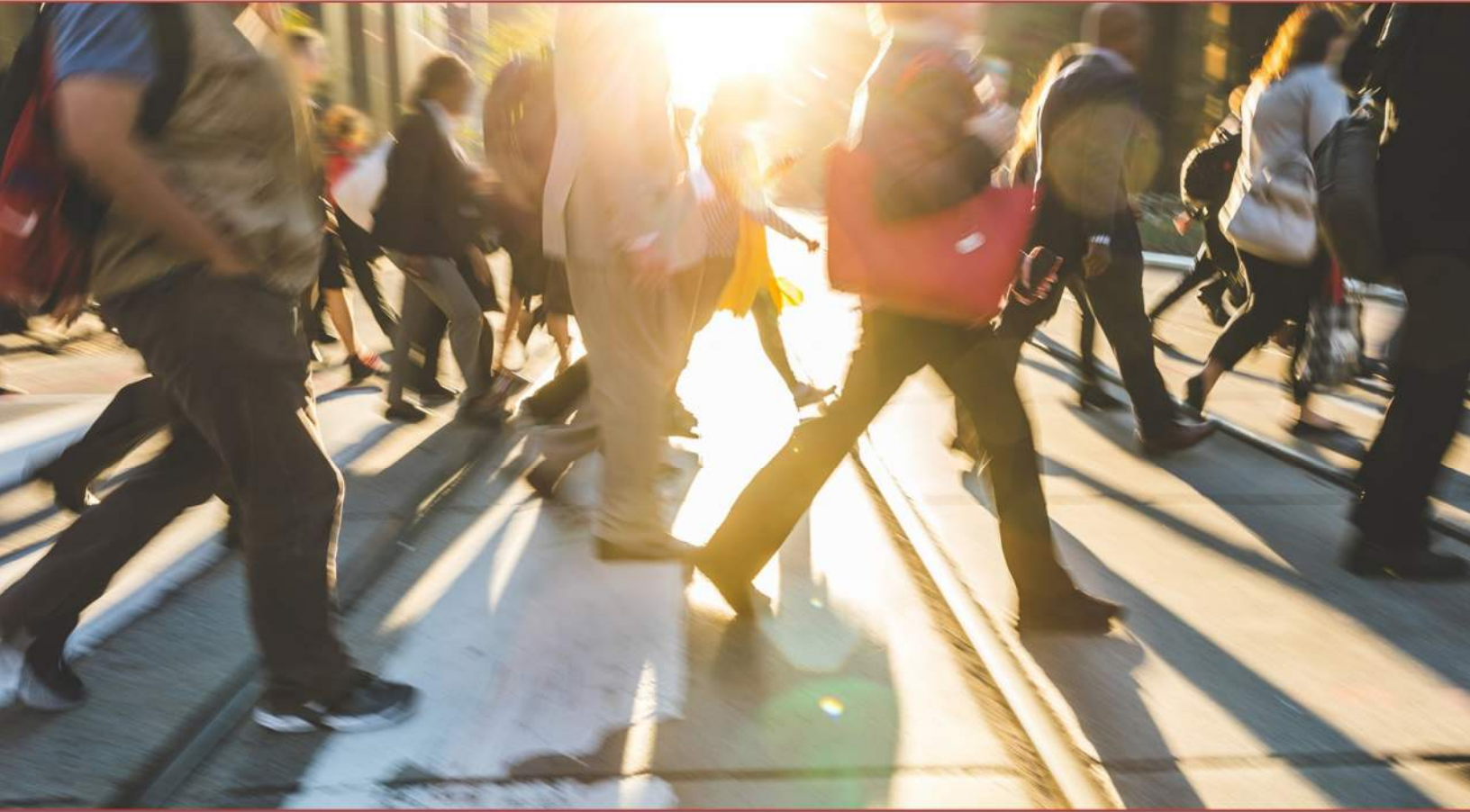


# PALERMO VILLAGE MASTER PLAN MULTI-USE DEVELOPMENT

Transportation Impact Study  
Town of Oakville



Prepared For: Palermo Village Corporation

October 5, 2023



**BA Group**





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## EXECUTIVE SUMMARY

BA Group was retained by Palermo Village Corporation (PVC) to provide transportation consulting services related to a development proposal in the northwest quadrant of Bronte Road and Dundas Street West in the Town of Oakville. The property (also herein referred to as the “Palermo Village Master Plan”) is bounded by Highway 407 to the north, Dundas Street West to the south, and Fourteen Mile Creek to the east and west.

The Palermo Village Master Plan proposes to deliver a mixed-use, multi-building development providing retail, residential, office, community and park uses. The existing retail uses on the site will be redeveloped in a phased approach. The Master Plan is divided into 12 blocks (including 2 parks) and comprises approximately 6,890 residential units and over 19,000 sq. metres of non-residential floor space. The Master Plan also includes new public parkland.

The Master Plan includes a new transit station, integrated into planned development on Blocks 39 and 48. The proposed terminal is expected to connect Oakville Transit services with other local and regional transit operators. In addition to serving the Project and broader Palermo Village area, the proposed terminal will also connect the proposed North Oakville bus routes.

A number of planned investments in public transit services in the Region of Halton will further improve the transit options for future residents and visitors of the site and surrounding area. These include a range of committed large scale service improvements planned by Metrolinx and the Town including new transit line facilities such as the Dundas Street Bus Rapid Transit (“BRT”), GO RER Lakeshore West Corridor, and the Highway 407 Transitway. The Lakeshore West GO Line service expansion will provide 15-minute service or better frequencies, both ways throughout the day. Bronte GO Station is approximately 6.3 kilometres from the site and Oakville Transit is looking to expand its frequency of service to facilitate efficient and reliable connectivity to the rail line. The Dundas BRT will form a critical link for residences along the Dundas corridor, allowing for faster and more frequent transit service.

It is proposed to adopt a parking strategy for the Master Plan to be within the range of the vehicular parking standards set out by the North Oakville Zoning By-law 2009-189 for residential and non-residential components of the site. Vehicular parking will be provided within a new below-grade parking facility, as well as on-street and on private driveways in a future site plan application submission.

Additionally, the bicycle parking supply will meet the minimum North Oakville Zoning By-law 2009-189 bicycle parking requirements for both residential and non-residential uses. Short-term bicycle parking will be provided on each development parcel within the Palermo Village Master Plan. Short-term bicycle parking spaces will be publicly accessible and generally located at-grade near building lobbies whereas, long-term bicycle parking spaces will be weather-protected and secured within the first two-storeys of the building or below-grade. The bicycle parking will be accessed via bicycle ramps or bicycle elevators. The bicycle parking infrastructure will be detailed in a future site plan application submission.

The proposed loading facilities will meet the dimensional requirements set out by the Town’s Zoning By-law 2009-189. Additionally, the quantity and configuration of the loading space arrangements to accommodate residential, retail, office and other non-residential uses will be determined in a future site plan application submission.

This Traffic Impact Study (TIS) was prepared as part of the Draft Plan of Subdivision (DPOS) and Zoning By-law Amendment (ZBA) application being submitted to the Town of Oakville. All signalized intersections within the study area operate within acceptable levels of service, with the exception of the William Halton Parkway / Bronte Road intersection (during the weekday PM peak period), the Bronte Road / Dundas Street West intersection (during both peak hour periods), and the Valleyridge Drive / Street B / Dundas Street West intersection (during the weekday PM peak period). Over time, as the road network is built-out within the Palermo Village Community, area traffic will begin to recognize the William Halton Parkway and Street Extensions to the west, the distribution of area traffic volumes will change and the amount of traffic utilizing Dundas Street West will begin to reduce during the peak hours.



It should be noted that vehicles will experience extended delays and congestion along the arterial road corridors, but local traffic can benefit from the newly constructed Dundas BRT and the Palermo Bus Transit Terminal which will provide connections throughout Oakville which facilitates further non-auto mobility opportunities for residents and visitors of the area. In addition, the proposed additions to cycling and pedestrian infrastructure outlined within **Sections 3.3** and **3.4** along Bronte Road, William Halton Parkway, and other local roads within the area network provide excellent opportunities for further benefits to help reduce local traffic.

Understanding that it is not realistic for intersections to operate over capacity, it is reasonable to assume that the trend of decreasing personal automobile use during the peak travel periods in favour of transit use will continue into the future and the anticipated ultimate road network will further contribute to alleviating traffic impacts along major corridors.



## 1.0 OVERVIEW

### 1.1 Introduction

BA Group is retained by Palermo Village Corporation (PVC) to provide transportation consulting services related to a mixed-use development (Address), in the northwest quadrant of Bronte Road and Dundas Street West in in the Town of Oakville (“the Town”), in the Region of Halton (“the Region”). The property (also herein referred to as the “Palermo Village Master Plan” or “the site”) is bounded by Highway 407 to the north, Dundas Street West to the south, and Fourteen Mile Creek to the east and west.

The site location and context are illustrated in **Figure 1** and **Figure 2**, respectively.

The redevelopment of the site will occur in phases as market conditions and opportunities permit. The proposal consists of a range of retail, residential, office, community, park and potential age in place facility uses in a mix of building types ranging from 8 to 35 storeys. The proposal contemplates approximately 6,890 residential units and over 19,000 sq. metres of non-residential floor space within a total of 7 blocks at full build out. The new mixed-use community will be organized around new walkable, cycle and transit-oriented transportation and open space network consisting of new streets, parks and open spaces.

An Official Plan Amendment (OPA) application has been made to the Town of Oakville. A Draft Plan of Subdivision (DPOS) and Zoning By-law Amendment (ZBA) application is currently being made to the Town to permit the proposed mixed-use development.

### 1.2 Existing Site and Master Plan Lands

The site is located within the North Oakville neighbourhood (northwest Oakville), north of Dundas Street West consisting of approximately 47.73 hectares (117.95 acres) in size. The site is represented by two properties to the east and west of Bronte Road. Together, these form the Palermo Village Master Plan.

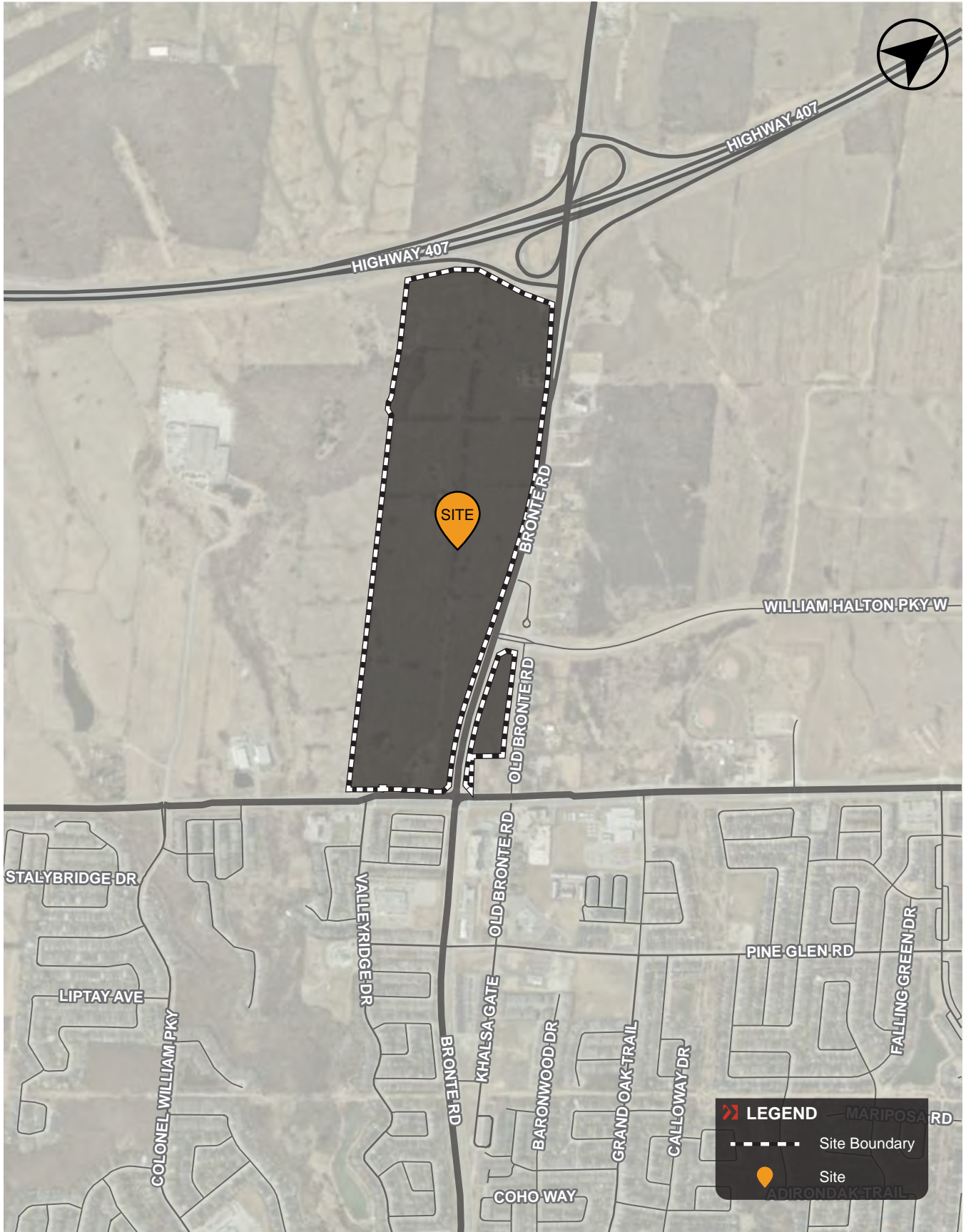
Currently, the site exists as undeveloped green field lands, and falls within a Future Development Zone (“FD”), with the surrounding zones also designated as FD Zones. Due to the green field nature of the site, it has no existing internal roads, sidewalks, transit or cycling facilities. The intersection of Bronte Road and Dundas Street West, south of the site is signalized with four through lanes on Bronte Road, six through lanes on Dundas Street West and exclusive turning lanes on both roads.

The site is serviced by four (4) bus routes that provide local connections to other transit systems including higher-order transit (GO service at Bronte GO and Oakville GO Stations). Bronte GO Station on the Lakeshore West line is located approximately 6.3 kilometres (approximately a 20-minute bus ride) south of the site, providing excellent travel options to central Toronto as well as across the broader Greater Toronto Hamilton Area (the “GTHA”).

The vicinity of the site offers support for cycling infrastructure, with the existing multi-use paths that provide an opportunity for a well-connected cycling network in the Palermo Village Master Plan. The nearest cycling facilities include multi-use paths along Dundas Street West and Bronte Road. Upon completion of the Dundas Street BRT, dedicated bicycle lanes will be provided on Dundas Street along the entire length of the BRT route, including across the site frontage. The site is also located in close proximity to the Fourteen Mile Creek Trail, Sixteen Mile Creek Trail, and the Glenorchy Conservation Area. On-street bike lanes are also identified on Valleyridge Drive.

A draft block plan has been prepared to form the base of the Master Plan and road configuration for the site. The draft block plan is provided in **Appendix A**.

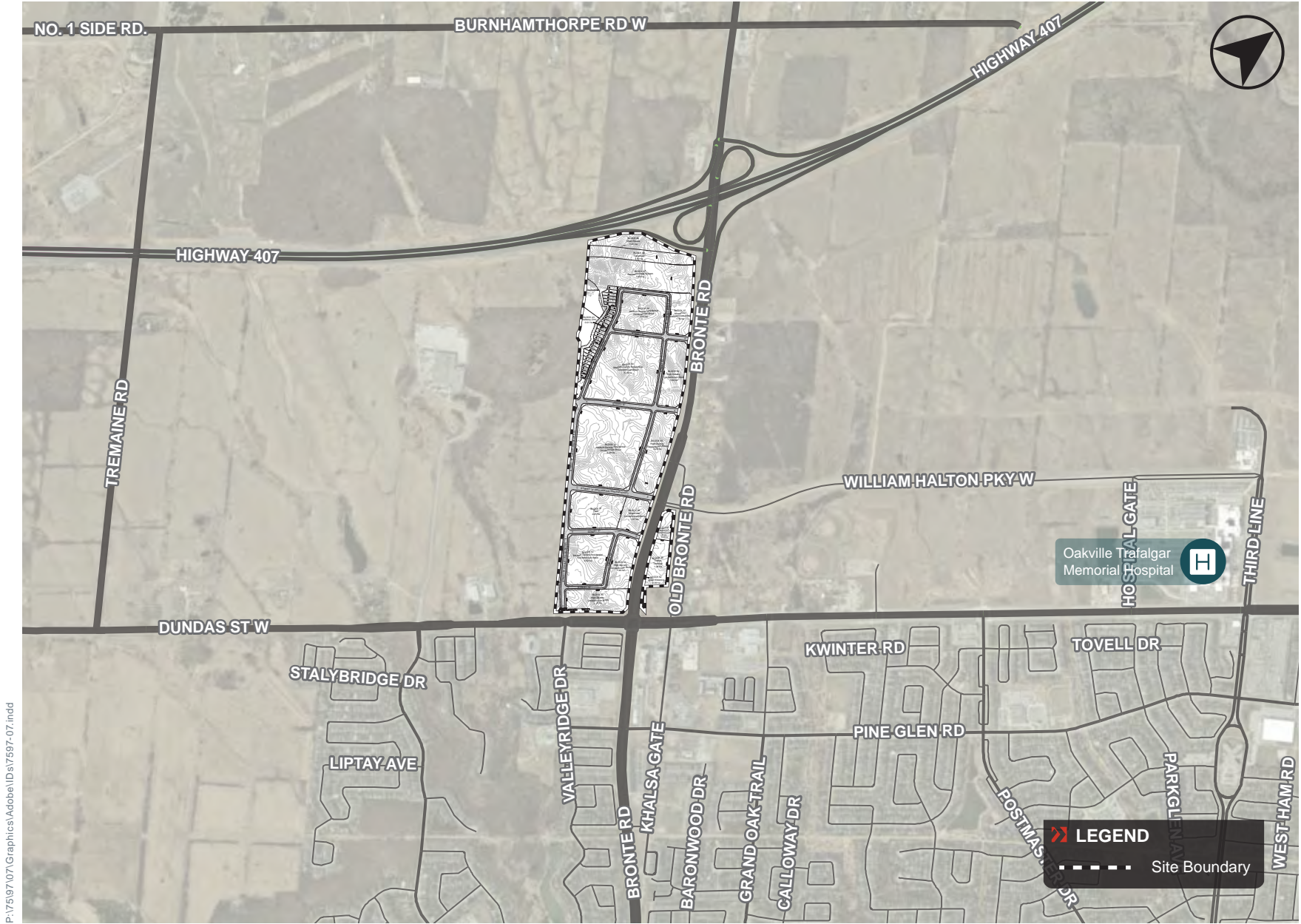




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Aerial maps provided courtesy of: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, the GIS User Community and/or Google Earth/Maps.

**FIGURE 1 SITE LOCATION**



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Aerial maps provided courtesy of Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, the GIS User Community and/or Google Earth/Maps.

**FIGURE 2 SITE CONTEXT**

### 1.3 Area Context

The site is located within a Major Transit Station Area (MTSA), as defined within the Province of Ontario Growth Plan. MTSA's are subject to a density target, given their adjacency to higher order transit. According to the Growth Plan, it defines a MTSA as, "including and around any existing or planned high order transit station or stop within a settlement area [...]" and "the area within an approximate 500 to 800 metre radii of a transit station, representing about a 10-minute walk."

The 407 Transitway and Dundas BRT are considered high-order transit, which the Growth Plan appoints lands within the settlement area of existing or planned high-order transit as a MTSA. Since the Dundas BRT – Bronte Station bus stops will be located at the intersection of Dundas Street West and Bronte Road along the south limits of the site and the 407 Transitway – Bronte Station will be located along the north limits of the site both encompassing the Palermo Village lands, it is appropriate to assume that Palermo Village will identify as a MTSA

The site is located at the intersection of Bronte Road and Dundas Street West, at the confluence of a major surface transit corridor – including the future Dundas Street Bus Rapid Transit ("BRT"), and frequent surface transit on Dundas Street. As well, the North Oakville West Secondary Plan has identified Bronte Road as a Busway Corridor, and William Halton Parkway as a Secondary Transit Corridor Service.

The Dundas West BRT is estimated to begin construction in 2025 and will connect between the village of Waterdown in the City of Hamilton (Highway 6) and Kipling Transit Hub in Etobicoke (Line 2: Bloor-Danforth). The planned BRT transit line will traverse through several cities, including Mississauga, Oakville, and Burlington, contributing to enhanced connectivity and improved transportation options for residents and commuters in these city centers.

Given the large size of the site and its prominent location, there is unique opportunity for the redevelopment of the site to create a vibrant, mixed-use, transit and pedestrian oriented neighbourhood. The Palermo Village Master Plan includes the extension of a variety of existing local roads and proposal of new municipal roads that will assist in managing area mobility needs, create new connections for active travel modes, and integrate with public realm improvements throughout the site.

### 1.4 Key Transportation Principles

A series of transportation principles have been established to guide the development of the Master Plan and build upon the framework outlined within the Town's planning directives, as follows:

- Create a fine grain street and block plan;
- Leverage existing and planned transit;
- Improve mobility for all users;
- Facilitate a mix of land uses;
- Urbanize the public realm;
- Prioritize Transportation Demand Management; and
- Mitigate traffic impacts.

#### 1.4.1 Create a Fine Grain Street and Block Plan

Today, the site and surrounding area comprise of large blocks with limited mid-block connectivity. By way of context, the site boundary extends approximately 1,009 metres west side and 434 metres east side and along Bronte Road, and approximately 208 metres along Dundas Street West.

Central to the Palermo Village Master Plan is the delivery of a new street network. The site is proposed to be divided into smaller blocks to create a finer grained public and private street network with new connections for vehicles, pedestrians and cyclists. The high-quality street design will connect and move people more efficiently through and to / from the site.



#### 1.4.2 Leverage Existing and Planned Transit

The Master Plan is organized to leverage the existing transit connections and support the travel demands of prospective residents, patrons, employees and visitors. The introduction of a new transit station, integrated into planned development on Blocks 39 and 48, provides a flexible and comprehensive facility dedicated to extending the mobility of not just Palermo Village residents, workers, and visitors, but transit riders making connecting trips as well.

The proposed terminal is expected to connect Oakville Transit services with other local and regional transit operators. In addition to serving the Project and broader Palermo Village area, the proposed terminal will also connect the proposed North Oakville bus routes.

Additionally, the site has direct frontage on, and access to, transit stops on Dundas Street West, with the future Dundas Street BRT proposing a stop directly in front of the site, at the Bronte Road and Dundas Street West intersection.

#### 1.4.3 Improve Mobility for All Users

The improvement of mobility options for the site is a key element of the Master Plan. Seven new public streets and one new private laneway, as well as an internal pedestrian plaza are proposed, creating an internal street grid layout across the site and providing new connections to the wider area. Dedicated cycling facilities and improved pedestrian facilities are proposed on the public road network surrounding the site, to provide connectivity to the broader cycling network.

The new mobility network provides a series of new multi-modal connections, significantly improving the pedestrian and cycling connectivity in addition to improved vehicular circulation.

#### 1.4.4 Facilitate a Mix of Land-Uses

The Master Plan introduces a mix of land uses, including retail, residential, office, community and potential age in place facility uses, as well as a public park. The provision of mutually supportive land uses helps to create a more vibrant, non-auto centric community that provides on-site amenities for residents, employees, customers and visitors of the site.

The mix of land uses is also important as a means of encouraging internal site trips, shortening trips and improving mobility across the site and surrounding area. Ultimately, the most convenient, comfortable, and practical way to conduct such internal trips will be by foot.

The mix of uses will not only enhance the livability of the area but will also improve support for multi-modal mobility options.

#### 1.4.5 Urbanize the Public Realm

A key element of the proposed master plan is the urbanization of the site through:

##### *Creation of Park Space*

As part of the Master Plan, public and private parks / open spaces are proposed throughout the site with linkages to existing and future pedestrian and bicycle facilities. The creation of an improved and more liveable public realm is central to supporting the residential communities that are planned in the area.

##### *Animated Streets*

The introduction of a new street network and redevelopment of the site will provide an opportunity to create active street frontages, enhancing the pedestrian experience and encouraging at-grade commercial activity that is typical of urban areas. The animated streets will support the pedestrian-oriented nature of the development.

These elements of the Master Plan will set the framework for an urban built form that will enhance the public realm while fostering walkability and access for planned buildings.



#### 1.4.6 Prioritize Transportation Demand Management

The Master Plan has been developed with Transportation Demand Management as a key principle. Elements of the Master Plan have been developed to prioritize travel by transit and active transportation, while also accommodating limited use of the automobile in order to foster multi-modal travel across a range of travel options.

The enhancement of the public realm and the increase in pedestrian, cycling and transit connections all work to support active transportation and transit use. Providing site residents, employees, customers and visitors with information regarding these connections will be important to increasing transit and active transportation awareness and use.

The mixed-use nature of the development, including retail, residential, community uses and daycare, further encourages pedestrian mobility throughout the site, as the mix of land uses enables daily needs of residents, employees, customers and visitors to be met to an increasing degree on-site within walking distance. This reduces the need to travel off-site and the need to use an automobile to make daily trips.

#### 1.4.7 Mitigate Traffic Impacts

It is important that new vehicular traffic generated by the proposed development be accommodated appropriately on the area street network, and not adversely impact surface transit operations. Through the design of the Master Plan, people will be encouraged to walk, cycle and take transit with a lesser reliance on auto use, while vehicular activity will be managed as efficiently as possible in order to mitigate impacts to the core functions of the area street network.

It is noteworthy that the Master Plan is able to provide significant new street linkages that will assist in the accommodation of future traffic activity and provide flexible routing options for vehicles travelling to and from the wider area.

### 1.5 Study Approach

The proposed application being made to the Town of Oakville is for a Draft Plan of Subdivision (DPOS) and Zoning By-law Amendment (ZBA) application to facilitate the proposed uses on the site and define key structural elements such as open spaces, public realm objectives, and transportation principles that will guide the plan.

The focus of this transportation study is to outline the proposed transportation program elements and operational initiatives that support non-automobile travel options for prospective residents, employees, and visitors to the site, while also demonstrating how vehicular needs associated with the development and area as a whole can be appropriately managed and how increased travel demands could be met.

The study scope that has been adopted for this study has been developed in consultation with Town staff and in consideration of the extensive scale of development that is being proposed on the site and the multi-modal nature of the development plan.

Multi-modal travel demand forecasts have been established for auto-based and non-auto-based trips for the site, including those made by active transportation modes to better assess the characteristics of each mode. For analysis purposes, the multi-modal travel demand for the proposed development has been projected based on the vehicle trip generation and back calculating the non-auto travel demand given the area mode split for a residential land use as proposed on the site.

Operational assessments have been undertaken assessing the way the current transportation systems operate across typical weekday peak hour periods. Analyses of future conditions have been undertaken to assess the way in which site travel demands would be absorbed and accommodated onto the changing area transportation system during the busiest periods of operation.

Additional detail and analysis, such as a detailed transportation model and operations analysis, will be undertaken through the future Site Plan application processes which will be submitted at a later date.





### 1.5.1 Study Scope

This report provides an assessment of the transportation-related aspects of the site, including:

- a summary of the existing land uses and proposed development programme;
- a review of the area transportation context, including planned area road network improvements; and
- a review of traffic operations on the road system following the development of the site.

The Town of Oakville, Halton Region, and the province have several planned improvements for the area surrounding the site, specifically improvements to transit connectivity, new active transportation links, and the adjacent road network identified in the:

- Halton Region and Town of Oakville Official Plans (“OP”, “ROP”)
- Halton Region and Town of Oakville Transportation Master Plans (“TMP”);
- Halton Region and Town of Oakville Active Transportation Master Plans (“ATMP”); and
- North Oakville Secondary Plans

Plans for road improvements approved and already underway by the Town of Oakville and Halton Region will provide for significantly improved connectivity and mobility options for future site residents and visitors. Planned area road, transit, and active transportation improvements are outlined in **Section 3.0** of this report. The study scope is outlined below.

#### Transportation Context

- A description of the existing transportation context with consideration for the area road network, transit system and active transportation facilities.
- A description of any future transportation changes and/or improvements to the area context such as transit improvements and other non-automobile dependent travel options.

#### Development Proposal

- A summary of the proposed development.
- An overview of the site and the area-wide transportation system that facilitates a shift towards non-automobile travel for prospective residents and visitors, while still being able to meet the practical and operational needs of the proposed development plan.
- A review of the transportation elements of the proposed development plan that includes vehicle access and circulation, loading and parking facilities.

#### Transportation Demand Management Framework

- An overview of potential Transportation Demand Management (TDM) measures and initiatives that are being considered to encourage prospective residents and visitors to use more active and sustainable modes of transportation.

#### Site Plan

- A review of the vehicle parking, bicycle parking and loading provisions

#### Travel Demand Forecasting

- An assessment of the existing travel patterns and traffic volumes in the study area, during the key weekday morning and afternoon peak hours.
- A comprehensive review of future growth that may occur in the area, including corridor growth and consideration for a number of other area development projects.



- An assessment of the multi-modal trip generation potential of the proposed development.

### **Traffic Operations Review**

- A review of traffic operations at intersections in the area, under existing and future conditions, including an assessment of the operational impacts of the proposed development.
- An assessment of any mitigative measures to accommodate the development traffic.

The findings of this review are summarized in the following sections.

### **1.5.2 Study Area**

The following intersections are being analyzed as part of the proposed development’s road network.

#### **Signalized Intersections:**

- Dundas Street West / Bronte Road
- Dundas Street West / Valleyridge Drive (Street “B”)
- Dundas Street West / *Potential North-South Link*
- William Halton Parkway (Street “A”) / Bronte Road
- William Halton Parkway (Street “A”) / Valleyridge Drive (Street “B”)
- William Halton Parkway / *Potential North-South Link*
- Valleyridge Drive (Street “B”) / Street “F”
- Valleyridge Drive (Street “B”) / Street “E”
- Bronte Road / Street “F”
- Bronte Road / Street “E”
- Bronte Road / Street “C”

#### **Unsignalized Intersections:**

- Dundas Street West / Old Bronte Road
- Valleyridge Drive / Street “G”
- Street “F” / Street “G”
- William Halton Parkway (Street “A”) / Street “D”
- William Halton Parkway (Street “A”) / Old Bronte Road
- Old Bronte Road / *East-West Link*
- Street “E” / Street “D”
- Valleyridge Drive (Street “B”) / Street “C”

\*Note: Potential intersections located outside of the Palermo Village property boundaries.



## 2.0 PLANNING AND POLICY CONTEXT

### 2.1 Provincial Policy Context

There are a number of provincial and regional policy documents related to transportation that pertain to the site, including:

- 2041 Regional Transportation Plan: For the Greater Toronto and Hamilton Area (2018);
- A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2020);
- 2020 Provincial Policy Statement (2020); and
- Planned 2023 Provincial Planning Statement (expected to be released later in 2023)

The key transportation details of these policy documents are summarized below. The development proposal for the site incorporates the policy direction of these documents by incorporating a mix of uses, greater density and reduced parking standards based on the site's proximity to existing and planned transit corridors and the implementation of transportation demand management (TDM) strategies as part of the proposal.

#### 2.1.1 Metrolinx 2041 Regional Transportation Plan (2018 RTP)

The *2041 Regional Transportation Plan: For the Greater Toronto and Hamilton Area, 2018* (the "2041 RTP"), an update to *The Big Move (2008)*, directs the continuing development of the Greater Toronto and Hamilton Area's transportation network. It envisions sustainable and healthy communities that are developed through intensification and have low carbon footprints. The 2041 RTP has five core strategies including:

1. Complete the delivery of current regional transit projects;
2. Connect more of the region with frequent rapid transit;
3. Optimize the transportation system;
4. Integrate transportation and land use; and
5. Prepare for an uncertain future.

Strategies 1 and 2 of the 2041 RTP (complete the delivery of current regional transit projects and connect more of the region with frequent rapid transit, respectively) are of particular relevance given Palermo Village's proximity to the Dundas Street Bus Rapid Transit ("BRT"), linking Toronto, Mississauga and Oakville and Dundas West Priority Bus linking Burlington, Oakville and the Dundas BRT.

#### 2.1.2 Places to Grow: Growth Plan for the Greater Golden Horseshoe

*A Place to Grow: Growth Plan for the Greater Golden Horseshoe, August 2020 Office Consolidation* (the "Growth Plan") outlines the importance of reducing reliance upon the automobile while promoting transit and active transportation. The Growth Plan also highlights the importance of integrating active transportation within existing and planned street networks (i.e. complete streets) and within development projects.

Additionally, the Growth Plan seeks to align transit with growth by directing growth to Major Transit Station Areas ("MTSA"s), encouraging transit-supportive densities. In effect, major transit station areas on bus rapid transit will be planned for a minimum density target of 160 residents and jobs (combined) per hectare. As a requirement of the Growth Plan, municipalities are required to delineate the boundaries for each MTSA within their jurisdiction and demonstrate that plans for the MTSA will meet the minimum target for residents and jobs. The Dundas Street corridor is identified as a Priority Transit Corridor in Schedule 5 of the Growth Plan.



### 2.1.3 2020 Provincial Policy Statement

Adopted in May 2020, the *Provincial Policy Statement (“PPS”)* promotes efficient development patterns optimizing the use of land, resources and public investment in infrastructure and public service facilities. According to the PPS, efficient development patterns promote a mix of housing, including affordable housing, employment, recreation, parks and open spaces, and transportation choices that increase the use of active transportation and transit before other modes of travel.

Policies within the PPS promote transit-supportive development that promote greater density in proximity to existing and planned transit in order to encourage the use of transit. The policies also promote healthy, active communities through active transportation facilities and street design that provide safe pedestrian facilities. In order to maximize the use of existing and planned transportation infrastructure, the PPS policies recommend the use of TDM strategies.

### 2.1.4 Planned 2023 Provincial Planning Statement

In April 2023, the Ontario Government released a draft of the *Proposed Provincial Planning Statement, 2023* (the “Statement”), with the intent of consolidating two major planning documents in Ontario: *A Place to Grow: Growth Plan for the Greater Golden Horseshoe (Growth Plan), 2020* and the *Provincial Policy Statement, 2020*. The purpose of the Statement is to establish a comprehensive land use planning policy document that supports the achievement of Provincial housing objectives.

The Statement also sets the direction for growth and development across the Region including the Town. As a result of the proposed merger, noteworthy policy changes that are relevant to the Site include:

- Flexibility for the planning horizon by requiring the designation of land to accommodate growth for at least 25 years (the term ‘at least’ being a new addition).
- Removal of the intensification target, with the focus of intensification being limited to “Strategic Growth Areas”. This change applies solely to large and fast-growing municipalities; Provincial Urban Growth Centres are no longer referenced.
- Encouragement of minimum density for designated greenfield areas, with only a subset of Growth Plan targets being maintained (MTSA densities). These targets will be applicable only to “large and fast-growing municipalities”, making them optional in other areas.
- Changes in the definition of employment areas and the policy approach to employment planning. Notably, the new definition excludes offices, thereby allowing for more residential uses in certain cases and permitting the conversion of employment lands at any time with fewer tests.
- The Provincial Planning Statement does not provide a specific definition for affordable housing, nor does it establish targets for affordable or rental housing.

Overall, the Proposed Provincial Planning Statement, 2023 introduces various policy changes that aim to shape land use planning, promote residential development, and align with Provincial housing objectives.



## 2.2 Halton Region Policies

### 2.2.1 Halton Region Official Plan

Halton Region's Official Plan provides direction as to how physical development should take place in Halton Region to meet the current and future needs of its people. The Official Plan outlines a long-term vision for the Region's physical form and community character. To pursue that vision, it sets forth goals and objectives, describes an urban structure for accommodating growth, states the policies to be followed, and outlines the means for implementing the policies.

A decision was made in November 2022 to approve, with modifications, the Halton Regional Official Plan Amendment 49 ("OPA 49"). As approved, the Region's OPA 49 outlines a comprehensive land use policy framework to guide growth and development within the Region to the year 2051, including new and revised policies and schedules related to growth management, strategic growth areas, employment areas, infrastructure corridors, among other matters.

### 2.2.2 Halton Region Transportation Master Plan

An updated Halton Region Transportation Master Plan (2031) was adopted by Halton Region in October 2011 defining the Region's framework for growth from 2021 to 2031. The new Master Plan supports the policies and objectives arising out of Regional Official Plan Amendment No. 38 (ROPA 38) which incorporate the results from the Sustainable Halton Official Plan Review process. The Halton Region Transportation Master Plan (2031) is focused on a sustainable approach that balances 'greenfield' development with intensification.

The Master Plan has identified a number of initiatives to accommodate future growth in the region including, but not limited to: an expanded road network, transportation demand management, active transportation, and expanded transit options.

## 2.3 Town of Oakville Policies

### 2.3.1 Switching Gears Transportation Master Plan

The Town of Oakville's Transportation Master Plan ("Oakville TMP"), Switching Gears, recognizes the opportunity for the Town's transportation system to be enhanced through:

- ensuring safe, efficient, and accessible multi-modal travel,
- creating a sustainable transportation network,
- providing a real alternative to private automobile use; and
- generating a network of on- and off-road pedestrian and cycling facilities which enable the use of active transportation modes as an alternative to the automobile.

With an increasing population, community-building objectives in Growth Areas, including the Uptown Core Growth Area, emphasize transit-supportive, high-density, mixed-use and walkable neighbourhoods with an aim to decrease automobile dependency while promoting alternative travel modes. Additionally, Switching Gears highlights various options to accommodate the planned growth within Oakville and achieve / maintain the Town's transportation level-of-service standards including TDM alternatives, active transportation alternatives, transit alternatives, and road network capacity alternatives.

The proposed development complies with Switching Gears as the relatively dense, mixed-use development encourages active transportation through the use of TDM measures including the provision of residential bicycle parking, and the reduction of vehicular parking standards.



### 2.3.2 Oakville Active Transportation Master Plan

The Oakville Active Transportation Master Plan (“Oakville ATMP”) is a policy document, initially introduced in 2009 and subsequently updated in 2017, that evaluates the existing conditions and outlines a plan to expand the active transportation network, as well as encourage cycling and walking throughout Oakville. The proposed infrastructure improvements are to be implemented in two phases over a twenty-year period.

Additionally, the plan recommends an extensive network of facilities comprised of on and off-road paths designed to respond to the needs of a range of active transportation users, age and skill level. It identifies short, medium and long-term actions and recommendations that align with the Town of Oakville Official Plan, Oakville Transportation Master Plan, and Environmental Strategic Plan by:

- Providing a convenient and efficient town wide cycling and pedestrian system that links all communities in the town;
- Establishing an environmentally friendly transportation system that improves mobility; and
- Increased cycling and walking network connectivity.

The Town of Oakville’s ATMP Review highlights the need for Oakville to maintain and enhance multi-modal travel within the town and establish an interconnected system of mobility within the Greater Toronto and Hamilton Area (GTHA). The TMP Review sets the community transportation priorities until 2031 and aims to create future modal splits that can accommodate the projected population growth without causing significant congestion on the Town’s transportation network. All of the TMP Review’s strategies to increase transit mode shares include the implementation of TDM.

### 2.3.3 Town of Oakville Livable Oakville Plan

The Town of Oakville’s Official Plan is referred to as “the Livable Oakville Plan”. The goal of the plan is to improve the Town’s natural, cultural, social, and economic aspects by ensuring that growth and development decisions prioritize environmental sustainability, cultural vibrancy, economic growth, and social well-being.

Further, the Livable Oakville Plan:

1. establishes the desired land use pattern for lands within the Town, south of Dundas Street and north of Highway 407, to 2031;
2. coordinates land use and infrastructure requirements to ensure that the anticipated growth can be accommodated;
3. establishes a framework and policy context for decision making that provides certainty for the planning process; and,
4. conforms or does not conflict with provincial plans, has regard to matters of provincial interest, and is consistent with provincial policy statements.

