.23	0.55	0.36	0.30	0.23	0.16	0.08

Intersection Summary



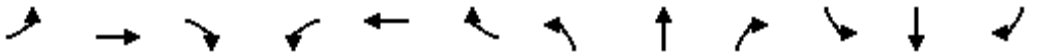
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	985	100	60	1240	135	180	175	45	85	115	50
Future Volume (vph)	45	985	100	60	1240	135	180	175	45	85	115	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		4.9	4.9		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1768	3485		1803	3481		1763	1827		1805	1827	1521
Flt Permitted	0.12	1.00		0.19	1.00		0.68	1.00		0.48	1.00	1.00
Satd. Flow (perm)	217	3485		370	3481		1259	1827		921	1827	1521
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	48	1048	106	64	1319	144	191	186	48	90	122	53
RTOR Reduction (vph)	0	7	0	0	8	0	0	10	0	0	0	39
Lane Group Flow (vph)	48	1147	0	64	1455	0	191	224	0	90	122	14
Confl. Peds. (#/hr)	5		5	5		5	5					5
Confl. Bikes (#/hr)												5
Heavy Vehicles (%)	2%	2%	1%	0%	2%	1%	2%	1%	0%	0%	4%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	48.0	48.0		48.0	48.0		19.2	19.2		19.2	19.2	19.2
Effective Green, g (s)	49.0	49.0		49.0	49.0		20.2	20.2		20.2	20.2	20.2
Actuated g/C Ratio	0.62	0.62		0.62	0.62		0.26	0.26		0.26	0.26	0.26
Clearance Time (s)	5.9	5.9		5.9	5.9		5.5	5.5		5.5	5.5	5.5
Vehicle Extension (s)	5.5	5.5		5.5	5.5		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	135	2172		230	2170		323	469		236	469	390
v/s Ratio Prot		0.33			c0.42			0.12			0.07	
v/s Ratio Perm	0.22			0.17			c0.15			0.10		0.01
v/c Ratio	0.36	0.53		0.28	0.67		0.59	0.48		0.38	0.26	0.03
Uniform Delay, d1	7.2	8.3		6.7	9.6		25.6	24.7		24.1	23.2	21.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3.9	0.5		1.6	1.2		3.4	1.0		1.4	0.4	0.1
Delay (s)	11.1	8.8		8.4	10.8		29.0	25.8		25.5	23.7	21.9
Level of Service	B	A		A	B		C	C		C	C	C
Approach Delay (s)		8.9			10.7			27.2			23.9	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	78.6	Sum of lost time (s)	9.4
Intersection Capacity Utilization	81.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1980	5	0	1145	245	0	0	60	0	0	40
Future Volume (vph)	0	1980	5	0	1145	245	0	0	60	0	0	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.974				0.865			0.865
Flt Protected												
Satd. Flow (prot)	0	3472	0	0	3404	0	0	0	1644	0	0	1644
Flt Permitted												
Satd. Flow (perm)	0	3472	0	0	3404	0	0	0	1644	0	0	1644
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		104.6			121.1			111.1			94.6	
Travel Time (s)		7.5			8.7			8.0			6.8	
Confl. Peds. (#/hr)	30		10	10		30	5					5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	4%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	2250	6	0	1301	278	0	0	68	0	0	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2256	0	0	1579	0	0	0	68	0	0	45
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.2			7.2			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 65.3%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1980	5	0	1145	245	0	0	60	0	0	40
Future Volume (Veh/h)	0	1980	5	0	1145	245	0	0	60	0	0	40
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	2250	6	0	1301	278	0	0	68	0	0	45
Pedestrians		5						10			30	
Lane Width (m)		3.6						3.6			3.6	
Walking Speed (m/s)		1.2						1.2			1.2	
Percent Blockage		0						1			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		105			121							
pX, platoon unblocked	0.87			0.56			0.63	0.63	0.56	0.63	0.63	0.87
vC, conflicting volume	1609			2266			2964	3872	1138	2663	3736	824
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1410			1699			2044	3493	0	1565	3277	514
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	89	100	100	90
cM capacity (veh/h)	418			213			18	4	610	41	5	434

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	1500	756	867	712	68	45
Volume Left	0	0	0	0	0	0
Volume Right	0	6	0	278	68	45
cSH	1700	1700	1700	1700	610	434
Volume to Capacity	0.88	0.44	0.51	0.42	0.11	0.10
Queue Length 95th (m)	0.0	0.0	0.0	0.0	3.0	2.8
Control Delay (s)	0.0	0.0	0.0	0.0	11.6	14.2
Lane LOS					B	B
Approach Delay (s)	0.0		0.0		11.6	14.2
Approach LOS					B	B

Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	65.3%	ICU Level of Service		C
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	0	100	130	0	40
Future Volume (vph)	50	0	100	130	0	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.979		
Satd. Flow (prot)	1863	0	0	1824	1611	0
Flt Permitted				0.979		
Satd. Flow (perm)	1863	0	0	1824	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	54.4			96.4	88.6	
Travel Time (s)	3.9			6.9	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	0	109	141	0	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	0	250	43	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

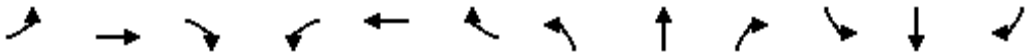
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	50	0	100	130	0	40
Future Volume (Veh/h)	50	0	100	130	0	40
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	0	109	141	0	43
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				318		
pX, platoon unblocked						
vC, conflicting volume			54		413	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			54		413	54
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		100	96
cM capacity (veh/h)			1551		554	1013

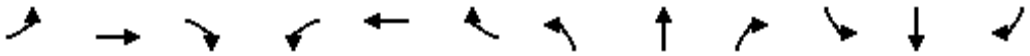
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	54	250	43
Volume Left	0	109	0
Volume Right	0	0	43
cSH	1700	1551	1013
Volume to Capacity	0.03	0.07	0.04
Queue Length 95th (m)	0.0	1.8	1.1
Control Delay (s)	0.0	3.6	8.7
Lane LOS		A	A
Approach Delay (s)	0.0	3.6	8.7
Approach LOS			A

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	29.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	40	30	30	10	0	190	20	50	120	10
Future Volume (vph)	0	0	40	30	30	10	0	190	20	50	120	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865			0.981			0.987			0.992	
Flt Protected					0.979						0.986	
Satd. Flow (prot)	0	1611	0	0	1789	0	0	1839	0	0	1822	0
Flt Permitted					0.979						0.986	
Satd. Flow (perm)	0	1611	0	0	1789	0	0	1839	0	0	1822	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		48.4			110.3			49.4			89.5	
Travel Time (s)		3.5			7.9			3.6			6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	43	33	33	11	0	207	22	54	130	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	43	0	0	77	0	0	229	0	0	195	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	41.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	40	30	30	10	0	190	20	50	120	10
Future Volume (vph)	0	0	40	30	30	10	0	190	20	50	120	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	43	33	33	11	0	207	22	54	130	11

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	43	77	229	195
Volume Left (vph)	0	33	0	54
Volume Right (vph)	43	11	22	11
Hadj (s)	-0.57	0.03	-0.02	0.06
Departure Headway (s)	4.4	5.0	4.4	4.5
Degree Utilization, x	0.05	0.11	0.28	0.24
Capacity (veh/h)	727	660	789	763
Control Delay (s)	7.7	8.5	9.1	9.0
Approach Delay (s)	7.7	8.5	9.1	9.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	8.9			
Level of Service	A			
Intersection Capacity Utilization	41.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	25	50	540	60	0	55
Future Volume (vph)	25	50	540	60	0	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.910					0.850
Flt Protected				0.957		
Satd. Flow (prot)	1695	0	0	1783	1863	1583
Flt Permitted				0.957		
Satd. Flow (perm)	1695	0	0	1783	1863	1583
Link Speed (k/h)	50			50	50	
Link Distance (m)	110.3			98.9	123.1	
Travel Time (s)	7.9			7.1	8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	54	587	65	0	60
Shared Lane Traffic (%)						
Lane Group Flow (vph)	81	0	0	652	0	60
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	7.2	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	25	50	540	60	0	55
Future Volume (Veh/h)	25	50	540	60	0	55
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	54	587	65	0	60
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				147		
pX, platoon unblocked					0.90	
vC, conflicting volume			81		1293	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			81		1271	54
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			61		100	94
cM capacity (veh/h)			1517		103	1013

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	81	652	0	60
Volume Left	0	587	0	0
Volume Right	54	0	0	60
cSH	1700	1517	1700	1013
Volume to Capacity	0.05	0.39	0.00	0.06
Queue Length 95th (m)	0.0	14.9	0.0	1.5
Control Delay (s)	0.0	8.3	0.0	8.8
Lane LOS		A	A	A
Approach Delay (s)	0.0	8.3	8.8	
Approach LOS			A	

Intersection Summary			
Average Delay	7.5		
Intersection Capacity Utilization	43.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	0	30	0	0	50
Future Volume (vph)	0	0	30	0	0	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.950		
Satd. Flow (prot)	1863	0	0	1770	1611	0
Flt Permitted				0.950		
Satd. Flow (perm)	1863	0	0	1770	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	39.6			48.4	40.7	
Travel Time (s)	2.9			3.5	2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	33	0	0	54
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	33	54	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

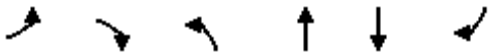
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	30	0	0	50
Future Volume (Veh/h)	0	0	30	0	0	50
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	33	0	0	54
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			0		66	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		66	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		100	95
cM capacity (veh/h)			1623		920	1085