This Plan does not include the North Oakville East and West Secondary Plans, which have their separate policy framework and land use pattern for the lands situated between Dundas Street and Highway 407. In 2015, the Town initiated a secondary plan study for North Oakville, which underwent public review through two drafts: the first in 2017, and the second in 2018, which included a traffic study prepared by Dillon Consulting. In October 2019, the Town Council decided to reconsider this secondary plan as part of the Town’s OP update process.

### 2.3.4 North Oakville West Secondary Plan

The North Oakville Secondary Plan consists of residential, employment and mixed-use development in the area between Highway 407 to the north and Dundas Street to the south within the Town of Oakville. This area includes approximately 3,100 hectares of land to be developed based on the New Urbanist model in order to promote efficient land use through a mix of uses and densities while maintaining a distinction between each of the 14 neighbourhoods. Overall, the plan will



accommodate approximately 50,000 new residents and 35,000 new jobs. The North Oakville West Secondary Plan refers to the lands west of Sixteen Mills Creek to Tremaine Road, which are planned to be mostly employment land with some mixed use near Dundas Street West and Bronte Road. The North Oakville East Secondary Plan refers to the lands east of Sixteen Mills Creek to Ninth Line north of Dundas Street.

Palermo Village North Urban Core Area designation, in which the site is located, is designed to provide for the creation of a “Secondary Transit Node”, in conjunction with the Palermo Village Community Centre south of Dundas Street West. This Node will be a dense, mixed-use development concentration that is pedestrian and transit oriented.

Key improvements in relation to the proposed development and as outlined in the North Oakville West Secondary Plan are further discussed in **Section 4.3**.

### 2.3.5 Palermo Village Growth Area Review

As identified in the Town of Oakville’s Livable Oakville Plan, which is the Town’s Official Plan, the Palermo Village Growth Area is a study conducted by the Town of Oakville to understand how the Town will manage growth of new residents and jobs.

The Growth Area was extended up to Highway 407 through Local Official Plan Amendment 34 (LOPA 34), which is currently under appeal and not in full force and effect. The proposed LOPA 34 boundaries are depicted in **Exhibit 1**. The intention of the Town is to plan for the growth and expansion of this future urban area to include nodes and corridors supporting high-density, accessible transit, pedestrian connectivity and mixed-use communities until the year 2041. More specifically, Bronte Road and Dundas Street are both considered as regional transit priority corridors as part of the Palermo Village Strategic Growth Area.

Exhibit 1: Palermo Village Growth Area



Source : <https://www.oakville.ca/getmedia/a5fd5517-49dd-4123-9605-a6f2ac6d71e0/planning-palermo-growth-area-recommended-opa-37.pdf>



As part of the Official Plan amendments affecting the provisions of the Palermo Village growth area, the Planning and Development Council adopted or passed by-law requirements to adopt the following Official Plan Amendments (OPA):

**Regional Official Plan Amendment 49 – adopted on June 12, 2022**

The Official Plan Amendment 49 (“OPA 49”) has been introduced to extend the boundary of the Palermo Village Primary Regional Node up to Highway 407. On November 4, 2022, the Minister of Municipal Affairs and Housing approved ROPA 49 as part of the Municipal Comprehensive Review to maintain Halton’s Urban Structure and to support the growth of the Region.

**Palermo Village Strategic Growth Area Local Official Plan Amendments 34, 37 and 38 – under appeal**

Planning for Palermo Village to become a high-density mixed-use node began back in the early 1990s. In 2018, as part of the Town’s Official Plan Review, the Town kickstarted the Palermo Village Growth Area Review, to develop new policies for the area and expand the growth node north of Dundas Street West.

On April 12, 2021, Town Council adopted Local Official Plan Amendment 34, which includes policies for the Palermo Village Growth Area except excluded the northern PVC lands, the parking and cultural heritage policies. On July 5, 2021, Town council adopted policies for the north PVC lands (LOPA 38), which excluded those lands from the growth area and adopted the area-specific parking and cultural heritage policies (LOPA 37).

On March 13, 2023, the Region of Halton approved LOPA 34, 37 and 38, with modifications to extend the Strategic Growth Area north, to bring the Palermo Village Strategic Growth Area boundaries in conformity with the boundaries identified through ROPA 49. The decision was subsequently appealed by PVC to the Ontario Land Tribunal and therefore LOPA 34, 37 and 38 (Palermo Strategic Growth Area LOPAs) are not in full force and effect.

In pursuit of a settlement, PVC provided their proposed modifications to the LOPAs to Town staff for consideration. The appealed LOPAs and the proposed modifications are being dealt with through the appeals process and this application is contingent of the final approval of the LOPAs.

**2.3.6 IBI Palermo Transit Terminal Location Study**

In 2010, IBI conducted a comprehensive study, later updated in 2019, evaluating potential locations for a new transit terminal in the Town of Oakville. The study identified four possible sites and examined different terminal designs for each site.

The preferred option consisted of a centre platform, with a 12-bay terminal located on the northeast corner of the future north approach of the Dundas Street West and the extended Valleyridge Drive intersection. Access to the proposed transit terminal was located off Valleyridge Drive, accompanied by a dedicated passenger pick-up and drop-off (“PPUDO”) area adjacent to the terminal.

The terminal would serve as a major transportation hub for local feeder services, higher frequency transportation along major roads, and the future Dundas BRT services. It would also strengthen connections between communities within Oakville, and facilitate seamless transfers to key destinations, including connections with GO transit services.



## 3.0 EXISTING AND EVOLVING TRANSPORTATION CONTEXT

### 3.1 Area Road Context

#### 3.1.1 Existing Road Network

A detailed description of the area road network surrounding the site and the characteristics of the streets serving the site area is provided in **Table 1**.

The existing area road network is illustrated in **Figure 3**. The existing area road lane configuration and traffic control are illustrated in **Figure 4**.

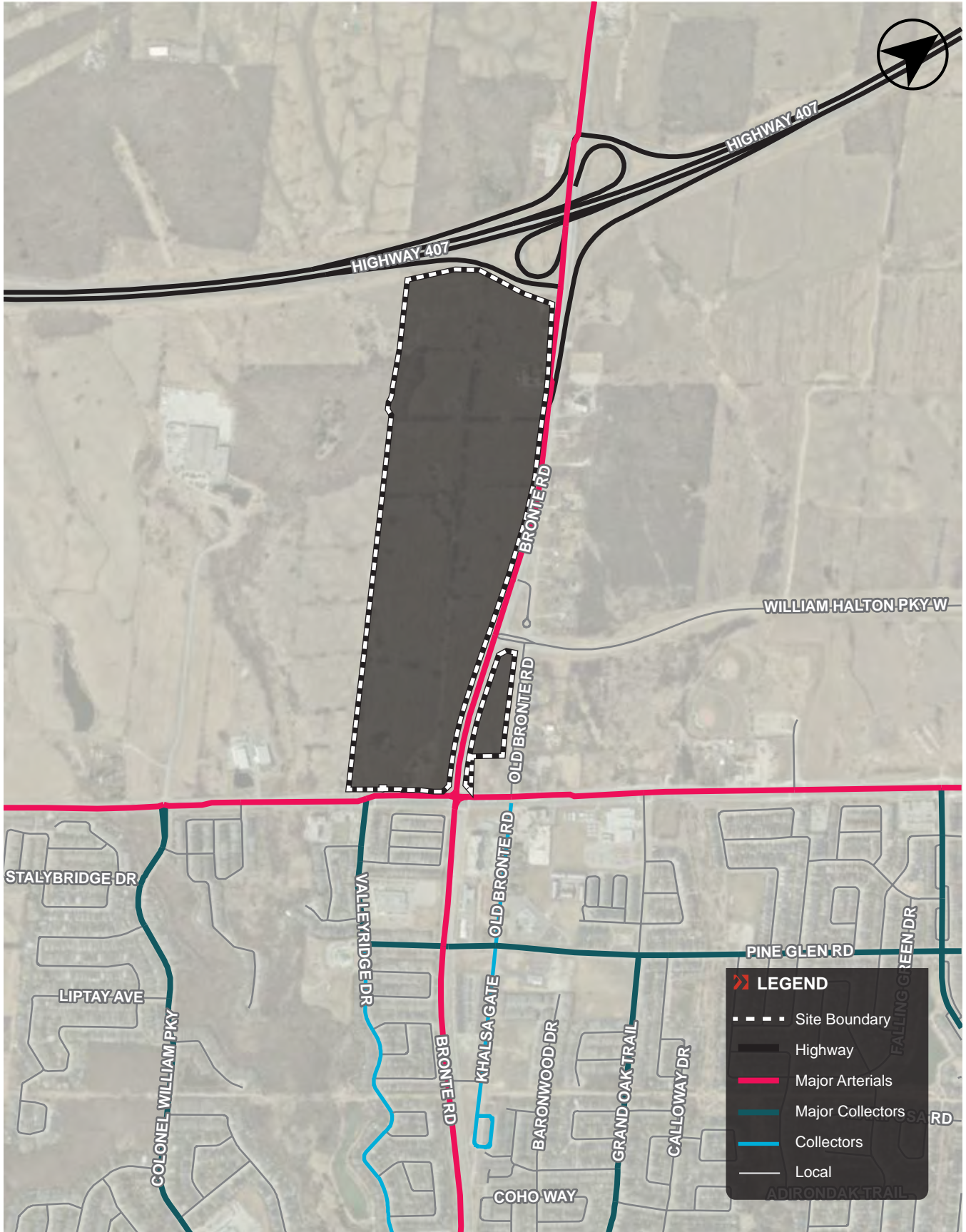
Table 1 Area Road Network

Classification / Direction		Street Name	Roadway Limits	Description
Provincial Freeway / Highway	East-West	Highway 407 Toll Route ("Highway 407 ETR")	Highway 407 extends across Halton Region between the Queen Elizabeth Way / Highway 403 interchange in Burlington and Highway 403 in Mississauga before extending further east across Toronto.	A 400-series highway under the jurisdiction of the Ontario Ministry of Transportation (MTO). Highway 407 is a tolled limited access highway located immediately north of the site and is generally oriented in the east-west direction. The highway maintains a six-lane toll freeway arrangement within the vicinity of the site. A full interchange is located in the site vicinity at Bronte Road immediately north of Dundas Street.  The posted speed limit is 100 km/h.
		Major Arterial / Transit Corridor	North-South	Bronte Road (Regional Road 25)
East-West	Dundas Street West (Regional Road 5)			Dundas Street West extends across Halton Region, connecting Hamilton from the west through Burlington and Oakville to Mississauga to the east.  On-street parking is prohibited on both sides of the street. The posted speed limit is 70 km/h.
	William Halton Parkway (Regional Road 40)		William Halton Parkway extends from Bronte Road to Third Lane, with plans to extend the roadway across the Town of Oakville to Ninth Line in two phases. Phase 1 (from Sixth Line to Ninth Line) is now complete. Phase 2 construction (Third Line to Sixth Line) is underway.  Bicycle lanes are presented on both sides of the roadway between Hospital Gate and Third Lane, and between Sixth Line and Ninth Line.  The posted speed limit is 60 km/h.	



Classification / Direction		Street Name	Roadway Limits	Description
Avenue / Transit Corridor	North-South	Old Bronte Road	Old Bronte Road extends from Bronte Road, with a cul-de-sac north of William Halton Parkway to Pine Glen Road in the south where it continues as Khalsa Gate.	<p>The roadway is a north-south avenue under the jurisdiction of the Town of Oakville. North of Dundas Street West, the roadway has a two-lane rural cross-section, one-lane in each direction. The intersection of Old Bronte Road with Dundas Street West is stop controlled.</p> <p>The posted speed limit is 50 km/h.</p>
Collector	North – South	Valleyridge Drive	Valleyridge Drive extends from Dundas Street West in the north to Richview Boulevard in the south.	<p>The roadway has a two-lane cross-section, one-lane in each direction, with bicycle lanes on both sides (north of Highvalley Road) indicated by pavement markings on the street and signs identifying the reserved lane.</p> <p>The posted speed limit is 40 km/h north of Highvalley Road, and 50 km/h south of Highvalley Road.</p>

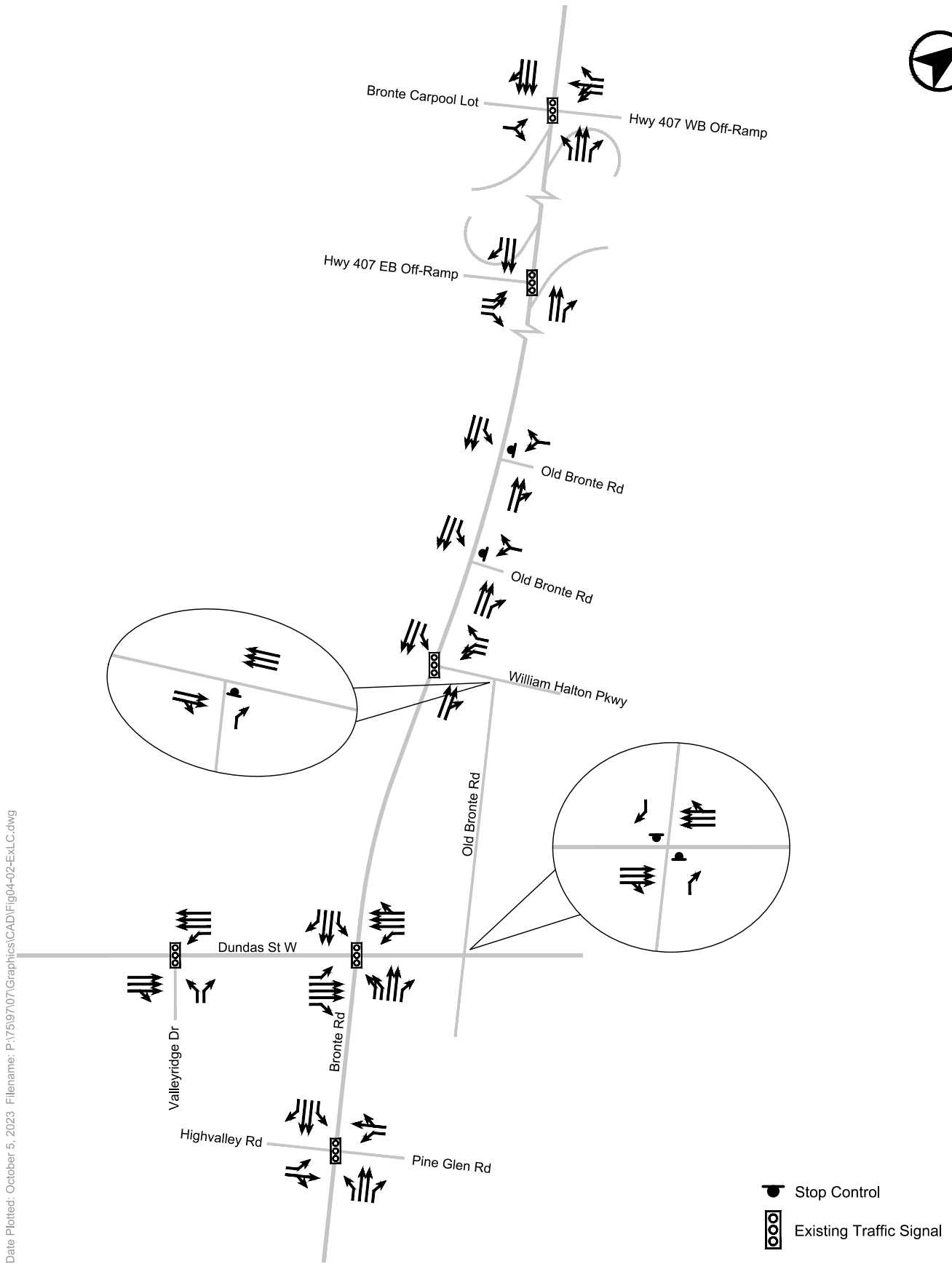




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Aerial maps provided courtesy of: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, the GIS User Community and/or Google Earth/Maps.

**FIGURE 3 EXISTING ROAD NETWORK**



Date Plotted: October 5, 2023 Filename: P:\175197\07\Graphics\CAD\Fig04-02-Ex.LC.dwg

**FIGURE 4 EXISTING ROAD NETWORK AND TRAFFIC CONTROL**

### 3.1.2 Future Area Road Network

Halton Region has developed and is implementing an extensive roads development and improvement program. The regional road improvement program is generally identified in the Halton TMP, where improvements in the immediate vicinity of the site area were identified for implementation in conjunction with development (intensification). Additionally, a review of the Town of Oakville's TMP and the North Oakville West Secondary Plan has identified other improvements in the study area. The planned road improvements are described below.

#### 3.1.2.1 DUNDAS STREET

As part of the planning study, the Region undertook a Schedule C Municipal Class Environmental Assessment ("EA") Study, dated May 2015 (herein referred to as "2015 Dundas Street EA" or "EA Study") to further identify opportunities for improvements on the Dundas Street corridor, from Brant Street (Regional Road 18) to Bronte Road (Regional Road 25). The study identified and evaluated alternative configurations, to accommodate anticipated future demand along the Dundas Street corridor.

After evaluating a range of alternatives, a recommended plan was approved to widen Dundas Street from 4 to 6 lanes between Brant Street (just west of Kerns Road) and Bronte Road. The project is planned to be completed in three phases:

- Phase 1:
  - Appleby Line to Tremaine Road – Construction started in Spring 2021
  - Tremaine Road to Bronte Road – Anticipated construction start 2023
- Phase 2:
  - Appleby Line to Northampton Blvd. – Anticipated construction start in 2024
  - Northampton Blvd. to Guelph Line – Anticipated construction start in 2024
- Phase 3:
  - Guelph Line to west of Kerns Road – Anticipated construction start in 2025

One of the options considered is the widening of Dundas Street from 4 to 6 lanes between Tremaine Road and Bronte Road, in order to accommodate a Bus Rapid Transit ("BRT") lane in each direction. Initially, after the widening, the curb lanes will be designated as HOV lanes. As transit utilization increases, these HOV lanes will be converted to dedicated BRT lanes, likely by 2031. The environmental assessment compares the traffic and design impact between a centre lane versus curb side HOV/BRT lane designation.

Based on the preliminary street level plans along Dundas Street in the study area, the curb side option for the HOV/BRT lanes was adopted as the preferred solution. These lane configurations have been assumed to be in place for this study.

Dundas Street is also identified as a "Higher Order Transit Corridor" (within the *Mobility Management Strategy for Halton Region*) and "With Transit in reserved right-of-way" (within the Region's TMP) between Brant Street and Trafalgar Road, with 4 and 2 lanes for Transit / Highway Occupancy Vehicle ("HOV") between Milborough Line and Winston Churchill (Regional Road 19).

#### 3.1.2.2 BRONTE ROAD (REGIONAL ROAD 25)

Regional Road 25 Corridor Study – Speers Road to Derry Road (Regional Road 7) – 2025.

The Region's TMP includes the widening of Bronte Road from 4 to 6 lanes between Speers Road and Highway 407 starting in 2025. Once widened, the two outer lanes of Bronte Road will be dedicated to HOV including transit as Bronte Road has been identified as a priority bus corridor as part of the Preliminary 2031 Halton Region Transit Priority Network. Additionally, Transit Signal Priority will be implemented throughout the entirety of Bronte Road within the study area.



Bronte Road is also identified as a “Higher Order Transit Corridor” (within the *Mobility Management Strategy for Halton Region*) and “With Transit in semi-exclusive/exclusive right-of-way” (within the Region’s TMP) between Main Street and Speers Road, with 4 and 2 lanes for Transit / Highway Occupancy Vehicle (“HOV”) between Derry Road and QEW.

Within the Region’s ATMP, an interchange improvement is Identified at Bronte Road and Highway 407.

### **William Halton Parkway Extension**

To address forecasted travel demand and provide new travel options, the Region has been extending William Halton Parkway (Regional Road 40) to create a new east-west corridor from Bronte Road to Ninth Line (Regional Road 13) in north Oakville. The new road is planned to be completed in two Phases. Phase 1 (from Sixth Line to Ninth Line) began construction in December 2018 and was completed in November 2020. Phase 2 construction (Third Line to Sixth Line) is ongoing and has been divided into two stages:

- Stage 1 (Third Line to Neyagawa Boulevard): construction began March 2021 and is anticipated to be completed in 2024.
- Stage 2: the remaining portion of Phase 2 between Neyagawa Boulevard (Regional Road 4) and Sixth Line will begin construction in February 2022 and is anticipated to be completed in 2023.

The William Road Parkway Extension includes the following improvements / Key elements:

- **Phase 1** – a new four-lane roadway between Sixth Line and Trafalgar Road;
- **Phase 1** – a new two-lane roadway between Trafalgar Road and Ninth Line;
- **Phase 2** – a new four-lane roadway from Third Line to Neyagawa Boulevard;
- **Phase 2** – a new bridge over Sixteen Mile Creek;
- **Phase 2** – a new four-lane roadway from Sixth Line to Neyagawa Boulevard; and
- New on-road bike lanes, multi-use pathways and sidewalks along the roadway.

Additional road improvements are proposed along William Halton Parkway, with plans to widen the roadway from two to four lanes between Old Bronte Road and Hospital Gate (Regional Road 40). Construction of this segment began in March 2021, and is anticipated to be completed in December 2024.

### **North Oakville West Secondary Plan**

As part of the North Oakville West Secondary Plan – “*Figure NOW 4 – Transportation Plan*” identifies two future east-west connections across the Natural Heritage Conservation Area / Fourteen Mile Creek, east of Bronte Road. Of the two east-west connections, one is planned to be a minor arterial serving as an extension to William Halton Parkway between Bronte Road and Tremaine Road. Additional north-south connections, classified as avenues, are planned to connect the Palermo Village Community south of Dundas Street to the proposed developments to the North.

## **3.2 Area Transit Context**

### **3.2.1 Existing Transit Network**

The site is currently served by local surface bus routes operated by Oakville Transit. Specifically, the site is currently serviced by 5 regular bus routes which collectively provide local connections to the higher-order GO Transit System. The nearest existing transit stop to the site is located adjacent to the site, on the north side of Dundas Street West, less than 100 m to the south.

A detailed overview of the existing area transit network is summarized in **Table 2** and illustrated in **Figure 5**.



Table 2 Existing Area Transit Network

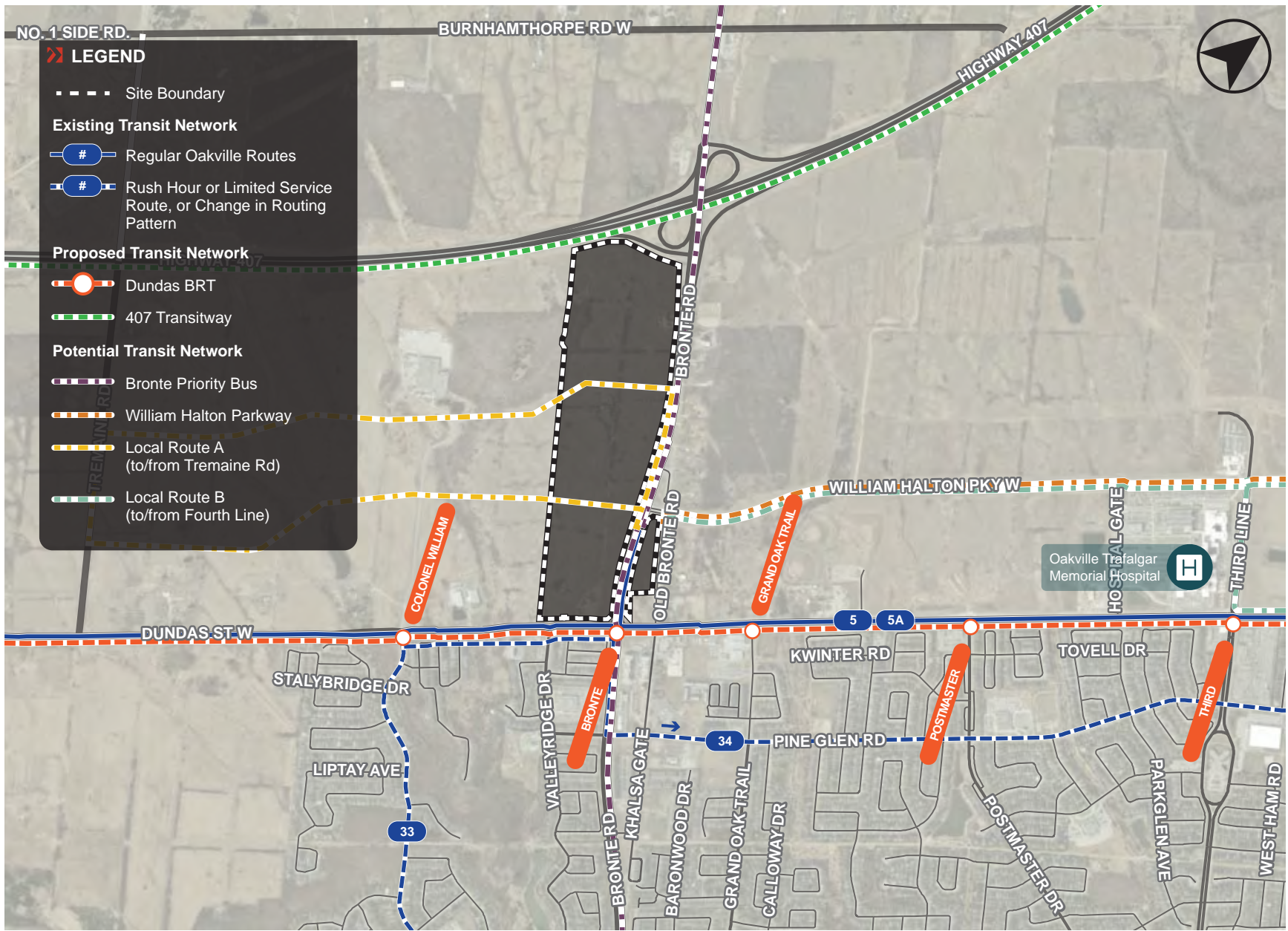
	Number / Name of Service Line	Headway	Closest Stop Location	Description
Oakville Transit – Regular Bus Routes	3 & 3A Third Line	Every 30 minutes during peak, Every Hour during off peak times	Third Line / Dundas St West  (2 kilometres, 25 min walk)	<p>The bus route begins and ends at the South Oakville Centre at the intersection of Third Line and Rebecca Street, and travels generally in a north-south direction along Third Line. The route also connects riders to Bronte GO and Oakville Trafalgar Memorial Hospital to the north.</p> <p>Two services are accessible to the site, the 3 and the 3A. Route 3A follows a similar route, however route 3 continues south of Rebecca Street with an east-west connection along Rebecca Street and Lakeshore Boulevard West, before looping back to the South Oakville Centre.</p> <p>Service is provided all day Monday to Friday 30 minutes during off-peak periods until 7:37 p.m. when it switches to every hour. On weekends route 3 operates at a headway of 1 hour.</p>
	5 & 5A Dundas	Every 30 Minutes	Dundas St West at Bronte Rd  (75 metres, adjacent to the site)	<p>The bus routes run between Oakville Go Station in the east and Dundas Street / Highway 407 GO Carpool parking lot in the west, generally in an east-west direction along Dundas Street West. The route also connects riders to Sheridan College and Oakville Trafalgar Memorial Hospital.</p> <p>Two services are accessible to the site, the 5 and the 5A. Route 5A follows a similar route, however it operates in the east/west direction along Sixteen Mile Drive/Wheat Boom Drive between Neyagawa Boulevard and Ernest Appelbe Boulevard.</p> <p>Both services operate all day, seven days a week at a headway of 30 minutes Monday-Saturday until 7:30 p.m. when it switches to every hour, and at a headway of approximately 1 hour on Sunday.</p>
	13 Westoak Trails	Every 30 minutes during Peak, Every Hour during Off Peak times	Westoak Trails Blvd east of Bronte Rd  (1.2 kilometres, 15 min walk)	<p>The bus route runs between Oakville GO station in the east and Bronte GO station in the west along Bronte, generally in an east-west direction.</p> <p>Service is provided all-day Monday to Friday at a headway of 15 minutes during peak periods and 30 minutes during off-peak periods until 7:40 p.m. when it switches to every hour. On weekends route 13 operates at a headway of 1 hour.</p>
	33 Palermo / 34 Pine Glen	Every 30 minutes	Colonel William Pkwy / Dundas St West  (600 metres, 8 min. walk)	<p>Bus route 33 is temporarily combined with Route 34.</p> <p>The bus route begins and ends at the Bronte GO Station, and travels generally in a north-south direction along Bronte Road, Colonel William Parkway, and Proudfoot Trail. East-west route connections are also provided along Upper Middle and Pine Glen Road.</p> <p>Service is provided all-day Monday to Friday 30 minutes.</p>
Oakville Transit – School Special Bus Routes	81A & 81B Abbey Park H.S. Loyola S.S.	Every 2 – 7 minutes	Colonel William Pkwy / Dundas St West  (600 metres, 8 min. walk)	<p>The 81A/B and 81N/82 are special secondary school connection routes providing students with access to and from multiple secondary schools throughout Oakville, during the school year.</p>
	81N / 82 Abbey Park H.S. Loyola S.S.	Every 3 – 11 minutes		<p>81A – Morning service via Palermo (orange line).</p> <p>81N / 82 – Afternoon service</p>



	Number / Name of Service Line	Headway	Closest Stop Location	Description
	86 A / 86 B – Garth Webb Afternoon Service	--		<p>The 86 bus route morning service operates between Fourth &amp; Glen Valley and Garth Webb, and a second route between Valleyridge &amp; Highvalley and Garth Webb.</p> <p>Route 86A operates between Garth Webb and Fourth &amp; Glen Valley via Proudfoot Trail. Route 86B operates between Garth Webb and Westoak &amp; Glen Valley, via Westoak Trails. Both routes operate for one afternoon trip only at 3:00 p.m.</p>
GO Transit	Lakeshore West – Bronte GO	Every 15 mins during Peak; Every 30 mins during Off Peak	Bronte GO is a 25 – 35 minute Bus ride from the site	The Lakeshore West GO line connects the western municipalities of the GTHA to Toronto’s Downtown Core, with its eastern terminus at Union Station in Downtown Toronto and two western terminuses at West Harbour and Hamilton GO Centre.
	41 Hamilton / Pickering	Weekday rush hour service only; Every 30 minutes	Bronte Road at Highway 407 Park and Ride – Oakville	The 41 Hamilton / Pickering Bus connects Hamilton GO Centre to Pickering GO. The route travels North from Hamilton GO Centre up King Street West to Highway 407, where it continues east onto Highway 403. The route then goes north on Highway 410 to Steeles Avenue East where it continues to Bramalea Road, then south to the 407 Bus Terminal. The route continues east on Highway 407, then south onto Highway 404 to Sheppard Avenue East, where it continues on Highway 401 to Scarborough Centre and Pickering GO. The route serves 32 stops, with major connections in Hamilton, McMaster University, Erin Mills Transit Way, Square One, Bramalea Go Bus station, Highway 407 Bus Terminal, Richmond Hill Centre, Scarborough Centre Bus Terminal, Centennial College, and University of Toronto Scarborough.
	47 Hamilton / Highway 407 Terminal	Every 30 minutes during Peak, Every Hour during Off Peak times	Bronte Road at Highway 407 Park and Ride – Oakville	The 47 Hamilton /Highway 407 Bus connects Hamilton GO Centre to the Highway 407 Bus Terminal in Vaughan. The route travels North from Oakville GO up Trafalgar Road to Highway 407, where it continues east onto Highway 403. The route then goes north on Highway 410 to Steeles Avenue East where it continues to Bramalea Road, then south to the 407 Bus Terminal. The route serves 19 stops, with major connections in Oakville, McMaster University in Hamilton, Erin Mills Transit Way, Square One, and Bramalea Go Bus station.







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Aerial maps provided courtesy of Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, the GIS User Community and/or Google Earth/Maps.

**FIGURE 5 EXISTING AND PROPOSED TRANSIT NETWORK**

## 3.2.2 Future Transit Improvements

### 3.2.2.1 DUNDAS BUS RAPID TRANSIT (BRT)

The Dundas Street Bus Rapid Transit (BRT) is a higher order rapid transit service that will operate along Dundas Street from the Village of Waterdown in the City of Hamilton (Highway 6) to Kipling Transit Hub in the City of Toronto, linking Etobicoke and Mississauga city centres. More than 20 kilometres of the 48-kilometre transit project will operate in bus lanes or in a dedicated right-of-way, separate from other traffic allowing for faster and more reliable transit connections. The Dundas Street BRT is expected to operate with headways in the order of 5 minutes during peak travel periods, providing better connections to the Toronto Transit Commission (TTC), Viva Rapid Transit, Mississauga Transit (“MiWay”), Oakville Transit, Burlington Transit, Hamilton Street Rail (HSR), Hurontario Light Rail Transit (LRT) and GO Transit routes.

The Oakville segment of the Dundas Street BRT is in development with the City’s Dundas Connects Master Plan. The Dundas Connects Master Plan was endorsed by City Council on June 18, 2018, and it establishes a vision for the future of Dundas Street, supporting major improvements to transportation, land use and the public realm along the 19.5-kilometre corridor.

Details have not been finalized along the Oakville corridor of the BRT, although the future closest stop to the site will likely be at the intersection of Dundas Street West and Bronte Road, south of the site. This new transit stop will significantly enhance transit accessibility of the corridor and the site area, in particular, providing a viable and attractive mode for prospective employees, and visitors, which will reduce the extent to which people travel using a car.

### 3.2.2.2 PALERMO TRANSIT TERMINAL

The Town of Oakville views the lands surrounding the historic hamlet of Palermo as an important area for growth. With the Dundas Street and Bronte Road corridors being major transit routes, the Bronte-Dundas intersection serves as a key location for a major transportation hub. The proposed Palermo Transit Terminal will connect with future North Oakville bus routes, Highway 407 Transitway, and the Bronte-Lakeshore West GO line. A budget to construct this facility has been allotted in the 10-year capital plan for 2028/29.

The 2019 Oakville Transit Palermo Terminal Study, prepared by IBI Group, is an update to the original 2010 study. The preferred bus terminal design options and locations have since evolved several bus terminal configurations and potential locations within the development, while taking into account pedestrian connectivity and vehicle access. The key design principles incorporate micro-transit and PPUDO areas and facilities to accommodate taxis, deliveries, and ride-share services. The transit operations include various options that can accommodate up to 14 bus bays for Oakville Transit, Milton Transit, Dundas BRT, GO Transit, and priority bus services such as Care-A-Van.

The detailed design of the Palermo Transit Terminal is discussed in **Section 4.5**.

### 3.2.2.3 GO RER - LAKESHORE WEST CORRIDOR

Metrolinx’s GO Expansion program is a major transportation infrastructure program that will expand the GO Rail Network to meet the needs of a growing region, providing faster and more efficient trains, two-way, all-day service and 15-minute or better service on core portions of the GO Rail Network. The full business case for the GO Expansion program was released in November 2018 and construction is currently underway on parts of the network. GO Expansion will provide direct benefits throughout the Greater Toronto & Hamilton Area via the Lakeshore West, Kitchener, Barrie, Stouffville, and Lakeshore East GO lines.

The Lakeshore West line is an existing GO Rail line that currently provides two-way, all-day service 7 days a week between Toronto and Aldershot. It also provides weekday rush-hour service from Hamilton to Toronto in the morning and back in the afternoon. Metrolinx has proposed expanded service characteristics to include 15-minute service or better frequencies, both-ways, throughout the day between Toronto and Burlington (Union Station to Aldershot GO Station), in addition to a 7-day a week, hourly service between Toronto and Hamilton. Oakville Transit will look to expand the hours of service and increase frequency of service to facilitate efficient and reliable connectivity with the rail line.



The site will benefit from these improvements via its proximity to Bronte GO Station on the Lakeshore West Line, located approximately 6.3 kilometres south of the site.

#### 3.2.2.4 407 TRANSITWAY

The 407 Transitway is a planned 150 km high-speed public transit system that will be constructed on a separate right-of-way parallel to the existing 407 ETR, between Burlington in Halton Region and the Highway 35/115 interchange in Durham Region. The Transitway has been designed to accommodate BRT but can be converted to light rail transit (“LRT”) if needed. With the increasing transportation demand in the Greater Toronto Area (GTA), the Transitway has been identified as a key transportation component of the future. It will serve as a northern spine, running parallel to the Lakeshore GO corridor and linking municipalities along the corridor. Additionally, the Transitway will provide stations for easy and fast transfers to north-south transit services.

Metrolinx’s 10-Year Bus Strategy identifies the 407 Transitway as a key corridor for expansion of service, projecting an increase in service frequency during peak periods from 30-minute headways to 12-minute headways in each direction. This represents a 2.5 time increase in GO bus service, with two routes connecting Hamilton in the west to Kipling Station or Unionville GO Station in the east.

The proposed development falls within the Transitway 4 study area, which runs between Brant Street (City of Burlington) and Hurontario Street (City of Brampton). This 43 km segment forms part of the 150 km high-speed facility and consists of 8 stations. The Transitway network will have a Bronte Road Station located off of Highway 407, just north of the site.

Currently, the GO bus service travels in an east-west direction along the Highway 407, with the nearest stop located at the park and ride in the northwest quadrant of the Bronte Road and Highway 407 intersection. An EA approved park and ride, a 407 Transitway Station and a Maintenance Storage Facility (MSF) are proposed for the southeast quadrant of the Bronte Road and Highway 407 intersection. Projects to the southeast of the intersection remain in planning phase by MTO, however they are not funded at this time.

#### 3.2.2.5 NORTH OAKVILLE WEST SECONDARY PLAN

Within the North Oakville West Secondary Plan – “*Figure NOW 4 – Transportation Plan*”, Dundas Street West is planned as a Primary Transit Corridor and Busway Corridor, Bronte Road as a Busway Corridor, and William Halton Parkway is identified as a Secondary Transit Corridor service.

### 3.3 Area Pedestrian Network

#### 3.3.1 Existing Pedestrian Context

##### **Surrounding Area**

The site is situated in a convenient location of the northwest Oakville neighbourhood that is within walking distance of numerous key employment, academic, place of worship, medical services, retail and recreational destinations to the south, east and west. Notably, the site is surrounded by local parks, the Glenorchy Conservation Area, the Fourteen Mile Creek and the Sixteen Mile Creek Valley. Recreational trails are common in these parks and in the valley lands. Trails that comprise the pedestrian network encompassing the site include Valleyridge Trails, West Oak Trails, the Grand Oak Trail and the trails throughout Lions Valley Park.

Walking provides strong access to transit modes as well. Bus stops located adjacent to the site provide local connections to the higher-order GO transit system and are within walking distance of the site.

##### **Pedestrian Crossings and Sidewalks**

In the immediate vicinity of the site, there are currently no sidewalks along Bronte Road, north of Dundas Street. Sidewalks are provided on both sides of Bronte Road south of Dundas Street, along the south side of Dundas Street West and on both sides of Dundas Street West east of Bronte Road. These sidewalks provide pedestrians with excellent access to transit stops



and encourage walking trips beyond the site. The nearest protected pedestrian crossing to the site is at the existing traffic signal at the Bronte Road and Dundas Street West intersection.

The area pedestrian network is shown in **Figure 6**.

### 3.4 Area Cycling Network

#### 3.4.1 Existing Cycling Infrastructure

Cycling within the vicinity of the site is well supported with cycling infrastructure adjacent to the site, connecting the site to the south and into Downtown Oakville. Surrounding cycling facilities (primarily multi-use paths) set a good foundation for the future provision of a well-connected cycling network in the Palermo Village Master Plan.

The nearest cycling facilities, as identified in the Region's ATMP, are currently provided via multi-use paths along both sides of Dundas Street West (between Bronte Road and Ninth Line), and on the west side of Bronte Road (between Rebecca Street and Dundas Street West). On-street bike lanes are identified on Valleyridge Drive from Highvalley drive northwards.

Nearby, an extensive multi-use trail system connects to a network of trails to the south, east and west of the site. Multi-use trails in the vicinity of the site include:

- Fourteen Mile Creek Trail – west of Third Line, the Fourteen Mile Creek Trail extends from the QEW to Dundas Street West and follows the course of the Fourteen Mile Creek. North of Upper Middle Road West, the trail system branches into two sections. One runs west of Bronte and the other east of Grand Oak Trail. The nearest trail access points are found along Dundas Street, approximately 400 metres (a 5-minute walk or short cycle ride) southwest and southeast of the site.
- Sixteen Mile Creek Trail – runs through the centre of Oakville. The east and west banks of the Sixteen Mile Creek Trail are found on either side of Lion's Valley Park.
- Glenorchy Conservation Area –includes an area which the Province of Ontario has identified for restoration and enhancement, and which will be managed by Conservation Halton. This area provides a link between the 16 Mile Creek and the Core Preserve Area to the west of the Creek.

#### 3.4.2 Future Cycling Infrastructure

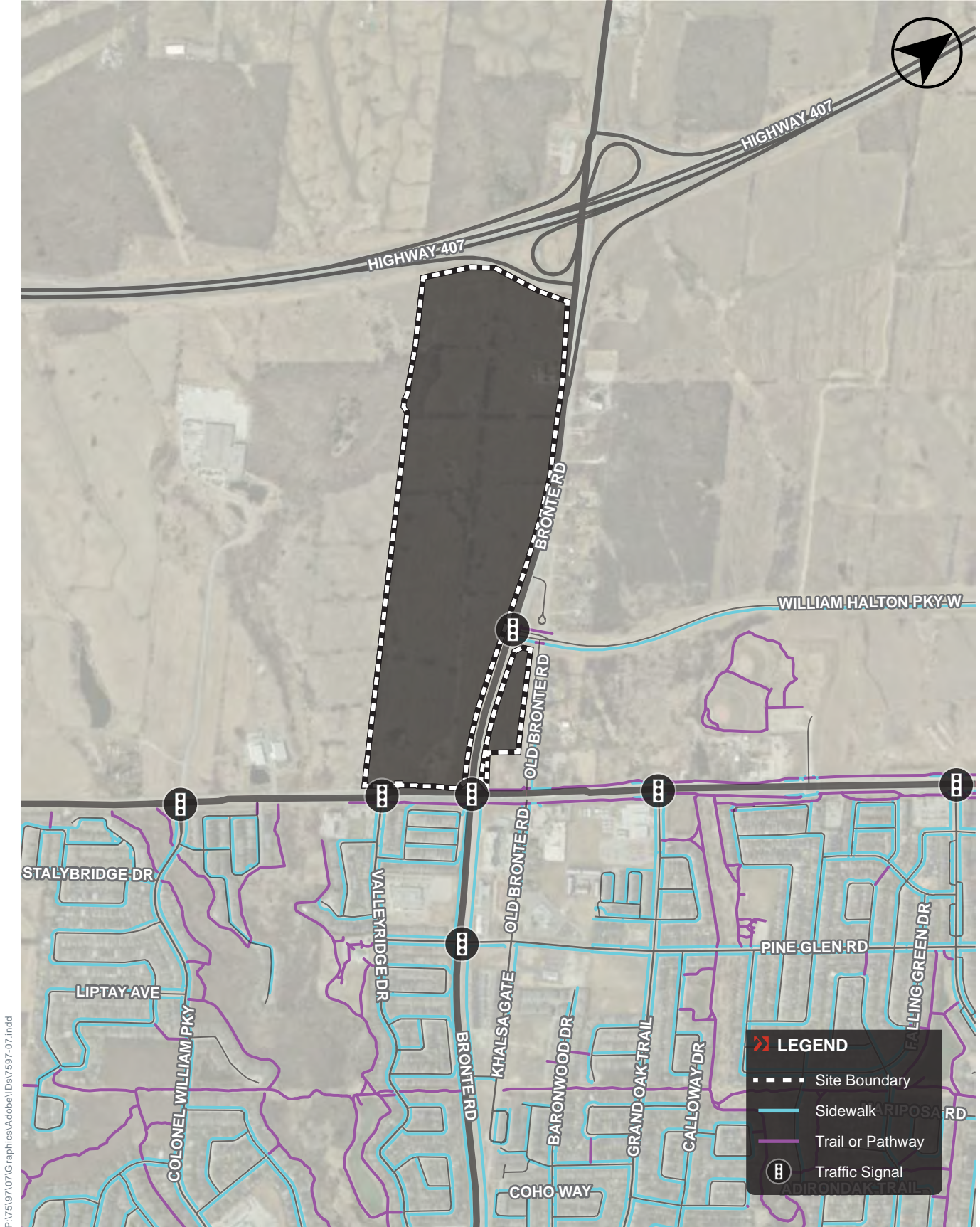
Near the site, there a number of planned connections and improvements that have been identified and addressed through the Halton Region TMP/ATMP, the Town of Oakville ATMP, and the North Oakville Trails Plan:

- Regional bicycle facility – bike lanes on Bronte Road (between Speers Road and Highway 407), William Halton Parkway West (between Bronte Road to Ninth Line), Dundas St West (east of Bronte, between Bronte Rd and Appleby Line) and Old Bronte Road (south of Dundas Street);
- On-road signed bike routes on Old Bronte Road (between Dundas Street West and Bronte Road, north of William Halton Parkway West); and
- Boulevard multi-use trails on Dundas Street West along both sides (west of Bronte Road, between Bronte Road and Appleby Line), Bronte Road on the west side (between Dundas Street West and Highway 407) and William Halton Parkway on the north side.

The abovementioned existing and planned cycling facilities work collectively to link the site in the north with key cycling routes and infrastructure across the Town of Oakville. They provide opportunities for residents and visitors of the site and surrounding area to travel using active forms of transportation.

The existing and future area cycling network is illustrated in **Figure 7**.

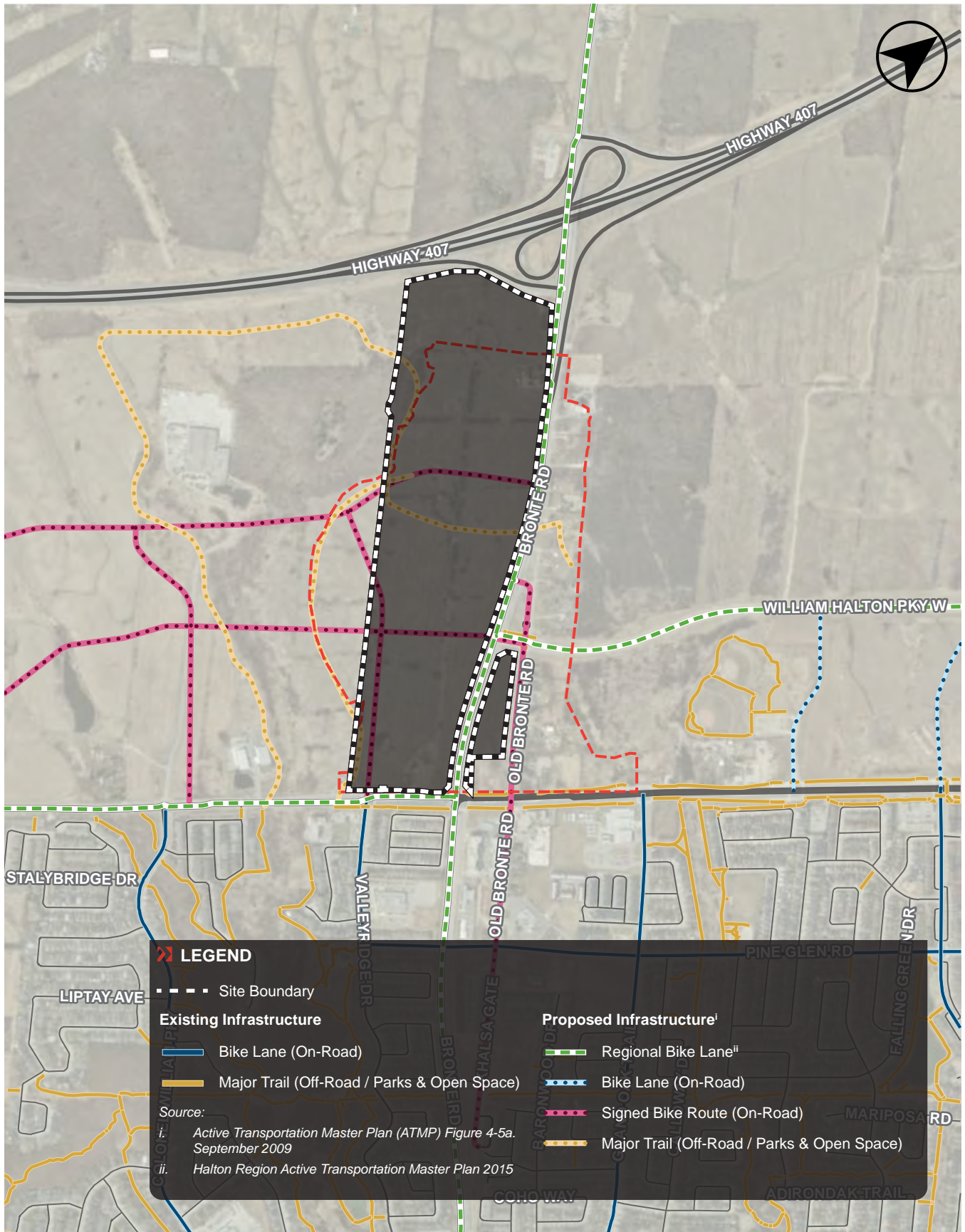




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Aerial maps provided courtesy of Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, the GIS User Community and/or Google Earth/Maps.

**FIGURE 6 EXISTING PEDESTRIAN NETWORK**



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Aerial maps provided courtesy of: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, the GIS User Community and/or Google Earth/Maps.

**FIGURE 7 TOWN AND REGION EXISTING AND PROPOSED CYCLING NETWORK**

## 4.0 MASTER PLAN

### 4.1 Overview

A comprehensive Master Plan has been developed for the site with a focus of creating a highly integrated and urban development plan that supports the range of planned uses and that integrates with the surrounding community and forms the basis for the DPOS and ZBA applications to the Town. The Master Plan is also designed to provide mobility choice for prospective residents, visitors, retail patrons and employees and the community at large. The overall Master Plan proposes to build a new complete community focused around a proposed Palermo Transit Terminal, an expanded public realm, and new streets.

The overall Master Plan focuses on a number of key elements:

- Vibrant, mixed-use community extending on either side of Bronte Road between two transit hubs -at Dundas Street BRT and 407 Transitway;
- Highest density and mix of uses in the “Main Street District” along Old Bronte Road;
- Strong public realm and green infrastructure that knits together natural heritage to the east and west; and
- A transit hub located within the Palermo Village development to serve the community and to become a destination while providing connectivity for local and interregional transit services.

From a transportation and mobility perspective, the Master Plan introduces a unique framework of new municipal streets, and new signalized intersections discussed in **Section 4.3**, creating a new fine-grained street network and providing a foundation for new mixed-use development opportunities. The proposed street layout forms a unique development block pattern that affords excellent opportunity for a high-quality pedestrian and public realm. The proposed redevelopment is intended to establish an urban built form that integrates all modes of transportation and significantly enhances the public realm.

A series of parking garages are proposed below grade or above grade to accommodate development parking demands. All loading facilities are proposed to be located off-street and confined within central portions of the proposed development blocks.

### 4.2 Proposed Development Programme

The Palermo Village Master Plan proposes to deliver a mixed-use, multi-building development providing retail, residential, office, community, park and potential age in place facility uses. The existing retail uses on the site will be redeveloped in a phased approach.

The Master Plan is the subject of the Official Plan Amendment (OPA) and Plan of Subdivision application being made to the Town.

The Master Plan is divided into 7 blocks and comprises approximately 6,890 residential units and 19,329 sq. metres of non-residential floor space. The Master Plan also includes new public parkland. **Figure 8** illustrates the proposed block plan.

A detailed breakdown of the proposed development programme by building and block is provided in **Table 3**.

The architectural demonstration plans are provided in **Appendix B**.



Table 3 Proposed Development Programme – The Master Plan

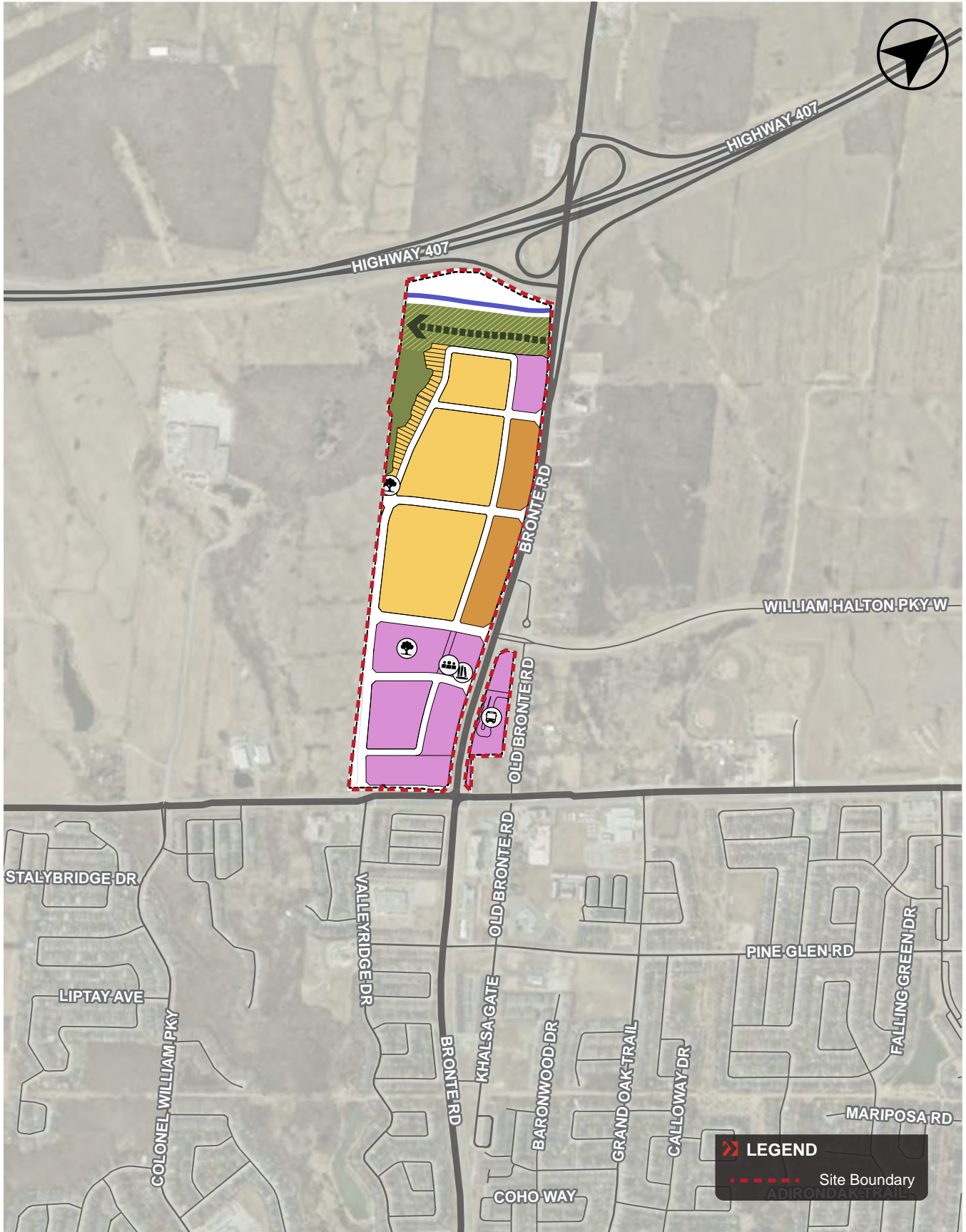
Use	High Density							
	Block 37 (Block 1)	Block 36 (Block 2)	Block 35 (Block 3)	Block 38 (Block 4)	Block 34 (Block 5A)	Block 33 (Block 5B)	Block 39 (Block 6)	Block 48 (Block TT)
Residential	911 units	875 units	1,111 units	668 units	754 units	1,110 units	488 units	--
<b>Residential Total</b>	<b>5,613 units</b>							
Office	-	-	-	-	-	-	-	8,787 m <sup>2</sup>
Retail	1,264 m <sup>2</sup>	-	-	1,304 m <sup>2</sup>	-	-	1,644 m <sup>2</sup>	2,957 m <sup>2</sup>
Community	-	-	3,373 m <sup>2</sup>	-	-	-	-	-
<b>Non-Residential Total</b>	<b>1,264 m<sup>2</sup></b>	<b>0 m<sup>2</sup></b>	<b>0 m<sup>2</sup></b>	<b>4,677 m<sup>2</sup></b>	<b>0 m<sup>2</sup></b>	<b>0 m<sup>2</sup></b>	<b>1,644 m<sup>2</sup></b>	<b>11,744 m<sup>2</sup></b>
Use	Low Density							
	Freehold		Block A		Block B	Block C	Block D	
Residential	28 units		139 units		297 units	372 units	137 units	
<b>Residential Total</b>	<b>973 units</b>							

Notes:

1. Site stats are based on architectural stats prepared by Perkins&Will and Gerrard Design dated August 2, 2023.







Aerial maps provided courtesy of: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, the GIS User Community and/or Google Earth/Maps.

**FIGURE 8 PROPOSED CONCEPT MASTER PLAN**

## 4.3 Transportation Master Plan

### 4.3.1 Proposed Street Network

The conceptual road plan for the Palermo Village Master Plan can be seen in **Figure 9**. The conceptual road plan indicates existing and proposed right-of-ways within and around the Palermo Village area, as well as existing and proposed traffic signals and signal spacing.

The Palermo Village Master Plan interfaces with three existing Halton regional roads: William Halton Parkway, Bronte Road, and Dundas Street West. These roads are respectively classified as C2 Urban, C4 Urban and N2 Urban roadways in the Halton Region Transportation Master Plan and have right-of-ways of 35, 47, and 50 metres.

Within the Master Plan, extensions to a variety of existing local roads are proposed. The local extension of William Halton Parkway to the west of Bronte Road, as identified within the Town of Oakville North Secondary Plan, is included as part of the Master Plan, as are northwards extensions of both Valleyridge Drive and Old Bronte Road. A number of new collector and local roads are also proposed. The road types proposed within the Master Plan are summarized in **Table 4**.

Table 4 Proposed Road Network Classifications

Road Classification within Palermo Village Master Plan	Road Name	Right-of-Way	Region or Town Cross-Section Type
Regional Arterial Road	Dundas Street West	50 m	N2 Urban Roadway
	Bronte Road	47 m	C4 Urban Roadway
	William Halton Parkway	38 m – 35 m	C2 Urban Roadway
Major Collector Road	William Halton Parkway a.k.a. Street “A” (Local Extension)	26 m	Minor Arterial / Transit Corridor, STD 7-26
Minor Collector Road	Valleyridge Drive a.k.a. Street “B” (South of Street “E”)	22 m	Avenue / Transit Corridor, STD 7-24
	Street “E”		
	Street “F”		
Local Road	Valleyridge Drive a.k.a. Street “B” (North of Street “E”)	17 m	Local Roadway, STD 7-22A
	Street “D”		
	Street “C”		
Mixed Traffic Woonerf	Old Bronte Road	27.5 m	Not Applicable
	Street “G”	17 m	Not Applicable – Based on Local Roadway, STD 7-22A

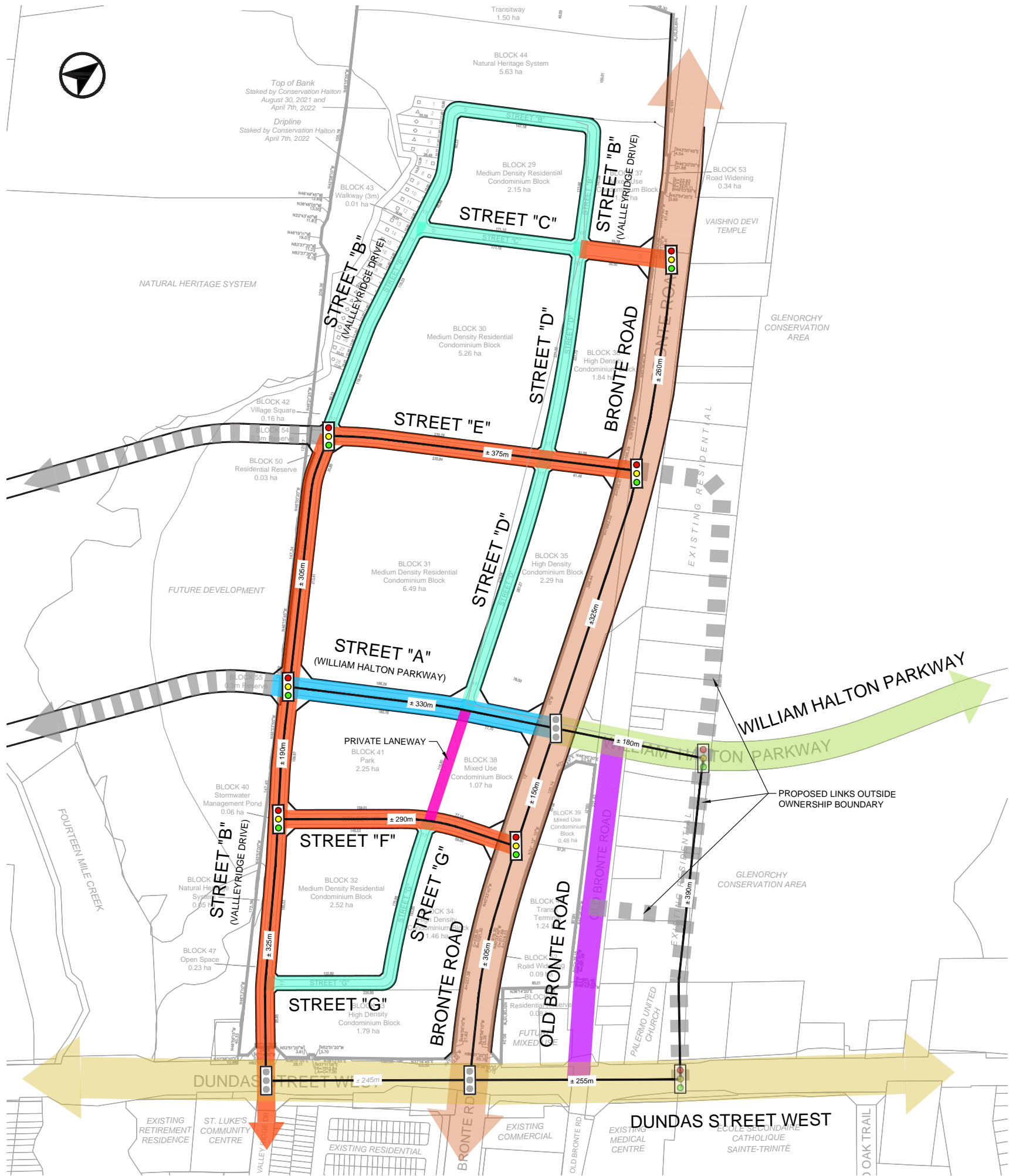
It should be noted that for the purposes of road typology, naming conventions have been taken from the respective Town of Oakville standard cross-section matching that road’s function and may not align with the naming conventions from the Town’s *Road Geometric Design Standards* (STD 8-4).

The structure of the Master Plan is built up from a large-grain network of collector and arterial roads with a finer-grain mesh of local roads and development blocks within the collector grid, maintaining an efficient road hierarchy. Additional considerations were made around Old Bronte Road, where the street has been re-imagined as a mixed mode woonerf that



integrates and activates adjacent uses with greater foot traffic in a manner evoking a vibrant European commercial street. Further, the integration of the proposed Palermo Bus Terminal with the adjacent land uses was carefully considered to ensure efficient bus circulation from a central location to the Master Plan.





--- PROPOSED RIGHT-OF-WAY

35m EXISTING REGIONAL RIGHT-OF-WAY  
William Halton Parkway  
Halton Region C2 Urban Roadway

47m EXISTING REGIONAL RIGHT-OF-WAY  
Bronte Road  
Halton Region C4 Urban Roadway

50m EXISTING REGIONAL RIGHT-OF-WAY  
Dundas Street West  
Halton Region N2 Urban Roadway

17m RIGHT-OF-WAY  
Local Roadway  
Town of Oakville Standard STD 7-22A

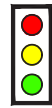
22.0m RIGHT-OF-WAY  
Avenue / Transit Corridor  
Town of Oakville Standard STD 7-24

26.0m RIGHT-OF-WAY  
Minor Arterial / Transit Corridor  
Town of Oakville Standard STD 7-26

27.5m RIGHT-OF-WAY  
Mixed Traffic Woonerf



EXISTING TRAFFIC SIGNAL



PROPOSED TRAFFIC SIGNAL



ROAD CONTINUES



FUTURE ROAD CONNECTION

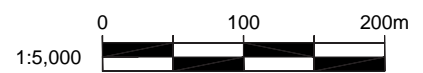


FIGURE 9 CONCEPTUAL ROAD PLAN

#### 4.3.1.1 DUNDAS STREET WEST

Dundas Street West is a major regional road with a planned ROW width of 50 m that extends east-west along the southern edge of the Palermo Village Master Plan area. This road is classified as a N2 Urban Regional Road in the Halton Region Transportation Master Plan as illustrated in **Exhibit 2** and features three travel lanes in each direction (with the potential for HOV/Bus lanes), a wide centre median, and large boulevard spaces on either side of the road.

The Master Plan proposes two new roads/extensions north from Dundas, those being Valleyridge Drive (Street “B”) and a potential additional north-south link. Pedestrian connectivity from the potential Dundas BRT station at the intersection of Dundas and Bronte was considered when planning the adjacent road connections and block sizes. Additionally, a new proposed signalized intersection is shown at a potential new north-south link and Dundas Street West east of Old Bronte Road and is spaced equally from the existing Valleyridge Drive signal to the west. Refer to **Section 4.3.1.5** for more information on this potential new north-south link.

#### 4.3.1.2 BRONTE ROAD

Bronte Road is a regional road with a planned ROW width of 47 m that forms the north-south backbone of the Master Plan and will carry the majority of vehicle trips. In the Halton Region Transportation Master Plan, Bronte Road is classified as a C4 Urban Regional Road that will feature three travel lanes in each direction (with the potential for HOV/Bus lanes), a wide centre median, and large boulevard spaces on either side of the road. A modified C4 Urban Regional Road section has been prepared to improve safe pedestrian crossings with wide median and boulevard spaces as illustrated in **Exhibit 3**.

To strengthen the active transportation connectivity along Bronte Road, a recommendation for this section would be to utilize multi-use paths or physically separated cycle tracks on either side of the road, rather than on-street bike lanes as currently shown in the TMP. Due to the high volumes of traffic and presence of large vehicles in the shoulder lanes, cyclists with lower confidence may be discouraged from using this road as a reliable connection. Therefore, protected cycling facilities are highly recommended in order for Bronte Road to function as a strong active transportation link.

A number of newly proposed signalized intersections are shown along Bronte Road. The Halton Region Access Management Guidelines suggest a minimum spacing of 300 m for full-move access on C4 urban road. The proposed signalized intersections shown on the road plan generally fall under a lower signal spacing than this recommendation, with the upside of reducing pedestrian crossing distances and increasing porosity of the street grid, giving a more urban feel to the Master Plan.

#### 4.3.1.3 WILLIAM HALTON PARKWAY (STREET “A”)

Currently, William Halton Parkway exists east of Bronte Road as a Region of Halton road. This road is designated a C2 Urban Regional Road in the Halton Transportation Master Plan, with a right-of-way of 35m, as illustrated in **Exhibit 4**.

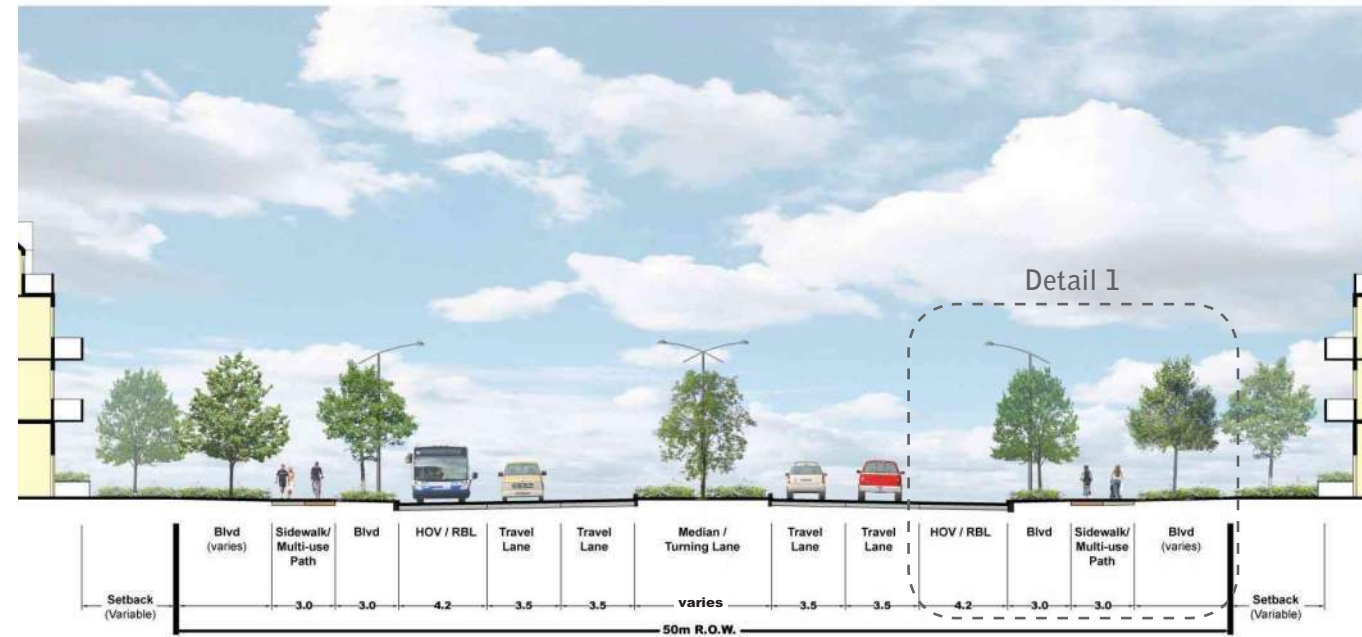
Within the Regional section, two travel lanes are supported in both directions, as well as bike lanes and a center turning lane / median. In the North Oakville West Secondary Plan, a local extension of William Halton Parkway is identified, where it potentially travels east across Fourteen Mile Creek towards Tremaine Road.

Within the Palermo Village Master Plan, William Halton Parkway (Street “A”) is proposed to be extended west from Bronte Road and is proposed to be a collector road with a 26m ROW. This is based on the Town of Oakville’s 26 m ‘Minor Arterial / Transit Corridor’ standard section STD 7-26, as illustrated in **Exhibit 5**. Of the two east-west collector roads proposed as part of the Master Plan (the other being Street “E”) William Halton Parkway is predicted to carry a larger proportion of trips and has been sized accordingly, with two travel lanes in each direction.

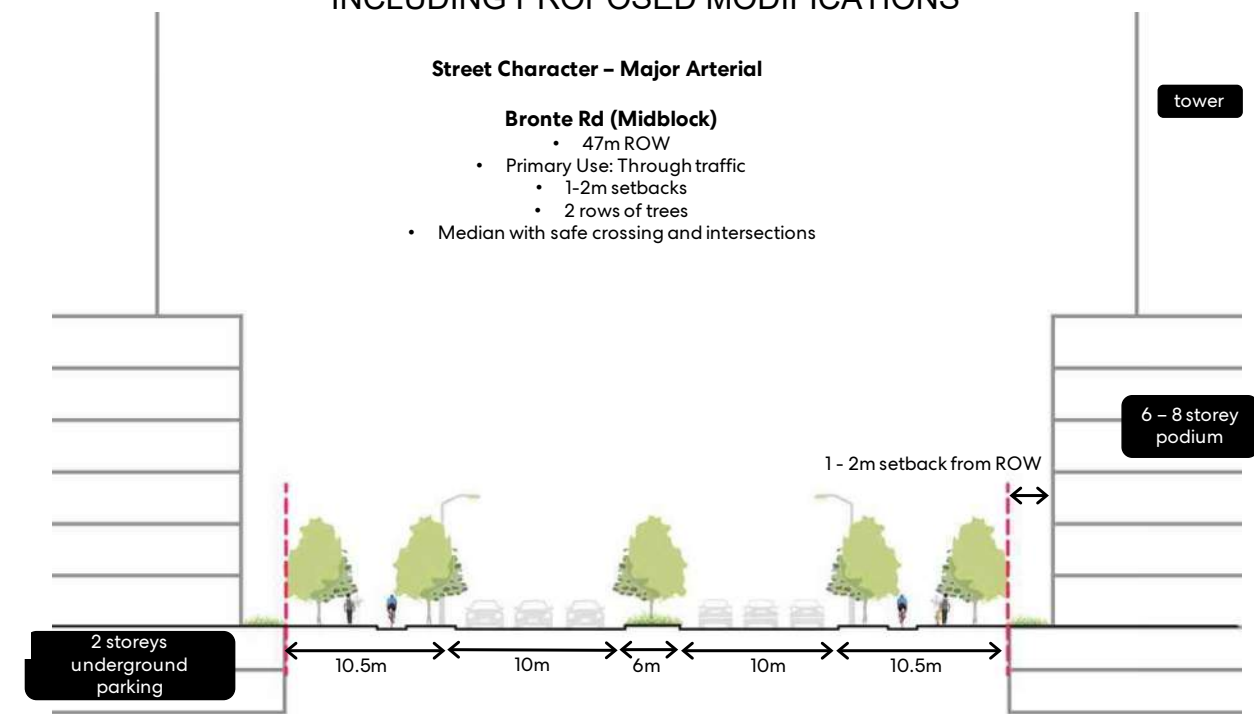
A key difference between the Town of Oakville STD 7-26 section, and the one being proposed for William Halton Parkway west of Bronte Road in this master plan, is the inclusion of raised cycle tracks rather than on-street bike lanes. This change was made so that William Halton Parkway would be able to function as a key east-west cycling spine with a higher quality and priority cycling facility, while still interfacing with the existing bike lanes on the regional portion of the road.



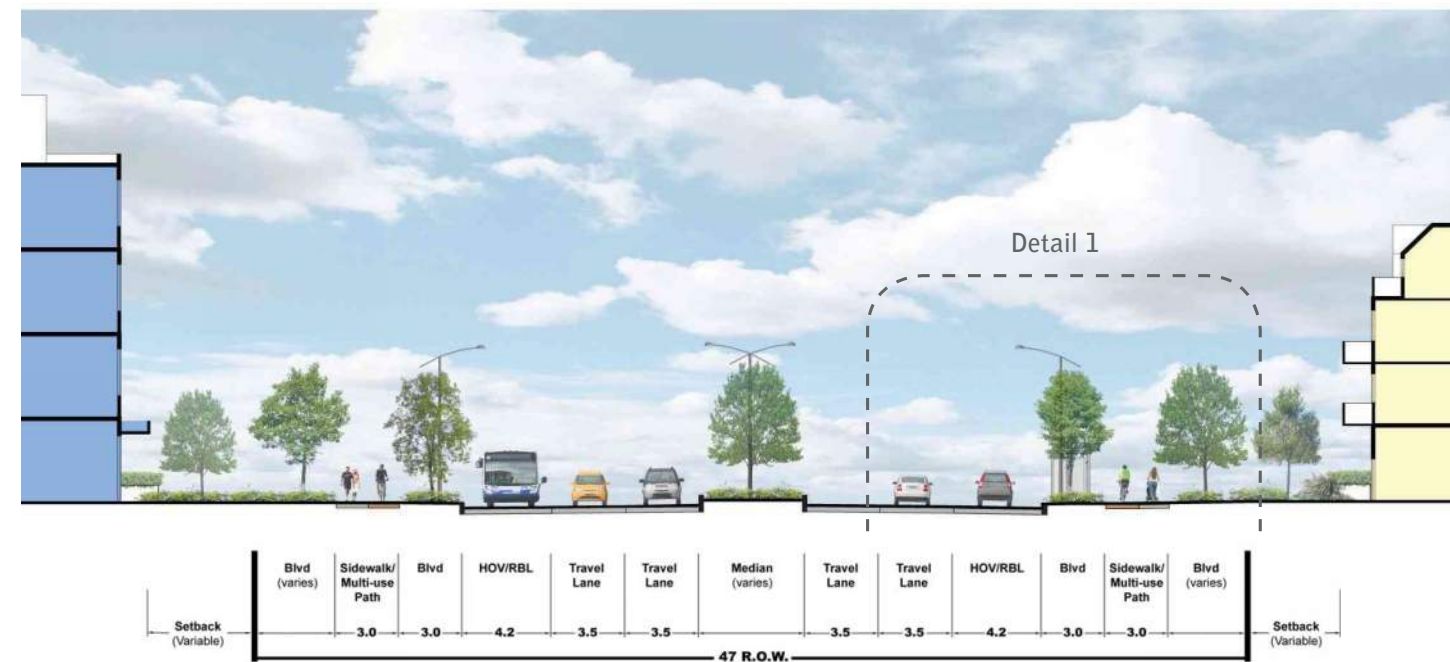
**EXHIBIT 2**  
DUNDAS STREET WEST - 50m ROW  
N2 URBAN SECTION



**EXHIBIT 3**  
BRONTE ROAD - 47m ROW  
C4 URBAN SECTION  
INCLUDING PROPOSED MODIFICATIONS



**EXHIBIT 4**  
WILLIAM HALTON PARKWAY - 35m ROW  
C2 URBAN SECTION



**EXHIBITS 2, 3, 4 PROPOSED REGIONAL ROAD CROSS-SECTIONS**

#### 4.3.1.4 VALLEYRIDGE DRIVE (STREET “B”)

Within the North Oakville West Secondary Plan, an extension of Valleyridge Drive is shown. South of Dundas, Valleyridge Drive exists as a collector road with generally one lane of traffic in both directions as well as on-street bike lanes. This character was mostly continued within the Palermo Village Master Plan, where Valleyridge acts as one of three key north-south roads. South of Street “E”, Valleyridge acts as a collector road with a 22 m ROW, whereas north of Street “E”, it instead takes on 17m ROW as a local roadway.

The 22 m right-of-way portion of the road is based on Town of Oakville standard STD 7-24, as an ‘Avenue / Transit Corridor’, with one travel lane in both directions, as illustrated in **Exhibit 6** as “variation A”. A key modification that was made to the standard was to swap the on-street parking area for buffered on-street bike lanes. These bike lanes will connect with the existing bike lanes south of Dundas on Valleyridge, and greatly improve the comfortable cycling experience along the north-south axis of the site.

North of Street “E”, Valleyridge is reduced to a 17 m local road with on-street parking and no bike lanes. This reflects the transition from high and medium density land use in the south of the Master Plan, to lower density land use in the north of the Master Plan. A small section of Valleyridge Drive, right next to Bronte Road, is shown as a 22 m ROW in order to accommodate potential additional turn lanes.

Street “B” is likely to require one left turn lane at the intersection with Dundas Street West, based on traffic modelling results. Therefore, an additional section has been prepared, as illustrated in **Exhibit 7** as “variation B”, which shows the proposed design of Street “B” at that intersection, resulting in a right-of-way of 26 metres.

#### 4.3.1.5 STREET “E” / POTENTIAL NORTH-SOUTH LINK

Street “E” (west of Bronte Road), extended east beyond the Master Plan limits as a potential north-south link (east of Bronte), is a new proposed collector road within the Palermo Village Master Plan. In the NOWSP, Street “E” is shown as the northern of two east-west collector roads, the other being Valleyridge Drive. Street “E” is also proposed to head west towards Tremaine Road.