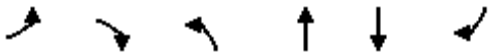
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	0	33	54
Volume Left	0	33	0
Volume Right	0	0	54
cSH	1700	1623	1085
Volume to Capacity	0.00	0.02	0.05
Queue Length 95th (m)	0.0	0.5	1.3
Control Delay (s)	0.0	7.3	8.5
Lane LOS		A	A
Approach Delay (s)	0.0	7.3	8.5
Approach LOS			A

Intersection Summary			
Average Delay	8.0		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	45	105	210	160	35
Future Volume (vph)	5	45	105	210	160	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.877				0.976	
Flt Protected	0.995			0.984		
Satd. Flow (prot)	1625	0	0	1833	1818	0
Flt Permitted	0.995			0.984		
Satd. Flow (perm)	1625	0	0	1833	1818	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	28.2			76.3	49.4	
Travel Time (s)	2.0			5.5	3.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	49	114	228	174	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	0	342	212	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 40.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	45	105	210	160	35
Future Volume (Veh/h)	5	45	105	210	160	35
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	49	114	228	174	38
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				76		
pX, platoon unblocked	0.95					
vC, conflicting volume	649	193	212			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	606	193	212			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	94	92			
cM capacity (veh/h)	401	849	1358			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	54	342	212
Volume Left	5	114	0
Volume Right	49	0	38
cSH	769	1358	1700
Volume to Capacity	0.07	0.08	0.12
Queue Length 95th (m)	1.8	2.2	0.0
Control Delay (s)	10.0	3.1	0.0
Lane LOS	B	A	
Approach Delay (s)	10.0	3.1	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	40.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	50	0	45	85	0	0
Future Volume (vph)	50	0	45	85	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected				0.983		
Satd. Flow (prot)	1863	0	0	1831	1863	0
Flt Permitted				0.983		
Satd. Flow (perm)	1863	0	0	1831	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	51.2			54.4	40.3	
Travel Time (s)	3.7			3.9	2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	0	49	92	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	0	141	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 17.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	50	0	45	85	0	0
Future Volume (Veh/h)	50	0	45	85	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	0	49	92	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				372		
pX, platoon unblocked						
vC, conflicting volume			54		244	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			54		244	54
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	100
cM capacity (veh/h)			1551		721	1013

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	54	141	0
Volume Left	0	49	0
Volume Right	0	0	0
cSH	1700	1551	1700
Volume to Capacity	0.03	0.03	0.01
Queue Length 95th (m)	0.0	0.8	0.0
Control Delay (s)	0.0	2.7	0.0
Lane LOS		A	A
Approach Delay (s)	0.0	2.7	0.0
Approach LOS			A

Intersection Summary			
Average Delay		2.0	
Intersection Capacity Utilization		17.0%	ICU Level of Service A
Analysis Period (min)		15	

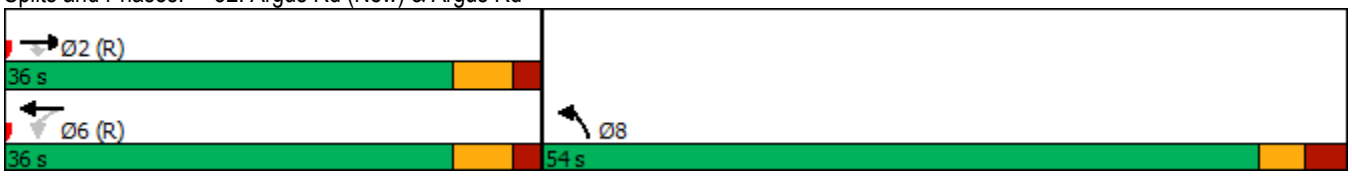


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	25	100	0	180	655	0
Future Volume (vph)	25	100	0	180	655	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		50.0	0.0		0.0	0.0
Storage Lanes		1	0		1	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected					0.950	
Satd. Flow (prot)	1863	1583	0	1863	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	1863	1583	0	1863	1770	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		109				
Link Speed (k/h)	50			50	50	
Link Distance (m)	119.5			170.6	100.6	
Travel Time (s)	8.6			12.3	7.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	109	0	196	712	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	109	0	196	712	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Number of Detectors	2	1	1	2	1	
Detector Template	Thru	Right	Left	Thru	Left	
Leading Detector (m)	10.0	2.0	2.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	0.6	2.0	2.0	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)	9.4			9.4		
Detector 2 Size(m)	0.6			0.6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			6	8	
Permitted Phases		2	6			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2	2	6	6	8	
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	27.0	27.0	27.0	27.0	27.0	
Total Split (s)	36.0	36.0	36.0	36.0	54.0	
Total Split (%)	40.0%	40.0%	40.0%	40.0%	60.0%	
Maximum Green (s)	30.0	30.0	30.0	30.0	48.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	13.0	13.0	13.0	13.0	13.0	
Pedestrian Calls (#/hr)	5	5	5	5	5	
Act Effct Green (s)	36.9	36.9		36.9	43.1	
Actuated g/C Ratio	0.41	0.41		0.41	0.48	
v/c Ratio	0.04	0.15		0.26	0.84	
Control Delay	24.2	14.3		8.7	30.1	
Queue Delay	0.0	0.0		0.0	0.4	
Total Delay	24.2	14.3		8.7	30.5	
LOS	C	B		A	C	
Approach Delay	16.3			8.7	30.5	
Approach LOS	B			A	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 24.6		Intersection LOS: C	
Intersection Capacity Utilization 54.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 32: Argus Rd (New) & Argus Rd





Lane Group	EBT	EBR	WBT	NBL
Lane Group Flow (vph)	27	109	196	712
v/c Ratio	0.04	0.15	0.26	0.84
Control Delay	24.2	14.3	8.7	30.1
Queue Delay	0.0	0.0	0.0	0.4
Total Delay	24.2	14.3	8.7	30.5
Queue Length 50th (m)	4.3	0.3	8.4	103.6
Queue Length 95th (m)	12.2	21.9	7.4	142.9
Internal Link Dist (m)	95.5		146.6	76.6
Turn Bay Length (m)		50.0		
Base Capacity (vph)	764	713	764	963
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	42
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.04	0.15	0.26	0.77

Intersection Summary



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	25	100	0	180	655	0
Future Volume (vph)	25	100	0	180	655	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	1.00	1.00		1.00	0.95	
Satd. Flow (prot)	1863	1583		1863	1770	
Flt Permitted	1.00	1.00		1.00	0.95	
Satd. Flow (perm)	1863	1583		1863	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	109	0	196	712	0
RTOR Reduction (vph)	0	64	0	0	0	0
Lane Group Flow (vph)	27	45	0	196	712	0
Turn Type	NA	Perm		NA	Prot	
Protected Phases	2			6	8	
Permitted Phases		2	6			
Actuated Green, G (s)	35.9	35.9		35.9	42.1	
Effective Green, g (s)	36.9	36.9		36.9	43.1	
Actuated g/C Ratio	0.41	0.41		0.41	0.48	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	763	649		763	847	
v/s Ratio Prot	0.01			c0.11	c0.40	
v/s Ratio Perm		0.03				
v/c Ratio	0.04	0.07		0.26	0.84	
Uniform Delay, d1	15.9	16.1		17.5	20.5	
Progression Factor	1.30	3.20		0.41	1.00	
Incremental Delay, d2	0.1	0.2		0.8	7.5	
Delay (s)	20.7	51.8		7.9	28.0	
Level of Service	C	D		A	C	
Approach Delay (s)	45.6			7.9	28.0	
Approach LOS	D			A	C	

Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	295	0	60	565	0	35
Future Volume (vph)	295	0	60	565	0	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.995		
Satd. Flow (prot)	1863	0	0	1853	1611	0
Flt Permitted				0.995		
Satd. Flow (perm)	1863	0	0	1853	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	114.5			296.0	104.6	
Travel Time (s)	8.2			21.3	7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	321	0	65	614	0	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	321	0	0	679	38	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 61.9%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	295	0	60	565	0	35
Future Volume (Veh/h)	295	0	60	565	0	35
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	321	0	65	614	0	38
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	402					
pX, platoon unblocked			1.00		1.00	1.00
vC, conflicting volume			321		1065	321
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			320		1065	320
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		100	95
cM capacity (veh/h)			1239		233	720

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	321	679	38
Volume Left	0	65	0
Volume Right	0	0	38
cSH	1700	1239	720
Volume to Capacity	0.19	0.05	0.05
Queue Length 95th (m)	0.0	1.3	1.3
Control Delay (s)	0.0	1.4	10.3
Lane LOS		A	B
Approach Delay (s)	0.0	1.4	10.3
Approach LOS			B

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	330	0	60	625	0	0
Future Volume (vph)	330	0	60	625	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected				0.996		
Satd. Flow (prot)	1863	0	0	1855	1863	0
Flt Permitted				0.996		
Satd. Flow (perm)	1863	0	0	1855	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	296.0			252.8	95.7	
Travel Time (s)	21.3			18.2	6.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	359	0	65	679	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	359	0	0	744	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

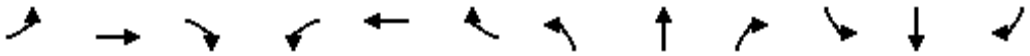
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.2%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	330	0	60	625	0	0
Future Volume (Veh/h)	330	0	60	625	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	359	0	65	679	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			359		1168	359
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			359		1168	359
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		100	100
cM capacity (veh/h)			1200		202	685