Street “E” will be a 22m collector road based on the Town of Oakville’s standard STD 7-24, similar to Valleyridge Drive. The trail that is proposed to run along the potential north-south link has two potential stubs which have been identified on the plans: firstly, to the southeast, a potential trail connection to Palermo Park is shown, which would link the park with Palermo Village via active transportation. Secondly, to the northeast, a stub is shown that heads towards the northern portion of the Glenorchy Conservation Area trail system. This stub also provides connection potential to two key destinations adjacent to Highway 407 – the newly relocated GO Transit park-and-ride, as well as the location of the 407 Transitway station.

The potential north-south link sits outside the ownership boundary of the applicant, and as thus remains only a potential connection and extension of Street “E”. However, its alignment is supported by this application as a positive linkage that would provide additional north-south capacity as well as allow Old Bronte Road to function more a pedestrianized woonerf by reducing the number of vehicular accesses that need to be taken off it. The Street “E” extension (potential north-south link), east of Bronte Road, would alleviate pressure off of Bronte and Old Bronte and improve access and circulation to the east side of the Transit Hub.

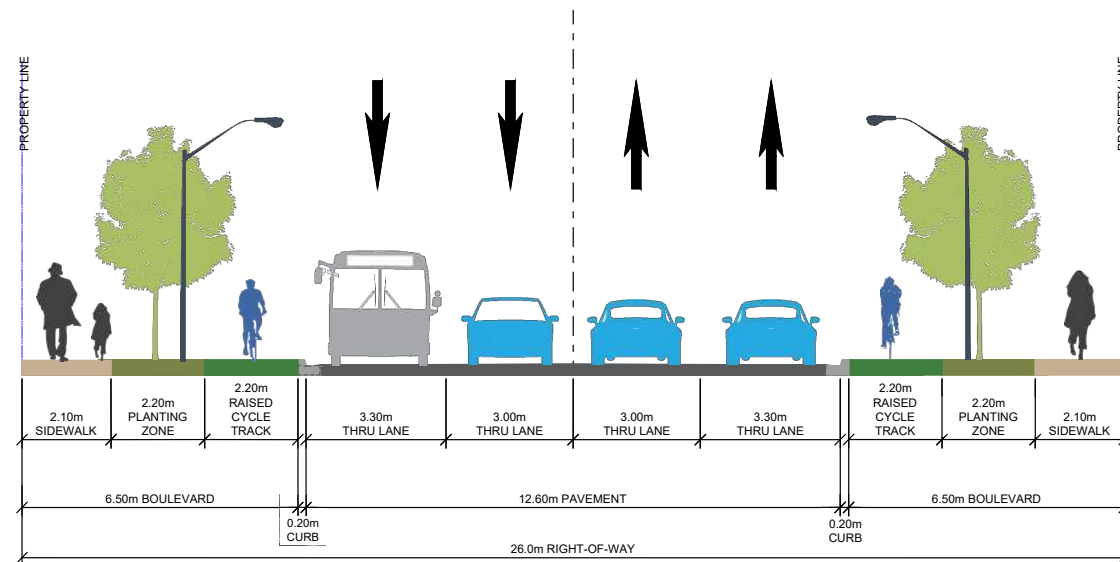
#### 4.3.1.6 OLD BRONTE ROAD

Old Bronte Road is proposed to be a 27.5 m wide right-of-way woonerf, or shared street as illustrated in **Exhibit 8**. Its function is to bring a pedestrian focus to retail and leisure land use, creating vibrant frontages with patios, food trucks, and parkettes. Old Bronte Road is not expected to receive significant through traffic volumes but will be used as an access road for a mixture of land uses to the east and west. It also interfaces with the proposed Palermo Village Bus Terminal, allowing for greater circulation potential for bus routing.



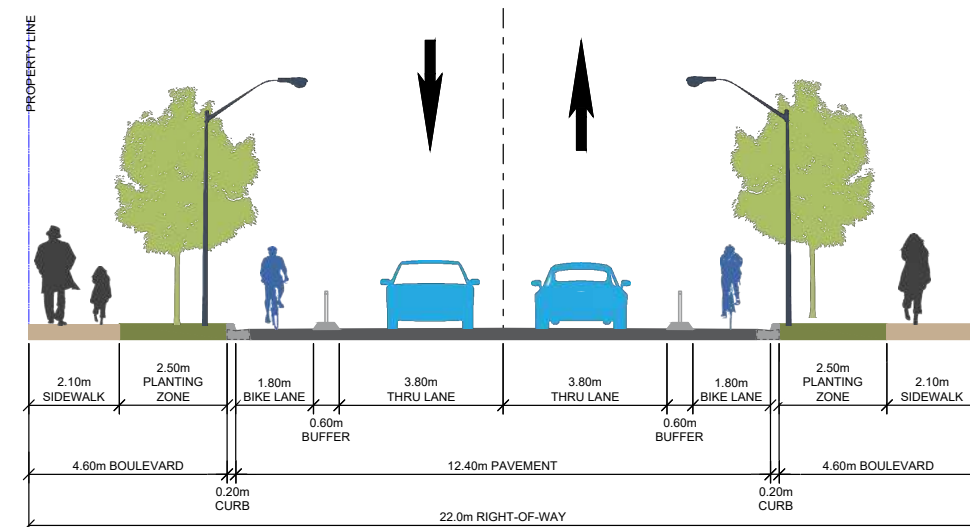
VARIATION ON TOWN OF OAKVILLE STANDARD STD 7-26

### EXHIBIT 5 MINOR ARTERIAL / TRANSIT CORRIDOR INCLUDING PROPOSED MODIFICATIONS



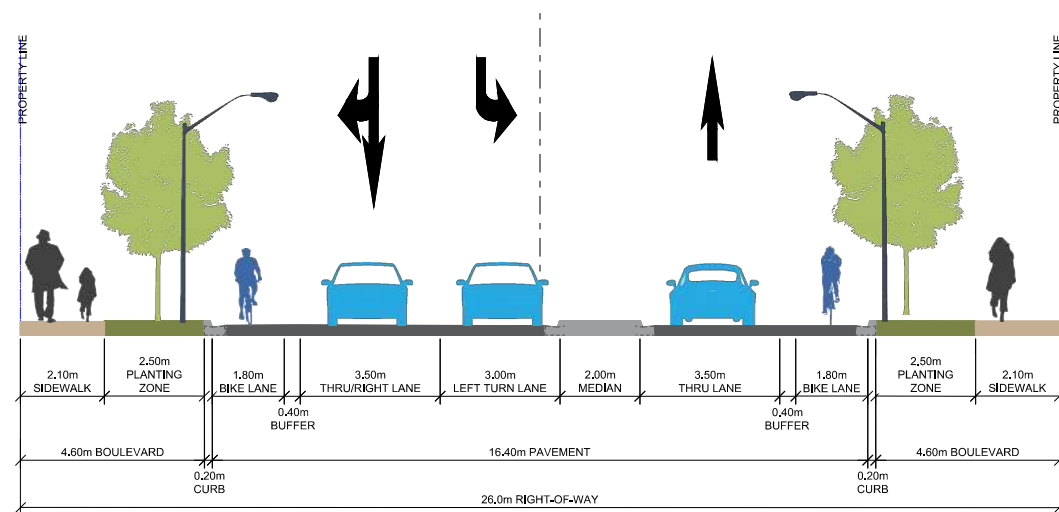
VARIATION ON TOWN OF OAKVILLE STANDARD STD 7-24

### EXHIBIT 6 AVENUE / TRANSIT CORRIDOR VARIATION A INCLUDING PROPOSED MODIFICATIONS

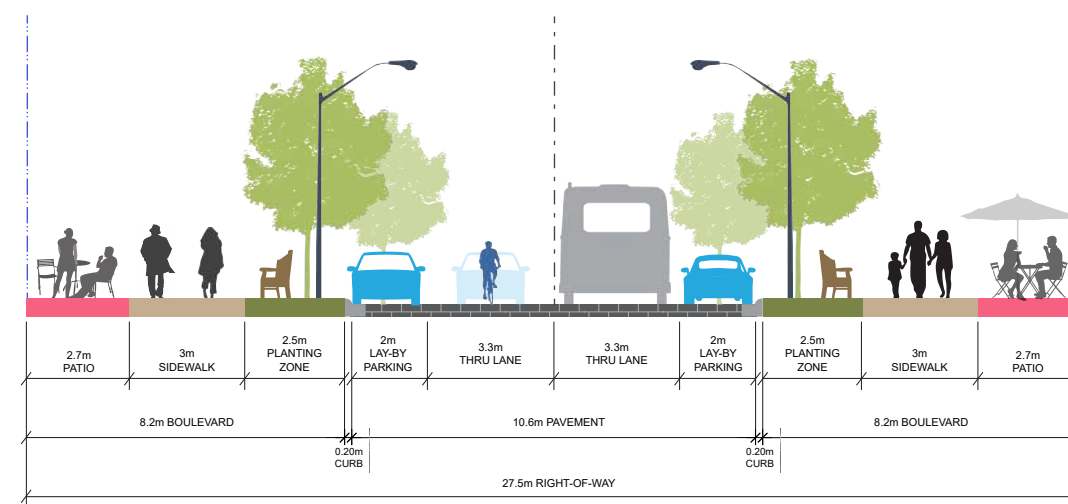


VARIATION ON TOWN OF OAKVILLE STANDARD STD 7-24

### EXHIBIT 7 AVENUE / TRANSIT CORRIDOR VARIATION B INCLUDING PROPOSED MODIFICATIONS



### EXHIBIT 8 MIXED TRAFFIC WOONERF (OLD BRONTE ROAD)



## EXHIBITS 5, 6, 7, 8 PROPOSED LOCAL ROAD CROSS-SECTIONS



#### 4.3.1.7 STREET "F"

Street "F" is a short east-west link proposed between Valleyridge Drive and Bronte Road, planned to use a 22 m ROW and follow Oakville standard STD 7-24 with one lane of traffic in either direction. This street will mainly serve the land uses to the north and south and provide filtration onto Street "G", though small volumes of connecting vehicles may also use it. On-street parking is proposed to run along both sides of the road adjacent to the park block.

#### 4.3.1.8 STREET "G"

Street "G" is an elbow-shaped local road / minor collector that will also function as a woonerf with mixed traffic. Person and vehicle movement from Street "G" will be able to continue north/south along a proposed private laneway / right-of-way separating Block 38 from the adjacent Block 41 park. Street "G" will be designed similarly to Old Bronte Road, but with a narrower cross-section and lower volumes.

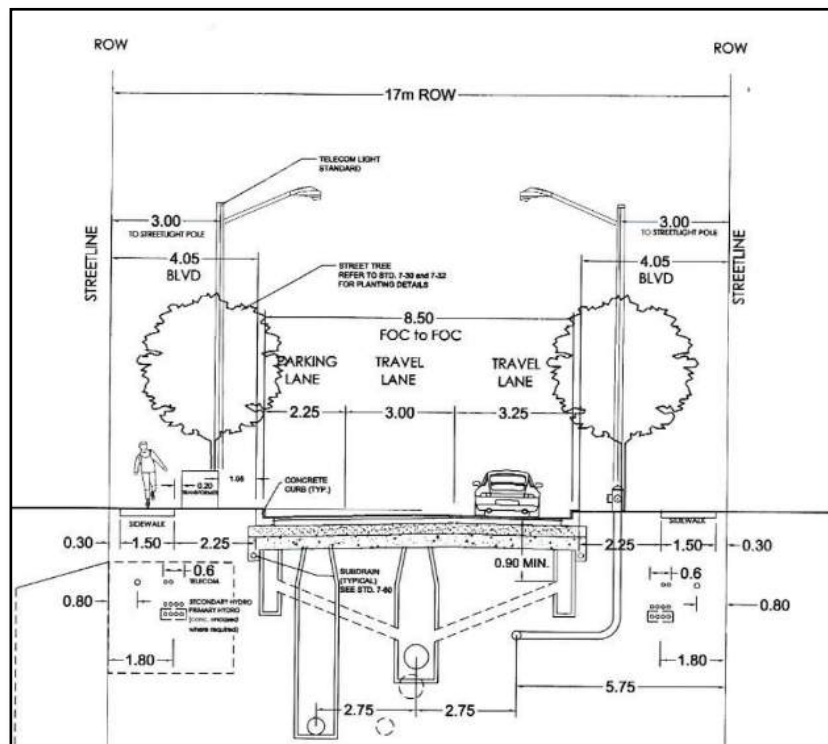
#### 4.3.1.9 STREET "D"

Street "D" is a local road / minor collector, proposed to run roughly parallel to Bronte Road along the rear of the high/medium density condominium blocks. It will facilitate filtration into the townhouse blocks as well as provide access for parking and loading operations to the condominiums. Street "D" is proposed to have a 17 m ROW and use the Town of Oakville standard STD -22A, 'local roadway'.

#### 4.3.1.10 POTENTIAL EAST-WEST LINK

This road is a potential east-west link between Old Bronte Road and the potential north-south link, which breaks up the blocks to the north and south of it, increasing general permeability. This street is proposed to have a 22 m ROW and follow Oakville standard STD 7-24. As this road is outside the ownership bounds of the applicant, it is shown only as a potential connection. However, if this link were to be realized, it would effectively divide the area into smaller block sizes, increasing permeability and circulation, and is thus supported by this application.

Exhibit 9: Local Roadway (Town of Oakville Standard STD 7-22A)



## 4.4 Proposed Signalized Intersections

Below is a table describing key signalized intersections as well as the intended functionality of proposed signals.

Table 5 Palermo Village Existing and Proposed Signalized Intersections

Signal Location	Existing or Proposed	Nearest Signal Distance	Functionality
Valleyridge Drive / Dundas Street West	Existing	245 m to Bronte / Dundas	-
Bronte Road / Dundas Street West	Existing	245 m to Valleyridge / Dundas	-
Proposed North-South Link / Dundas Street West	Proposed	255 m to Bronte / Dundas	Enables north-south flows east of Bronte
Street "F" / Valleyridge Drive	Proposed	190 m to Valleyridge / William Halton Parkway	Improve pedestrian filtration into community park
Street "F" / Bronte Road	Proposed	150 m to William Halton Parkway / Bronte Road	Doubles as transit signal for Palermo Transit Terminal; improves access to Bronte from west side of master plan
Valleyridge Drive / William Halton Parkway	Proposed	190 m to Street "F" / Valleyridge Drive	Conceptually required for higher volume of vehicles on both collector streets
William Halton Parkway / Bronte Road	Existing	150 m to Street "F" / Bronte Road	-
Proposed North-South Link / William Halton Parkway	Proposed	180 m to William Halton Parkway / Bronte Road	Improved pedestrian filtration along eastern perimeter of OPA designated area
Street "E" / Valleyridge Drive	Proposed	305 m to Valleyridge Drive / William Halton Parkway	Important intersection of collector roads + pedestrian filtration from adjacent park
Street "E" / Bronte Road	Proposed	260 m to Valleyridge Drive / Bronte Road	Important general crossing for volumes along Bronte and Street "E"
Valleyridge Drive / Bronte Road	Proposed	260 m to Street "E" / Bronte Road	Improves permeability and access into northwest development parcels

## 4.5 Proposed Palermo Terminal

The Master Plan is organized to leverage the existing transit connections and support the travel demands of prospective residents, patrons, employees and visitors. To this end, the Master Plan proposes to locate the Palermo Transit Terminal on the east side of Bronte Road just north of Dundas Street West within Blocks 39 and 48. The new station provides a flexible and comprehensive facility dedicated to extending the mobility of not just PVC residents, workers, and visitors, but transit riders making connecting trips as well.

The proposed terminal is expected to connect Oakville Transit services with other local and regional transit operators. In addition to serving the project and broader Palermo Village area, the proposed terminal will also connect the proposed North Oakville bus routes. Further, the terminal will act as a hub for future higher-order transit service along Bronte Road to the Lakeshore West GO Line. The location of the terminal between two significant east-west high-capacity transit routes, the Dundas BRT and 407 Transitway, will make transfers between these higher order routes, and local routes, simple and effective.



#### 4.5.1 Appropriateness of the Proposed Transit Terminal Location

A study by IBI, first completed in 2010 and later updated in 2019, evaluated choice locations and configurations for the proposed Palermo Transit Terminal. The preferred option consisted of a centre platform, 12 bay terminal located at the northeast corner of Dundas Street West and the extension of Valleyridge Drive. Access was planned to be taken from a single driveway to/from the Valleyridge Drive extension north of Dundas Street, and a dedicated PPUDO area was provided adjacent to the terminal.

Notwithstanding the prior work by IBI Group to establish a preferred location for the transit terminal, a different terminal location and configuration was chosen for the PVC Master Plan. This is because the PVC concept has been developed holistically with an aim to integrate the transit terminal with the planned land uses identified in OPA 34 and through the PVC Master Plan. The terminal in the PVC concept is proposed on the east side of Bronte Road, approximately 120 metres north of Dundas Street. The terminal was located here because it has several advantages compared to the preferred IBI Transit Terminal location. Notably, the proposed terminal location is similar to the second and third ranked IBI Transit Terminal options that scored high for connectivity and pedestrian access and egress. The rationale for the improved PVC transit terminal location is outlined below.

- It is closer to Dundas Street and has improved walkability and connectivity to the future Dundas BRT – Bronte Station as shown in **Figure 10**. Moreover through utilizing PVC’s unique site boundary on the northeast corner of Dundas/Bronte which allows for a direct off-street property connection to the corner, this will facilitate a direct line of sight and walking connection between the future corner, the BRT, and the transit terminal;
- The proposed transit terminal will have improved access compared to the IBI Group concept as two access points to two different roads are proposed. The primary access is proposed via a transit priority signalized intersection at Bronte Road and a second unsignalized access is also proposed onto Old Bronte Road as depicted in **Figure 11**;
- An efficient 8-bay tapered horseshoe-style transit terminal configuration that integrates and complements the adjacent planned commercial and office uses;
- There is a provision for a dedicated pick-up/drop-off area adjacent to the station which will be complemented by the public street frontage of Old Bronte Road (a local road character that will be designed to promote an active on-street use) will provide an improved accommodations for pick-up/drop-off activity;
- The station has direct frontage onto Bronte Road allowing for potential on-street integration /connections and is in closer proximity to the future 407 Transitway station;
- Improved integration between the station and the PVC land uses including mixed-use, commercial, community; and
- The station is located on lands wholly owned/ controlled by PVC allowing for the transit terminal to be delivered in a timeframe that is within the control of PVC.

The proposed PVC transit terminal location east of Bronte provides improved access for transit services through the contemplation of dual access: one onto Bronte Road and another onto Old Bronte Road. The proposed access configuration will efficiently meet the needs of the planned future transit routes in the area, the majority of which would use the direct Bronte Road access. The proposed access configuration and bus routing is illustrated in **Figure 12A**.

With respect to the design of the PVC transit concept, a horseshoe style outer platform edge design is contemplated with 8 bus platforms, of which 3 platforms can accommodate articulated buses. While slightly less than the 11 platforms identified in the IBI study, an analysis undertaken by BA Group of the future transit routes and frequencies indicate the 8 platforms shown in the PVC concept can appropriately accommodate future transit activity through having the four low frequency (30 min) one-way routes on two platforms. This is shown in **Table 6**. The proposed service providers and routes assigned to each bay within the terminal are illustrated in **Figure 12B**.

When combined with the bus layover parking provided within the PVC concept, which is capable of holding up to four buses (or two standard buses and one articulated bus), the overall size of scale of the PVC terminal therefore meets the functional requirements of the future terminal.



Pick-up Drop-off is proposed to occur from two locations, on-street within layby parking along Old Bronte Road as well as within a dedicated loop south of the main transit station entrance. Infrastructure (i.e. bicycle parking facilities and waiting areas) and allow pedestrian connections through these blocks to key elements of the existing and planned pedestrian network. The proposed Palermo transit terminal and related features are illustrated in **Figure 11**.

**Table 6 Palermo Terminal bus bay requirements-Oakville Transit (2022) and Proposed Adjustments**

Proposed Route/Service	Critical Headway (OT)	# of Bays (OT)	Critical Headway (Proposed)	Proposed Bay #(s)	Existing or Future Service	Commentary
Route 5 – Dundas	15 min, two-way	2	30 min, two-way	Bay #3 (Standard)	Existing	Proposed reduction in headway due to Dundas BRT duplicating service.
Route 33 – Palermo	30 min, one-way	1 (shared)	30 min, one-way	Bay #6 (standard)		-
Route 34 – Pine Glen	30 min, one-way		30 min, one-way			-
Specialized Transit – On Demand, Care-A-Van	N/A	1	N/A	Outside Terminal	Future	Dedicated facility within PPUDO loop south of Transit Station
Drop-off Bay	N/A	1	N/A	Outside Terminal		
Bronte Priority Bus	15 min, two-way	2	15 min, two-way	Bay #4 (Articulated) Bay #5 (Articulated)		-
William Halton – Burnhamthorpe Route	15 min, one-way	1	15 min, one-way	Bay #8 (Articulated)		-
Local Route A – Tremaine Rd. Employment Lands	30 min, one-way	1 (shared)	30 min, one-way	Bay #7 (Standard)		-
Local Route B – Hospital / Graydon Banning	30 min, one-way		30 min, one-way			-
Burlington / Milton Transit Route(s)	N/A	1	30 min, two-way	Bay #2 (Standard)		-
GO Transit Route(s)	N/A	1	30 min, two-way	Bay #1 (Standard)		-
<b>Total Bay Requirement (#)</b>	<b>Oakville Transit:</b>	<b>11</b>	<b>PVC:</b>	<b>8</b>		-

Taking the above into consideration, the proposed PVC transit terminal location will help ensure the transit terminal provides close connections to the important community elements (i.e. commercial uses, main street district, community uses, and the public park) and in doing so it will become an important hub of the community fabric in Palermo. It will also help shift more riders to transit by being an attractive transit facility that is adjacent to supportive commercial uses and amenities.

By comparison, the IBI study preferred option will not have direct access to Bronte Road (where the majority of service will be going to /from), will have less routing flexibility (one access), would be located further front Dundas Street, would be further from the Main Street district and commercial uses, would be further from the planned location of the community uses, and would result in a more suburban, disconnected transit facility that does not contribute to the character of the community.



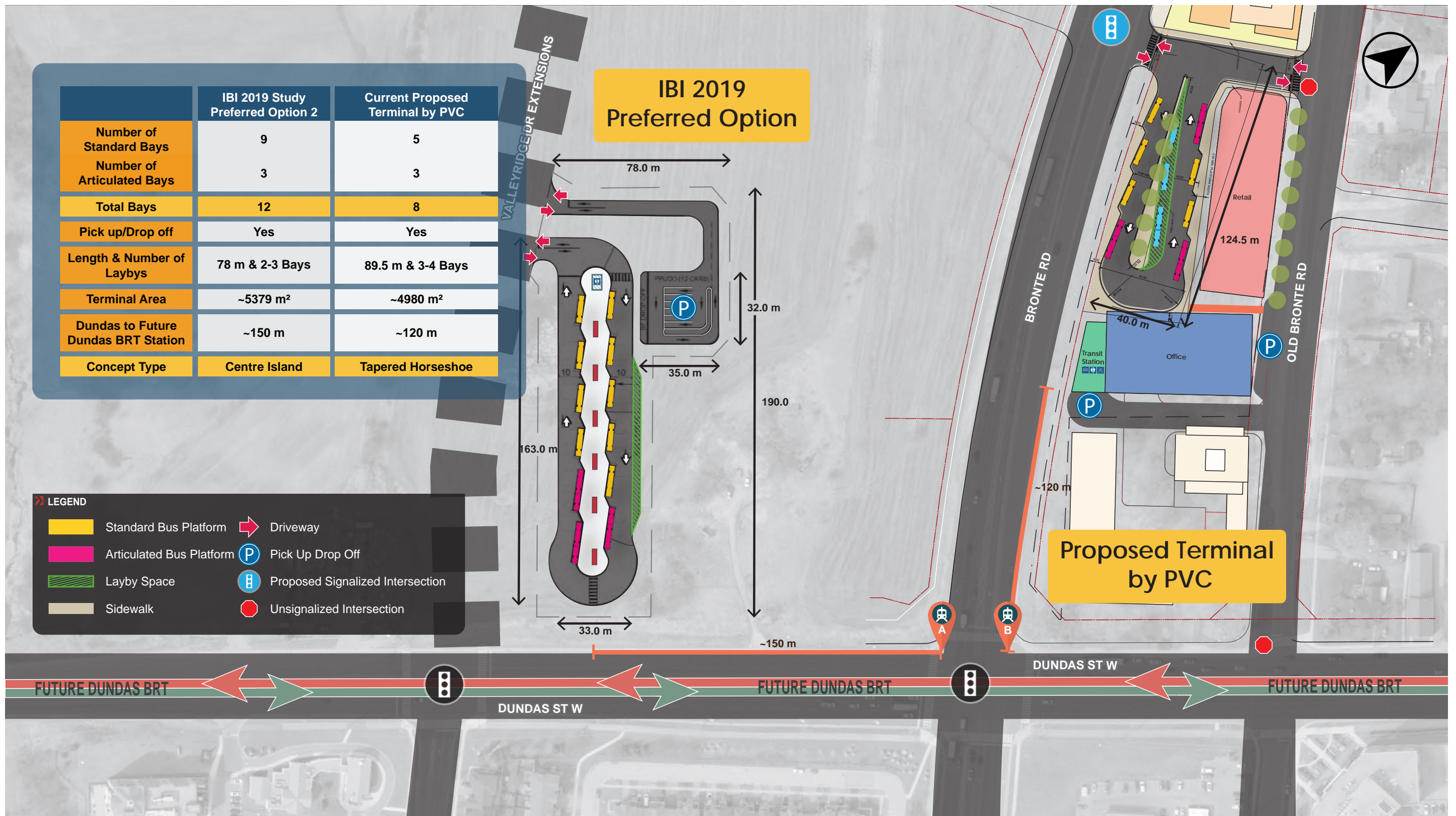


FIGURE 10 COMPARISON OF IBI PREFERRED OPTION (2019) AND PROPOSED NEW TERMINAL DESIGN

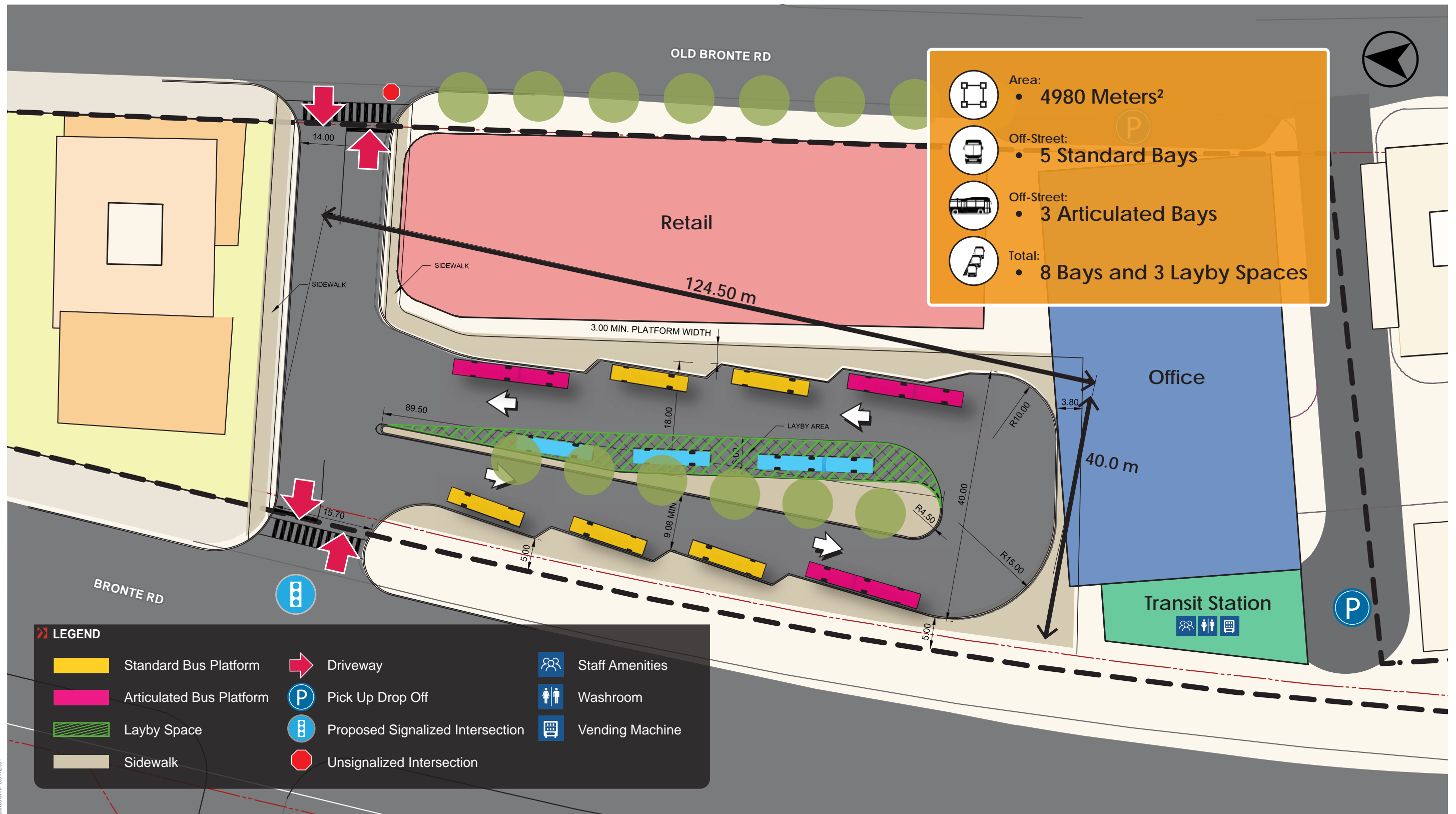
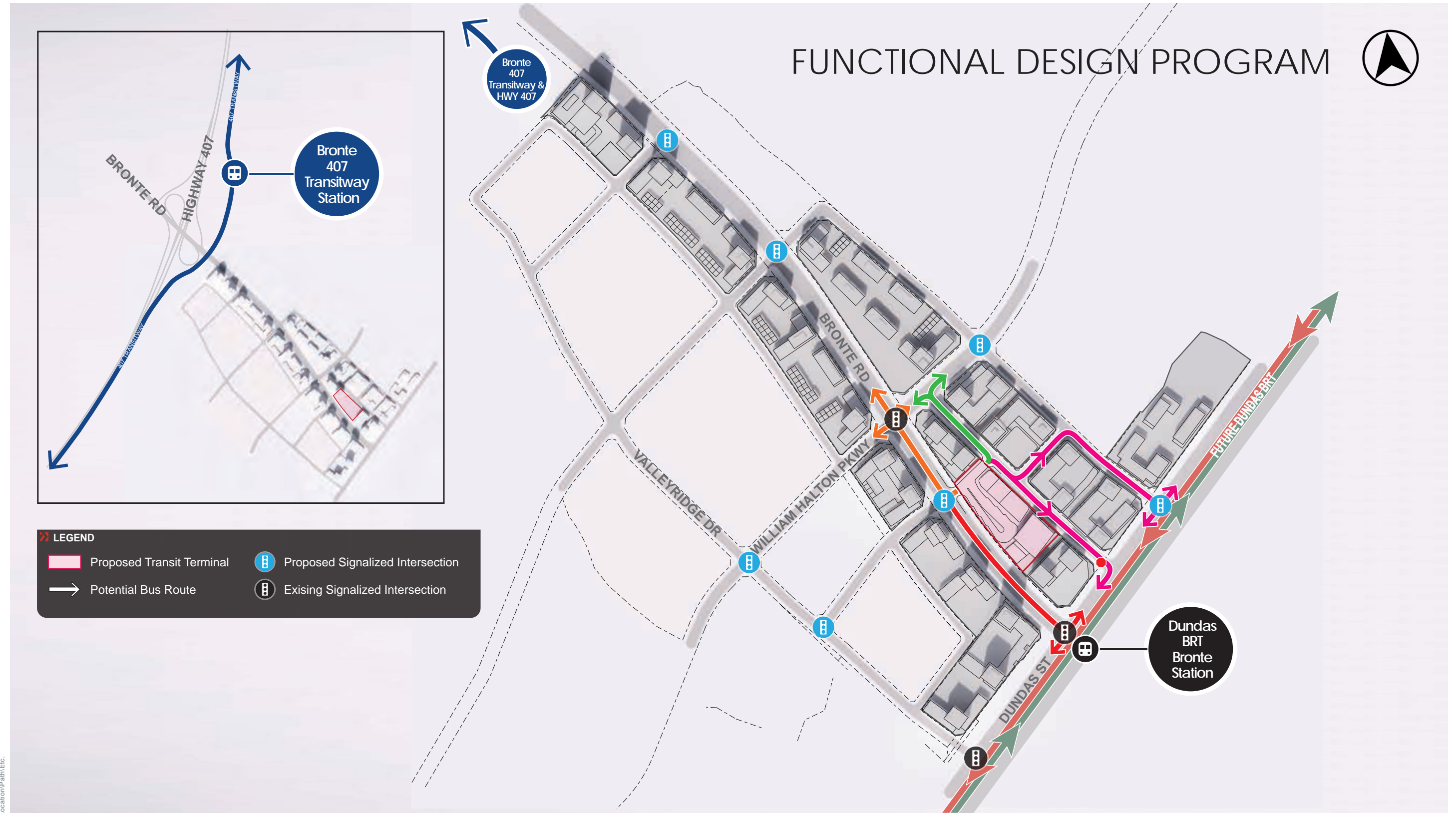


FIGURE 11 PROPOSED PALERMO TRANSIT TERMINAL



**FIGURE 12A PROPOSED PALERMO TRANSIT TERMINAL SERVICE PLAN**

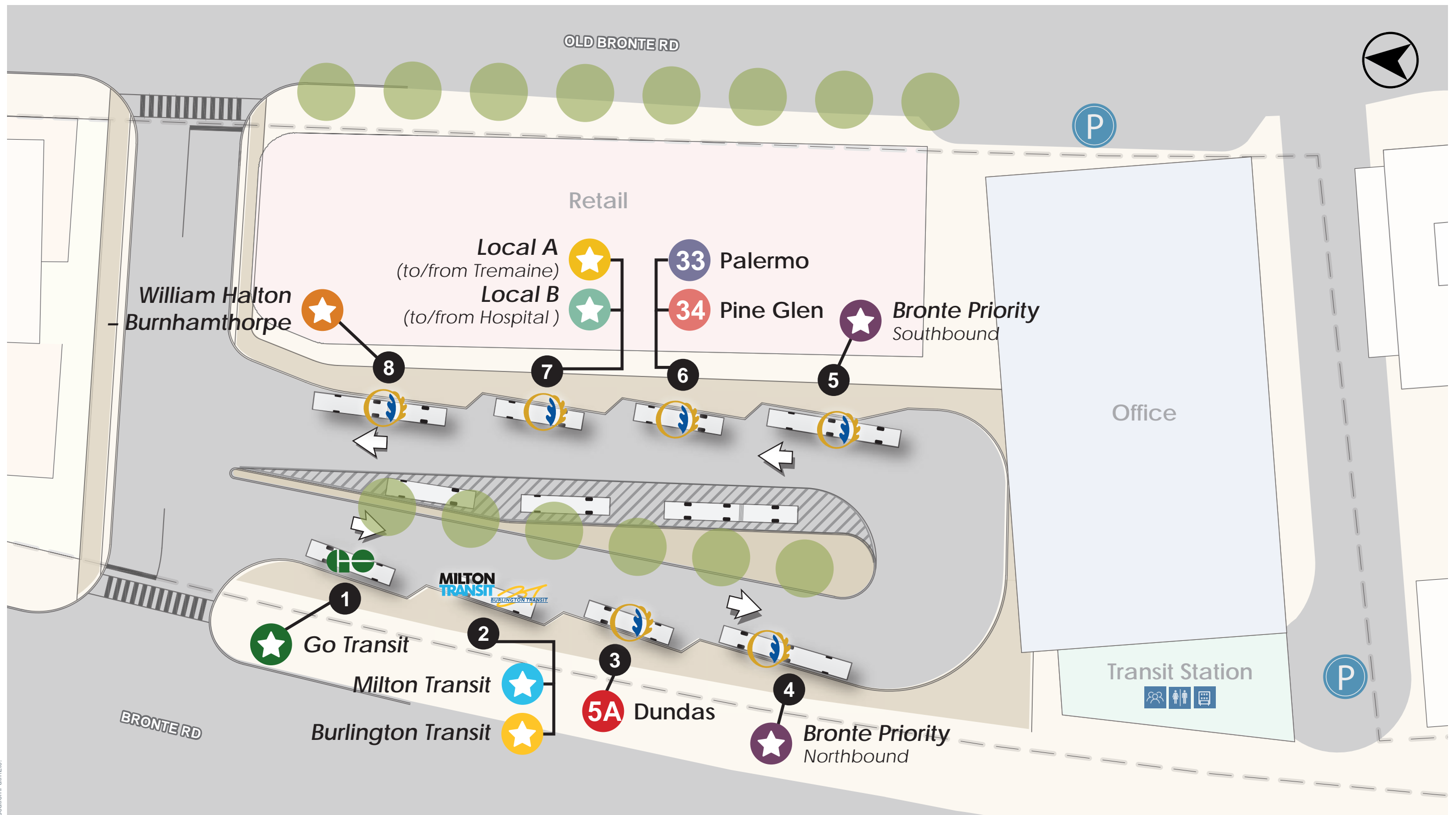


FIGURE 12B PROPOSED PALERMO TERMINAL SERVICE ROUTING



## 4.6 Proposed Cycling Network and Pedestrian Circulation

Active transportation has been prioritized in the design and arrangement of the Palermo Village Master Plan network. A number of cycle tracks, physically separated bike lanes, and multi-use trails connect and enclose the Master Plan. These routes have been summarized in **Table 7**, categorized based on facility type. A graphical representation of the proposed cycling network can be seen in **Figure 13**.