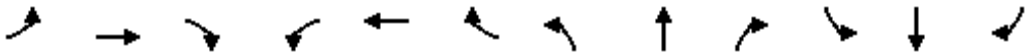
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	359	744	0
Volume Left	0	65	0
Volume Right	0	0	0
cSH	1700	1200	1700
Volume to Capacity	0.21	0.05	0.00
Queue Length 95th (m)	0.0	1.4	0.0
Control Delay (s)	0.0	1.4	0.0
Lane LOS		A	A
Approach Delay (s)	0.0	1.4	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	40	0	15	190	15	0	65	35	30	25	10
Future Volume (vph)	15	40	0	15	190	15	0	65	35	30	25	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.991			0.953			0.979	
Flt Protected		0.987			0.997						0.977	
Satd. Flow (prot)	0	1839	0	0	1840	0	0	1775	0	0	1782	0
Flt Permitted		0.987			0.997						0.977	
Satd. Flow (perm)	0	1839	0	0	1840	0	0	1775	0	0	1782	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		110.1			109.7			90.9			84.0	
Travel Time (s)		7.9			7.9			6.5			6.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	43	0	16	207	16	0	71	38	33	27	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	59	0	0	239	0	0	109	0	0	71	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Free			Free			Stop			Stop	

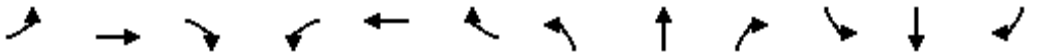
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	40	0	15	190	15	0	65	35	30	25	10
Future Volume (Veh/h)	15	40	0	15	190	15	0	65	35	30	25	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	43	0	16	207	16	0	71	38	33	27	11
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		313			152							
pX, platoon unblocked												
vC, conflicting volume	223			43			346	330	43	396	322	215
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	223			43			346	330	43	396	322	215
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			100	88	96	93	95	99
cM capacity (veh/h)	1346			1566			569	576	1027	484	582	825

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	59	239	109	71
Volume Left	16	16	0	33
Volume Right	0	16	38	11
cSH	1346	1566	680	555
Volume to Capacity	0.01	0.01	0.16	0.13
Queue Length 95th (m)	0.3	0.2	4.5	3.5
Control Delay (s)	2.2	0.6	11.3	12.4
Lane LOS	A	A	B	B
Approach Delay (s)	2.2	0.6	11.3	12.4
Approach LOS			B	B

Intersection Summary				
Average Delay	5.0			
Intersection Capacity Utilization	29.3%	ICU Level of Service	A	
Analysis Period (min)	15			



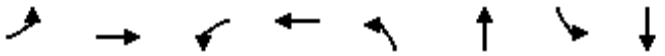
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	10	45	25	0	40	70	105	30	90	10	260
Future Volume (vph)	65	10	45	25	0	40	70	105	30	90	10	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.877			0.850			0.966			0.856	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1634	0	1770	1583	0	1770	3419	0	1770	3030	0
Flt Permitted	0.692			0.718			0.498			0.659		
Satd. Flow (perm)	1289	1634	0	1337	1583	0	928	3419	0	1228	3030	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		49			738			33			283	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		42.8			39.5			174.5			288.2	
Travel Time (s)		3.1			2.8			12.6			20.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	11	49	27	0	43	76	114	33	98	11	283
Shared Lane Traffic (%)												
Lane Group Flow (vph)	71	60	0	27	43	0	76	147	0	98	294	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		5.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	9.0	33.0		9.0	33.0		26.0	26.0		26.0	26.0	
Total Split (s)	17.0	46.0		11.0	40.0		33.0	33.0		33.0	33.0	
Total Split (%)	18.9%	51.1%		12.2%	44.4%		36.7%	36.7%		36.7%	36.7%	
Maximum Green (s)	13.0	40.0		7.0	34.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		20.0			20.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)		20			20		20	20		20	20	
Act Effct Green (s)	65.7	60.3		63.5	55.8		15.5	15.5		15.5	15.5	
Actuated g/C Ratio	0.73	0.67		0.71	0.62		0.17	0.17		0.17	0.17	
v/c Ratio	0.07	0.05		0.03	0.03		0.47	0.24		0.46	0.39	
Control Delay	4.1	3.4		4.8	0.1		32.5	16.0		39.5	5.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	4.1	3.4		4.8	0.1		32.5	16.0		39.5	5.9	
LOS	A	A		A	A		C	B		D	A	
Approach Delay		3.8			1.9			21.6			14.3	
Approach LOS		A			A			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.47			
Intersection Signal Delay: 13.5		Intersection LOS: B	
Intersection Capacity Utilization 46.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 39: New N-S Arterial St & Davis Rd

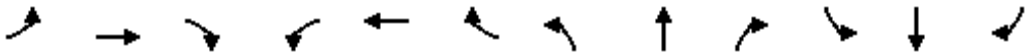




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	71	60	27	43	76	147	98	294
v/c Ratio	0.07	0.05	0.03	0.03	0.47	0.24	0.46	0.39
Control Delay	4.1	3.4	4.8	0.1	32.5	16.0	39.5	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.1	3.4	4.8	0.1	32.5	16.0	39.5	5.9
Queue Length 50th (m)	2.5	0.3	1.1	0.0	12.5	8.9	16.7	0.8
Queue Length 95th (m)	m7.1	m5.5	m4.1	m0.0	29.3	21.0	29.8	11.0
Internal Link Dist (m)		18.8		15.5		150.5		264.2
Turn Bay Length (m)	30.0		30.0		30.0		30.0	
Base Capacity (vph)	1026	1111	992	1261	288	1086	382	1137
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.05	0.03	0.03	0.26	0.14	0.26	0.26

Intersection Summary

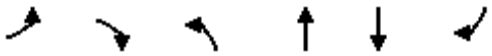
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	10	45	25	0	40	70	105	30	90	10	260
Future Volume (vph)	65	10	45	25	0	40	70	105	30	90	10	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.88		1.00	0.85		1.00	0.97		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1635		1770	1583		1770	3420		1770	3028	
Flt Permitted	0.69	1.00		0.72	1.00		0.50	1.00		0.66	1.00	
Satd. Flow (perm)	1290	1635		1337	1583		928	3420		1227	3028	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	11	49	27	0	43	76	114	33	98	11	283
RTOR Reduction (vph)	0	17	0	0	17	0	0	27	0	0	234	0
Lane Group Flow (vph)	71	43	0	27	26	0	76	120	0	98	60	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	62.4	56.9		56.6	54.0		14.5	14.5		14.5	14.5	
Effective Green, g (s)	64.4	57.9		58.6	55.0		15.5	15.5		15.5	15.5	
Actuated g/C Ratio	0.72	0.64		0.65	0.61		0.17	0.17		0.17	0.17	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	957	1051		887	967		159	589		211	521	
v/s Ratio Prot	c0.01	0.03		0.00	0.02			0.03			0.02	
v/s Ratio Perm	c0.05			0.02			c0.08			0.08		
v/c Ratio	0.07	0.04		0.03	0.03		0.48	0.20		0.46	0.11	
Uniform Delay, d1	3.8	5.9		5.6	6.9		33.6	32.0		33.5	31.5	
Progression Factor	0.95	0.87		1.09	1.00		0.71	0.65		1.00	1.00	
Incremental Delay, d2	0.0	0.1		0.0	0.1		2.2	0.2		1.6	0.1	
Delay (s)	3.7	5.2		6.1	7.0		26.1	20.8		35.1	31.6	
Level of Service	A	A		A	A		C	C		D	C	
Approach Delay (s)		4.4			6.6			22.6			32.4	
Approach LOS		A			A			C			C	

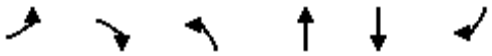
Intersection Summary			
HCM 2000 Control Delay	23.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	55	70	60	50	0
Future Volume (vph)	0	55	70	60	50	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0	0.0	0.0			0.0
Storage Lanes	0	0	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected				0.974		
Satd. Flow (prot)	1611	0	0	1814	1863	0
Flt Permitted				0.974		
Satd. Flow (perm)	1611	0	0	1814	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	91.1			89.3	87.0	
Travel Time (s)	6.6			6.4	6.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	60	76	65	54	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	60	0	0	141	54	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

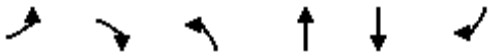
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	23.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	55	70	60	50	0
Future Volume (Veh/h)	0	55	70	60	50	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	60	76	65	54	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	271	54	54			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	271	54	54			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	94	95			
cM capacity (veh/h)	683	1013	1551			

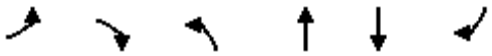
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	60	141	54
Volume Left	0	76	0
Volume Right	60	0	0
cSH	1013	1551	1700
Volume to Capacity	0.06	0.05	0.03
Queue Length 95th (m)	1.5	1.2	0.0
Control Delay (s)	8.8	4.2	0.0
Lane LOS	A	A	
Approach Delay (s)	8.8	4.2	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	23.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	30	20	115	105	0	70
Future Volume (vph)	30	20	115	105	0	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.946				0.865	
Flt Protected	0.971			0.975		
Satd. Flow (prot)	1711	0	0	1816	1611	0
Flt Permitted	0.971			0.975		
Satd. Flow (perm)	1711	0	0	1816	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	46.3			94.6	83.7	
Travel Time (s)	3.3			6.8	6.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	22	125	114	0	76
Shared Lane Traffic (%)						
Lane Group Flow (vph)	55	0	0	239	76	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

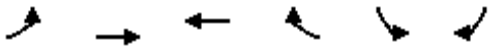
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	20	115	105	0	70
Future Volume (Veh/h)	30	20	115	105	0	70
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	22	125	114	0	76
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)					84	
pX, platoon unblocked						
vC, conflicting volume	402	38	76			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	402	38	76			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	98	92			
cM capacity (veh/h)	555	1034	1523			

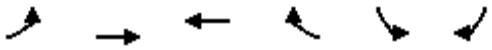
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	55	239	76
Volume Left	33	125	0
Volume Right	22	0	76
cSH	681	1523	1700
Volume to Capacity	0.08	0.08	0.04
Queue Length 95th (m)	2.1	2.1	0.0
Control Delay (s)	10.8	4.3	0.0
Lane LOS	B	A	
Approach Delay (s)	10.8	4.3	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	28.6%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	450	270	335	0	0	720
Future Volume (vph)	450	270	335	0	0	720
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	75.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt					0.865	
Flt Protected	0.950					
Satd. Flow (prot)	1770	3539	3539	0	1611	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	3539	3539	0	1611	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		182.4	224.2		204.3	
Travel Time (s)		13.1	16.1		14.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	489	293	364	0	0	783
Shared Lane Traffic (%)						
Lane Group Flow (vph)	489	293	364	0	783	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

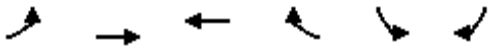
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 88.8%		ICU Level of Service E	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	450	270	335	0	0	720
Future Volume (Veh/h)	450	270	335	0	0	720
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	489	293	364	0	0	783
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		182				
pX, platoon unblocked						
vC, conflicting volume	364				1488	182
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	364				1488	182
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	59				100	6
cM capacity (veh/h)	1191				68	829

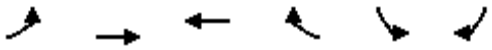
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	489	146	146	243	121	783
Volume Left	489	0	0	0	0	0
Volume Right	0	0	0	0	0	783
cSH	1191	1700	1700	1700	1700	829
Volume to Capacity	0.41	0.09	0.09	0.14	0.07	0.94
Queue Length 95th (m)	16.3	0.0	0.0	0.0	0.0	115.9
Control Delay (s)	10.1	0.0	0.0	0.0	0.0	41.5
Lane LOS	B					E
Approach Delay (s)	6.3			0.0		41.5
Approach LOS						E

Intersection Summary				
Average Delay	19.4			
Intersection Capacity Utilization	88.8%	ICU Level of Service	E	
Analysis Period (min)	15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	15	265	330	195	85	15
Future Volume (vph)	15	265	330	195	85	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0			0.0	30.0	0.0
Storage Lanes	1			0	1	1
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.944			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3341	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	3341	0	1770	1583
Link Speed (k/h)		50	50		50	
Link Distance (m)		111.2	141.0		85.9	
Travel Time (s)		8.0	10.2		6.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	288	359	212	92	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	16	288	571	0	92	16
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

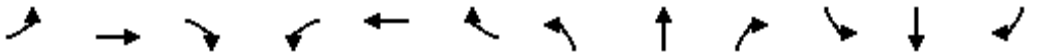
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	265	330	195	85	15
Future Volume (Veh/h)	15	265	330	195	85	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	288	359	212	92	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			141			
pX, platoon unblocked	0.88				0.88	0.88
vC, conflicting volume	571				641	286
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	245				324	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				84	98
cM capacity (veh/h)	1162				561	956

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	16	144	144	239	332	92	16
Volume Left	16	0	0	0	0	92	0
Volume Right	0	0	0	0	212	0	16
cSH	1162	1700	1700	1700	1700	561	956
Volume to Capacity	0.01	0.08	0.08	0.14	0.20	0.16	0.02
Queue Length 95th (m)	0.3	0.0	0.0	0.0	0.0	4.7	0.4
Control Delay (s)	8.1	0.0	0.0	0.0	0.0	12.7	8.8
Lane LOS	A					B	A
Approach Delay (s)	0.4			0.0		12.1	
Approach LOS						B	

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	26.7%	ICU Level of Service	A
Analysis Period (min)	15		

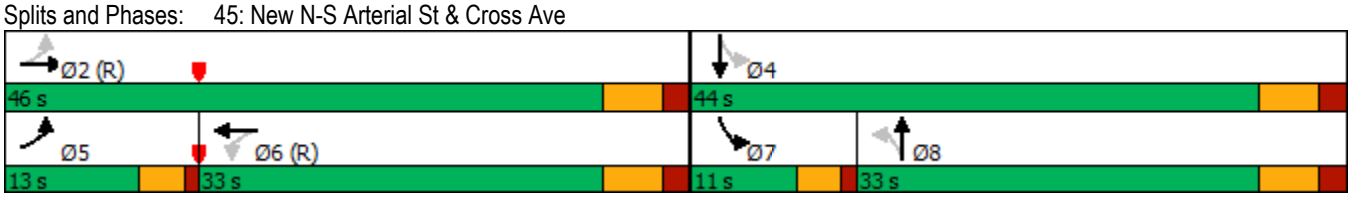


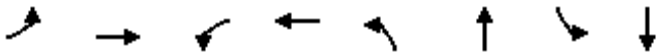
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	220	10	25	445	75	50	25	35	55	25	10
Future Volume (vph)	100	220	10	25	445	75	50	25	35	55	25	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	100.0		0.0	30.0		0.0	30.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.993			0.978			0.912			0.957	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3514	0	1770	3461	0	1770	1699	0	1770	3387	0
Flt Permitted	0.269			0.597			0.731			0.657		
Satd. Flow (perm)	501	3514	0	1112	3461	0	1362	1699	0	1224	3387	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			22			38			11	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		141.0			127.5			75.5			174.5	
Travel Time (s)		10.2			9.2			5.4			12.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	239	11	27	484	82	54	27	38	60	27	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	250	0	27	566	0	54	65	0	60	38	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		15	25		100	25		15	25		100
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2			6			8		7	4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		6	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	20.0		20.0	20.0		10.0	10.0		5.0	10.0	
Minimum Split (s)	9.0	33.0		33.0	33.0		33.0	33.0		9.0	33.0	
Total Split (s)	13.0	46.0		33.0	33.0		33.0	33.0		11.0	44.0	
Total Split (%)	14.4%	51.1%		36.7%	36.7%		36.7%	36.7%		12.2%	48.9%	
Maximum Green (s)	9.0	40.0		27.0	27.0		27.0	27.0		7.0	38.0	
Yellow Time (s)	3.0	4.0		4.0	4.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		2.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	5.0		5.0	5.0		5.0	5.0		3.0	5.0	
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		C-Min	C-Min		Max	Max		None	None	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)		20.0		20.0	20.0		20.0	20.0			20.0	
Pedestrian Calls (#/hr)		20		20	20		20	20			20	
Act Effct Green (s)	38.8	36.8		26.6	26.6		34.1	34.1		45.2	43.2	
Actuated g/C Ratio	0.43	0.41		0.30	0.30		0.38	0.38		0.50	0.48	
v/c Ratio	0.32	0.17		0.08	0.54		0.10	0.10		0.09	0.02	
Control Delay	17.3	16.2		29.8	27.5		21.9	11.8		16.7	15.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	17.3	16.2		29.8	27.5		21.9	11.8		16.7	15.5	
LOS	B	B		C	C		C	B		B	B	
Approach Delay		16.5			27.6			16.4			16.2	
Approach LOS		B			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 22.1		Intersection LOS: C	
Intersection Capacity Utilization 55.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 45: New N-S Arterial St & Cross Ave

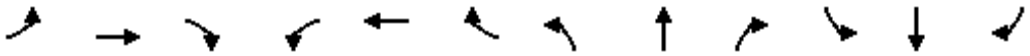




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	109	250	27	566	54	65	60	38
v/c Ratio	0.32	0.17	0.08	0.54	0.10	0.10	0.09	0.02
Control Delay	17.3	16.2	29.8	27.5	21.9	11.8	16.7	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.3	16.2	29.8	27.5	21.9	11.8	16.7	15.5
Queue Length 50th (m)	12.4	15.2	2.4	25.7	6.3	3.1	5.5	1.3
Queue Length 95th (m)	20.1	20.5	m9.7	m69.0	15.9	12.7	15.7	5.8
Internal Link Dist (m)		117.0		103.5		51.5		150.5
Turn Bay Length (m)	100.0		30.0		30.0		40.0	
Base Capacity (vph)	357	1604	360	1137	516	667	664	1631
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.16	0.07	0.50	0.10	0.10	0.09	0.02

Intersection Summary

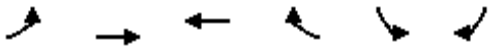
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	220	10	25	445	75	50	25	35	55	25	10
Future Volume (vph)	100	220	10	25	445	75	50	25	35	55	25	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.0		5.0	5.0		5.0	5.0		3.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	0.95	
Frt	1.00	0.99		1.00	0.98		1.00	0.91		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3516		1770	3462		1770	1699		1770	3386	
Flt Permitted	0.27	1.00		0.60	1.00		0.73	1.00		0.66	1.00	
Satd. Flow (perm)	500	3516		1112	3462		1362	1699		1224	3386	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	239	11	27	484	82	54	27	38	60	27	11
RTOR Reduction (vph)	0	4	0	0	16	0	0	24	0	0	6	0
Lane Group Flow (vph)	109	246	0	27	550	0	54	41	0	60	32	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2			6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.0	35.0		24.0	24.0		33.1	33.1		43.0	43.0	
Effective Green, g (s)	36.0	36.0		25.0	25.0		34.1	34.1		44.0	44.0	
Actuated g/C Ratio	0.40	0.40		0.28	0.28		0.38	0.38		0.49	0.49	
Clearance Time (s)	4.0	6.0		6.0	6.0		6.0	6.0		4.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	312	1406		308	961		516	643		640	1655	
v/s Ratio Prot	c0.03	0.07			c0.16			0.02		c0.01	0.01	
v/s Ratio Perm	0.11			0.02			c0.04			0.04		
v/c Ratio	0.35	0.17		0.09	0.57		0.10	0.06		0.09	0.02	
Uniform Delay, d1	18.0	17.4		24.1	27.9		18.1	17.8		12.2	11.9	
Progression Factor	1.00	1.00		1.25	0.98		1.00	1.00		1.27	1.42	
Incremental Delay, d2	0.7	0.3		0.5	2.3		0.4	0.2		0.1	0.0	
Delay (s)	18.7	17.7		30.5	29.7		18.5	18.0		15.6	16.9	
Level of Service	B	B		C	C		B	B		B	B	
Approach Delay (s)		18.0			29.7			18.2			16.1	
Approach LOS		B			C			B			B	