**Table 7 Proposed Cycling Routes by Facility Type**

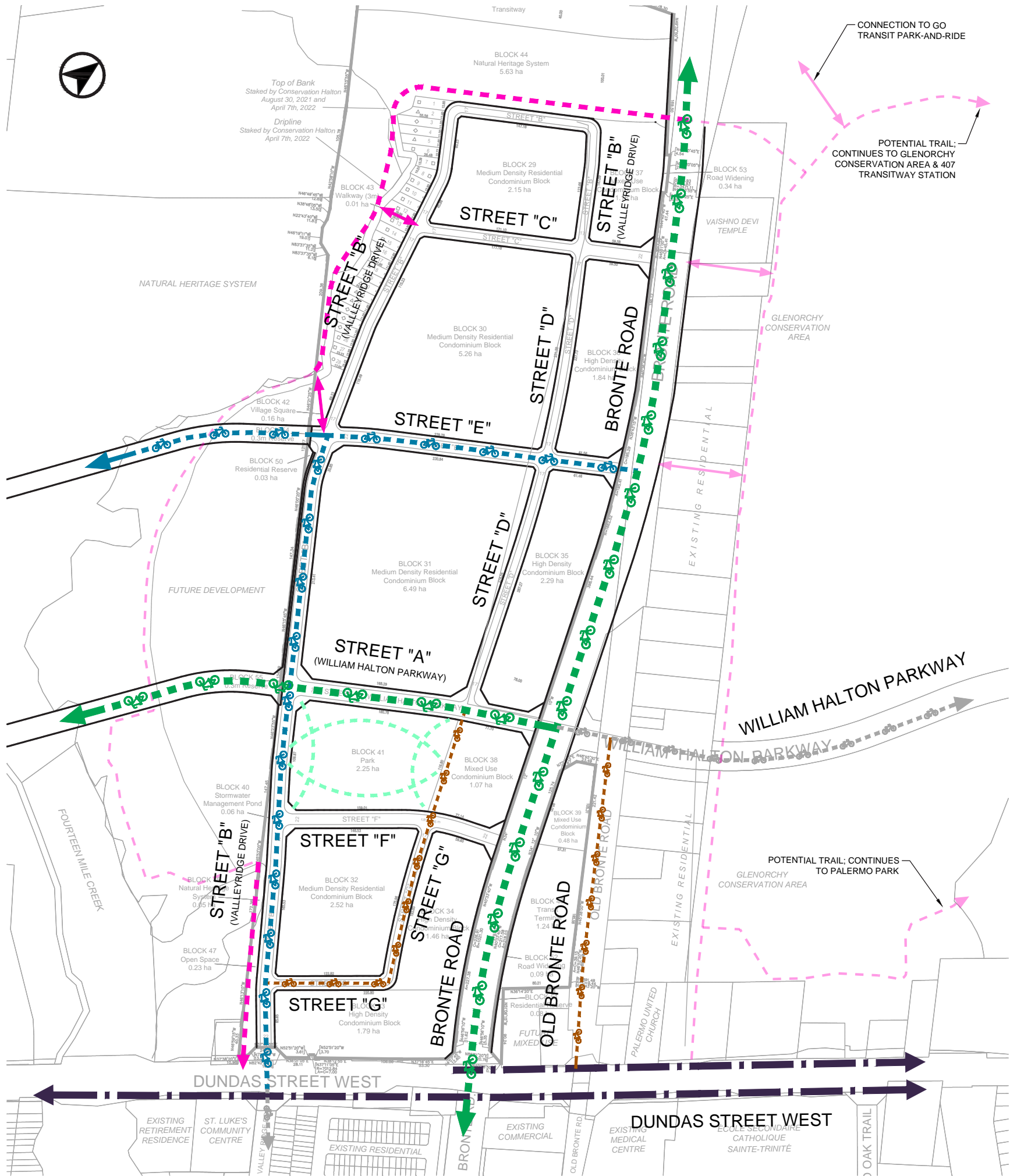
Route Name / Associated Street	General Direction	Facility Type	Functionality
Bronte Road	North-South	Physically Separated Cycle Track	Main north-south cycling 'spine' of Palermo Village
William Halton Parkway	East-West		Main east-west cycling route of Palermo Village
Valleyridge Drive	North-South	Buffered On-Street Bike Lane	Connection to existing facilities and trail network
Street "E"	East-West		Additional east-west cycling connection
Old Bronte Road	North-South	Mixed Traffic Woonerf	Low-speed, commercial cruising route
Natural Heritage Loop	Loop	Multi-Use Trail	Bridges gap between NHS and development lands
Glenorchy Conservation Area Trail	East-West	Multi-Use Trail	Provides access to Glenorchy Conservation Area
Palermo Park Trail	East-West	Multi-Use Trail	Provides access to Palermo Park

Some of the proposed cycling routes tie into existing cycling facilities. William Halton Parkway currently has on-street bike lanes, which are proposed to continue west within the local extension as physically separated cycle tracks. Likewise, Valleyridge Drive south of Dundas has unbuffered on-street bike lanes, which are proposed to continue north as buffered on-street bike lanes. These cycling facilities are proposed to tie in to the existing and proposed cycling infrastructure along Dundas Street West.

Care has also been taken in ensuring high quality pedestrian circulation and connectivity. Alongside having the same access to the proposed aforementioned trail system, wider sidewalks are proposed across the board, from the 1.5 m standard in Oakville's cross sections up to 2.1 m. Sidewalks (or multi use trails, where applicable) will be provided on both sides of all public roads.

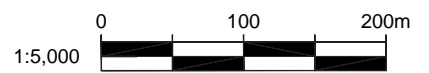
The network has been designed to minimize crossing distances and allow maximum permeability through development blocks. Block sizes and inter-signal distances have been decreased, and pedestrian shortcuts and intra-block pathways are proposed in numerous locations within the Master Plan. The proposed pedestrian circulation plan can be seen in **Figure 14**.



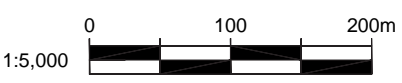
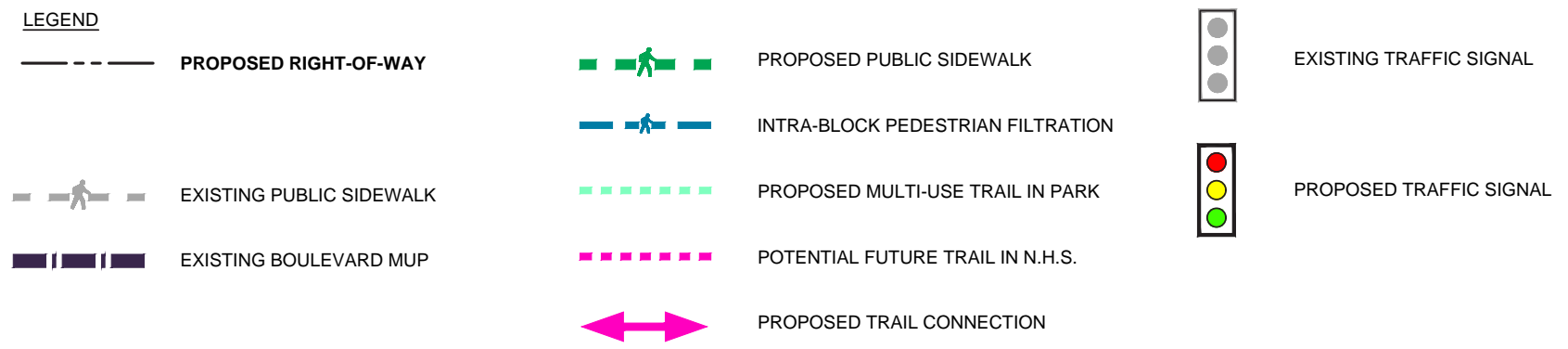
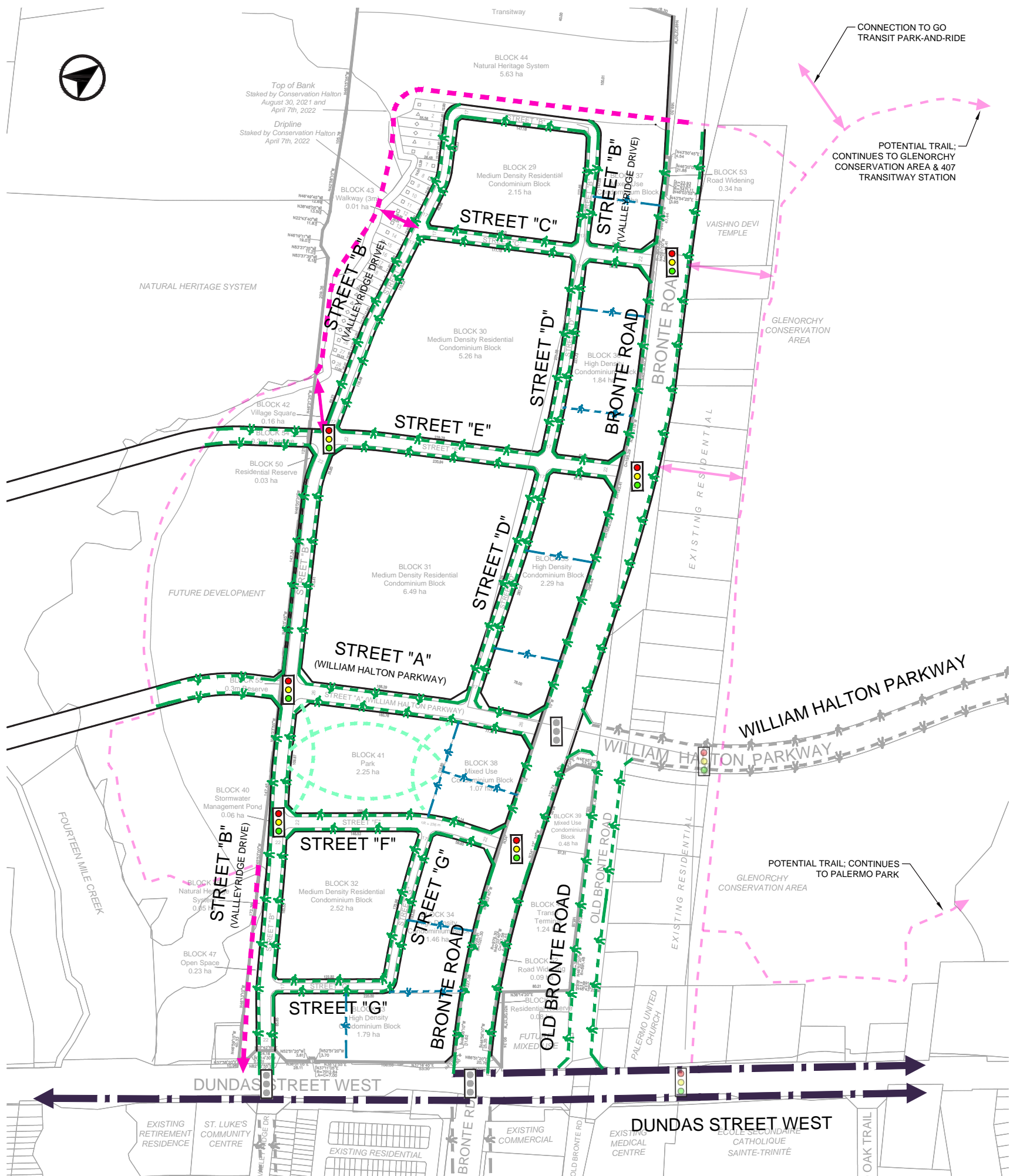


**LEGEND**

- PROPOSED RIGHT-OF-WAY**
- PROPOSED SEPARATED BICYCLE FACILITY**
- PROPOSED DESIGNATED BICYCLE FACILITY**
- EXISTING ON-STREET BIKE LANE**
- PROPOSED SHARED BICYCLE FACILITY**
- EXISTING BOULEVARD MUP**
- PROPOSED MULTI-USE TRAIL IN PARK**
- POTENTIAL FUTURE TRAIL IN N.H.S.**
- PROPOSED TRAIL CONNECTION**



**FIGURE 13 CONCEPTUAL CYCLING PLAN**



**FIGURE 14 CONCEPTUAL PEDESTRIAN CIRCULATION PLAN**

## 4.7 Mobility Choice Travel Plan

The Mobility Choice Travel Plan intends to support the development plan by outlining Transportation Demand Management (TDM) measures and the suite of strategies under consideration to promote the use of more active and sustainable transportation modes, respond to the mobility needs of residents, employees and patrons to the site, and reduce dependence on the private automobile.

Four (4) specific objectives define the policy framework for the Mobility Choice Travel Plan:

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

A comprehensive framework, as described below, has been developed that will serve as a guideline for the implementation of effective Transportation Demand Management (TDM) strategies during the site design stage, as well as in its operations following the full redevelopment of the property.

### 4.7.1 Organizational Framework

The broader objectives of the TDM strategies can be organized within the following categories:

- Facilitation of Reduced Car Ownership and Usage;
- Vehicular Parking Supply and Management;
- Encourage Transit Use;
- Encourage and Facilitate Bicycle Use;
- Enhance Pedestrian Access and Walkability;
- Land Use and Building Infrastructure; and
- Coordination, Communication, and Promotion.

### 4.7.2 Mobility Measures

Each strategy has possible measures that can and should be implemented as part of the planning, design, and operations of the site and surrounding area. As such, the possible measures are categorized and discussed with respect to their implementation stage / consideration:

- **Infrastructure** (external links and facilities)  
Physical infrastructure to improve the alternative (active, transit) mobility transportation realm along the boundaries of the site and to facilitate the integration of pedestrian, cycling and transit infrastructure.
- **Facilities and features of the site plan and design**  
Physical aspects of the internal design of the development, including its buildings, open spaces, and circulation routings to promote alternative transportation modes.
- **Building operations / property management**  
User-focused programs and policies enacted once the site is operational to encourage alternative transportation modes.
- **Monitoring**  
Post-occupancy data collection programs used to assess travel patterns and gauge the effectiveness of TDM strategies and the Mobility Choice Travel Plan as a whole.



### 4.7.3 Transportation Demand Management (TDM) Plan

The future site context provides for frequent, public transit services and improved pedestrian and cycling connectivity. While strong opportunities exist in the area’s infrastructure to accommodate sustainable transportation practices, the ability to fully leverage these opportunities is fundamental to ensuring the success for the Mobility Plan.

To this end, Mobility Plan strategies are presented with targeted “intents” (e.g. what it is trying to achieve and for whom), accompanied by methods of implementation. Potential strategies are then framed in the context of the development and the strategies most appropriate for application are proposed.

Through the future Zoning By-law Amendment and Site Plan application processes, infrastructure, parking management and supply, and TDM strategies supportive of reducing reliance on single-occupant vehicles will be pursued and formalized.

A summary of the mobility strategy is outlined below. It is important to note that these TDM strategies will be continuously refined throughout the application process. TDM measures proposed as part of the current development application are outlined in **Table 8**.

**Table 8 Potential Mobility Travel Plan**

Strategy	Intent	Possible Measures	Development Plan Measures
<b>Vehicle parking supply &amp; management</b>	<ul style="list-style-type: none"> <li>Increasing the desirability of using alternative modes of transportation</li> <li>Reduce car ownership needs</li> <li>Encourage higher vehicle occupancy</li> <li>Encourage the use of other travel modes</li> </ul>	<p><b>Building, Planning &amp; Design</b></p> <ul style="list-style-type: none"> <li>Establish appropriately low parking supply rates for the proposed land uses and buildings</li> <li>Adopt a sharing of all non-residential parking to maximize the efficient use of the available supply</li> <li>Provide preferred high-occupancy vehicle / carpool parking</li> <li>Locate parking underground or above ground to enhance the pedestrian realm and encourage use of non-auto means at grade</li> </ul> <p><b>Operational / Management</b></p> <ul style="list-style-type: none"> <li>Operate the majority of the site parking supply as paid parking for non-residents</li> <li>Adjust parking fee structure, operations and parking allocations to support non-automobile usage goals and to accommodate changing parking needs</li> <li>Offer parking to residents ‘unbundled’ from unit purchase</li> </ul>	<ul style="list-style-type: none"> <li>Adopt the North Oakville Zoning By-law 2009-189 residential and non-residential parking rates</li> </ul>



Strategy	Intent	Possible Measures	Development Plan Measures
Facilitation of reduced car ownership & usage	<ul style="list-style-type: none"> <li>• Reduce the need for residents and employees to own a car for occasional travel</li> <li>• Reduce the likelihood of privately-owned car use for general travel, particularly during peak periods</li> </ul>	<p><b>Building, Planning &amp; Design</b></p> <ul style="list-style-type: none"> <li>• Provide appropriate pick-up / drop-off facilities to accommodate taxi / ride-share use</li> <li>• Make provisions for car-share, car-pool, low-emission, and short-term vehicle parking to accommodate priority parking for targeted vehicle users</li> </ul> <p><b>Operational / Management</b></p> <ul style="list-style-type: none"> <li>• Operate a car-share program on-site that members can access “on demand”</li> <li>• Offer and manage a carpool / ride-matching and guaranteed ride home program for residents and employees</li> <li>• Coordinate with building employers to offer flexible work hours and compressed work week opportunities for staff</li> <li>• Provide information and communication items that outline the availability of the on-site services as well as broader taxi and ridesharing services</li> <li>• Implement incentive programs design to encourage the use of on-site services including corporate or private membership to car-share / car-pool services</li> </ul> <p><b>Monitoring</b></p> <ul style="list-style-type: none"> <li>• Monitor car-share program membership and usage, and adjust car deployment to respond to demands</li> <li>• Monitor carpool and ride-matching programs, and adjust to suit needs of residents, employees and visitors</li> </ul>	<ul style="list-style-type: none"> <li>• Develop on-site pick-up / drop-off facilities and incorporate on-street facilities where appropriate and supportive of public amenities</li> <li>• Consider the provision of car share services on-site</li> <li>• Provide information to site residents and employees regarding the availability of car-share provided within the area</li> </ul>
Encourage transit use	<ul style="list-style-type: none"> <li>• Increase awareness and viability of transit travel options for commuter and recreational travel purposes</li> <li>• Support and encourage the use of transit</li> </ul>	<p><b>Building, Planning &amp; Design</b></p> <ul style="list-style-type: none"> <li>• Provide accessible and high-quality pedestrian connections towards transit from the site</li> <li>• Establish transit stops at key neighbourhood locations</li> <li>• Provide facilities that support transit passenger travel including weather protection and amenities along key travel paths within the site</li> <li>• Provide street, pedestrian crossing, and pedestrian improvements to enable convenient / efficient transfers between local and regional transit</li> <li>• Facilitation of accessible transit services (e.g. WheelTrans)</li> </ul> <p><b>Operational / Management</b></p> <ul style="list-style-type: none"> <li>• Encourage on-site PRESTO card sales</li> <li>• Provide transit service information for site users</li> <li>• Offer transit promotion program</li> <li>• Consider providing shuttle service to key destinations</li> <li>• Work with Town / regional transit operators and other stakeholders to review and improve accessibility to existing / new surface transit routes</li> </ul>	<ul style="list-style-type: none"> <li>• Direct pedestrian connections are provided through the site to connect primarily to the Palermo transit terminal, and other transit facilities adjacent to the site.</li> </ul>



Strategy	Intent	Possible Measures	Development Plan Measures
<b>Encourage bicycle use</b>	<ul style="list-style-type: none"> <li>• Provide physical and operational infrastructure on-site</li> <li>• Cooperate with the Town to enhance bicycle connectivity within the area to the broader network</li> <li>• Support and encourage cycling for short and medium distance trips, particularly during peak travel periods.</li> </ul>	<p><b>External Infrastructure</b></p> <ul style="list-style-type: none"> <li>• Work with the Town to improve existing facilities and provide new connections in the site area</li> </ul> <p><b>Building, Planning &amp; Design</b></p> <ul style="list-style-type: none"> <li>• Provision of new on-street cycling facilities as part of new municipal streets delivered for the development</li> <li>• Provide secure long-term bicycle parking in secure locations</li> <li>• Provide short-term bicycle parking distributed across the site in accessible and convenient locations</li> <li>• Consider providing shower and change facilities within office buildings for staff and visitor use</li> <li>• Provide dedicated station / commuter parking to encourage uptake of cycling as a last mile mode of transportation</li> </ul> <p><b>Operational / Management</b></p> <ul style="list-style-type: none"> <li>• Provide bike-share stations within the site at convenient locations</li> <li>• Encourage an on-site bicycle repair / maintenance centre, or bicycle parking valet</li> <li>• Provide on-site bicycle repair / maintenance stations</li> </ul>	<ul style="list-style-type: none"> <li>• Adopt the North Oakville Zoning By-law 2009-189 residential and non-residential parking rates</li> </ul>
<b>Enhance Pedestrian Mobility</b>	<ul style="list-style-type: none"> <li>• Enhance the walkability of the site at-grade and create a pedestrian-first neighbourhood</li> <li>• Assist in creating high-quality, safe pedestrian linkages to the site and wider network</li> <li>• Improve the quality of the public realm and accessibility of the area</li> <li>• Provide high-quality pedestrian facilities that connect to transit stations and stops</li> </ul>	<p><b>External Infrastructure</b></p> <ul style="list-style-type: none"> <li>• Work with the Town towards realizing improvements to area pedestrian infrastructure quality of the public realm and the convenience of pedestrian linkages / road crossings / rail crossings along the site boundaries and in the site area</li> </ul> <p><b>Building, Planning &amp; Design</b></p> <ul style="list-style-type: none"> <li>• Provide high-quality, safe pedestrian-scale connections from the site property to the surrounding public street network and throughout the redevelopment site</li> <li>• Provide weather-protected and accessible connectivity in key, high-volume pedestrian areas</li> <li>• Facilitate convenient building access and connectivity</li> <li>• Provide accessible and universal connectivity throughout the site, meeting appropriate accessibility codes and guidelines</li> <li>• Enhance the quality of the public realm through the provision of pedestrian-scale landscaping and appropriate sidewalk widths and general improvements of the public realm along building frontages</li> <li>• Enhance site porosity through the introduction of mid-block pedestrian routes animated through the programming of retail and other uses</li> </ul> <p><b>Operational / Management</b></p> <ul style="list-style-type: none"> <li>• Maintain on-site pedestrian facilities to enable year-round pedestrian access and usage</li> </ul>	<ul style="list-style-type: none"> <li>• Increased pedestrian permeability through the site through new streets, mid-block connections, parks and POPS</li> <li>• Vehicular accesses are consolidated to reduce points of vehicle / pedestrian conflict</li> <li>• Widened sidewalks, reduced crossing distances, and improved boulevards to improve the pedestrian realm and support the anticipated pedestrian activity</li> </ul>



Strategy	Intent	Possible Measures	Development Plan Measures
Land use & building infrastructure	<ul style="list-style-type: none"> <li>• Offer a variety of mutually supportive residential and non-residential uses on-site</li> <li>• Reduce the need for residents, employees and visitors to travel off-site to address daily needs</li> <li>• Shorten travel distances</li> <li>• Support residents that work from home</li> </ul>	<p><b>Building, Planning &amp; Design</b></p> <ul style="list-style-type: none"> <li>• Provide for a range of employment, retail and residential uses within the proposed buildings</li> <li>• Provide for support services and amenities within the site, with potential for daycare, community amenity areas, recreation, and post office</li> <li>• Provide technology and communication support infrastructure and facilities within the residential buildings that support telecommuting and other work from home practices</li> </ul>	<ul style="list-style-type: none"> <li>• The proposed development offers a variety of uses – employment, retail, residential and community / recreation – that allow people to meet multiple needs on-site</li> <li>• The mix of uses support one another, reducing the number of vehicles trips generated from the site</li> </ul>
Coordination, monitoring, communication & promotion	<ul style="list-style-type: none"> <li>• Inform and raise awareness of non-automobile travel options for the site</li> <li>• Actively promote non-automobile travel options and services</li> <li>• Introduce, develop and coordinate TDM programs / incentives with the employment tenants within the context of the broader strategies in place</li> <li>• Ability to adapt the strategy based on changing demand and special circumstances as they may arise</li> <li>• Provide real-time information to allow for commuters to make effective travel decisions</li> </ul>	<p><b>Operational / Management</b></p> <ul style="list-style-type: none"> <li>• Establish a TDM Coordinator Office that supports activities and advances TDM strategies, programs and implementation protocols for the site</li> <li>• Establish a consultative framework to liaise and empower building tenants, businesses and residents to engage in dialogue with the Town, transit providers, and other service providers to advance the needs of the development and surrounding area</li> <li>• Use of wayfinding and multi-modal navigation tools to augment the TDM services provided on-site</li> <li>• The active marketing, branding and promotion of non-automobile travel options (e.g. fairs, events and other incentive programs)</li> <li>• Provide real-time information regarding travel options, incidents and delays.</li> </ul> <p><b>Monitoring</b></p> <ul style="list-style-type: none"> <li>• Monitor the success of programming by the TDM Coordinator Office</li> <li>• Measure the site's modal split over time to examine the effectiveness of TDM interventions</li> <li>• Refine programming on an ongoing and coordinated basis</li> <li>• Partner with TDM coordinators or the Town to undertake long-term monitoring of transportation facilities and operations.</li> </ul>	<ul style="list-style-type: none"> <li>• New residential, commercial tenants will be made aware of the existing transit services and active transportation facilities on-site and within proximity to the site</li> <li>• The use of sustainable transportation modes will be supported and promoted by building management and operations</li> </ul>





## 5.0 VEHICLE PARKING CONSIDERATIONS

### 5.1 Zoning By-law Requirements

The prevailing Zoning By-law for the site for parking supply requirements is the North Oakville's Zoning By-law 2009-189.

Since the development is still in the early stages of the application process, it is yet to be determined the exact type of residential and non-residential uses proposed for each block. As a result, it is assumed to start with a more conservative approach in using the apartment dwelling rates for the proposed residential units. The residential uses and non-residential uses will be further defined, and parking rates will be adjusted as the project advances in subsequent submissions.

Application of the North Oakville Zoning By-law 2009-189 parking standards to the proposed development programme is summarized in **Table 9**.

**Table 9 North Oakville Zoning By-law 2009-189 Parking Standards**

Use	Units / Floor Area <sup>1</sup>	Minimum Rate	Minimum Parking Req <sup>2</sup>	Maximum Rate	Maximum Parking Req <sup>2</sup>
<b>High Density</b>					
<b>Block 1</b>					
Resident	911 units	None	-	1.25 spaces / unit	1,139 spaces
Subtotal – Residential		Minimum	0 spaces	Maximum	1,139 spaces
Residential Visitor	911 units	None	-	0.2 spaces / unit	183 spaces
Retail	1,264 sq. m	3.3 space / 100 sq. m of GFA	42 spaces	5.0 space / 100 sq. m of GFA	64 spaces
Subtotal - Non-residential		Minimum	42 spaces	Maximum	247 spaces
<b>Total (Block 1)</b>		-	<b>42 spaces</b>	-	<b>1,386 spaces</b>
<b>Block 2</b>					
Resident	875 units	None	-	1.25 spaces / unit	1,094 spaces
Residential Visitor	875 units	None	-	0.2 spaces / unit	175 spaces
<b>Total (Block 2)</b>		-	-	-	<b>1,269 spaces</b>
<b>Block 3</b>					
Resident	1,111 units	None	-	1.25 spaces / unit	1,389 spaces
Residential Visitor	1,111 units	None	-	0.2 spaces / unit	223 spaces
<b>Total (Block 3)</b>		-	-	-	<b>1,612 spaces</b>
<b>Block 4</b>					
Resident	668 units	None	-	1.25 spaces / unit	835 spaces
Subtotal - Residential		Minimum	0 spaces	Maximum	835 spaces
Residential Visitor	668 units	None	-	0.2 spaces / unit	134 spaces
Retail	1,304 sq. m	3.3 space / 100 sq. m of GFA	44 spaces	5.0 space / 100 sq. m of GFA	66 spaces
Community	3,373 sq. m	3.3 space / 100 sq. m of GFA	112 spaces	5.0 space / 100 sq. m of GFA	169 spaces
Subtotal - Non-residential		Minimum	156 spaces	Maximum	369 spaces
<b>Total (Block 4)</b>		-	<b>156 spaces</b>	-	<b>1,204 spaces</b>
<b>Block 5a</b>					
Resident	754 units	None	-	1.25 spaces / unit	943 spaces
Residential Visitor	754 units	None	-	0.2 spaces / unit	151 spaces
<b>Total (Block 5a)</b>		-	-	-	<b>1,094 spaces</b>
<b>Block 5b</b>					
Resident	1,110 units	None	-	1.25 spaces / unit	1,388 spaces
Residential Visitor	1,110 units	None	-	0.2 spaces / unit	222 spaces
<b>Total (Block 5b)</b>		-	-	-	<b>1,610 spaces</b>



Use	Units / Floor Area <sup>1</sup>	Minimum Rate	Minimum Parking Req <sup>2</sup>	Maximum Rate	Maximum Parking Req <sup>2</sup>
<b>Block 6</b>					
Resident	488 units	None	-	1.25 spaces / unit	610 spaces
Subtotal – Residential		Minimum	0 spaces	Maximum	610 spaces
Residential Visitor	488 units	None	-	0.2 spaces / unit	98 spaces
Retail	1,644 sq. m	3.3 space / 100 sq. m of GFA	55 spaces	5.0 space / 100 sq. m of GFA	83 spaces
Subtotal - Non-residential		Minimum	55 spaces	Maximum	181 spaces
<b>Total (Block 6)</b>		-	<b>55 spaces</b>	-	<b>791 spaces</b>
<b>Block TT</b>					
Retail	2,957 sq. m	3.3 space / 100 sq. m of GFA	98 spaces	5.0 space / 100 sq. m of GFA	148 spaces
Office	8,787 sq. m	2.7 space / 100 sq. m of GFA	238 spaces	3.3 space / 100 sq. m of GFA	290 spaces
<b>Total (Block TT)</b>		-	<b>336 spaces</b>	-	<b>438 spaces</b>
<b>Low Density</b>					
Freehold	28 units	1.0 spaces / unit	28 spaces	None	-
Block A	139 units	1.0 spaces / unit	139 spaces	None	-
Block B	297 units	1.0 spaces / unit	297 spaces	None	-
Block C	372 units	1.0 spaces / unit	372 spaces	None	-
Block D	137 units	1.0 spaces / unit	137 spaces	None	-
Total – Residential		Minimum	973 spaces	Maximum	-
<b>Total Minimum Parking Requirements</b>			<b>1,562 spaces</b>		
<b>Total Maximum Parking Requirements</b>			<b>9,404 spaces</b>		

Notes:

1. Site statistics provided by Perkins&Will and Gerrard Design dated August 2, 2023.
2. If the number of required parking spaces results in a fraction of a parking space, the required number of spaces shall be increased to the next highest whole number.

Application of the North Oakville Zoning By-law 2009-189 requirements to the current proposal would require the provision of a minimum of **1,562 spaces** for retail, office, community uses and the low-density townhouse units. There are no minimum parking requirements for the high-rise units' resident or resident visitors.

The maximum permitted parking supply is **9,404 spaces**, including 7,398 resident spaces and 2,006 non-resident spaces.

## 5.2 Proposed Parking Strategy

It is proposed to adopt a parking supply standard that falls within the range of the minimum and maximum North Oakville Zoning By-law 2009-189 parking requirements for the residential and non-residential components of the site.

The proposed By-law requirement is therefore appropriate and will be confirmed during the approvals stage for individual development blocks, either through additional zoning by-laws or minor variance. As such, the proposed parking supply will continue to evolve since the residential uses and non-residential uses will be further defined and parking rates will be adjusted as the project advances in subsequent submissions.

Additional on-street parking, should the Town allow for it, would also be provided on segments of the new municipal street network proposed as part of the Palermo Village Master Plan.

The intent is to propose a series of parking garages below grade or above grade to accommodate development parking demands.



## 6.0 BICYCLE PARKING CONSIDERATIONS

### 6.1 Zoning By-Law Requirements

The site is subject to the minimum bicycle parking requirements of the North Oakville Zoning By-law 2009-189. Application of the minimum bicycle parking requirements based on this Zoning By-law is summarized in **Table 10**.

Table 10 Minimum Zoning By-law 2009-189 Bicycle Parking Requirements

Land Use / Unit Type		Units / GFA <sup>1</sup>	Minimum Rate	Minimum Requirement
Residential	Short-term (visitor)	5,917 units	0.25 spaces per dwelling unit	1480
	Long-term (occupant)		0.75 spaces per dwelling unit	4438
Non-Residential <sup>2</sup>	589 vehicular parking spaces	--	7 percent of automobile parking spaces required by the Zoning By-law, including a minimum of 5 visitor bicycle parking spaces	42
Short-term Subtotal				1,522 spaces
Long-term Subtotal				4,438 spaces
<b>Site Total</b>				<b>5,960 spaces</b>

Notes:

1. Site stats are based on architectural stats prepared by Perkins&Will and Gerrard Design dated August 2, 2023.
2. Non-residential use exemptions in Zoning By-law 2009-189, Section 5.7.1.2. states that no bicycle parking requirement applies for the following uses specified in the Zoning By-law: golfing driving range, funeral home, vehicle dealership, vehicle repair facility, gas bar, nursery/garden centre, commercial self-storage and veterinary clinic.

The proposed development will provide bicycle parking in accordance with the North Oakville Zoning By-law 2009-189 bicycle parking requirements.

### 6.2 Proposed Bicycle Parking Supply

It is proposed to adopt the minimum bicycle parking supply standards of the North Oakville Zoning By-law 2009-189. As such, the proposed bicycle parking supply will continue to further develop as the project advances in subsequent submissions.

### 6.3 Bicycle Parking Access and Location

Short-term bicycle parking will be located in a publicly accessible space generally at-grade and within close proximity to the building lobbies. Short-term bicycle parking will be provided on each development parcel comprising the Palermo Village Master Plan.

Long-term bicycle parking will be provided in secure, weather-protected storage areas within the first two storeys of the building or below-grade, within each of the underground parking facilities planned as part of the development. Access will be provided by bicycle ramp facilities or bicycle / service elevators, particularly where long-term bicycle parking is provided at underground levels below P1.



## 7.0 LOADING CONSIDERATIONS

### 7.1 Zoning By-law Requirements

The Town's Zoning By-law 2009-189, as per Section 5.6.1, states that "*Loading docks may be permitted, but shall not be required for any uses, with the exception of industrial uses.*" As such, the Zoning By-law does not include a requirement for a minimum number of loading spaces for the proposed uses within the master plan.

The By-law (Section 5.6) does however require the following:

- The minimum dimension of a loading dock is 9 metres in length
- Unobstructed access to a loading dock must be provided from an aisle, driveway, or lane that leads directly to a street

According to the general Oakville Zoning By-law 2014-014, a minimum loading requirement does not apply including North Oakville. The By-law refers to location and size should a loading space be provided.

### 7.2 Proposed Loading Facilities

The proposed loading facilities will meet the dimensional requirements set out by the Town's Zoning By-law 2009-189. Additionally, the quantity and configuration of the loading space arrangements to accommodate residential, retail, office and other non-residential uses will be determined in a future site plan application submission.

The intent is to propose all loading facilities located off-street and confined within central portions of the proposed development blocks.



## 8.0 VEHICULAR TRAFFIC VOLUME FORECASTS

### 8.1 Traffic Analysis Scenarios and Design Periods

Traffic operations analyses have been undertaken during the weekday morning and afternoon street peak hours under the following conditions:

- Existing traffic – traffic activity level under current conditions;
- Future background traffic – traffic activity levels at the ultimate built-out horizon year which include allowances for background developments; and
- Future total traffic – traffic activity levels at the ultimate build-out horizon year with the site developed and projected site generated traffic added to the road network.

### 8.2 Existing Traffic Volumes

Base existing traffic volumes for vehicles, cyclists, and pedestrians were established for the weekday morning and afternoon peak hours (the busiest hour of traffic between 06:30-09:30 a.m. and 4:00-7:00 p.m. respectively) for intersections within the study area based upon traffic count information collected by Spectrum Traffic Inc. on behalf of BA Group.

The traffic count information adopted as the basis for the traffic operations analysis undertaken to assess the operational impacts of the proposed development is summarized in **Table 11**. The raw turning movement counts are provided in **Appendix C**.

The existing turning movement counts were reviewed in detail to ensure general consistency in the traffic volumes on roadways between intersections. Where necessary, minor adjustments were made to balance traffic volumes between intersections to create a representative traffic volume base for the purposes of the traffic operations analyses undertaken as part of this study.

The existing area traffic volumes for the weekday morning and weekday afternoon peak hours are illustrated in **Figure 15**.

Under all future conditions, existing through traffic volumes along Dundas Street have been reduced by 20% to reflect the increased transit, active transportation and transportation demand management mode split targets established in the Region's Transportation Master Plan. The reductions in existing volumes are illustrated in **Figure 16**.



Table 11 Existing Turning Movement Count Summary

Intersection	Control Type	Count Date	Study Hour Periods	Signal Timing Date <sup>1</sup>	Source Agency
<b>Signalized Intersections</b>					
Bronte Road / Highway 407 WB Off- Ramp	Signalized	September 14, 2022	06:30 am to 09:30 am 04:00 pm to 07:00 pm	Wednesday September 14, 2022	Spectrum Traffic Data Inc.
Bronte Road / Highway 407 EB Off- Ramp	Signalized	September 14, 2022			
Bronte Road / William Halton Parkway	Signalized	September 14, 2022			
Bronte Road / Dundas Street West	Signalized	September 14, 2022			
Bronte Road / Highvalley Road / Pine Glen Road	Signalized	September 14, 2022			
Valleyridge Drive / Dundas Street West	Signalized	September 14, 2022			
<b>Unsignalized Intersections</b>					
Bronte Road / Old Bronte Road North	Unsignalized	September 14, 2022	06:30 am to 09:30 am 04:00 pm to 07:00 pm	Wednesday September 14, 2022	Spectrum Traffic Data Inc.
Bronte Road / Old Bronte Road South	Unsignalized	September 14, 2022			
Old Bronte Road / William Halton Parkway	Unsignalized	September 14, 2022			
Old Bronte Road / Dundas Street West	Unsignalized	September 14, 2022			

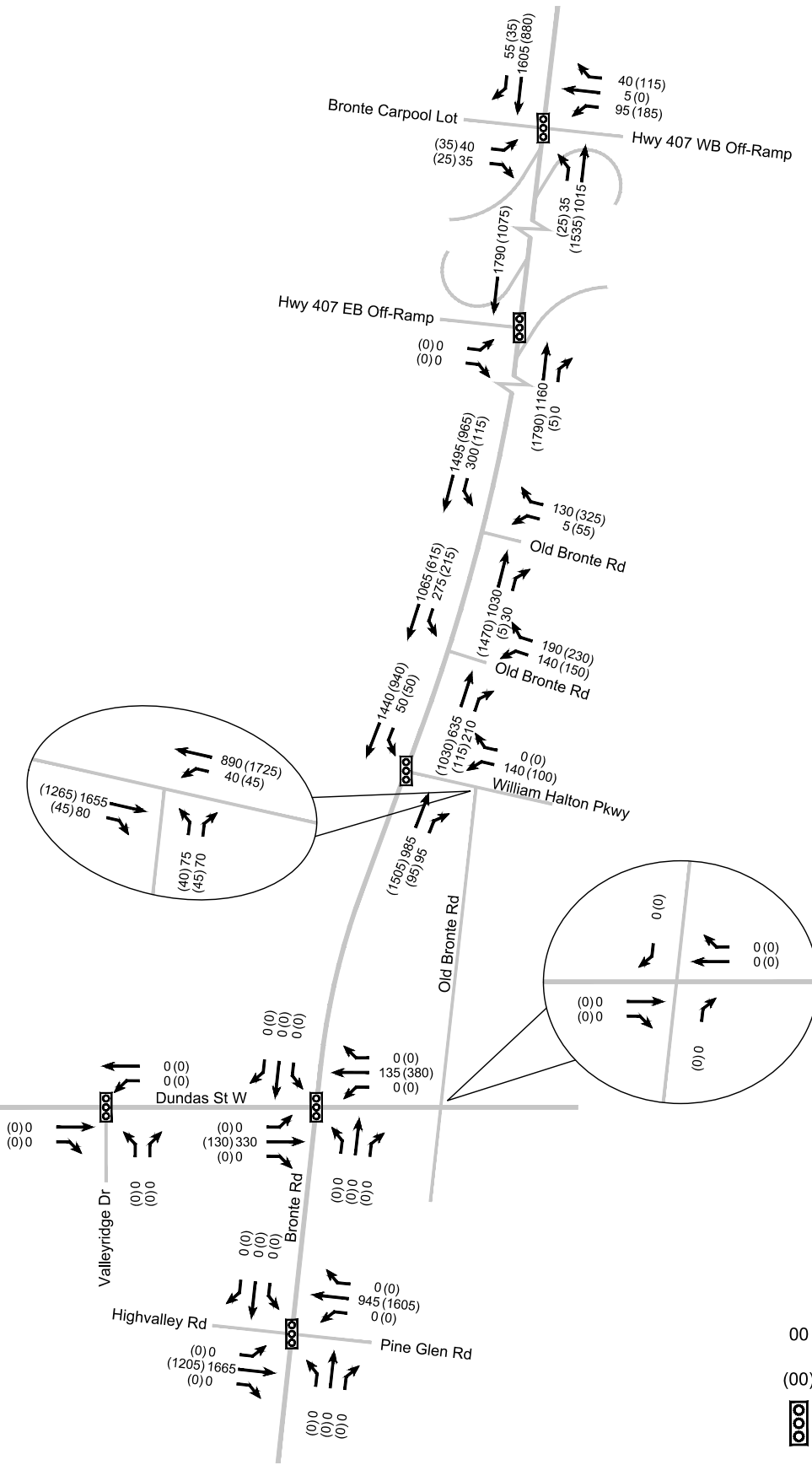
Notes:

1. Signal Timing Data issued by Town of Oakville.





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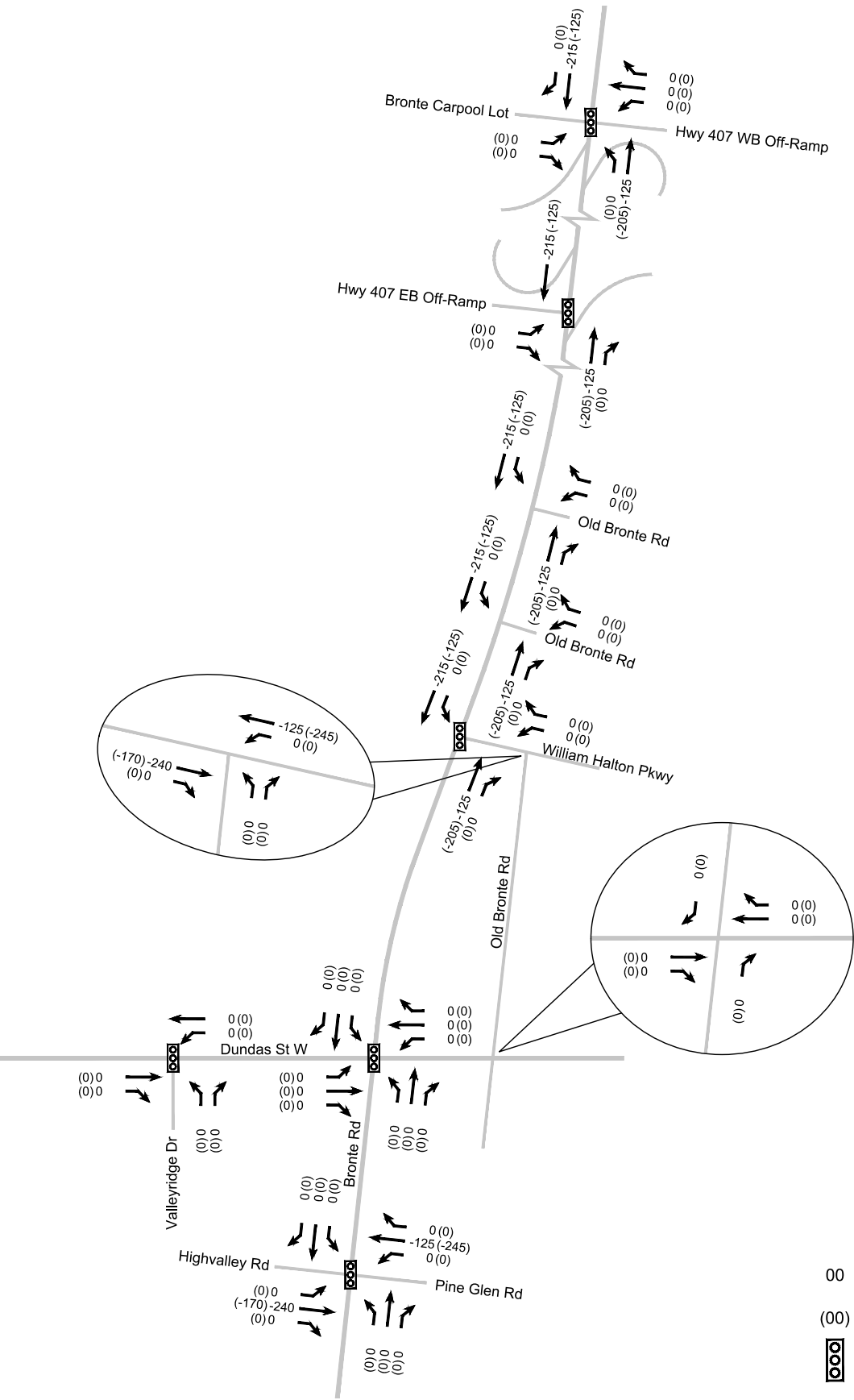


- 00 AM Peak Hour
- (00) PM Peak Hour
- Existing Traffic Signal

**FIGURE 15 EXISTING TRAFFIC VOLUMES**



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- 00 AM Peak Hour
- (00) PM Peak Hour
- Existing Traffic Signal

**FIGURE 16 EXISTING TRAFFIC VOLUME REDUCTIONS**



## 8.3 Future Background Traffic Volumes

### 8.3.1 General Corridor Growth

The current study explicitly accounts for specific background development proposals (individual sites and subdivisions) as identified in the following section and an annual growth rate has not been applied to the analysis. Potential growth on the area network is considered to have been captured by the specific area developments outlined within the **Section 8.3.2**.