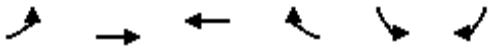
Intersection Summary			
HCM 2000 Control Delay	23.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	55	275	500	190	100	55
Future Volume (vph)	55	275	500	190	100	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0			0.0	30.0	0.0
Storage Lanes	0			0	1	1
Taper Length (m)	7.5				7.5	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.959			0.850
Flt Protected		0.992			0.950	
Satd. Flow (prot)	0	3511	3394	0	1770	1583
Flt Permitted		0.992			0.950	
Satd. Flow (perm)	0	3511	3394	0	1770	1583
Link Speed (k/h)		50	50		50	
Link Distance (m)		127.5	245.4		81.5	
Travel Time (s)		9.2	17.7		5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	299	543	207	109	60
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	359	750	0	109	60
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	44.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	55	275	500	190	100	55
Future Volume (Veh/h)	55	275	500	190	100	55
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	60	299	543	207	109	60
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		127	245			
pX, platoon unblocked	0.89				0.91	0.89
vC, conflicting volume	750				916	375
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	480				569	60
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				72	93
cM capacity (veh/h)	963				384	887

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	160	199	362	388	109	60
Volume Left	60	0	0	0	109	0
Volume Right	0	0	0	207	0	60
cSH	963	1700	1700	1700	384	887
Volume to Capacity	0.06	0.12	0.21	0.23	0.28	0.07
Queue Length 95th (m)	1.6	0.0	0.0	0.0	9.2	1.7
Control Delay (s)	3.7	0.0	0.0	0.0	18.1	9.4
Lane LOS	A				C	A
Approach Delay (s)	1.7		0.0		15.0	
Approach LOS					B	

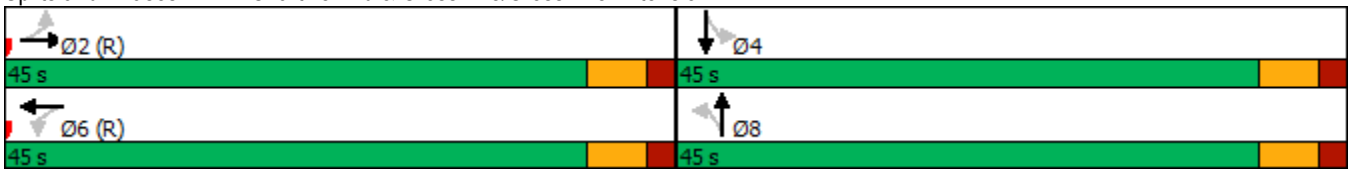
Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	44.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	290	55	0	580	120	100	425	0	35	280	0
Future Volume (vph)	0	290	55	0	580	120	100	425	0	35	280	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	50.0		0.0	100.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.976			0.974							
Flt Protected								0.991			0.994	
Satd. Flow (prot)	0	3454	0	0	3447	0	0	1846	0	0	1852	0
Flt Permitted								0.836			0.906	
Satd. Flow (perm)	0	3454	0	0	3447	0	0	1557	0	0	1688	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		32			35							
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		245.4			79.1			116.5			339.1	
Travel Time (s)		17.7			5.7			8.4			24.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	315	60	0	630	130	109	462	0	38	304	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	375	0	0	760	0	0	571	0	0	342	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA			NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	33.0	33.0		33.0	33.0		33.0	33.0		33.0	33.0	
Total Split (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	39.0	39.0		39.0	39.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0			-1.0			-1.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Pedestrian Calls (#/hr)	20	20		20	20		20	20		20	20	
Act Effct Green (s)		41.4			41.4			38.6			38.6	
Actuated g/C Ratio		0.46			0.46			0.43			0.43	
v/c Ratio		0.23			0.47			0.86			0.47	
Control Delay		12.2			18.4			36.1			13.4	
Queue Delay		0.0			0.0			24.2			0.0	
Total Delay		12.2			18.4			60.3			13.4	
LOS		B			B			E			B	
Approach Delay		12.2			18.4			60.3			13.4	
Approach LOS		B			B			E			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 28.1		Intersection LOS: C	
Intersection Capacity Utilization 73.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 47: Chartwell Rd & Cross Ave/Cross Ave Extension



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	375	760	571	342
v/c Ratio	0.23	0.47	0.86	0.47
Control Delay	12.2	18.4	36.1	13.4
Queue Delay	0.0	0.0	24.2	0.0
Total Delay	12.2	18.4	60.3	13.4
Queue Length 50th (m)	15.1	46.8	89.7	23.7
Queue Length 95th (m)	24.2	73.7	116.4	51.3
Internal Link Dist (m)	221.4	55.1	92.5	315.1
Turn Bay Length (m)				
Base Capacity (vph)	1670	1668	721	781
Starvation Cap Reductn	0	0	163	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.22	0.46	1.02	0.44

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	290	55	0	580	120	100	425	0	35	280	0
Future Volume (vph)	0	290	55	0	580	120	100	425	0	35	280	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.98			0.97			1.00			1.00	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		3454			3448			1845			1852	
Flt Permitted		1.00			1.00			0.84			0.91	
Satd. Flow (perm)		3454			3448			1558			1688	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	315	60	0	630	130	109	462	0	38	304	0
RTOR Reduction (vph)	0	17	0	0	19	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	358	0	0	741	0	0	571	0	0	342	0
Turn Type		NA			NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		40.4			40.4			37.6			37.6	
Effective Green, g (s)		41.4			41.4			38.6			38.6	
Actuated g/C Ratio		0.46			0.46			0.43			0.43	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1588			1586			668			723	
v/s Ratio Prot		0.10			c0.21							
v/s Ratio Perm								c0.37			0.20	
v/c Ratio		0.23			0.47			0.85			0.47	
Uniform Delay, d1		14.6			16.7			23.2			18.4	
Progression Factor		0.80			1.00			1.00			0.64	
Incremental Delay, d2		0.3			1.0			10.4			0.5	
Delay (s)		12.1			17.7			33.6			12.2	
Level of Service		B			B			C			B	
Approach Delay (s)		12.1			17.7			33.6			12.2	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	20.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	60	35	0	95	60	0
Future Volume (vph)	60	35	0	95	60	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.950		0.865			
Flt Protected	0.969					0.950
Satd. Flow (prot)	1715	0	1611	0	0	1770
Flt Permitted	0.969					0.950
Satd. Flow (perm)	1715	0	1611	0	0	1770
Link Speed (k/h)	50		50			50
Link Distance (m)	59.6		84.0			104.6
Travel Time (s)	4.3		6.0			7.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	38	0	103	65	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	103	0	103	0	0	65
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100		100	100	
Sign Control	Stop		Free			Free

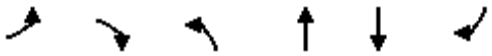
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	60	35	0	95	60	0
Future Volume (Veh/h)	60	35	0	95	60	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	38	0	103	65	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	182	52			103	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	182	52			103	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	96			96	
cM capacity (veh/h)	773	1016			1489	

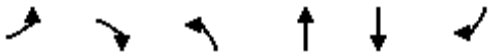
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	103	103	65
Volume Left	65	0	65
Volume Right	38	103	0
cSH	848	1700	1489
Volume to Capacity	0.12	0.06	0.04
Queue Length 95th (m)	3.3	0.0	1.1
Control Delay (s)	9.8	0.0	7.5
Lane LOS	A		A
Approach Delay (s)	9.8	0.0	7.5
Approach LOS	A		

Intersection Summary			
Average Delay	5.5		
Intersection Capacity Utilization	22.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	50	60	0	0	60
Future Volume (vph)	0	50	60	0	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865				0.865	
Flt Protected				0.950		
Satd. Flow (prot)	1611	0	0	1770	1611	0
Flt Permitted				0.950		
Satd. Flow (perm)	1611	0	0	1770	1611	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	49.3			87.0	95.7	
Travel Time (s)	3.5			6.3	6.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	54	65	0	0	65
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	0	65	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

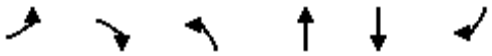
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	50	60	0	0	60
Future Volume (Veh/h)	0	50	60	0	0	60
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	54	65	0	0	65
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	162	32	65			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	162	32	65			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	95	96			
cM capacity (veh/h)	793	1041	1537			

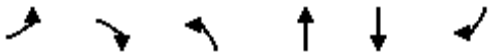
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	54	65	65
Volume Left	0	65	0
Volume Right	54	0	65
cSH	1041	1537	1700
Volume to Capacity	0.05	0.04	0.04
Queue Length 95th (m)	1.3	1.1	0.0
Control Delay (s)	8.6	7.4	0.0
Lane LOS	A	A	
Approach Delay (s)	8.6	7.4	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	20.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	65	120	125	95	10
Future Volume (vph)	10	65	120	125	95	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.883				0.987	
Flt Protected	0.993			0.976		
Satd. Flow (prot)	1633	0	0	1818	1839	0
Flt Permitted	0.993			0.976		
Satd. Flow (perm)	1633	0	0	1818	1839	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	48.7			81.5	89.3	
Travel Time (s)	3.5			5.9	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	71	130	136	103	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	82	0	0	266	114	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

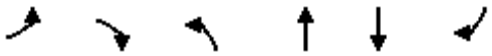
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	65	120	125	95	10
Future Volume (Veh/h)	10	65	120	125	95	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	71	130	136	103	11
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	504	108	114			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	504	108	114			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	92	91			
cM capacity (veh/h)	481	945	1475			

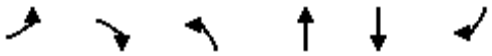
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	82	266	114
Volume Left	11	130	0
Volume Right	71	0	11
cSH	837	1475	1700
Volume to Capacity	0.10	0.09	0.07
Queue Length 95th (m)	2.6	2.3	0.0
Control Delay (s)	9.8	4.1	0.0
Lane LOS	A	A	
Approach Delay (s)	9.8	4.1	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	4.1		
Intersection Capacity Utilization	31.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	125	160	40	55	45
Future Volume (vph)	0	125	160	40	55	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865				0.939	
Flt Protected				0.961		
Satd. Flow (prot)	1611	0	0	1790	1749	0
Flt Permitted				0.961		
Satd. Flow (perm)	1611	0	0	1790	1749	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	40.6			89.5	88.6	
Travel Time (s)	2.9			6.4	6.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	136	174	43	60	49
Shared Lane Traffic (%)						
Lane Group Flow (vph)	136	0	0	217	109	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100	100			100
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	125	160	40	55	45
Future Volume (Veh/h)	0	125	160	40	55	45
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	136	174	43	60	49
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	476	84	109			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	476	84	109			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	86	88			
cM capacity (veh/h)	484	975	1481			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	136	217	109
Volume Left	0	174	0
Volume Right	136	0	49
cSH	975	1481	1700
Volume to Capacity	0.14	0.12	0.06
Queue Length 95th (m)	3.9	3.2	0.0
Control Delay (s)	9.3	6.4	0.0
Lane LOS	A	A	
Approach Delay (s)	9.3	6.4	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	32.0%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	75	20	90	200	25	30
Future Volume (vph)	75	20	90	200	25	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.971				0.926	
Flt Protected				0.985	0.978	
Satd. Flow (prot)	1809	0	0	1835	1687	0
Flt Permitted				0.985	0.978	
Satd. Flow (perm)	1809	0	0	1835	1687	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	96.4			57.6	36.0	
Travel Time (s)	6.9			4.1	2.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	22	98	217	27	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	104	0	0	315	60	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	75	20	90	200	25	30
Future Volume (Veh/h)	75	20	90	200	25	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	82	22	98	217	27	33
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				222		
pX, platoon unblocked						
vC, conflicting volume			104		506	93
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			104		506	93
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		95	97
cM capacity (veh/h)			1488		491	964

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	104	315	60
Volume Left	0	98	27
Volume Right	22	0	33
cSH	1700	1488	673
Volume to Capacity	0.06	0.07	0.09
Queue Length 95th (m)	0.0	1.7	2.3
Control Delay (s)	0.0	2.8	10.9
Lane LOS		A	B
Approach Delay (s)	0.0	2.8	10.9
Approach LOS			B

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	32.2%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	85	20	100	265	25	40
Future Volume (vph)	85	20	100	265	25	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.974				0.917	
Flt Protected				0.986	0.981	
Satd. Flow (prot)	1814	0	0	1837	1676	0
Flt Permitted				0.986	0.981	
Satd. Flow (perm)	1814	0	0	1837	1676	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	57.6			163.9	50.7	
Travel Time (s)	4.1			11.8	3.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	92	22	109	288	27	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	114	0	0	397	70	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		100	100		100	100
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	85	20	100	265	25	40
Future Volume (Veh/h)	85	20	100	265	25	40
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	92	22	109	288	27	43
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				164		
pX, platoon unblocked						
vC, conflicting volume			114		609	103
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			114		609	103
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		94	95
cM capacity (veh/h)			1475		424	952

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	114	397	70
Volume Left	0	109	27
Volume Right	22	0	43
cSH	1700	1475	643
Volume to Capacity	0.07	0.07	0.11
Queue Length 95th (m)	0.0	1.9	2.9
Control Delay (s)	0.0	2.6	11.3
Lane LOS		A	B
Approach Delay (s)	0.0	2.6	11.3
Approach LOS			B

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	36.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	60	25	45	530	70	30
Future Volume (vph)	60	25	45	530	70	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.960				0.959	
Flt Protected				0.996	0.966	
Satd. Flow (prot)	1788	0	0	1855	1726	0
Flt Permitted				0.996	0.966	
Satd. Flow (perm)	1788	0	0	1855	1726	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	98.9			48.3	30.5	
Travel Time (s)	7.1			3.5	2.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	27	49	576	76	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	92	0	0	625	109	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	100		25	100
Sign Control	Free			Free	Stop	

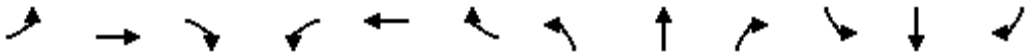
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	60	25	45	530	70	30
Future Volume (Veh/h)	60	25	45	530	70	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	65	27	49	576	76	33
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				48		
pX, platoon unblocked					0.88	
vC, conflicting volume			92		752	78
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			92		654	78
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		79	97
cM capacity (veh/h)			1503		369	982

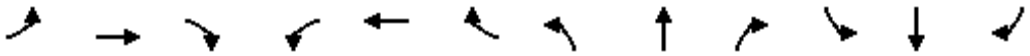
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	92	625	109
Volume Left	0	49	76
Volume Right	27	0	33
cSH	1700	1503	455
Volume to Capacity	0.05	0.03	0.24
Queue Length 95th (m)	0.0	0.8	7.4
Control Delay (s)	0.0	0.9	15.4
Lane LOS		A	C
Approach Delay (s)	0.0	0.9	15.4
Approach LOS			C

Intersection Summary			
Average Delay		2.7	
Intersection Capacity Utilization		49.4%	ICU Level of Service A
Analysis Period (min)		15	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	65	5	70	210	60	0	0	45	25	0	10
Future Volume (vph)	40	65	5	70	210	60	0	0	45	25	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.976			0.865			0.961	
Flt Protected		0.982			0.990						0.966	
Satd. Flow (prot)	0	1818	0	0	1800	0	0	1611	0	0	1729	0
Flt Permitted		0.982			0.990						0.966	
Satd. Flow (perm)	0	1818	0	0	1800	0	0	1611	0	0	1729	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		109.7			42.8			63.5			46.5	
Travel Time (s)		7.9			3.1			4.6			3.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	71	5	76	228	65	0	0	49	27	0	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	119	0	0	369	0	0	49	0	0	38	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Free			Free			Stop			Stop	

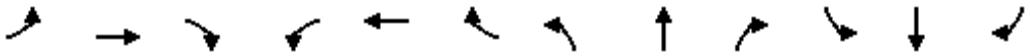
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	65	5	70	210	60	0	0	45	25	0	10
Future Volume (Veh/h)	40	65	5	70	210	60	0	0	45	25	0	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	71	5	76	228	65	0	0	49	27	0	11
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					43							
pX, platoon unblocked	0.97						0.97	0.97		0.97	0.97	0.97
vC, conflicting volume	293			76			583	604	74	621	574	260
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	252			76			552	574	74	591	543	219
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			95			100	100	95	93	100	99
cM capacity (veh/h)	1270			1523			397	381	988	360	397	794

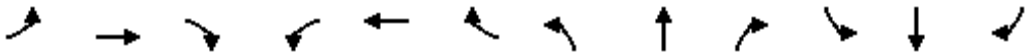
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	119	369	49	38
Volume Left	43	76	0	27
Volume Right	5	65	49	11
cSH	1270	1523	988	428
Volume to Capacity	0.03	0.05	0.05	0.09
Queue Length 95th (m)	0.8	1.3	1.3	2.3
Control Delay (s)	3.0	1.9	8.8	14.2
Lane LOS	A	A	A	B
Approach Delay (s)	3.0	1.9	8.8	14.2
Approach LOS			A	B

Intersection Summary				
Average Delay	3.5			
Intersection Capacity Utilization	36.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	10	40	25	10	50	30	0	10	40	0	40
Future Volume (vph)	85	10	40	25	10	50	30	0	10	40	0	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.960			0.921			0.966			0.932	
Flt Protected		0.969			0.986			0.964			0.976	
Satd. Flow (prot)	0	1733	0	0	1692	0	0	1735	0	0	1694	0
Flt Permitted		0.969			0.986			0.964			0.976	
Satd. Flow (perm)	0	1733	0	0	1692	0	0	1735	0	0	1694	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		39.5			91.1			43.6			47.6	
Travel Time (s)		2.8			6.6			3.1			3.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	92	11	43	27	11	54	33	0	11	43	0	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	146	0	0	92	0	0	44	0	0	86	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	10	40	25	10	50	30	0	10	40	0	40
Future Volume (Veh/h)	85	10	40	25	10	50	30	0	10	40	0	40
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	92	11	43	27	11	54	33	0	11	43	0	43
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		40										
pX, platoon unblocked				0.95			0.95	0.95	0.95	0.95	0.95	
vC, conflicting volume	65			54			352	336	32	320	330	38
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	65			0			297	280	0	264	275	38
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	94			98			94	100	99	93	100	96
cM capacity (veh/h)	1537			1550			565	554	1036	613	558	1034

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	146	92	44	86
Volume Left	92	27	33	43
Volume Right	43	54	11	43
cSH	1537	1550	637	770
Volume to Capacity	0.06	0.02	0.07	0.11
Queue Length 95th (m)	1.5	0.4	1.8	3.0
Control Delay (s)	4.9	2.3	11.1	10.3
Lane LOS	A	A	B	B
Approach Delay (s)	4.9	2.3	11.1	10.3
Approach LOS			B	B