### 8.3.2 Specific Area Developments

An allowance has been made to account for new traffic that will be generated by other development proposals in the area that are either approved, but not yet built, or are actively being reviewed by the Town. A total of 11 development proposals were considered based upon a review of the Town of Oakville's development application database and other traffic studies for development proposals in the vicinity of the site. It is of note that several blocks (Block 8, 10, 12, and 13) located east of Bronte Road and north of Dundas Street West are not part of the Palermo Village Community and are to be treated as separate background development applications. A list of background developments considered, and the source of related traffic volumes incorporated in this study is shown in **Table 12**. The location of these future developments is illustrated in **Figure 17**. The estimated peak hour traffic volumes for the noted background developments are illustrated on **Figure 18**.

These traffic volumes were generally derived based on the traffic projections prepared for the individual developments within their submitted transportation impact studies and/or from background development allowances within these studies. BA Group has expanded the distribution of this projected traffic to the study area network (beyond the original road network scope within these studies) as appropriate along Dundas Street West and Bronte Road based on existing turning movement patterns.



Table 12 Background Developments – Site Specific Traffic Allowance

#	Development Address	Scope	Study	Status
1	5210,5218,5216 Dundas Street	311 units 1,234 m <sup>2</sup> Commercial	Paradigm, February 2013	Under Review
2	Lazy Pat Farm Phase 2 (2030)	159,150 m <sup>2</sup> Commercial	WSP, August 2020	Under Review
3	Hospital District (2031)	3,101 units 82,115 m <sup>2</sup> . Office 44,751 m <sup>2</sup> Retail	Paradigm, February 2021	Under Review
4	1401 Bronte Road	860 units 1725 m <sup>2</sup> Office 4,000 m <sup>2</sup> Retail	Read, Voorhees & Associates, April 2015	Under Review
5	Alton Community	Industrial Park	RVA, March 2012	Under Review
6	Evergreen Tremaine (2031)	1,305 units 2,470 m <sup>2</sup> Retail 26,060 m <sup>2</sup> Industrial, Commercial and Office	BA Group, May 2023	Under Review
7	Palermo Village Block 8 <sup>1</sup>	966 units	PVC Group	NA
8	Palermo Village Block 10 <sup>1</sup>	617 units 3,618 m <sup>2</sup> Retail	PVC Group	NA
9	3005 Dundas S W (Enirox - Block 11)	690 units 569 m <sup>2</sup> Retail	NexTrans, April 2023	Under Review
10	Palermo Village Block 12 <sup>1</sup>	573 units 3,382 m <sup>2</sup> Retail	PVC Group	Under Review
11	Palermo Village Block 13 <sup>1</sup>	539 units	PVC Group	NA

Notes:

1. Blocks are not part of the Palermo Village Community site and are to be treated as background developments. Trip Generation methodology to match that provided within **Section 8.4**.

### 8.3.3 Future Background Traffic Volumes

Future background traffic volumes are illustrated **Figure 19**, reflecting the sum of existing traffic volumes and background development traffic allowances.

## 8.4 Site Traffic Generation

Vehicular trip generation during the morning and afternoon peak has been estimated for the proposed Palermo Village mixed-use development based on the ITE Trip Generation Manual Edition 11. Residential trip rates were based on high-rise multifamily housing (ITE 222) for high density residential uses and single-family attached housing (ITE 215) for low density residential uses. Trip rates for the proposed office spaces are based on the general office land use (ITE710) category for Block TT. Mixed-use retail trip rates are based on the shopping centre land use code (ITE 820).

Since only nominal non-auto mode shares are included in the ITE trip rates, they were adjusted to reflect increased transit mode share given the completion of the Dundas BRT and Transit Terminal within the Palermo Village Community lands. BA Group has adopted a 20% reduction to vehicular trips to account for other travel modes.

**Table 13** provides a summary of the site total trip generation rates, before transit and pass-by reductions, derived from ITE during the morning and afternoon peak hours.



Table 13 Palermo Village Trip Generation Rate and Equation Summary

Land Use	ITE Code	Morning Peak Hour			Afternoon Peak Hour		
		In	Out	2-way	In	Out	2-way
<b>Residential</b>							
High Density	ITE 222	T = 0.22 (X) + 18.85			T = 0.26 (X) + 23.12		
Low Density	ITE 215	T = 0.31 (X) + 22.85			T = 0.43 (X) + 20.55		
<b>Non-Residential</b>							
Office (Mixed Use)	ITE 710	Ln(t) = 0.86 Ln (X) +1.16			Ln (t) = 0.83 Ln (X) +1.29		
Retail (Mixed Use) <sup>1</sup>	ITE 822	0.52	0.32	0.84	1.62	1.77	3.40

Vehicular trips before and after transit and pass-by reductions for each block based on the above trip generation rates are summarized in **Table 14**.



Table 14 Palermo Village Trip Generation Summary

Land Use	Trip Type	Stats	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	2-way	In	Out	2-way
<b>Residential</b>								
Block 1	Base Trips	911 units	75	145	220	145	115	260
	After Transit Reduction (21%)		60	115	175	115	90	205
Block 2	Base Trips	875 units	80	160	240	155	120	275
	After Transit Reduction (21%)		65	125	190	120	95	215
Block 3	Base Trips	1,111 units	95	195	290	190	145	335
	After Transit Reduction (21%)		75	155	230	150	115	265
Block 4	Base Trips	668 units	60	130	190	125	95	220
	After Transit Reduction (21%)		45	105	150	100	75	175
Block 5	Base Trips	1,864 units	150	305	455	300	235	535
	After Transit Reduction (21%)		120	240	360	235	185	425
Block 6	Base Trips	488 units	40	85	125	85	65	150
	After Transit Reduction (21%)		30	65	95	65	50	115
Townhouse Block A	Base Trips	139 units	15	50	65	0	35	80
	After Transit Reduction (21%)		10	40	50	0	30	30
Townhouse Block B	Base Trips	297 units	45	105	150	110	65	175
	After Transit Reduction (21%)		35	85	120	85	50	135
Townhouse Block C	Base Trips	372 units	60	130	190	140	80	220
	After Transit Reduction (21%)		45	105	150	110	65	175
Townhouse Block D	Base Trips	137 units	20	45	65	50	30	80
	After Transit Reduction (21%)		15	35	50	40	25	65
Total	Base Trips	5,917 units	640	1,350	1,990	1,300	985	2,330
	After Transit Reduction (21%)		500	1,070	1,570	1,020	780	1,805
<b>Office</b>								
Transit Terminal	Base Trips	9,763 m2	155	20	175	30	145	175
	After Transit Reduction (21%)		120	15	135	25	115	140
<b>Continued on Next Page</b>								



Land Use	Trip Type	Stats	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	2-way	In	Out	2-way
<b>Retail</b>								
Block 1	Base Trips	1,404 m2	10	5	15	25	25	50
	After Transit Reduction (21%)		10	5	15	20	20	40
Block 4	Base Trips	1,449 m2	10	5	15	25	30	55
	After Transit Reduction (21%)		10	5	15	20	25	45
Block 6	Base Trips	1,827 m2	10	5	15	30	35	65
	After Transit Reduction (21%)		10	5	15	25	30	55
Transit Terminal	Base Trips	3,286 m2	20	10	30	60	60	120
	After Transit Reduction (21%)		15	10	25	45	45	90
Total	Base Trips	7,966 m2	50	25	75	140	150	290
	After Transit Reduction (21%)		45	25	70	110	120	230
<b>Totals</b>								
<b>Total Reduced Residential Trips</b>			<b>500</b>	<b>1,070</b>	<b>1,570</b>	<b>1,020</b>	<b>780</b>	<b>1,805</b>
<b>Total Reduced Office Trips</b>			<b>120</b>	<b>15</b>	<b>135</b>	<b>25</b>	<b>115</b>	<b>140</b>
<b>Total Reduced Retail Trips</b>			<b>45</b>	<b>25</b>	<b>70</b>	<b>110</b>	<b>120</b>	<b>230</b>
<b>Grand Total Trips</b>			<b>665</b>	<b>1,110</b>	<b>1,775</b>	<b>1,155</b>	<b>1,015</b>	<b>2,175</b>

Notes:

1. Vehicle trips are rounded to the nearest 5 vehicles.

The proposed development will generate in the order of 1,405 and 1,770 two-way vehicle trips during the weekday morning and weekday afternoon peak hours, respectively.

## 8.5 Site Traffic Generation

Trip generation for the bus terminal based on the service routing presented in **Figure 12** are summarized in **Table 15**.

**Table 15 Transit Terminal Bus Trip Generation**

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Bus Trips	35	35	70	35	35	70

Notes:

1. Trips rounded to the nearest 5 vehicles.

The transit terminal is expected to generate approximately 70 two-way vehicle trips in both AM morning PM afternoon peak hour periods.



### 8.5.1 Interaction Effects with Adjacent Developments

Interaction and synergy between the Palermo Village Community lands and the adjacent developments such as the 407 West Employment Lands and Hospital district lands is negligible relative to the level of new trips generated and is treated as zero for this analysis.

### 8.5.2 Trip Distribution

New site traffic has been assigned to the area road network based upon a review of travel distribution patterns provided by the 2016 Transportation Tomorrow Survey (TTS) for the different land uses proposed within the development. Given the greenfield nature of the site, adjacent and nearby traffic zones were used as proxies to query travel distribution information from the TTS.

**Table 16** summarizes the resultant directional distribution to / from the site for residential, office, and retail uses.

**Table 16** Palermo Village Development Arrival/Departure Patterns

Routes	Direction (to / from)	Residential		Office		Retail	
		Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
Bronte Road	North	5%	5%	5%	10%	5%	5%
Bronte Road	South	50%	50%	20%	25%	30%	30%
Dundas Street	East	40%	40%	20%	25%	20%	20%
Highway 407	East	5%	5%	0%	0%	5%	5%
Dundas Street	West	5%	5%	30%	15%	5%	5%
Highway 407	West	5%	0%	0%	0%	5%	0%

### 8.5.3 Trip Assignment

New site traffic volumes and pass-by traffic were distributed on the adjacent road system based on the arrival/departure patterns in **Table 16**. Site traffic volumes are illustrated in **Figure 20**.

## 8.6 Future Total Traffic

Future total traffic volumes were obtained by combining future background traffic with newly generated site traffic. Future total traffic volumes are illustrated for the morning and afternoon peak hours periods **Figure 21**.





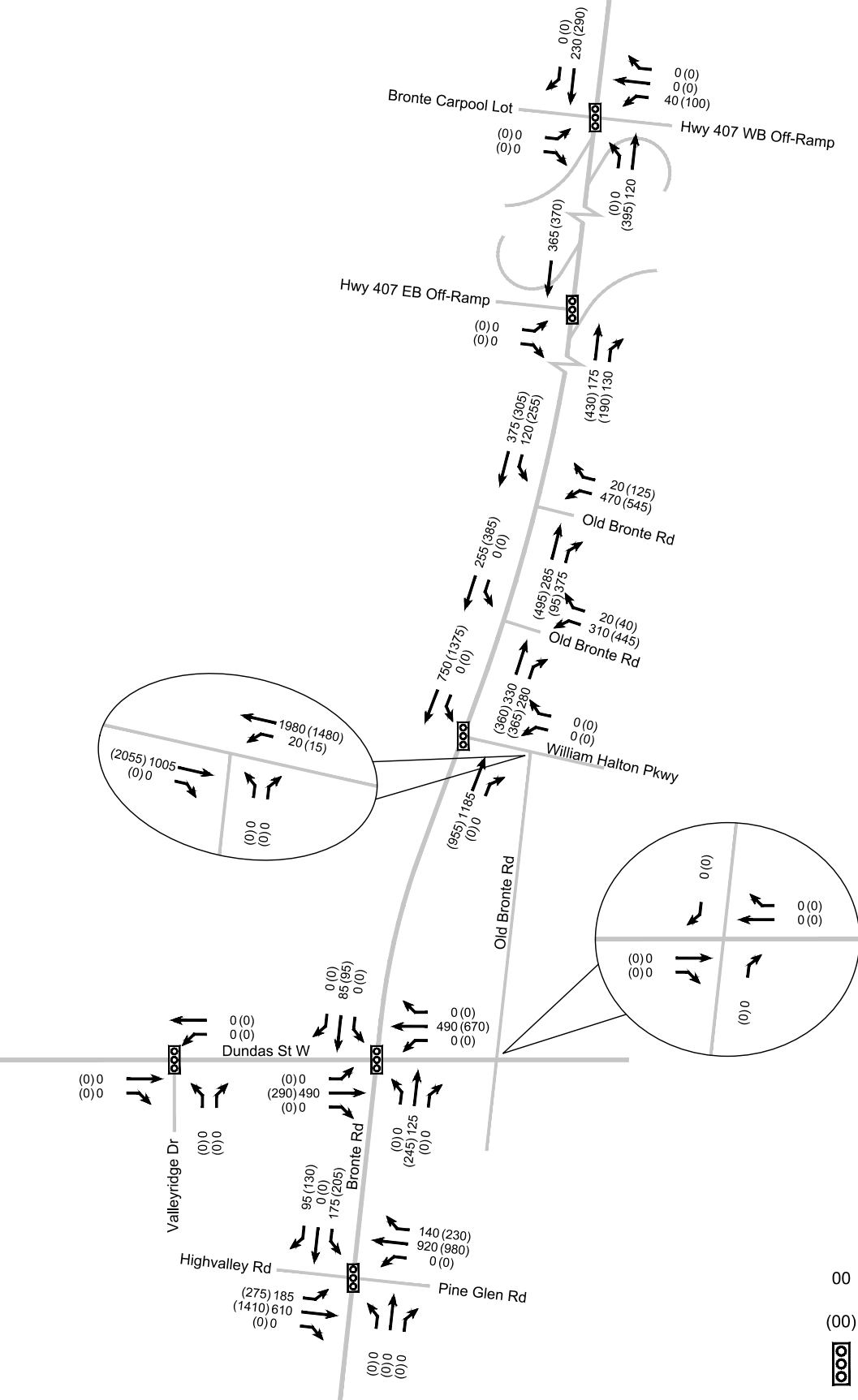
P:\75197\07\Graphics\Adobe\IDs\7597-07.indd

Aerial maps provided courtesy of: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, the GIS User Community and/or Google Earth/Maps.

**FIGURE 17 FUTURE DEVELOPMENT LOCATIONS**



Date Plotted: October 5, 2023 Filename: P:\75197\07\Graphics\CAD\Fig18-02-BD.dwg



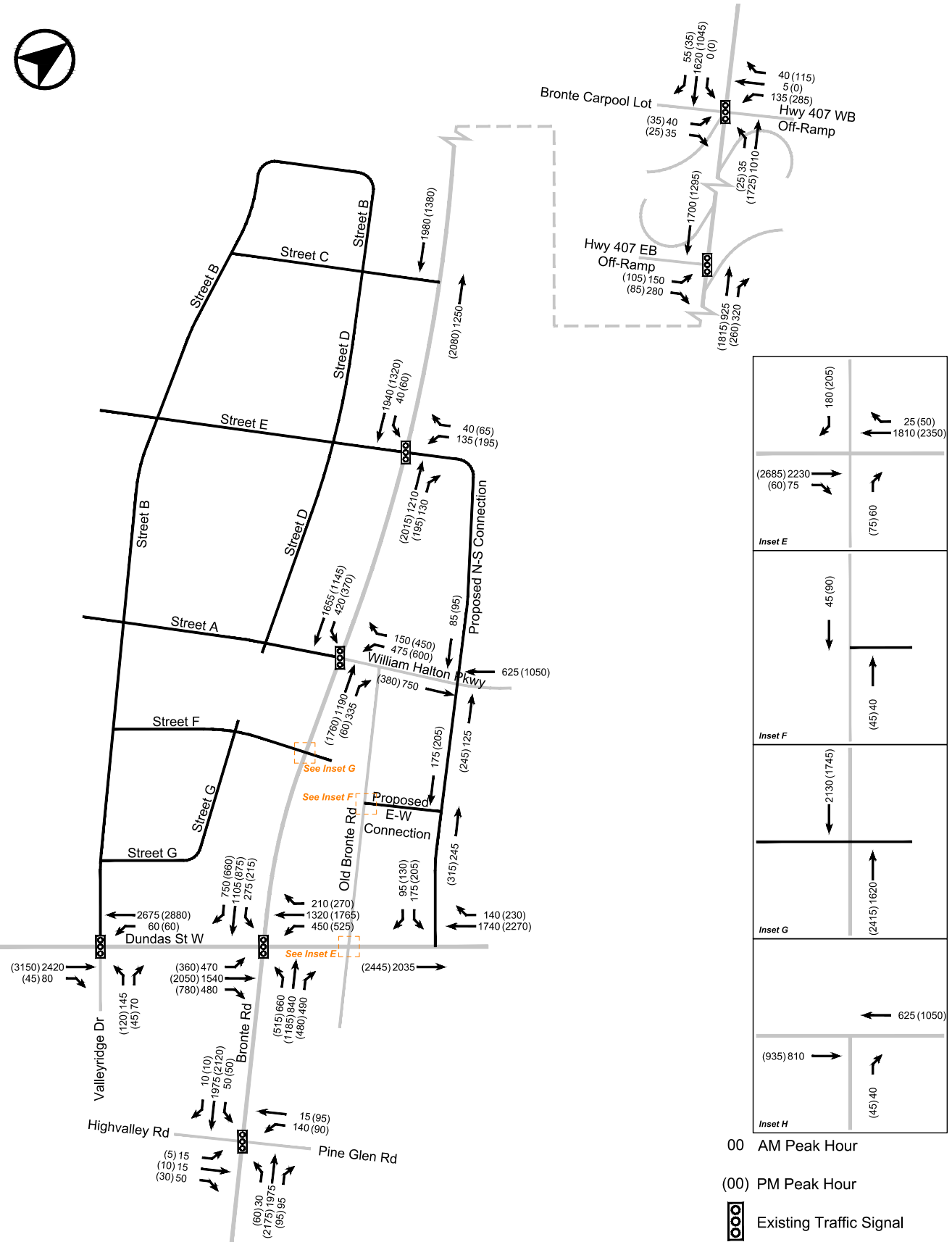
- 00 AM Peak Hour
- ((00)) PM Peak Hour
- Existing Traffic Signal

**FIGURE 18 BACKGROUND DEVELOPMENT TRAFFIC VOLUMES**





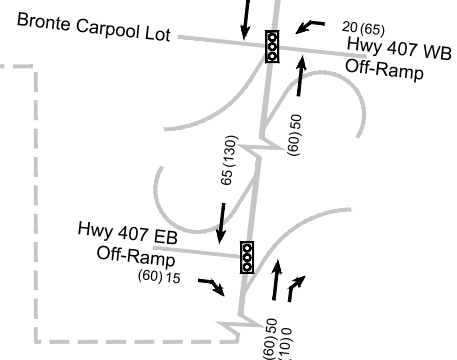
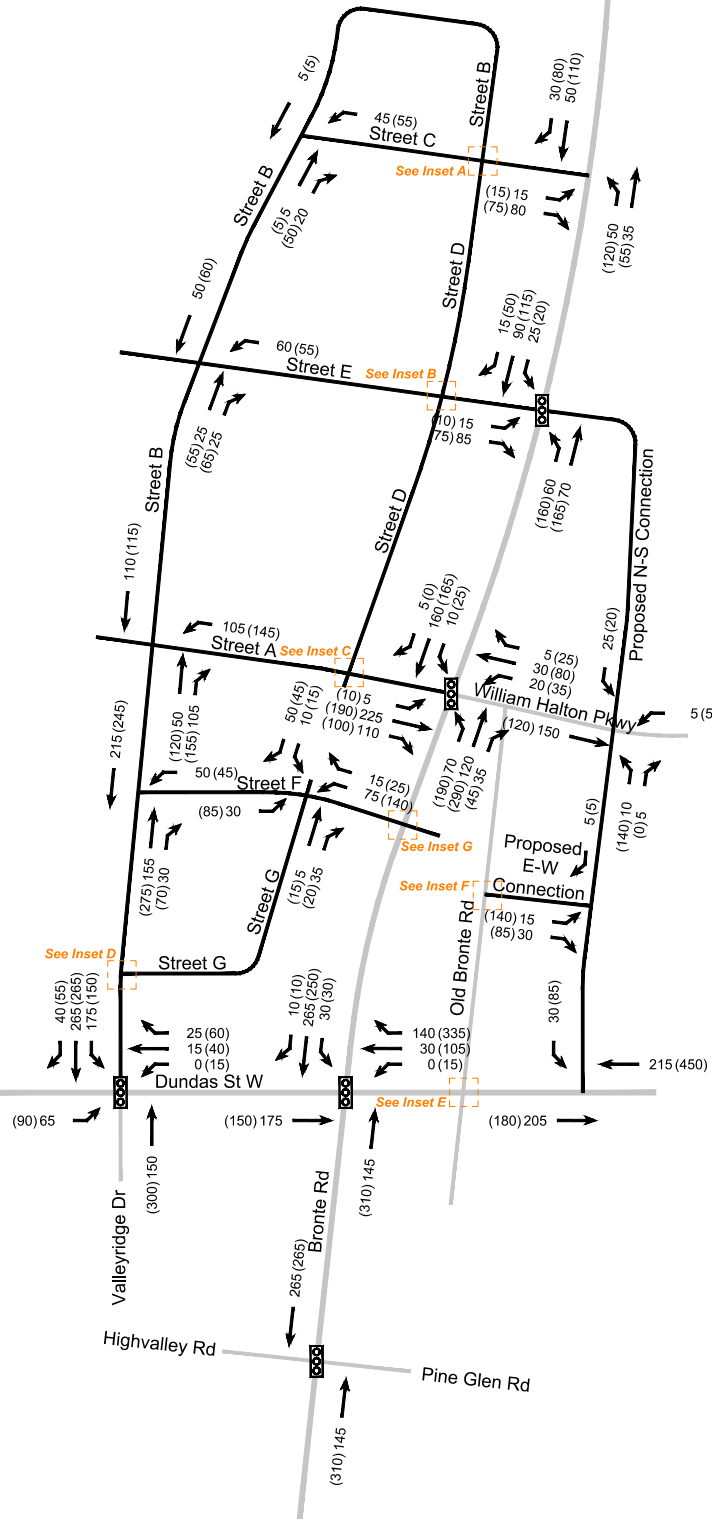
Date Plotted: October 5, 2023 Filename: P:\75\97\07\Graphics\CAD\Fig19-02-FB.dwg



**FIGURE 19 FUTURE BACKGROUND TRAFFIC VOLUMES**



Date Plotted: October 5, 2023 Filename: P:\75\97\07\Graphics\CAD\Fig20-02-ST.dwg



<p><i>Inset A</i></p>	<p><i>Inset B</i></p>	<p><i>Inset C</i></p>
<p><i>Inset D</i></p>	<p><i>Inset E</i></p>	<p><i>Inset F</i></p>
<p><i>Inset G</i></p>	<p><i>Inset H</i></p>	

00 AM Peak Hour

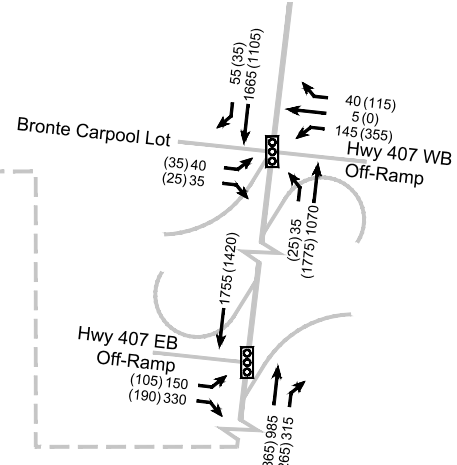
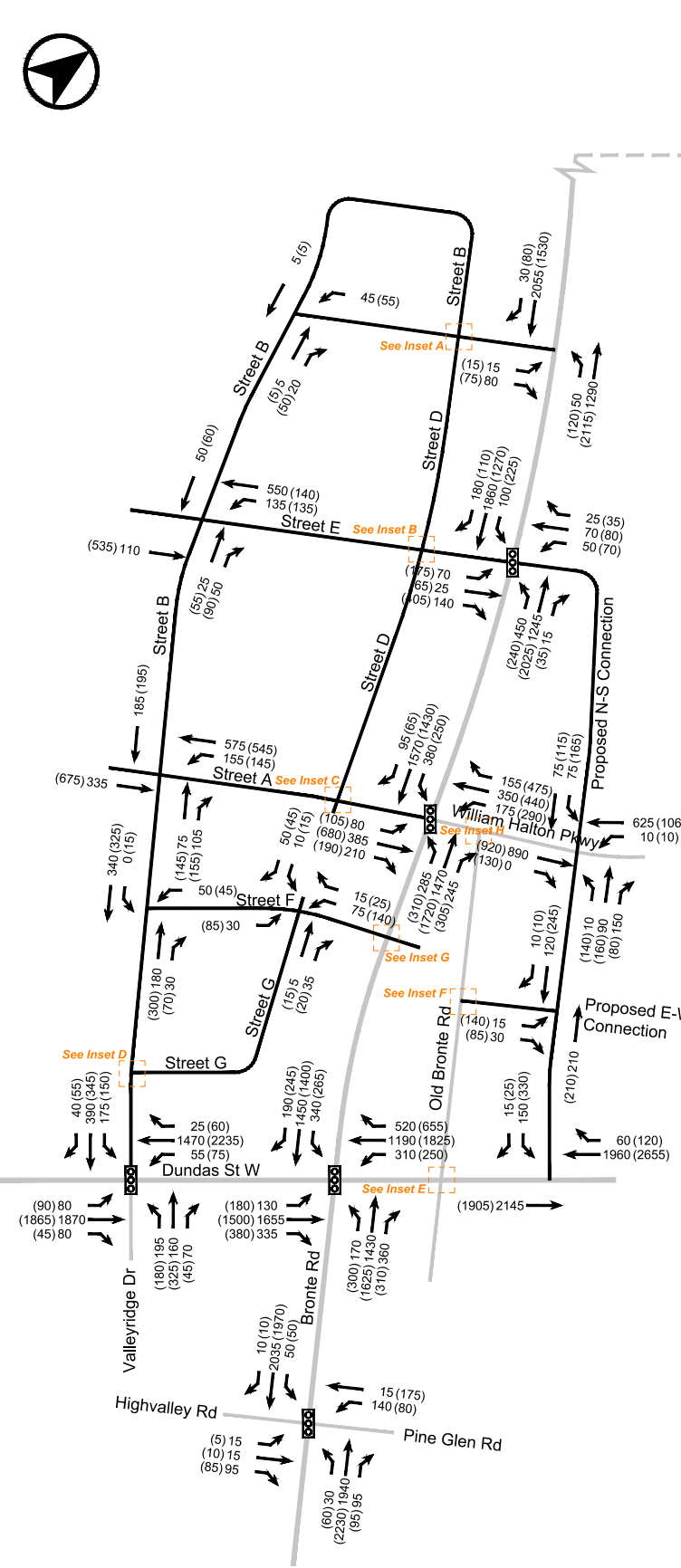
(00) PM Peak Hour

Existing Traffic Signal

**FIGURE 20 SITE TRAFFIC VOLUMES**



Date Plotted: October 5, 2023 Filename: P:\175\97\07\Graphics\CAD\Fig21-102-FT.dwg



<p><i>Inset A</i></p>	<p><i>Inset B</i></p>	<p><i>Inset C</i></p>	<p><i>Inset D</i></p>
<p><i>Inset E</i></p>	<p><i>Inset F</i></p>	<p><i>Inset G</i></p>	<p><i>Inset H</i></p>

00 AM Peak Hour  
 (00) PM Peak Hour  
 Existing Traffic Signal

**FIGURE 21 FUTURE TOTAL TRAFFIC VOLUMES**

## 9.0 TRAFFIC OPERATIONS ANALYSIS

### 9.1 Methodology

Traffic operations analyses within the study area are based upon the methodologies outlined in the Highway Capacity Manual (HCM) methodology and the Synchro 11.0 software package. The key performance indicator utilized for the signalized analysis is the volume to capacity (v/c) ratio where a v/c ratio of 1.0 reflects 'at capacity' conditions. The key performance indicator utilized for the unsignalized analysis is a level of service (LOS) measure ranging from LOS A to LOS F that is based upon average delays. LOS A represents minimal delay while LOS F represents extended delay.

Traffic operations analyses have been undertaken at the area intersections using standard capacity analysis procedures as follows.

Lane configurations and traffic signal control have been updated to reflect the configurations outlined at the time of full site build-out illustrated in **Figure 22**.

#### Signalized Intersection Methodology

Analyses undertaken at intersections operating under traffic signal control have been undertaken using the methodologies and procedures outlined in the Highway Capacity Manual (HCM) 2000 and in accordance with the Region of Halton's Transportation Impact Study Guidelines (January 2015) and Town of Oakville's Transportation Master Plan (TMP, March 2018) for analyses undertaken using Synchro 11.0 software. The product of the signalized intersection evaluation is an intersection performance index (volume to capacity ratio or V/C), where a V/C index of 1.00 indicates 'at or near capacity' conditions.

Signal timing plans for existing intersections are provided within **Appendix D**.

Under future traffic conditions, all signals along Bronte Road and Dundas Street West are proposed to operate under a cycle length of 140 seconds. All remaining newly proposed signals within the Palermo Village Community lands are proposed to operate with a cycle length of 100 seconds.

Another important output parameter of these analyses is a level of service (LOS) designation, ranging from LOS of A to F. HCM level of service (LOS) criteria for signalized intersections are as follows:

- LOS A: Control Delay  $\leq 10s$
- LOS B:  $10s < \text{Control Delay} \leq 20s$
- LOS C:  $20s < \text{Control Delay} \leq 35s$
- LOS D:  $35s < \text{Control Delay} \leq 55s$
- LOS E:  $55s < \text{Control Delay} \leq 80s$
- LOS F: Control Delay  $> 80s$

#### Unsignalized Intersection Methodology

Unsignalized intersection analyses have been carried out using standard capacity procedures for intersections operating under "Two-way" and "All-Way" STOP control and in accordance with the methodologies outlined in the Highway Capacity Manual 2000 (HCM, 2000).

The product of these analyses is a level of service (LOS) designation, ranging from LOS of A to F; which provides a relative indication of the level of delay experienced by motorists completing a turning manoeuvre at an intersection. LOS A represents conditions under which motorists would experience little delay and LOS F reflects conditions where more extended delays can be expected.

HCM level of service (LOS) criteria for unsignalized intersections are as follows:



- LOS A: Control Delay  $\leq$  10s
- LOS B: 10s < Control Delay  $\leq$  15s
- LOS C: 15s < Control Delay  $\leq$  25s
- LOS D: 25s < Control Delay  $\leq$  35s
- LOS E: 35s < Control Delay  $\leq$  50s
- LOS F: Control Delay > 50s

Intersections operations were analyzed under existing, future background, and future total conditions for both the morning and afternoon peak hours. Detailed intersections capacity analysis worksheets are attached in **Appendix E**.

### **Lane Utilization Factor**

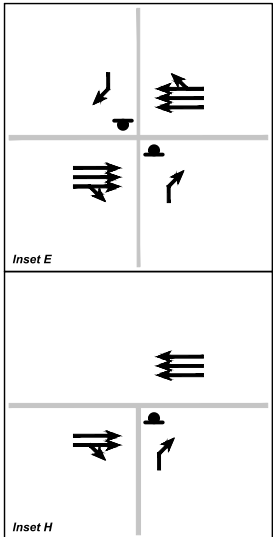
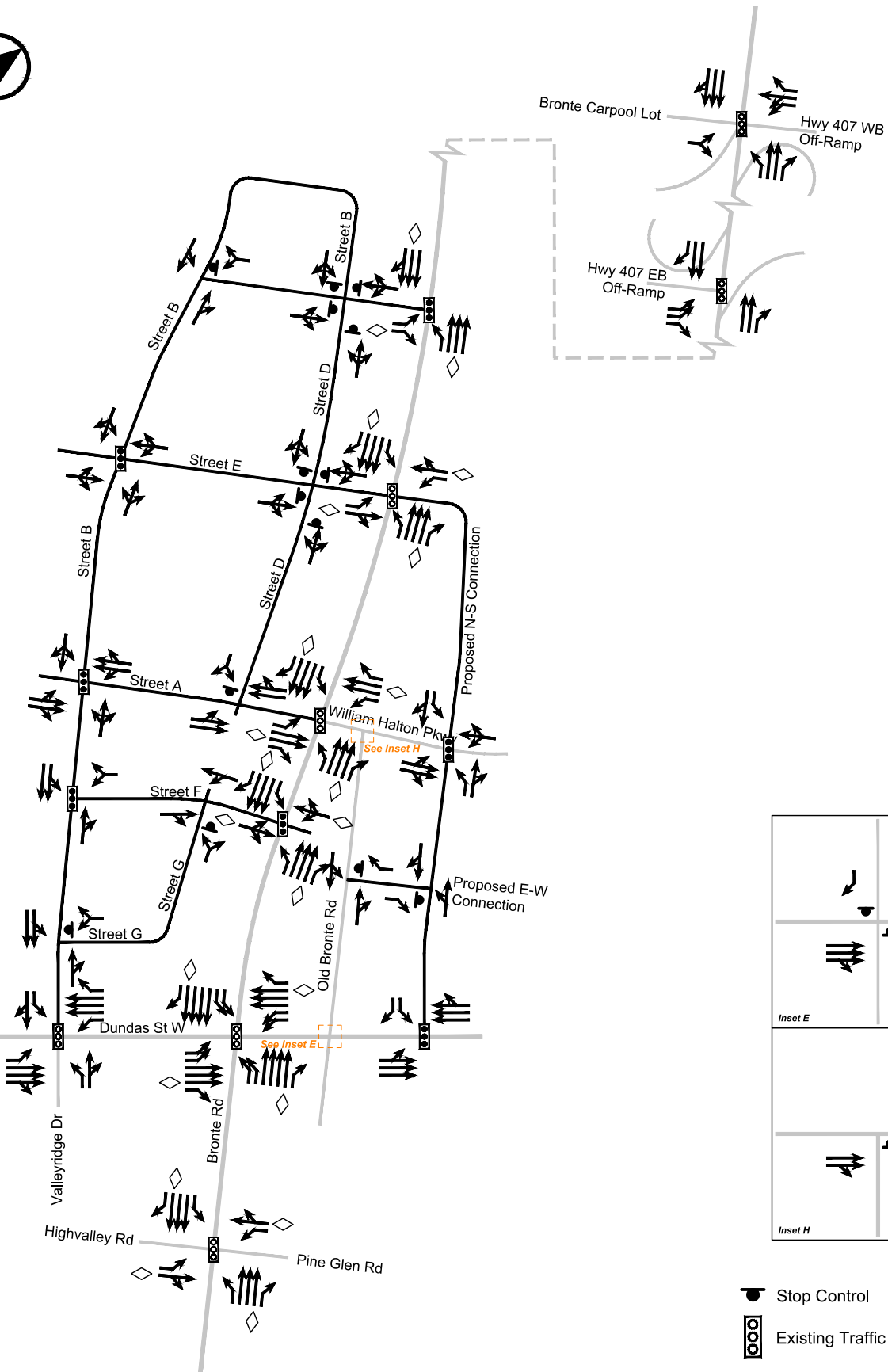
A Lane Utilization Factor (LUF) of less than 1.00 reflects the inefficient use of lanes, where vehicles may favour or avoid one lane over another due to the presence of blockages in one lane (e.g. vehicles making a turn from the through lane). However, as the intersection's movements approach capacity, if no blockages or impedances exist, drivers will distribute themselves evenly across all lanes to increase the likelihood of traversing the intersection on the current or subsequent timing phase.