Intersection Summary				
Average Delay	6.2			
Intersection Capacity Utilization	25.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	70	10	95	120	15	25
Future Volume (vph)	70	10	95	120	15	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.983		0.925			
Flt Protected	0.958					0.982
Satd. Flow (prot)	1754	0	1723	0	0	1829
Flt Permitted	0.958					0.982
Satd. Flow (perm)	1754	0	1723	0	0	1829
Link Speed (k/h)	50		50			50
Link Distance (m)	52.8		85.9			90.9
Travel Time (s)	3.8		6.2			6.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	11	103	130	16	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	87	0	233	0	0	43
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		3.6			3.6
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100	100		100	100	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	70	10	95	120	15	25
Future Volume (Veh/h)	70	10	95	120	15	25
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	76	11	103	130	16	27
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	227	168			233	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	227	168			233	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	90	99			99	
cM capacity (veh/h)	752	876			1335	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	87	233	43
Volume Left	76	0	16
Volume Right	11	130	0
cSH	766	1700	1335
Volume to Capacity	0.11	0.14	0.01
Queue Length 95th (m)	3.1	0.0	0.3
Control Delay (s)	10.3	0.0	2.9
Lane LOS	B		A
Approach Delay (s)	10.3	0.0	2.9
Approach LOS	B		

Intersection Summary			
Average Delay		2.8	
Intersection Capacity Utilization		25.8%	ICU Level of Service A
Analysis Period (min)		15	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1215	120	260	1320	70	160
Future Volume (vph)	1215	120	260	1320	70	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		0.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.987					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3493	0	1770	3539	1770	1583
Flt Permitted			0.091		0.950	
Satd. Flow (perm)	3493	0	170	3539	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	13					174
Link Speed (k/h)	50			50	50	
Link Distance (m)	106.6			164.5	249.7	
Travel Time (s)	7.7			11.8	18.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1321	130	283	1435	76	174
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1451	0	283	1435	76	174
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Number of Detectors	2		1	2	1	1
Detector Template	Thru		Left	Thru	Left	Right
Leading Detector (m)	10.0		2.0	10.0	2.0	2.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	0.6		2.0	0.6	2.0	2.0
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)	9.4			9.4		
Detector 2 Size(m)	0.6			0.6		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases			6		8	8

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector Phase	2		1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0		5.0	10.0	10.0	10.0
Minimum Split (s)	33.0		9.0	33.0	33.0	33.0
Total Split (s)	49.0		18.0	67.0	33.0	33.0
Total Split (%)	49.0%		18.0%	67.0%	33.0%	33.0%
Maximum Green (s)	43.0		14.0	61.0	27.0	27.0
Yellow Time (s)	4.0		3.0	4.0	4.0	4.0
All-Red Time (s)	2.0		1.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0		3.0	5.0	5.0	5.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	C-Min		None	C-Min	Min	Min
Walk Time (s)	7.0			7.0	7.0	7.0
Flash Dont Walk (s)	20.0			20.0	20.0	20.0
Pedestrian Calls (#/hr)	5			5	5	5
Act Effct Green (s)	56.5		77.4	75.4	14.6	14.6
Actuated g/C Ratio	0.56		0.77	0.75	0.15	0.15
v/c Ratio	0.73		0.74	0.54	0.29	0.46
Control Delay	20.6		31.1	7.0	39.0	9.1
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	20.6		31.1	7.0	39.0	9.1
LOS	C		C	A	D	A
Approach Delay	20.6			11.0	18.2	
Approach LOS	C			B	B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 15.6		Intersection LOS: B	
Intersection Capacity Utilization 71.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 60: New N-S Arterial St & Iroquois Shore Blvd





Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1451	283	1435	76	174
v/c Ratio	0.73	0.74	0.54	0.29	0.46
Control Delay	20.6	31.1	7.0	39.0	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	20.6	31.1	7.0	39.0	9.1
Queue Length 50th (m)	101.7	28.8	42.3	14.6	0.0
Queue Length 95th (m)	#195.5	#80.0	113.0	23.3	15.7
Internal Link Dist (m)	82.6		140.5	225.7	
Turn Bay Length (m)		50.0			
Base Capacity (vph)	1979	395	2666	495	568
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.73	0.72	0.54	0.15	0.31

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1215	120	260	1320	70	160
Future Volume (vph)	1215	120	260	1320	70	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		3.0	5.0	5.0	5.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3492		1770	3539	1770	1583
Flt Permitted	1.00		0.09	1.00	0.95	1.00
Satd. Flow (perm)	3492		169	3539	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1321	130	283	1435	76	174
RTOR Reduction (vph)	6	0	0	0	0	149
Lane Group Flow (vph)	1445	0	283	1435	76	25
Turn Type	NA		pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases			6		8	8
Actuated Green, G (s)	55.6		74.4	74.4	13.6	13.6
Effective Green, g (s)	56.6		75.4	75.4	14.6	14.6
Actuated g/C Ratio	0.57		0.75	0.75	0.15	0.15
Clearance Time (s)	6.0		4.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1976		380	2668	258	231
v/s Ratio Prot	0.41		c0.12	0.41		
v/s Ratio Perm			c0.44		c0.04	0.02
v/c Ratio	0.73		0.74	0.54	0.29	0.11
Uniform Delay, d1	16.1		23.7	5.1	38.1	37.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.4		7.7	0.8	0.6	0.2
Delay (s)	18.5		31.4	5.9	38.7	37.3
Level of Service	B		C	A	D	D
Approach Delay (s)	18.5			10.1	37.7	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Appendix R:
Terms of Reference and Town Comments

MEMORANDUM

TO

Matt Krusto, Halton Region

Aquisha Khan, Town of Oakville

Usman Akhtar, MTO

FROM	PROJECT	DATE
Clara Filipetti	6931-03 420-468 South Service Road	September 18, 2024

RE: 420-468 SOUTH SERVICE ROAD – PROPOSED TRAFFIC ANALYSIS TERMS OF REFERENCE

BA Group has been retained by The Rose Corporation to provide transportation consulting services in support of an Official Plan Amendment (OPA) being made to the Town of Oakville for a proposed mixed-use development to be located at the lands municipally known as 420-268 South Service Road East (herein referred to as "the site"), in the southeast quadrant of the Queen Elizabeth Way (QEW) / Trafalgar Road. The 27.3 acre site is a roughly rectangular parcel bounded by the QEW to the north, commercial uses to the west and east, and the Lakeshore West GO rail corridor to the south. The site location is shown in **Exhibit 1**.

The site was formerly the location of the General Electric Canada Lamp Plant. It is currently vacant, with the exception of a 2-storey former GE office building along South Service Road.

A Temporary Use By-law was granted in May 2024 to permit the temporary use of the site for the outdoor storage of trailers, motor vehicles and shipping containers for use as storage containers.

The proposed redevelopment is for a mixed-use community containing in the order of 7,000 units, a mix of non-residential uses and a large public park. A network of new streets is contemplated through the site and through the surrounding Midtown Oakville neighbourhood, consistent with the Town of Oakville's Midtown Oakville Draft OPA (April 2024).



Exhibit 1: Site Location

1.0 SCOPE OF WORK

1.1 Study Area Intersections

The study area is proposed to comprise of the following intersections:

Existing Intersections

- Trafalgar Road & Iroquois Shore Road / Leighland Avenue
- Trafalgar Road & North Service Road / Highway 403 WB Off-Ramp
- Trafalgar Road & Highway 403 EB Off-Ramp
- Trafalgar Road & Argus Road
- Trafalgar Road & Cross Avenue / South Service Road East
- Trafalgar Road & Cornwall Road
- South Service Road East / Davis Road
- South Service Road East / Chartwell Road
- South Service Road East / The Canadian Road & Royal Windsor Drive / Highway 403 WB On/Off Ramp

Future Intersections (to be constructed with the buildout of the site and the Midtown Oakville Road Network)

- Cross Avenue / South Service Road
- Site-related Intersections (to be determined)

1.2 Traffic Analysis Periods

Traffic analysis will be undertaken for the weekday morning and afternoon peak hours within the peak periods of 7:00 a.m. – 9:00 a.m. and 4:00 p.m. – 6:00 p.m., respectively.

1.3 Traffic Analysis Scenarios

Traffic analysis will assume a 20-year buildout for the site as well as the Midtown Oakville OPA road network. The following scenarios will be reviewed:

- Existing Conditions (2024)
- Future Background Conditions (2044), assuming background development traffic (discussed below) and the full buildout of the ultimate road network
- Future Total Conditions (2044), assuming the buildout of the site and the full buildout of the ultimate road network

1.4 Study Guidelines / Policies

The following guidelines will be referenced:

- Halton Region's Transportation Impact Study Guidelines (January 2015)

- Halton Region's Access Management Guideline (January 2015)
- Town of Oakville's Livable by Design Manuals
- Draft Midtown Oakville Official Plan Amendment (2024)

1.5 Data Collection

Traffic data collection, including data related to pedestrians, cyclists, vehicles, trucks, and buses has been undertaken by Spectrum Traffic Data Inc. on behalf of BA Group on Tuesday, June 4th, 2024. The relevant signal timing plans have been requested from the Town of Oakville.

1.6 Background Traffic

1.6.1 General Corridor Growth

Historical counts at intersections along Trafalgar Road in the study area will be reviewed to determine an appropriate corridor growth assumption, if any, to apply along the study area roads.