With regards to HOV lanes proposed along the Bronte Road within the study area, a lane utilization factor of 0.8 was assumed under the future background and future total analysis conditions.





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-  Stop Control
-  Existing Traffic Signal

**FIGURE 22 FUTURE LANE CONFIGURATION AND TRAFFIC SIGNAL CONTROL**

## 9.2 Signalized Intersection Analysis

All signalized intersections within the study area operate within acceptable levels of service, with the exception of the William Halton Parkway / Bronte Road intersection (during the weekday PM peak period), the Bronte Road / Dundas Street West intersection (during both peak hour periods), and the Valleyridge Drive / Street B / Dundas Street West intersection (during the weekday PM peak period).

Overall, traffic impacts at the area signalized intersections along the major arterial roads (i.e. Bronte Road, Dundas Street Corridor) operate at very busy level of service with overall v/c ratios operating above theoretical capacity in the weekday morning and afternoon peak hours under future traffic conditions, with the addition of area background developments and the build-out of the site. The potential congestion in the future indicated, by conventional analysis, has been recognized by the City and Region for an extended period, with a shared understanding that future improvements to multimodal infrastructure coupled with improvements to vehicular infrastructure (widening of Bronte Road and Dundas Street West) will help to alleviate some of the pressure, but will result in an overall improvement to the movement of people, not just the movement of cars.

If allowances are made for background traffic growth associated with the local land developments that are currently in the planning and construction stages, the area signalized intersections along Bronte Road and Dundas Street West will begin to operate above theoretical capacity.

The theoretical, over capacity condition noted above is not improved by the addition of traffic anticipated by the proposed redevelopment. It is noted however, a characteristic of HCM methodology (utilized in this analysis) is an exaggeration of incremental capacity impacts associated with traffic volumes increases in above capacity conditions. Essentially, with a linear increase in traffic volume, the resulting v/c ratio increases exponentially once it surpasses a v/c ratio of 1.0.

Notwithstanding the above, traffic growth along the arterial road corridors and the changing area travel characteristics in the area over the last several years, it is fully anticipated that the traffic volumes analyzed under future background traffic scenario will never actually be realized.

Over time, as the road network is built-out within the Palermo Village Community, area traffic will begin to recognize the William Halton Parkway and Street Extensions to the west, the distribution of area traffic volumes will change and the amount of traffic utilizing Dundas Street West will begin to reduce during the peak hours.

It should be noted that vehicles will experience extended delays and congestion along the arterial road corridors, but local traffic can benefit from the newly constructed Dundas BRT and the Palermo Bus Transit Terminal which will provide connections throughout Oakville which facilitates further non-auto mobility opportunities for residents and visitors of the area. In addition, the proposed additions to cycling and pedestrian infrastructure outlined within **Sections 3.3 and 3.4** along Bronte Road, William Halton Parkway, and other local roads within the area network provide excellent opportunities for further benefits to help reduce local traffic.

Understanding that it is not realistic for intersections to operate over capacity, it is reasonable to assume that the trend of decreasing personal automobile use during the peak travel periods in favour of transit use will continue into the future and the anticipated ultimate road network will further contribute to alleviating traffic impacts along major corridors.



### 9.2.1 Bronte Road / Highway 407 WB Off-Ramp Operations Analysis Results

Table 17 Bronte Road / Highway 407 WB Off-Ramp Operations Analysis Results

Key Movements	Existing		Future Background		Future Total	
	v/c	LOS	v/c	LOS	v/c	LOS
EBTLR	0.17 (0.06)	D (D)	0.15 (0.07)	D (D)	0.14 (0.07)	D (D)
WBL	0.40 (0.51)	D (D)	0.51 (0.71)	D (E)	0.46 (0.82)	D (E)
WBTL	0.46 (0.51)	D (D)	0.55 (0.71)	D (E)	0.49 (0.82)	D (E)
WBR	0.03 (0.31)	D (D)	0.03 (0.27)	D (D)	0.03 (0.25)	D (D)
NBL	0.18 (0.07)	A (A)	0.23 (0.10)	A (A)	0.25 (0.11)	A (A)
NBT	0.40 (0.63)	A (A)	0.48 (0.84)	A (B)	0.53 (0.88)	A (B)
SBTR	0.51 (0.29)	A (A)	0.60 (0.38)	A (A)	0.63 (0.41)	B (A)
<b>Overall</b>	<b>0.51 (0.64)</b>	<b>A (B)</b>	<b>0.59 (0.85)</b>	<b>B (B)</b>	<b>0.61 (0.90)</b>	<b>B (C)</b>

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour)

Under existing traffic conditions, the intersection operates at an acceptable level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.51 and 0.64, respectively.

Under future background traffic conditions with allowances of specific area developments and corridor growth, the intersection operates at an acceptable level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.59 and 0.85, respectively.

With the addition of site-related traffic under future total conditions, as the proposed development is fully developed, the intersection continues to operate at an acceptable level of service during weekday morning and afternoon peak hours with overall v/c ratios of 0.61 and 0.90, respectively.





### 9.2.2 Bronte Road / Highway 407 EB Off-Ramp Operations Analysis Results

Table 18 Bronte Road / Highway 407 EB Off-Ramp Operations Analysis Results

Key Movements	Existing		Future Background		Future Total	
	v/c	LOS	v/c	LOS	v/c	LOS
EBL	0.28 (0.32)	C (C)	0.19 (0.26)	C (C)	0.17 (0.17)	C (C)
EBR	0.48 (0.03)	C (C)	0.68 (0.28)	D (C)	0.74 (0.59)	D (C)
NBT	0.28 (0.45)	A (A)	0.35 (0.58)	A (A)	0.38 (0.66)	A (A)
SBT	0.71 (0.41)	A (A)	0.64 (0.42)	B (A)	0.69 (0.51)	B (A)
<b>Overall</b>	<b>0.67 (0.43)</b>	<b>A (A)</b>	<b>0.66 (0.54)</b>	<b>B (A)</b>	<b>0.70 (0.64)</b>	<b>B (A)</b>

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour)

Under existing traffic conditions, the intersection operates at an acceptable level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.67 and 0.43, respectively.

Under future background traffic conditions with allowances of specific area developments and corridor growth, the intersection operates at an acceptable level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.66 and 0.54, respectively.

With the addition of site-related traffic under future total conditions, as the proposed development is fully developed, the intersection continues to operate at an acceptable level of service during weekday morning and afternoon peak hours with overall v/c ratios of 0.70 and 0.64, respectively.

### 9.2.3 Bronte Road / Street C Operations Analysis Results

Table 19 Bronte Road / Street C Operations Analysis Results

Key Movements	Existing		Future Background		Future Total	
	v/c	LOS	v/c	LOS	v/c	LOS
EBL	-- (--)	-- (--)	-- (--)	-- (--)	0.13 (0.13)	E (E)
EBR	-- (--)	-- (--)	-- (--)	-- (--)	0.05 (0.05)	E (E)
NBL	-- (--)	-- (--)	-- (--)	-- (--)	0.40 (0.58)	E (D)
NBT	-- (--)	-- (--)	-- (--)	-- (--)	0.35 (0.59)	A (A)
SBTR	-- (--)	-- (--)	-- (--)	-- (--)	0.64 (0.55)	A (A)
<b>Overall</b>	<b>-- (--)</b>	<b>-- (--)</b>	<b>-- (--)</b>	<b>-- (--)</b>	<b>0.58 (0.59)</b>	<b>A (A)</b>

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour)

With the addition of site-related traffic under future total conditions, as the proposed development is fully developed, the intersection continues to operate at an acceptable level of service during weekday morning and afternoon peak hours with overall v/c ratios of 0.58 and 0.59, respectively.



## 9.2.4 Bronte Road / Street E / Proposed N-S Link Operations Analysis Results

Table 20 Bronte Road / Street E / Proposed N-S Link Operations Analysis Results

Key Movements	Existing		Future Background		Future Total	
	v/c	LOS	v/c	LOS	v/c	LOS
EBL	-- (--)	-- (--)	-- (--)	-- (--)	0.35 (0.57)	D (D)
EBTR	-- (--)	-- (--)	-- (--)	-- (--)	0.23 (0.99)	E (F)
WBLR	-- (--)	-- (--)	0.72 (0.75)	F (C)	-- (--)	-- (--)
WBL	-- (--)	-- (--)	-- (--)	-- (--)	0.59 (0.51)	E (E)
WBTR	-- (--)	-- (--)	-- (--)	-- (--)	0.44 (0.29)	D (E)
NBT	-- (--)	-- (--)	0.43 (0.77)	B (B)	0.44 (0.96)	A (B)
NBR	-- (--)	-- (--)	0.08 (0.18)	A (A)	0.01 (0.02)	A (A)
NBL	-- (--)	-- (--)	-- (--)	-- (--)	0.82 (0.75)	E (E)
SBL	-- (--)	-- (--)	0.15 (0.51)	A (E)	0.38 (0.99)	C (F)
SBT	-- (--)	-- (--)	0.62 (0.44)	A (A)	0.98 (0.66)	D (C)
SBR	-- (--)	-- (--)	-- (--)	-- (--)	0.15 (0.07)	C (F)
<b>Overall</b>	<b>-- (--)</b>	<b>-- (--)</b>	<b>0.67 (0.76)</b>	<b>B (B)</b>	<b>0.86 (0.95)</b>	<b>D (D)</b>

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour)

Under future background traffic conditions with allowances of specific area developments and corridor growth, the intersection operates at an acceptable level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.67 and 0.76, respectively.

With the addition of site-related traffic under future total conditions, as the proposed development is fully developed, the intersection continues to operate at an acceptable level of service during weekday morning and afternoon peak hours with overall v/c ratios of 0.86 and 0.95, respectively.



9.2.5 Bronte Road / William Halton Parkway Operations Analysis Results

Table 21 Bronte Road / William Halton Parkway Operations Analysis Results

Key Movements	Existing		Future Background		Future Total	
	v/c	LOS	v/c	LOS	v/c	LOS
EBL	-- (--)	-- (--)	-- (--)	-- (--)	0.39 (0.39)	D (D)
EBT	-- (--)	-- (--)	-- (--)	-- (--)	0.41 (0.96)	D (E)
EBR	-- (--)	-- (--)	-- (--)	-- (--)	0.14 (0.20)	E (D)
WBL	0.02 (0.08)	E (D)	0.77 (0.94)	D (F)	0.94 (1.07)	F (F)
WBR	0.09 (0.72)	E (E)	0.10 (0.66)	F (C)	0.10 (0.70)	F (D)
WBT	-- (--)	-- (--)	-- (--)	-- (--)	0.38 (0.46)	D (C)
NBTR	0.50 (0.77)	C (C)	-- (--)	-- (--)	-- (--)	-- (--)
NBT	-- (--)	-- (--)	0.60 (0.92)	C (D)	0.84 (1.03)	C (E)
NBR	-- (--)	-- (--)	0.29 (0.04)	C (C)	0.26 (0.32)	B (C)
NBL	-- (--)	-- (--)	-- (--)	-- (--)	0.82 (1.04)	E (F)
SBL	0.58 (0.66)	A (C)	0.80 (0.95)	C (E)	0.86 (1.03)	E (F)
SBT	0.55 (0.44)	A (B)	0.53 (0.39)	B (A)	0.81 (0.93)	C (C)
SBR	-- (--)	-- (--)	-- (--)	-- (--)	0.08 (0.04)	B (A)
<b>Overall</b>	<b>0.55 (0.75)</b>	<b>B (C)</b>	<b>0.82 (0.95)</b>	<b>C (D)</b>	<b>0.90 (1.09)</b>	<b>D (E)</b>

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour)

Under existing traffic conditions, the intersection operates at an acceptable level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.55 and 0.75, respectively.

Under future background traffic conditions with allowances of specific area developments and corridor growth, the intersection beings to approach busy conditions during the weekday morning and afternoon peak hours with overall v/c ratios of 0.82 and 0.95, respectively.

With the addition of site-related traffic under future total conditions, as the proposed development is fully developed, the intersection will operate at an acceptable level of service during the weekday morning AM peak hour and a busy level of service during the weekday PM peak hour, with overall v/c ratios of 0.90 and 1.09, respectively.



## 9.2.6 Bronte Road / Dundas Street West Operations Analysis Results

Table 22 Bronte Road / Dundas Street West Road Traffic Analysis Summary

Key Movements	Existing		Future Background		Future Total	
	v/c	LOS	v/c	LOS	v/c	LOS
EBL	0.90 (1.00)	E (F)	1.87 (1.84)	F (F)	0.77 (1.15)	F (F)
EBT	0.76 (0.55)	D (C)	1.14 (1.25)	F (F)	1.06 (0.93)	E (D)
EBR	0.24 (0.17)	F (F)	0.73 (1.22)	C (F)	0.46 (0.54)	B (B)
WBL	0.85 (0.63)	E (C)	1.06 (1.73)	F (F)	1.09 (1.01)	F (F)
WBTR	0.53 (0.94)	D (E)	-- (--)	-- (--)	-- (--)	-- (--)
WBT	-- (--)	-- (--)	1.05 (1.14)	E (F)	0.81 (1.09)	C (F)
WBR	-- (--)	-- (--)	0.28 (0.39)	B (D)	0.71 (0.94)	B (E)
NBL	0.55 (0.92)	E (E)	1.93 (1.33)	F (F)	0.83 (0.99)	E (F)
NBT	0.59 (0.97)	C (F)	0.64 (0.84)	D (D)	1.06 (1.11)	F (F)
NBR	0.15 (0.12)	D (F)	0.73 (0.76)	E (E)	0.54 (0.48)	E (D)
SBL	0.80 (0.87)	D (E)	0.80 (0.70)	E (D)	1.05 (1.04)	F (F)
SBT	0.92 (0.58)	E (D)	0.85 (0.63)	D (D)	0.98 (1.00)	E (E)
SBR	0.17 (0.17)	E (F)	1.11 (1.00)	F (E)	0.25 (0.37)	C (C)
<b>Overall</b>	<b>0.92 (0.97)</b>	<b>D (E)</b>	<b>1.35 (1.40)</b>	<b>F (F)</b>	<b>1.07 (1.12)</b>	<b>E (E)</b>

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour)

Under existing traffic conditions, the intersection begins to approach busy levels of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.92 and 0.97, respectively.

Under future background traffic conditions with allowances of specific area developments and corridor growth, the intersection operates at a busy level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 1.35 and 1.40, respectively.

With the addition of site-related traffic under future total conditions, as the proposed development is fully developed, the intersection will operate at busy level of service during both weekday AM and PM peak hour, with overall v/c ratios of 1.07 and 1.12, respectively. The improvements in level of service are due to the new William Halton Parkway and Street E extensions to the west, offering alternative routes of travels for vehicles without the need to traverse through the Bronte Road / Dundas Street West intersection.



9.2.7 Bronte Road / Highvalley Road / Pine Glen Road Operations Analysis Results

Table 23 Bronte Road / Highvalley Road / Pine Glen Road Operations Analysis Results

Key Movements	Existing		Future Background		Future Total	
	v/c	LOS	v/c	LOS	v/c	LOS
EBL	0.07 (0.03)	D (D)	0.15 (0.05)	E (E)	0.12 (0.04)	E (E)
EBTR	0.09 (0.07)	D (D)	0.16 (0.11)	E (E)	0.16 (0.12)	E (E)
WBL	0.69 (0.62)	E (E)	0.72 (0.47)	E (D)	0.78 (0.42)	E (D)
WBTR	0.05 (0.07)	D (D)	0.06 (0.36)	D (D)	0.05 (0.58)	D (E)
NBL	0.16 (0.17)	A (A)	0.25 (0.43)	A (B)	0.26 (0.43)	B (B)
NBT	0.45 (0.67)	B (B)	0.68 (0.75)	B (B)	0.68 (0.80)	B (B)
NBR	0.06 (0.07)	A (A)	0.06 (0.07)	A (A)	0.06 (0.07)	A (A)
SBL	0.20 (0.27)	B (B)	0.46 (0.38)	B (B)	0.46 (0.38)	B (C)
SBT	0.65 (0.42)	C (A)	0.67 (0.74)	B (B)	0.70 (0.71)	C (C)
SBR	0.01 (0.01)	A (A)	0.01 (0.01)	A (A)	0.01 (0.01)	A (A)
<b>Overall</b>	<b>0.65 (0.64)</b>	<b>C (B)</b>	<b>0.69 (0.70)</b>	<b>B (B)</b>	<b>0.73 (0.75)</b>	<b>C (C)</b>

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour)

Under existing traffic conditions, the intersection operates at an acceptable level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.65 and 0.64, respectively.

Under future background traffic conditions with allowances of specific area developments and corridor growth, the intersection operates at an acceptable level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.69 and 0.70, respectively.

With the addition of site-related traffic under future total conditions, as the proposed development is fully developed, the intersection continues to operate at an acceptable level of service during weekday morning and afternoon peak hours with overall v/c ratios of 0.73 and 0.75, respectively.



9.2.8 Proposed N-S Link / William Halton Parkway Operations Analysis Results

Table 24 Proposed N-S Link / William Halton Parkway Operations Analysis Results

Key Movements	Existing		Future Background		Future Total	
	v/c	LOS	v/c	LOS	v/c	LOS
EBTLR	-- (--)	-- (--)	0.74 (0.18)	D (A)	0.72 (0.60)	D (C)
WBTLR	-- (--)	-- (--)	0.62 (0.48)	D (A)	0.56 (0.64)	D (C)
NBL	-- (--)	-- (--)	-- (--)	-- (--)	0.01 (0.37)	C (D)
NBTR	-- (--)	-- (--)	0.19 (0.77)	C (D)	0.26 (0.74)	D (E)
SBL	-- (--)	-- (--)	-- (--)	-- (--)	0.15 (0.58)	B (D)
SBTR	-- (--)	-- (--)	0.08 (0.25)	B (D)	0.08 (0.31)	B (C)
<b>Overall</b>	<b>-- (--)</b>	<b>-- (--)</b>	<b>0.37 (0.57)</b>	<b>D (B)</b>	<b>0.44 (0.66)</b>	<b>D (C)</b>

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour)

Under future background traffic conditions with allowances of specific area developments and corridor growth, the intersection operates at an acceptable level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.37 and 0.57, respectively.

With the addition of site-related traffic under future total conditions, as the proposed development is fully developed, the intersection continues to operate at an acceptable level of service during weekday morning and afternoon peak hours with overall v/c ratios of 0.44 and 0.66, respectively.



### 9.2.9 Proposed N-S Link / Dundas Street West Operations Analysis Results

Table 25 Proposed N-S Link / Dundas Street West Operations Analysis Results

Key Movements	Existing		Future Background		Future Total	
	v/c	LOS	v/c	LOS	v/c	LOS
EBL	-- (--)	-- (--)	0.75 (0.91)	E (D)	0.72 (0.84)	E (D)
EBT	-- (--)	-- (--)	0.87 (0.90)	B (C)	0.81 (0.76)	B (C)
WBTR	-- (--)	-- (--)	0.78 (0.88)	C (C)	0.66 (0.94)	B (C)
SBL	-- (--)	-- (--)	0.42 (0.76)	D (E)	0.56 (0.88)	D (E)
SBR	-- (--)	-- (--)	0.06 (0.08)	B (F)	0.01 (0.02)	C (D)
<b>Overall</b>	<b>-- (--)</b>	<b>-- (--)</b>	<b>0.77 (0.92)</b>	<b>C (C)</b>	<b>0.79 (0.91)</b>	<b>B (C)</b>

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour)

Under future background traffic conditions with allowances of specific area developments and corridor growth, the intersection operates at an acceptable level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.77 and 0.92, respectively.

With the addition of site-related traffic under future total conditions, as the proposed development is fully developed, the intersection continues to operate at an acceptable level of service during weekday morning and afternoon peak hours with overall v/c ratios of 0.79 and 0.91, respectively.



9.2.10 Valleyridge Drive / Street B / Dundas Street West Operations Analysis Results

Table 26 Valleyridge Drive / Street B / Dundas Street West Operations Analysis Results

Key Movements	Existing		Future Background		Future Total	
	v/c	LOS	v/c	LOS	v/c	LOS
EBTR	0.72 (0.49)	B (A)	-- (--)	-- (--)	-- (--)	-- (--)
EBT	-- (--)	-- (--)	0.85 (1.00)	B (C)	0.96 (0.87)	D (C)
EBR	-- (--)	-- (--)	0.06 (0.03)	A (A)	0.06 (0.03)	C (B)
EBL	-- (--)	-- (--)	-- (--)	-- (--)	0.70 (0.69)	E (D)
WBL	0.22 (0.18)	A (A)	0.69 (0.69)	E (E)	0.67 (0.49)	F (E)
WBT	0.32 (0.53)	A (A)	0.89 (0.82)	A (A)	0.83 (1.00)	B (C)
WBR	-- (--)	-- (--)	-- (--)	-- (--)	0.02 (0.04)	C (B)
NBL	0.39 (0.22)	C (C)	-- (--)	-- (--)	0.96 (1.03)	F (F)
NBR	0.05 (0.03)	C (C)	-- (--)	-- (--)	-- (--)	-- (--)
NBLR	-- (--)	-- (--)	0.85 (1.06)	E (F)	-- (--)	-- (--)
NBTR	-- (--)	-- (--)	-- (--)	-- (--)	0.36 (0.92)	C (E)
SBL	-- (--)	-- (--)	-- (--)	-- (--)	0.66 (0.97)	D (F)
SBTR	-- (--)	-- (--)	-- (--)	-- (--)	0.99 (1.06)	F (F)
<b>Overall</b>	<b>0.64 (0.52)</b>	<b>B (A)</b>	<b>0.92 (1.02)</b>	<b>B (C)</b>	<b>0.97 (1.01)</b>	<b>D (D)</b>

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour)

Under existing traffic conditions, the intersection begins to approach busy levels of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.64 and 0.52, respectively.

Under future background traffic conditions with allowances of specific area developments and corridor growth, the intersection approaches a busy level of service during the weekday morning period and operates under busy conditions in the afternoon peak hours with overall v/c ratios of 0.92 and 1.02, respectively.

With the addition of site-related traffic under future total conditions, as the proposed development is fully developed, approaches a busy level of service during the weekday morning period and operates under busy conditions in the afternoon peak hours with overall v/c ratios of 0.97 and 1.01, respectively.





9.2.11 Street B / William Halton Parkway Operations Analysis Results

Table 27 Street B / William Halton Parkway Operations Analysis Results

Key Movements	Existing		Future Background		Future Total	
	v/c	LOS	v/c	LOS	v/c	LOS
EBTLR	-- (--)	-- (--)	-- (--)	-- (--)	0.25 (0.27)	C (A)
WBTLR	-- (--)	-- (--)	-- (--)	-- (--)	0.77 (0.43)	E (B)
NBTLR	-- (--)	-- (--)	-- (--)	-- (--)	0.19 (0.73)	B (E)
SBTLR	-- (--)	-- (--)	-- (--)	-- (--)	0.20 (0.51)	B (D)
<b>Overall</b>	<b>-- (--)</b>	<b>-- (--)</b>	<b>-- (--)</b>	<b>-- (--)</b>	<b>0.45 (0.50)</b>	<b>D (C)</b>

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour)

With the addition of site-related traffic under future total conditions, as the proposed development is fully developed, the intersection continues to operate at an acceptable level of service during weekday morning and afternoon peak hours with overall v/c ratios of 0.45 and 0.50, respectively.

9.2.12 Bronte Road / Street F / Transit Terminal Access Operations Analysis Results

Table 28 Bronte Road / Street F / Transit Terminal Access Operations Analysis Results

Key Movements	Existing		Future Background		Future Total	
	v/c	LOS	v/c	LOS	v/c	LOS
EBTLR	-- (--)	-- (--)	-- (--)	-- (--)	0.28 (0.03)	E (E)
WBTLR	-- (--)	-- (--)	-- (--)	-- (--)	0.14 (0.03)	E (E)
NBL	-- (--)	-- (--)	-- (--)	-- (--)	0.92 (0.51)	E (D)
NBTR	-- (--)	-- (--)	-- (--)	-- (--)	0.56 (0.60)	A (A)
SBL	-- (--)	-- (--)	-- (--)	-- (--)	0.14 (0.20)	A (A)
SBT	-- (--)	-- (--)	-- (--)	-- (--)	0.54 (0.58)	A (A)
<b>Overall</b>	<b>-- (--)</b>	<b>-- (--)</b>	<b>-- (--)</b>	<b>-- (--)</b>	<b>0.87 (0.59)</b>	<b>A (A)</b>

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour)

With the addition of site-related traffic under future total conditions, as the proposed development is fully developed, the intersection continues to operate at an acceptable level of service during weekday morning and afternoon peak hours with overall v/c ratios of 0.87 and 0.59, respectively.



9.2.13 Street B / Street E Operations Analysis Results

Table 29 Street B / Street E Operations Analysis Results

Key Movements	Existing		Future Background		Future Total	
	v/c	LOS	v/c	LOS	v/c	LOS
EBTLR	-- (--)	-- (--)	-- (--)	-- (--)	0.10 (0.64)	A (C)
WBTLR	-- (--)	-- (--)	-- (--)	-- (--)	0.72 (0.89)	B (D)
NBTLR	-- (--)	-- (--)	-- (--)	-- (--)	0.09 (0.14)	C (B)
SBTLR	-- (--)	-- (--)	-- (--)	-- (--)	0.10 (0.07)	C (B)
<b>Overall</b>	<b>-- (--)</b>	<b>-- (--)</b>	<b>-- (--)</b>	<b>-- (--)</b>	<b>0.52 (0.55)</b>	<b>B (C)</b>

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour)

With the addition of site-related traffic under future total conditions, as the proposed development is fully developed, the intersection continues to operate at an acceptable level of service during weekday morning and afternoon peak hours with overall v/c ratios of 0.52 and 0.55, respectively.

9.2.14 Street B / Street F Operations Analysis Results

Table 30 Street B / Street F Operations Analysis Results

Key Movements	Existing		Future Background		Future Total	
	v/c	LOS	v/c	LOS	v/c	LOS
WBLR	-- (--)	-- (--)	-- (--)	-- (--)	0.33 (0.34)	D (D)
NBTR	-- (--)	-- (--)	-- (--)	-- (--)	0.15 (0.25)	A (A)
SBTL	-- (--)	-- (--)	-- (--)	-- (--)	0.13 (0.13)	A (A)
<b>Overall</b>	<b>-- (--)</b>	<b>-- (--)</b>	<b>-- (--)</b>	<b>-- (--)</b>	<b>0.17 (0.25)</b>	<b>A (A)</b>

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour)

With the addition of site-related traffic under future total conditions, as the proposed development is fully developed, the intersection continues to operate at an acceptable level of service during weekday morning and afternoon peak hours with overall v/c ratios of 0.17 and 0.25, respectively.



### 9.3 Unsignalized Intersections Analysis

Traffic operations at all unsignalized intersections within the study area are analyzed under all scenarios. All movements will function at LOS A to LOS E in the future total scenario. The results of the capacity analysis undertaken at the unsignalized intersections within the study area are summarized in **Table 31**.

**Table 31 Unsignalized Intersection Analysis Summary**

Key Movements	Existing		Future Background		Future Total	
	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)
<b>Old Bronte Road / Proposed E-W Link</b>						
WBR	-- (--)	-- (--)	-- (--)	-- (--)	A (A)	8.6 (11.4)
SBTL	-- (--)	-- (--)	-- (--)	-- (--)	A (A)	1.4 (4.0)
<b>Old Bronte Road / William Halton Parkway</b>						
NBLR	A (A)	9.4 (8.8)	B (B)	11.7 (10.2)	B (B)	13.0 (10.6)
<b>Old Bronte Road / Dundas Street West</b>						
NBR	A (A)	9.6 (9.2)	B (B)	10.3 (11.2)	B (B)	10.7 (10.6)
SBR	B (B)	10.4 (12.6)	B (B)	11.5 (14.1)	B (C)	10.4 (15.4)
<b>Proposed N-S Link / Proposed E-W Link</b>						
EBLR	-- (--)	-- (--)	-- (--)	-- (--)	A (B)	9.8 (14.2)
<b>Street D / Street B / Street C</b>						
EBTLR	-- (--)	-- (--)	-- (--)	-- (--)	A (A)	7.4 (8.1)
WBTLR	-- (--)	-- (--)	-- (--)	-- (--)	A (A)	1.4 (8.2)
NBTLR	-- (--)	-- (--)	-- (--)	-- (--)	A (A)	8.4 (7.2)
SBTLR	-- (--)	-- (--)	-- (--)	-- (--)	B (A)	10.4 (8.4)
<b>Street D / Street E</b>						
EBTLR	-- (--)	-- (--)	-- (--)	-- (--)	A (A)	1.2 (0.7)
WBTLR	-- (--)	-- (--)	-- (--)	-- (--)	A (A)	0.3 (1.7)
NBTLR	-- (--)	-- (--)	-- (--)	-- (--)	A (B)	9.4 (12.3)
SBTLR	-- (--)	-- (--)	-- (--)	-- (--)	E (D)	42.7 (26.3)
<b>William Halton Parkway / Street D</b>						
EBTL	-- (--)	-- (--)	-- (--)	-- (--)	A (A)	1.2 (1.2)
WBTL	-- (--)	-- (--)	-- (--)	-- (--)	A (A)	0.2 (0.0)
NBTLR	-- (--)	-- (--)	-- (--)	-- (--)	A (B)	9.1 (10.4)
SBTLR	-- (--)	-- (--)	-- (--)	-- (--)	E (E)	45.1 (49.6)
<b>Continued on Next Page</b>						



Key Movements	Existing		Future Background		Future Total	
	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)
<b>Street G / Street F</b>						
EBTLR	-- (--)	-- (--)	-- (--)	-- (--)	A (A)	7.3 (7.4)
WBTLR	-- (--)	-- (--)	-- (--)	-- (--)	A (A)	6.2 (6.4)
NBTLR	-- (--)	-- (--)	-- (--)	-- (--)	A (B)	8.8 (11.1)
SBTLR	-- (--)	-- (--)	-- (--)	-- (--)	A (B)	9.1 (10.2)
<b>Street B / Street C</b>						
WBLR	-- (--)	-- (--)	-- (--)	-- (--)	A (A)	8.8 (8.9)
<b>Valleyridge Drive / Street B</b>						
WBLR	-- (--)	-- (--)	-- (--)	-- (--)	C (C)	16.8 (18.4)

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour)

## 9.4 Sensitivity Analysis

In light of the current overcapacity issues at the Bronte Road / William Halton Parkway Road intersection, a comprehensive sensitivity analysis has been initiated to identify effective mitigation strategies. The primary objective is to reduce the volume-to-capacity ratio to 1.0 or below, ensuring optimal traffic flow in future total conditions.

One of the key proposals under consideration involves the implementation of dual left-turn movements at both the northbound and southbound approaches. This strategic adjustment is anticipated to enhance intersection efficiency during peak traffic periods, effectively alleviating congestion.



9.4.1 Bronte Road / William Halton Parkway Operations Sensitivity Analysis Results

Table 32 Bronte Road / William Halton Parkway Operations Sensitivity Analysis Results

Key Movements	Future Total		Future Total - Sensitivity	
	v/c	LOS	v/c	LOS
EBL	0.38 (0.39)	D (D)	0.39 (0.38)	D (D)
EBT	0.42 (0.96)	D (E)	0.41 (0.96)	D (E)
EBR	0.14 (0.21)	E (D)	0.14 (0.21)	E (D)
WBL	0.94 (1.07)	F (F)	0.94 (0.98)	F (E)
WBR	0.10 (0.69)	F (D)	0.10 (0.72)	F (D)
WBT	0.37 (0.46)	D (C)	0.38 (0.43)	C (C)
NBTR	-- (--)	-- (--)	-- (--)	-- (--)
NBT	0.85 (1.03)	D (E)	0.69 (0.98)	C (D)
NBR	0.27 (0.32)	B (C)	0.23 (0.31)	B (C)
NBL	0.82 (1.04)	E (F)	0.64 (0.84)	C (E)
SBL	0.86 (1.03)	E (F)	0.66 (0.93)	E (F)
SBT	0.81 (0.93)	C (C)	0.70 (0.88)	C (C)
SBR	0.08 (0.04)	B (A)	0.08 (0.04)	B (A)
<b>Overall</b>	<b>0.91 (1.09)</b>	<b>D (E)</b>	<b>0.78 (1.00)</b>	<b>C (D)</b>

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour)

Under the future total conditions, the intersection will operate at an acceptable level of service during the weekday morning AM peak hour and a busy level of service during the weekday PM peak hour, with overall v/c ratios of 0.91 and 1.09 respectively as described in **Section 9.2.5**.

However, as part of the sensitivity analysis, under the future total conditions, the intersection is anticipated to operate at an acceptable level of service during the weekday AM and PM peak hours, with overall v/c ratios of 0.78 and 1.00 respectively. The consideration of implementing dual left turn movements at both the southbound and northbound approaches will improve efficiency and reduce congestion at the intersection performing at overall v/c ratios of 1.00 or less.



## 10.0 SUMMARY OF KEY FINDINGS

BA Group is retained by Palermo Village Corporation (PVC) to provide transportation consulting services related to a mixed-use development (Address), in the northwest quadrant of Bronte Road and Dundas Street West in the Town of Oakville (“the Town”), in the Region of Halton (“the Region”). The property (also herein referred to as the “Palermo Village Master Plan” or “the site”) is bounded by Highway 407 to the north, Dundas Street West to the south, and Fourteen Mile Creek to the east and west.

The redevelopment of the site will occur in phases as market conditions and opportunities permit. The proposal consists of a range of retail, residential, office, community, park and potential age in place facility uses in a mix of building types ranging from 8 to 35 storeys. The proposal contemplates approximately 6,890 residential units and over 19,000 sq. metres of non-residential floor space within a total of 7 blocks at full build out. The new mixed-use community will be organized around new walkable, cycle and transit-oriented transportation and open space network consisting of new streets, parks and open spaces.

An Official Plan Amendment (OPA) has been made to the Town of Oakville. A Draft Plan of Subdivision (DPOS) and a Zoning By-law Amendment (ZBA) application is currently being made to the Town to permit the proposed mixed-use development.

### Existing Site and Master Plan Lands

1. The site is located within the North Oakville neighbourhood (northwest Oakville), north of Dundas Street West consisting of approximately 47.73 hectares (117.95 acres) in size. The site is represented by two properties to the east and west of Bronte Road – together, these form the Palermo Village Master Plan.
2. The site exists as undeveloped green field lands and falls within a Future Development Zone (“FD”), with the surrounding zones also designated as FD Zones. Due to the green field nature of the site, it has no existing internal roads, sidewalks, transit or cycling facilities.
3. The site is serviced by four (4) bus routes that provide local connections to other transit systems including higher-order transit (GO service at Bronte GO and Oakville GO Stations). Bronte GO Station on the Lakeshore West line is located approximately 6.3 kilometres (approximately a 20-minute bus ride) south of the site, providing excellent travel options to central Toronto as well as across the broader Greater Toronto Hamilton Area (the “GTHA”).
4. The vicinity of the site offers support for cycling infrastructure, with the existing multi-use paths that provide an opportunity for a well-connected cycling network in the Palermo Village Master Plan. The nearest cycling facilities include multi-use paths along Dundas Street West and Bronte Road.
5. Upon completion of the Dundas Street BRT, dedicated bicycle lanes will be provided on Dundas Street along the entire length of the BRT route, including across the site frontage. The site is also located in close proximity to the Fourteen Mile Creek Trail, Sixteen Mile Creek Trail, and the Glenorchy Conservation Area. On-street bike lanes are also identified on Valleyridge Drive.

### Development Proposal

6. The Palermo Village Master Plan (“the Master Plan”) proposes to deliver a mixed-use, multi-building development providing retail, residential, office, community and park uses. The site will be developed in a phased approach.
7. The Master Plan is divided into 7 blocks and contains buildings ranging from 8 to 35 storeys. It comprises approximately 6,890 residential units and approximately 19,329 sq. metres of non-residential floor space. The master plan also includes new public parkland.
8. A series of transportation principles have been established to guide the development of the Master Plan and build upon the framework outlined within the Town’s planning directives, as follows:



- Create a fine grain street and block plan;
- Leverage existing and planned transit;
- Improve mobility for all users;
- Facilitate a mix of land uses;
- Urbanize the public realm;
- Prioritize demand management; and
- Mitigate traffic impacts

## Transportation Master Plan

9. The Master Plan is organized around a new walkable, cycle and transit-oriented transportation network of public and private streets that will bisect the site, creating a fine street network and distinct transportation blocks.
10. Within the Master Plan, extensions to a variety of existing local roads are proposed. The local extension of William Halton Parkway to the west of Bronte Road, as identified within the Town of Oakville North Secondary Plan, is included as part of the Master Plan, as are northwards extensions of both Valleyridge Drive and Old Bronte Road. A number of new collector and local roads are also proposed on the site, as well as eight (8) new signalized intersections. New pedestrian and bicycle infrastructure will be provided within the new street network, connecting to wider area connections beyond the site. New streets include:
11. **William Halton Parkway / Street “A”** is proposed to be a collector road with a 26m ROW. This is based on the Town of Oakville’s 26 m ‘Minor Arterial / Transit Corridor’ standard section STD 7-26. Of the two east-west collector roads proposed as part of the Master Plan, William Halton Parkway is designer with two travel lanes in each direction, to carry a larger proportion of trips.

A key difference between the Town of Oakville STD 7-26 section, and the one being proposed for William Halton Parkway west of Bronte Road in this master plan, is the inclusion of raised cycle tracks rather than on-street bike lanes. This change allowed the roadway to function as a key east-west cycling spine, while still interfacing with the existing bike lanes on the regional portion of the road.

12. **Valleyridge Drive / Street “B”** is proposed to have an extension within the NOWSP. South of Dundas, Valleyridge Drive exists as a collector road with generally one lane of traffic in both directions as well as on-street bike lanes. This character was mostly continued within the Palermo Village Master Plan, where Valleyridge acts as one of three key north-south roads.

South of Street “E”, Valleyridge acts collector road with a 22 m ROW, based on Town of Oakville standard STD 7-24, as an ‘Avenue / Transit Corridor’, with one travel lane in both directions. A key modification that was made to the standard was to swap the on-street parking area for buffered on-street bike lanes. These bike lanes will connect with the existing bike lanes south of Dundas on Valleyridge, and greatly improve the comfortable cycling experience along the north-south axis of the site.

North of Street “E”, Valleyridge is reduced to a 17 m local road with on-street parking and no bike lanes. This reflects the transition from high and medium density land use in the south of the Master Plan, to lower density land use in the north of the Master Plan. A small section of Valleyridge Drive, right next to Bronte Road, is shown as a 22m ROW in order to accommodate potential additional turn lanes.

13. **Street “E” / The Potential North-South Link** is a new proposed collector road within the Palermo Village Master Plan. Within the NOWSP, Street “E” is shown as the northern of two east-west collector roads. Street “E” is also proposed to continue west towards Tremaine Road.

Street “E” will be a 22 m collector road based on the Town of Oakville’s standard STD 7-24. The proposed section has been modified to include on-street bike lanes rather than on-street parking, though only for the east-west



portion of Street “E” west of Bronte. East of Bronte, the proposed link may instead feature a multi-use trail along its eastern ROW limit, acting as a buffer between the Natural Heritage System and the road itself.

The portion of Street “E” labelled as a proposed east-west link sits outside the ownership boundary of the applicant, and as thus remains only a potential connection and extension of Street “E”. However, its alignment provides additional north-south capacity as well as allows Old Bronte Road to function more as a pedestrianized woonerf by reducing the number of vehicular accesses.