1.6.2 Background Developments

Potential future developments based on active applications found on the Town of Oakville's development application portal are being reviewed to determine the additional traffic to be added to the study area intersections. The following developments have been identified and will be included as a part of this study:

- 157-165 Cross Avenue
- 177 Cross Avenue
- 207 Cross Avenue & 571 Argus Road
- 570 Argus Road
- 590 Argus Road
- 166 South Service Road
- 271 Cornwall Road
- 349 Davis Road
- 599 Lyons Lane
- 627 Lyons Lane

1.7 Site Trip Generation

Travel demands for vehicles, transit users, cyclists, and pedestrians will be determined using information from the 11th Edition of the ITE Trip Generation Manual.

Additionally, the Transportation Tomorrow Survey (TTS) will be reviewed to determine mode splits, in conjunction with information collected from the proxy site surveys.

1.8 Trip Distribution

Vehicle, pedestrian, transit, and cycling trips will be distributed using information from the TTS as well as a review of existing travel patterns from the turning movement counts.

1.9 Traffic Analysis

Traffic analysis will be undertaken using Synchro 11 software.

2.0 TRANSPORTATION DEMAND MANAGEMENT

A TDM Plan, which seeks to reduce the number of single-occupant vehicle trips generated by the site, will be provided in the TIS.

3.0 VEHICLE PARKING, LOADING AND BICYCLE PARKING

The appropriateness of the supply of vehicle parking, loading and bicycle parking spaces for the site will be reviewed in the context of relevant Town and Provincial zoning bylaws and policies.

Outlook

RE: [EXTERNAL] 420-468 South Service Road - Transportation Study Terms of Reference

From Aquisha Khan <aquisha.khan@oakville.ca>
Date Wed 2024-10-09 12:39 PM
To Clara Filipetti <Clara.Filipetti@bagroup.com>
Cc Amy Z. Jiang <jiang@bagroup.com>; matt.kursto@halton.ca <matt.kursto@halton.ca>; Akhtar, Usman (MTO) <usman.akhtar@ontario.ca>; 'Khan, Ayesha' <Ayesha.Khan@halton.ca>; Eric Chan <eric.chan@oakville.ca>

1 attachment (967 KB)
[EXTERNAL] FW: 420-468 South Service Road - Transportation Study Terms of Reference;

Hi Clara,

Thank you for providing a copy of the TOR for our review.

- Please structure the Traffic Impact Assessment Study as per Provincial TIS Guidelines and Headings
- Please use a 3% growth rate for all municipal roadways within the study area.
- Please include in the Study intersections:
  - Chartwell Road & Cornwall Road
  - Please use the approved EA report (2013) for the anticipated/proposed intersections on the east side of Trafalgar. (please note these intersections may change throughout the duration of the project at which time the report would require updating).
- Please include a Parking section in the report
- Please include a TDM section in the report
- Please include a Traffic Calming section in the report
- Please include a Sightline Review section in the report
- Please include an Access review section in the report.
- Please include all warrant(s) analysis in the Appendix.

If there are any questions or concerns to the above, please feel free to contact me.

Have a great day and a memorable Thanksgiving 😊!

Aquisha Khan, (She/Her/Hers), P. Eng.,
Transportation Engineer, East Oakville
Transportation Planning Services,
Town of Oakville | P: 905-845-6601, Ext. 3236 | C: 289-952-9345 | www.oakville.ca

Regards

Aquisha Khan, (She/Her/Hers), P. Eng.
Transportation Engineer
Transportation and Engineering
Town of Oakville | 905-845-6601, ext. 3236 | www.oakville.ca

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http://www.oakville.ca/privacy.html

From: Clara Filipetti <Clara.Filipetti@bagroup.com>
Sent: Wednesday, September 18, 2024 2:11 PM

To: matt.kursto@halton.ca; Akhtar, Usman (MTO) <usman.akhtar@ontario.ca>; Aquisha Khan <aquisha.khan@oakville.ca>
Cc: Amy Z. Jiang <jiang@bagroup.com>
Subject: [EXTERNAL] 420-468 South Service Road - Transportation Study Terms of Reference

You don't often get email from clara.filipetti@bagroup.com. Learn why this is important

Hi All,

BA Group has been retained to provide transportation consulting services in support of a proposed development located at 420-468 South Service Road in the Town of Oakville. Please find attached a proposed terms of reference for this work.
Let us know if you have any questions or concerns surrounding the TOR. We look forward to receiving your feedback.

Thank you,

Clara

Clara Filipetti
Transportation Analyst

BA Consulting Group Ltd.

95 St. Clair Avenue West, Suite 1000 | Toronto
416 961 7110 x196 | Clara.Filipetti@bagroup.com

BA Consulting Group Ltd.

Appendix S:
Peak Hour Factor Calculations

Peak Hour Factors = Total Hourly Intersection Volume ÷ (4 x Maximum 15-Minute Volume)

Intersection	*Weekday Morning Peak Hour*		*Weekday Morning Peak Hour*	
	15-Minute Period		*15-Minute Period*	
Trafalgar Road / Leighland Avenue / Iroquois Shore Road	1st 15-Min	1367	1st 15-Min	1433
	2nd 15-Min	1357	2nd 15-Min	1466
	3rd 15-Min	1362	3rd 15-Min	1546
	4th 15-Min	1345	4th 15-Min	1539
	Total Hour	**5431**	**Total Hour**	**5984**
	Max 15-Min	**1367**	**Max 15-Min**	**1546**
	Peak Hour Factor	**0.99**	**Peak Hour Factor**	**0.97**
Trafalgar Road / QEW Hwy 403 Westbound Off-Ramps / North Service Road	1st 15-Min	1450	1st 15-Min	1496
	2nd 15-Min	1516	2nd 15-Min	1465
	3rd 15-Min	1435	3rd 15-Min	1524
	4th 15-Min	1480	4th 15-Min	1622
	Total Hour	**5881**	**Total Hour**	**6107**
	Max 15-Min	**1516**	**Max 15-Min**	**1622**
	Peak Hour Factor	**0.97**	**Peak Hour Factor**	**0.94**
Trafalgar Road / QEW Hwy 403 Eastbound Off-Ramps	1st 15-Min	1302	1st 15-Min	1208
	2nd 15-Min	1307	2nd 15-Min	1275
	3rd 15-Min	1193	3rd 15-Min	1337
	4th 15-Min	1297	4th 15-Min	1243
	Total Hour	**5099**	**Total Hour**	**5063**
	Max 15-Min	**1307**	**Max 15-Min**	**1337**
	Peak Hour Factor	**0.98**	**Peak Hour Factor**	**0.95**
Trafalgar Road / Cross Avenue / South Service Road	1st 15-Min	1007	1st 15-Min	1002
	2nd 15-Min	995	2nd 15-Min	1050
	3rd 15-Min	1027	3rd 15-Min	1085
	4th 15-Min	956	4th 15-Min	1065
	Total Hour	**3985**	**Total Hour**	**4202**
	Max 15-Min	**1027**	**Max 15-Min**	**1085**
	Peak Hour Factor	**0.97**	**Peak Hour Factor**	**0.97**
Trafalgar Road / Cornwall Road	1st 15-Min	921	1st 15-Min	924
	2nd 15-Min	970	2nd 15-Min	960
	3rd 15-Min	906	3rd 15-Min	938
	4th 15-Min	916	4th 15-Min	890
	Total Hour	**3713**	**Total Hour**	**3712**
	Max 15-Min	**970**	**Max 15-Min**	**960**
	Peak Hour Factor	**0.96**	**Peak Hour Factor**	**0.97**
Cornwall Road / Chartwell Road	1st 15-Min	427	1st 15-Min	490
	2nd 15-Min	509	2nd 15-Min	466
	3rd 15-Min	480	3rd 15-Min	502
	4th 15-Min	465	4th 15-Min	435
	Total Hour	**1881**	**Total Hour**	**1893**
	Max 15-Min	**509**	**Max 15-Min**	**502**
	Peak Hour Factor	**0.92**	**Peak Hour Factor**	**0.94**
South Service Road / Royal Windsor Drive / QEW Hwy 403 Ramps	1st 15-Min	356	1st 15-Min	492
	2nd 15-Min	397	2nd 15-Min	463
	3rd 15-Min	414	3rd 15-Min	463
	4th 15-Min	425	4th 15-Min	379
	Total Hour	**1592**	**Total Hour**	**1797**
	Max 15-Min	**425**	**Max 15-Min**	**492**
	Peak Hour Factor	**0.94**	**Peak Hour Factor**	**0.91**
Trafalgar Road / Argus Road	1st 15-Min	1165	1st 15-Min	993
	2nd 15-Min	1099	2nd 15-Min	1019
	3rd 15-Min	991	3rd 15-Min	1118
	4th 15-Min	1057	4th 15-Min	1087
	Total Hour	**4312**	**Total Hour**	**4217**
	Max 15-Min	**1165**	**Max 15-Min**	**1118**
	Peak Hour Factor	**0.93**	**Peak Hour Factor**	**0.94**
Chartwell Road / South Service Road	1st 15-Min	86	1st 15-Min	135
	2nd 15-Min	99	2nd 15-Min	172
	3rd 15-Min	132	3rd 15-Min	149
	4th 15-Min	118	4th 15-Min	159
	Total Hour	**435**	**Total Hour**	**615**
	Max 15-Min	**132**	**Max 15-Min**	**172**
	Peak Hour Factor	**0.82**	**Peak Hour Factor**	**0.89**
South Service Road / Davis Road	1st 15-Min	81	1st 15-Min	127
	2nd 15-Min	91	2nd 15-Min	148
	3rd 15-Min	109	3rd 15-Min	147
	4th 15-Min	113	4th 15-Min	175
	Total Hour	**394**	**Total Hour**	**597**
	Max 15-Min	**113**	**Max 15-Min**	**175**
	Peak Hour Factor	**0.87**	**Peak Hour Factor**	**0.85**