14. **Old Bronte Road** is proposed to be a 27.5 m wide ROW woonerf, or shared street. Its function is to bring a pedestrian focus to retail and leisure land use, creating vibrant frontages with patios, food trucks, and parkettes. Old Bronte Road also interfaces with the proposed Palermo Village Bus Terminal, allowing for greater circulation potential for bus routing.
15. **Street “F”** is a short east-west link proposed between Valleyridge Drive and Bronte Road, planned to use a 22 m ROW and follow Oakville standard STD 7-24 with one lane of traffic in either direction. This street will mainly serve the land uses to the north and south and provide filtration onto Street “G”, though small volumes of connecting vehicles may also use it. On-street parking is proposed to run along both sides of the road adjacent to the park block.
16. **Street “G”** is an elbow-shaped local road / minor collector that will also function as a woonerf with mixed traffic. Person and vehicle movement from Street “G” will be able to continue north/south along a proposed private laneway / right-of-way separating Block 38 from the adjacent Block 41 park. Street “G” will be designed similarly to Old Bronte Road, but with a narrower cross-section and lower volumes.
17. **Street “D”** is a local road / minor collector, proposed to run roughly parallel to Bronte Road along the rear of the high/medium density condominium blocks. It will facilitate filtration into the townhouse blocks as well as provide access for parking and loading operations to the condominiums. Street “D” is proposed to have a 17 m ROW and use the Town of Oakville standard STD -22A, ‘local roadway’.
18. **The Potential East-West Link** is a potential east-west link between Old Bronte Road and the potential north-south link, which breaks up the blocks to the north and south of it, increasing general permeability. This street is proposed to have a 22 m ROW and follow Oakville standard STD 7-24. As this road is outside the ownership bounds of the applicant, it is shown only as a potential connection. However, if this link were to be realized, it would effectively divide the area into smaller block sizes, increasing permeability and circulation, and is thus supported by this application.
19. A number of improvements are proposed on the existing street network immediately surrounding the site to better accommodate active (pedestrian and cyclist) movement in and around the site, enhance safety, and better accommodate vehicular access to / from the site.
20. Generous pedestrian sidewalks are proposed on all new public and private streets within the Master Plan. As well, it is proposed to widen all the existing sidewalks on the public streets along the site frontage to meet accessibility requirements and improve the pedestrian experience.
21. Short-term and long-term bicycle parking is proposed on individual development blocks to support cycling as a viable and convenient mobility option.
22. The Master Plan introduces a new transit station, integrated into planned development on Blocks 39 and 48, which provides a flexible and comprehensive facility dedicated to extending the mobility of not just PVC residents, workers, and visitors, but transit riders making connecting trips as well.
23. The proposed Palermo Transit Terminal is expected to connect Oakville Transit services with other local and regional transit operators. In addition to serving the Site and broader Palermo Village area, the proposed terminal will also





connect the proposed North Oakville bus routes. The terminal will act as a hub for future higher-order transit service along Bronte Road to the Lakeshore West GO Line. The location of the terminal between two significant east-west high-capacity transit routes, the Dundas BRT and 407 Transitway, will make transfers between these higher order routes, and local routes, simple and effective.

24. The proposed PVC transit terminal location will help ensure the transit terminal provides close connections to the important community elements (i.e. commercial uses, main street district, community uses, and the public park) and in doing so it will become an important hub of the community fabric in Palermo. It will also help shift more riders to transit by being an attractive transit facility that is adjacent to supportive commercial uses and amenities.
25. By comparison, the IBI study preferred option will not have direct access to Bronte Road (where the majority of service will be going to /from), will have less routing flexibility (one access), would be located further front Dundas Street, would be further from the Main Street district and commercial uses, would be further from the planned location of the community uses, and would result in a more suburban, disconnected transit facility that does not contribute to the character of the community.

### Vehicle Parking Considerations

1. Application of the North Oakville Zoning By-law 2009-189 requirements to the current proposal would require the provision of a minimum of **1,562 spaces** for retail, office, community, potential age in place facility uses and the low-density townhouse units. There are no minimum parking requirements for the high-rise units' resident or resident visitors.
2. The maximum permitted parking supply is **9,404 spaces**, including 7,398 resident spaces and 2,006 non-resident spaces.
3. The development is proposed to adopt a parking supply standard that falls within the range of the minimum and maximum North Oakville Zoning By-law 2009-189 parking requirements for the residential and non-residential components of the site. The proposed By-law requirements are therefore appropriate and will be confirmed during the approvals stage for individual development blocks, either through additional zoning by-laws or minor variance.
4. Additional on-street parking, should the Town allow for it, would also be provided on segments of the new municipal street network proposed as part of the Palermo Village Master Plan.

### Bicycle Parking Considerations

5. Application of the North Oakville Zoning By-law 2009-189 standards to the current proposal would require the provision of a minimum of 5,960 bicycle parking spaces will be provided as part of the overall development plan, including 1,522 spaces located in convenient accessible for short-term use and 4,438 spaces located in secure, weather-protected underground storage areas for long-term use.
6. The proposed bicycle parking supply will be provided in accordance with the North Oakville Zoning By-law 2009-189 bicycle parking requirements.

### Loading Considerations

7. The proposed loading space quantities and configurations will be determined in a future site plan application submission, and the loading spaces will meet the dimensions set out by the Town's Zoning By-law 2009-189 loading requirements.

### Vehicular Traffic Volumes

8. Traffic operations analyses have been undertaken during the weekday morning and afternoon street peak hours under the following conditions:



- Existing traffic – traffic activity level under current conditions;
  - Future background traffic – traffic activity levels at the ultimate built-out horizon year which include allowances for background developments; and
  - Future total traffic – traffic activity levels at the ultimate build-out horizon year with the site developed and projected site generated traffic added to the road network.
9. The current study explicitly accounts for specific background development proposals (individual sites and subdivisions) as identified in the following section and an annual growth rate has not been applied to the analysis. Potential growth on the area network is considered to have been captured by the specific area developments outlined within the **Section 8.3.2**.
  10. An allowance has been made to account for new traffic that will be generated by other development proposals in the area that are either approved, but not yet built, or are actively being reviewed by the Town. A total of 11 development proposals were considered based upon a review of the Town of Oakville’s development application database and other traffic studies for development proposals in the vicinity of the site.
  11. Existing through traffic volumes along Dundas Street have been reduced by 20% to reflect the increased transit, active transportation and transportation demand management mode split targets established in the Region’s Transportation Master Plan.
  12. Vehicular trip generation during the morning and afternoon peak has been estimated for the proposed Palermo Village mixed-use development based on the ITE Trip Generation Manual Edition 11. Residential trip rates were based on high-rise multifamily housing (ITE 222) for high density residential uses and single-family attached housing (ITE 215) for low density residential uses. Trip rates for the proposed office spaces are based on the general office land use (ITE710) category for Block TT. Mixed-use retail trip rates are based on the shopping centre land use code (ITE 820).
  13. Since only nominal non-auto mode shares are included in the ITE trip rates, they were adjusted to reflect increased transit mode share given the completion of the Dundas BRT and Transit Terminal within the Palermo Village Community lands. BA Group has adopted a 20% reduction to vehicular trips to account for other travel modes.
  14. The proposed development will generate in the order of 1,775 and 2,175 two-way vehicle trips during the weekday morning and weekday afternoon peak hours, respectively.
  15. The transit terminal is expected to generate approximately 70 two-way vehicle trips in both AM morning PM afternoon peak hour periods.
  16. Interaction and synergy between the Palermo Village Community lands and the adjacent developments such as the 407 West Employment Lands and Hospital district lands is negligible relative to the level of new trips generated and is treated as zero for this analysis.

### Traffic Operations Analysis

17. All signalized intersections within the study area operate within acceptable levels of service, with the exception of the William Halton Parkway / Bronte Road intersection (during the weekday PM peak period), the Bronte Road / Dundas Street West intersection (during both peak hour periods), and the Valleyridge Drive / Street B / Dundas Street West intersection (during the weekday PM peak period).
18. A sensitivity analysis at the Bronte Road / William Halton Parkway intersection led to the implementation of dual left-turn lanes on both northbound and southbound approaches. This effectively addressed overcapacity concerns along Bronte Road, resulting in an overall v/c ratio of  $\leq 1.0$ .



19. Under existing conditions, all area signalized intersections operate at acceptable levels of service with overall v/c ratios of 0.97 or less during the weekday morning and afternoon peak hours.
20. With the addition of background traffic, the area signalized intersections along Bronte Road and Dundas Street West operate above theoretical capacity with overall v/c ratios of 1.40 or less during the weekday morning and afternoon peak hours.
21. With the built-out of the proposed development, the area signalized intersections along Bronte Road and Dundas Street West operate above theoretical capacity with overall v/c ratios of 1.12 or less during the weekday morning and afternoon peak hours. The improvements in level of service are due to the new William Halton Parkway and Street E extensions to the west, offering alternative routes of travels for vehicles without the need to traverse through the Bronte Road / Dundas Street West intersection.
22. Over time, as the road network is built-out within the Palermo Village Community, area traffic will begin to recognize the William Halton Parkway and Street Extensions to the west, the distribution of area traffic volumes will change and the amount of traffic utilizing Dundas Street West will begin to reduce during the peak hours.
23. It should be noted that vehicles will experience extended delays and congestion along the arterial road corridors, but local traffic can benefit from the newly constructed Dundas BRT and the Palermo Bus Transit Terminal which will provide connections throughout Oakville which facilitates further non-auto mobility opportunities for residents and visitors of the area. In addition, the proposed additions to cycling and pedestrian infrastructure outlined within **Sections 3.3 and 3.4** along Bronte Road, William Halton Parkway, and other local roads within the area network provide excellent opportunities for further benefits to help reduce local traffic.
24. Understanding that it is not realistic for intersections to operate over capacity, it is reasonable to assume that the trend of decreasing personal automobile use during the peak travel periods in favour of transit use will continue into the future and the anticipated ultimate road network will further contribute to alleviating traffic impacts along major corridors.
25. Traffic operations at all unsignalized intersections within the study area are analyzed under all scenarios. All movements will function at LOS A to LOS E in the future total scenario.



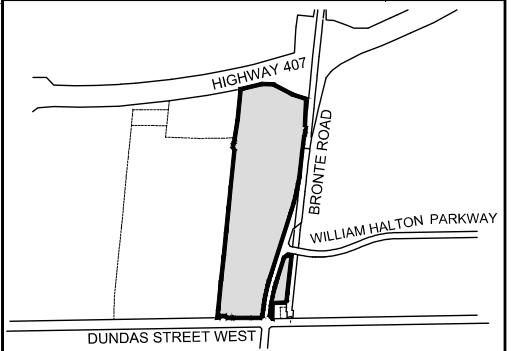
**Appendix A:  
Draft Block Plan**



# DRAFT PLAN OF SUBDIVISION 24T-

PART OF LOT 31  
CONCESSION 1, NORTH OF DUNDAS STREET

GEOGRAPHIC TOWNSHIP OF TRAFALGAR  
NOW IN THE  
TOWN OF OAKVILLE  
REGIONAL MUNICIPALITY OF HALTON



KEY MAP Subject Lands

### OWNER'S AUTHORIZATION

I HEREBY AUTHORIZE KORSIK URBAN PLANNING TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION TO THE TOWN OF OAKVILLE FOR APPROVAL.

SIGNED: Gord Buck DATE: Month Day, 2023

PALERMO VILLAGE IV CORPORATION  
ARGO (PALERMO VILLAGE) LIMITED  
4900 Palladium Way, Suite 105  
Burlington, Ontario L7M 0W7

SIGNED: Michael Shapiro DATE: Month Day, 2023

NEWMARK PALERMO HOLDINGS INC.

### SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED AS SHOWN ON THIS PLAN AND THEIR RELATIONSHIP TO ADJACENT LANDS ARE CORRECTLY AND ACCURATELY SHOWN.

SIGNED: Shan Goonewardena, Ontario Land Surveyor DATE: Month Day, 2023

**rpe** R-PE Surveying LTD.  
ONTARIO LAND SURVEYORS  
943 CHRISLEA ROAD, SUITE 7, WOODBRIDGE, ONTARIO L4L 8A3  
TEL: 416-933-5000 FAX: 416-933-5081

### ADDITIONAL INFORMATION (UNDER SECTION 51 (17) OF THE PLANNING ACT)

- A) SHOWN ON PLAN
- B) SHOWN ON PLAN
- C) SHOWN ON PLAN
- D) SHOWN ON PLAN
- E) SHOWN ON PLAN
- F) SHOWN ON PLAN
- G) SHOWN ON PLAN
- H) MUNICIPAL AND PIPED WATER TO BE PROVIDED
- I) CLAY LOAM
- J) SHOWN ON PLAN
- K) SANITARY AND STORM SEWERS TO BE PROVIDED
- L) SHOWN ON PLAN

### LAND USE SCHEDULE

Land Use	Lots/Blocks	Block Total	Area (ha)	Units
□ Single Detached (12.80m)	1, 6-16, 26, 27	14	0.59	14
△ Single Detached (11.60m)	2, 5, 17-22	8	0.35	8
◇ Single Detached (11.00m)	3, 4, 23-25	5	0.23	5
○ Single Detached (15.24m)	28	1	0.03	1
Medium Density Residential Condominium Block	29-32	4	16.42	
High Density Residential Condominium Block	33-36	4	7.38	
Mixed Use Condominium Block	37-39	3	2.71	
Stormwater Management Pond	40	1	0.06	
Park	41	1	2.25	
Village Square	42	1	0.16	
Walkway (3m)	43	1	0.01	
Natural Heritage System (NHS)	44, 45	2	5.68	
Open Space	46, 47	2	1.45	
Transit Terminal	48	1	1.24	
Transitway	49	1	1.50	
Residential Reserve	50, 51	2	0.11	
Road Widening	52, 53	2	0.43	
0.3m Reserve	54, 55	2	0.00	
17m ROW (1,774 m)			3.06	
22m ROW (1,446 m)			3.27	
26m ROW (291 m)			0.80	
<b>Totals</b>	1-55	55	47.73	28

### SDE CALCULATIONS

Unit Type	Lots/Blocks	Units	SDE*
Single Detached	1-28	28	28
Total		28	28.0

\* SDE Factors:  
Single Detached - 1.00

Aug. 24, 2023	First Submission	A	WS
Jan. 17, 2023	Draft for Review	A	KC
DATE	REVISION	DWG	BY

### NOTES:

- Pavement illustration is diagrammatic
- Connector or Avenue to Arterial daylight triangle = 15m
- Connector or Avenue to Connector or Avenue daylight triangle = 7.5m
- All other daylight triangles = 3.5m

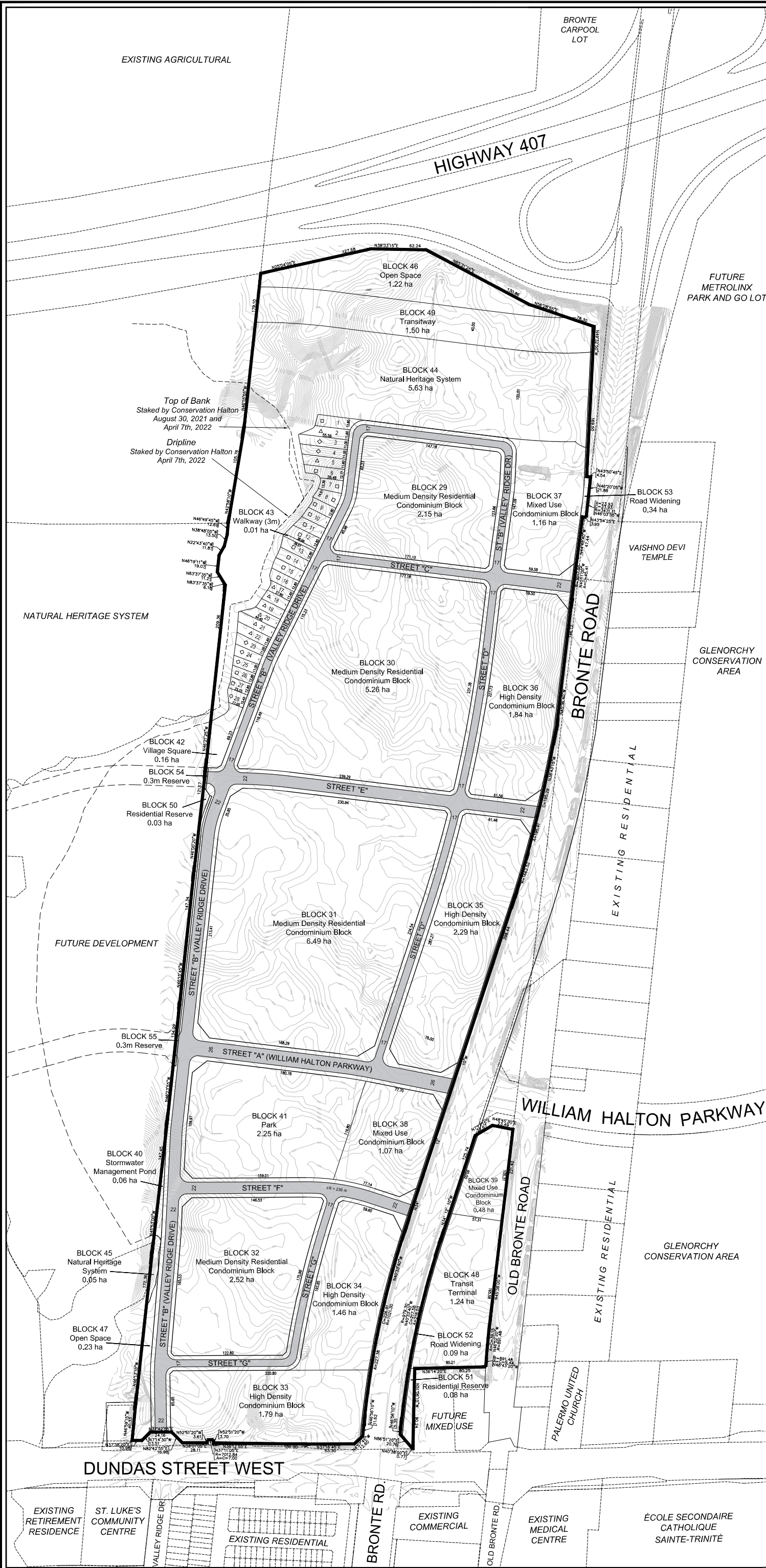


SCALE 1:2000 August 24, 2023

DRAWN BY: WS CHECKED BY: KC

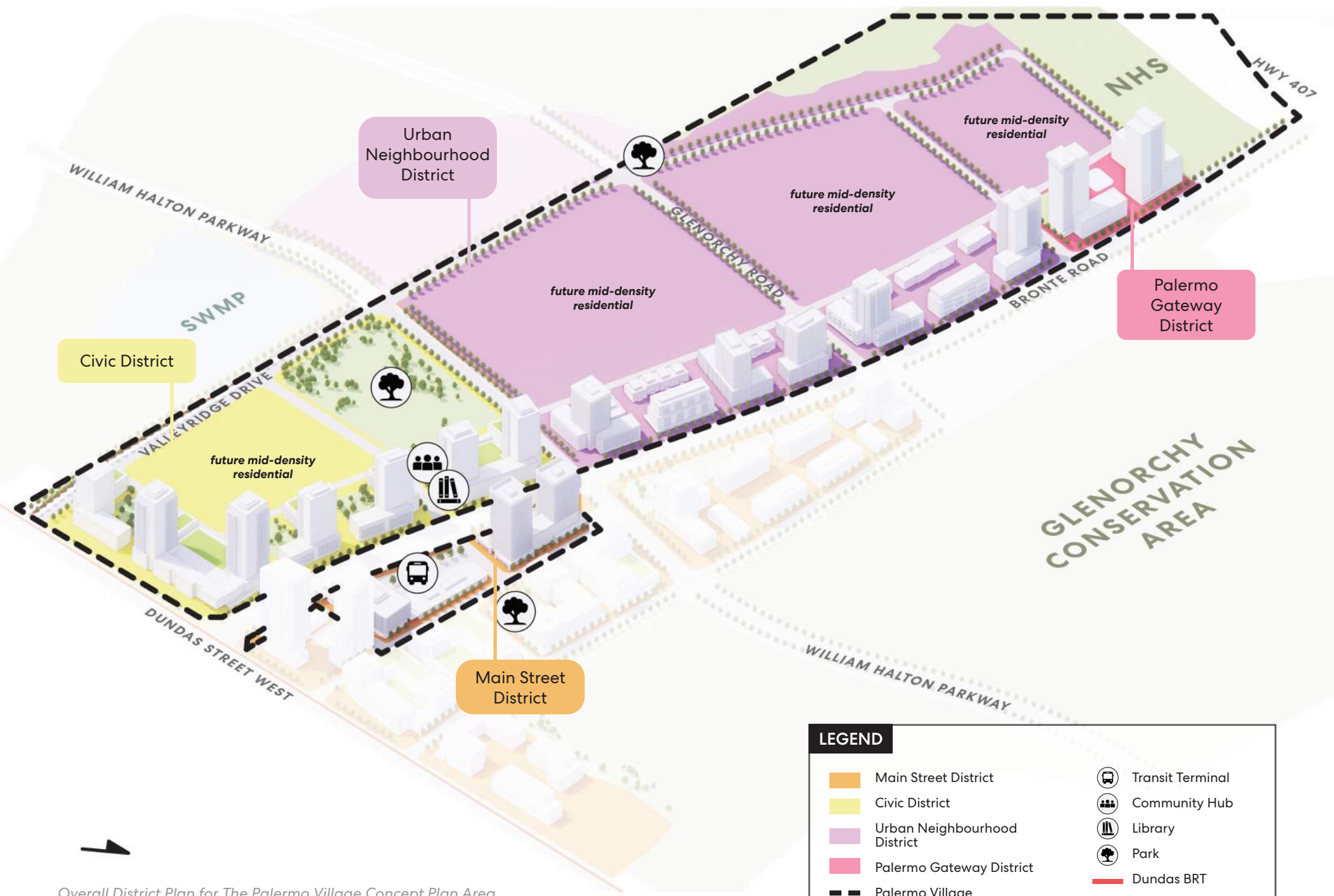


206-277 Lakeshore Road East  
Oakville, Ontario L6J 1M9  
1-905-257-0227  
info@korsiak.com













## **Appendix B: Architectural Demonstration Plans**





Overall District Plan for The Palermo Village Concept Plan Area  
 Note: Areas not owned by Palermo Village Corporation have been faded out

LEGEND			
	Main Street District		Transit Terminal
	Civic District		Community Hub
	Urban Neighbourhood District		Library
	Palermo Gateway District		Park
	Palermo Village Corporation Boundary		Dundas BRT

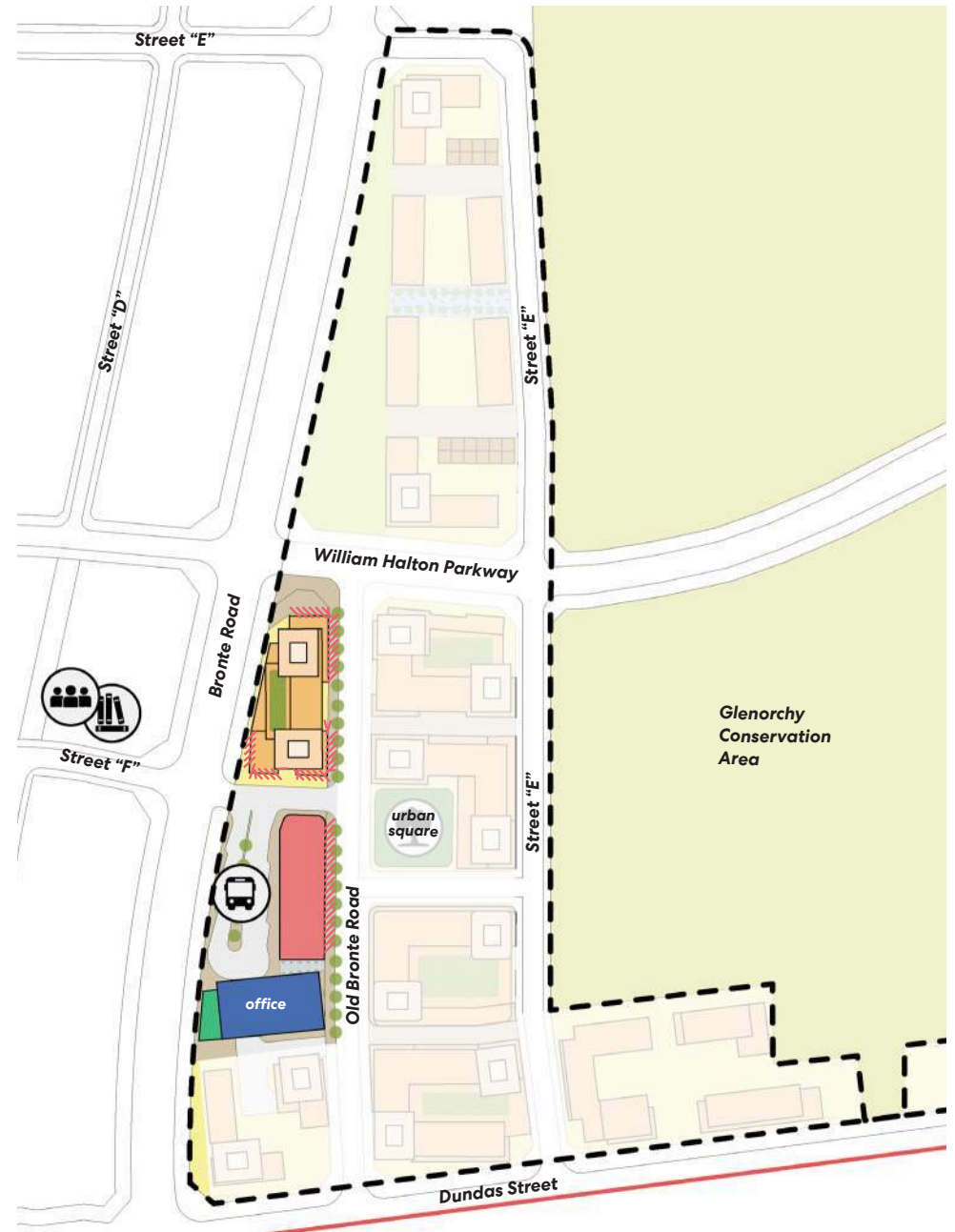
## 05.1. Main Street District

The Main Street District within the Palermo Village Concept Plan will serve as the bustling and vibrant heart of the community. It will be anchored by Old Bronte Road, which will function as the primary retail street. Old Bronte Road will come alive with an array of shops, boutiques, cafes, restaurants, and other commercial establishments, centered around the Urban Square which will create a lively and engaging atmosphere for residents and visitors alike.

This District will be characterized by predominately high-rise residential buildings, offering a mix of housing options and creating a dynamic and diverse living environment. The presence of office uses and a transit terminal will contribute to the activity and density of the district.

### 05.1.1 Streetscape














The streetscape of the Main Street District in the Palermo Village Concept Plan should be tailored to its distinctive urban context while maintaining a unified character along Old Bronte Road and the surrounding urban core. As a mixed-use block, it should integrate elements commonly found in urban settings to accommodate increased pedestrian activity, support retail and service functions, and provide on-street parking.



Area Design Plan for Main Street District

Note: Areas within the Main Street District not owned by Palermo Village Corporation have been faded out

### LEGEND

- |   |                      |   |                           |
|---|----------------------|---|---------------------------|
|  | Retail               |  | Blocks                    |
|  | Highrise Residential |  | District Boundary         |
|  | Midrise Residential  |  | Transit Terminal Building |
|  | Office               |  | Community Hub             |
|  | Urban Square         |  | Library                   |
|  | Sidewalks            |  | Transit Terminal          |
|   |                      |  | Dundas BRT                |



## 05.2. Palermo Gateway District

The Palermo Gateway District in the Palermo Village Concept Plan is located on the north end of the site, west of Bronte Road and south of the Natural Heritage System Linkage. This district is close to the future 407 Transitway Station, making it an appropriate location for higher density and mixed-use development. The district permits high residential densities, a potential age-in-place facility, employment and retail uses, and a considerable amount of open space.

The potential age-in-place facility is located between the NHS and urban green, to allow for views and quick access for residents, visitors, and employees. The connection to the NHS trail network should be integrated into the design of the future age-in-place facility.

### 05.2.1 Streetscape

The streetscape of the Palermo Gateway District should be designed to reflect the broad demographic mix intended to frequent the district on a daily basis, consisting of seniors residing at the aging in place facility, people who work at the facility and the retail and services in the area, residents of the highrise buildings, and commuters from elsewhere in Palermo Village accessing the 407 Transitway Station. The District should consider senior friendly infrastructure like benches at frequent intervals, wayfinding, universally accessible streetscape design, lighting and emergency poles, longer crossing timings etc.

It will be necessary to work with Halton Region through the EA process to ensure a design for Bronte Road that supports the urban nature of the Gateway District and Palermo Village as a whole.



Area Design Plan for Palermo Gateway District

### LEGEND

- |  |                         |  |                         |
|--|-------------------------|--|-------------------------|
|  | Retail                  |  | Sidewalks               |
|  | Highrise Residential    |  | Blocks                  |
|  | Midrise Residential     |  | District Boundary       |
|  | Aging in Place Facility |  | Trail Network           |
|  | Mid-block Connection    |  | Natural Heritage System |
|  | Urban Green             |  | NHS Linkage             |

## 05.3. Civic District

The Civic District in the Palermo Village Concept Plan is located between Dundas Street, Bronte Road, William Halton Parkway and Valleyridge Drive. It will be the heart of the community with a large, 2.2 hectare Community Park and adjacent library and community hub for residents within and beyond Palermo Village to enjoy. It will have a varied built form with high-rise buildings along the prominent corridors of Dundas Street and Bronte Road - both of which are planned to have excellent transit access with the future BRT on Dundas and Palermo Transit Terminal on the east side of Bronte - and condominium townhouses in the interior of the district.

### 05.3.1 Streetscape

The Civic District serves as the heart of the community. With amenities such as the 2.2 ha community park, community hub, library, and retail spaces, the district is envisioned as a vibrant hub of activity for residents and visitors alike. The district boasts a diverse mix of high-density and mid-density residential buildings, accommodating a wide range of demographics. To cater to the varied demographics, accessible infrastructure like ramps, lighting and emergency poles, shelter and shade, longer crossing timings etc. should be provide.

The stormwater pond west of Valleyridge Drive serves a dual purpose of managing stormwater runoff and providing recreational amenity. It is envisioned to incorporate publicly accessible boardwalks that offer residents the opportunity to engage with nature, enjoy scenic views, and foster a stronger connection between the built environment and the natural landscape.



Area Design Plan for the Civic District

Note: Areas within the Civic District not owned by Palermo Village Corporation have been faded out

### LEGEND

	Retail		Open Space		Library
	Highrise Residential		Sidewalks		Transit Hub
	Midrise Residential		Blocks		Community Park
	Green Roof		District Boundary		Community Hub
	Mid-block Connection				

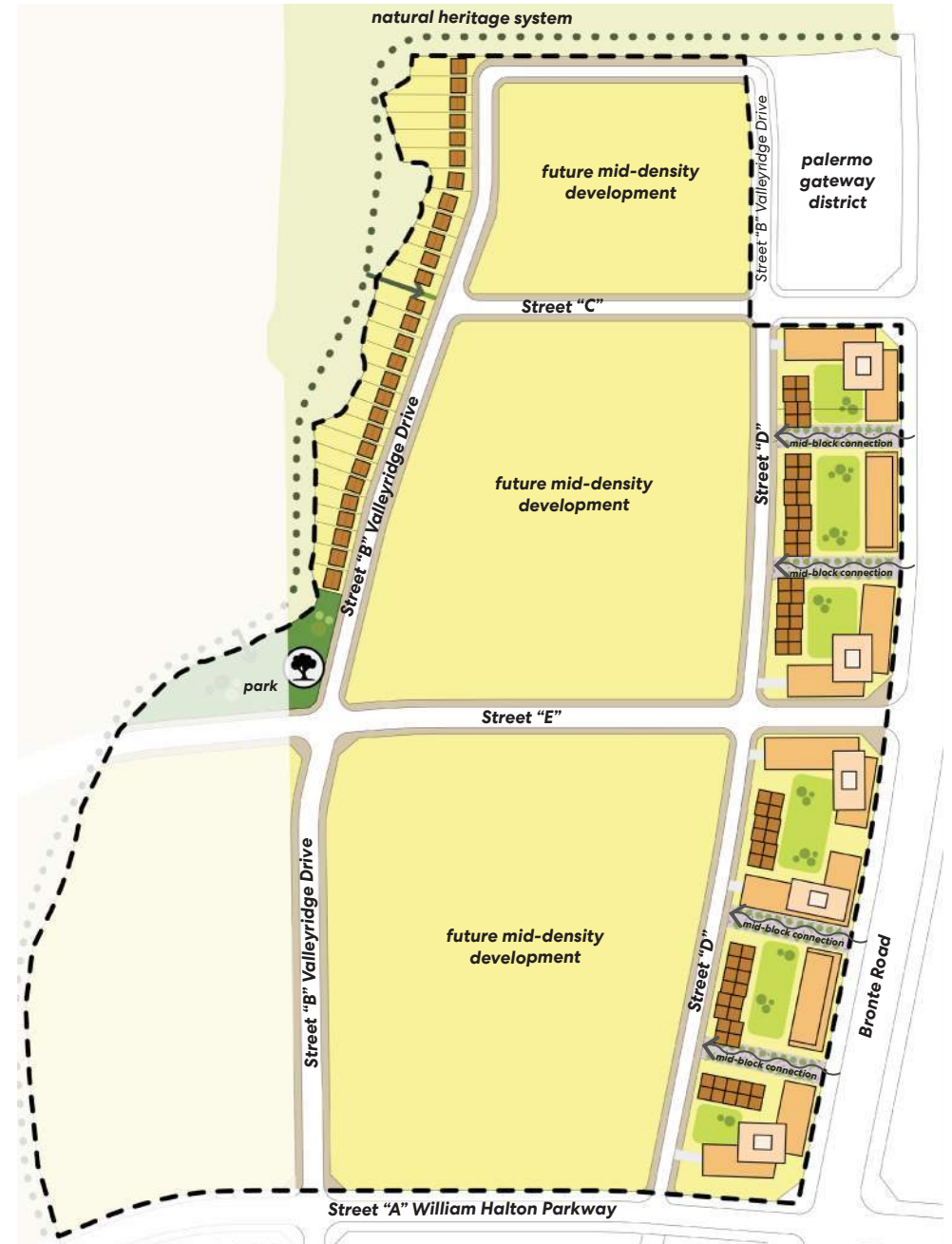
## 05.4. Urban Neighbourhood District

The Urban Neighbourhood District is located north of William Halton Parkway and West of Bronte Road. It consists mainly of mid-density residential uses such as townhouses and back-to-back townhouses stepping up to higher density residential located along Bronte Road.

### 05.4.1 Streetscape

Street “A” (William Halton Parkway), Street “E”, and Street “B” (Valleyridge Drive) are all envisioned as greenways, connections between the two branches of 14 Mile Creek on either side of Palermo Village that are thoroughly landscaped with a double row of trees and multi-use pathway.

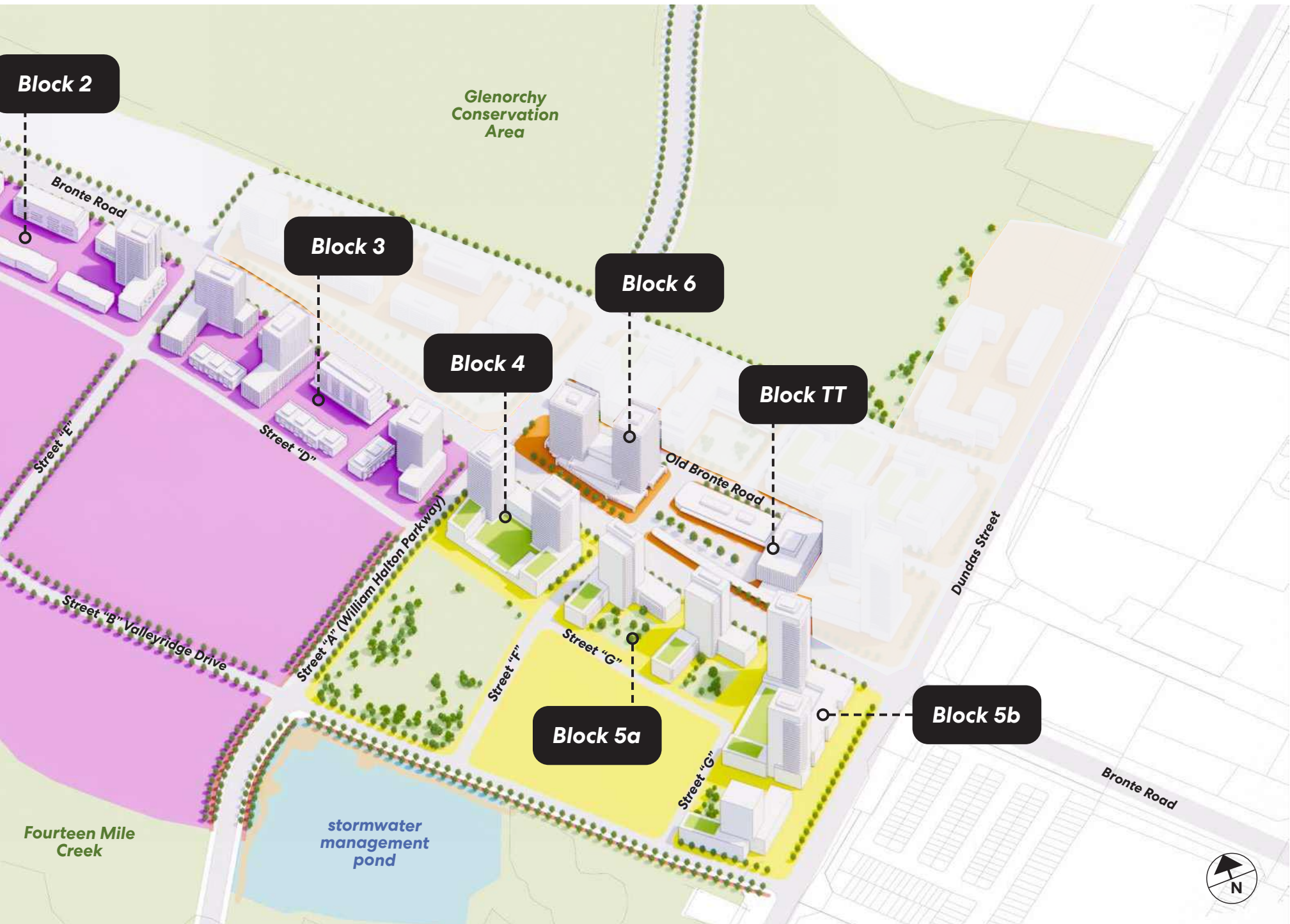
It will be necessary to work with Halton Region through the EA process to ensure a design for Bronte Road that supports the urban nature of Palermo Village, including a significant boulevard for a separated cycle lane, planting zone, furniture zone, sidewalk and pedestrian spill-out zones outside of buildings. Buildings that front onto Bronte Road should have active uses at grade such as lobbies, residential entrances or amenity areas. Commercial spaces can also be included at important locations such as the intersections with Street “B” (William Halton Parkway) and Street “E”.



Area Design Plan for the Urban Neighbourhood District  
 Note: Areas within the Urban Neighbourhood District not owned by Palermo Village Corporation have been faded out

#### LEGEND

- |  |                      |  |                               |
|--|----------------------|--|-------------------------------|
|  | Highrise Residential |  | Sidewalks                     |
|  | Midrise Residential  |  | Blocks                        |
|  | Lowrise Residential  |  | District Boundary             |
|  | Mid-block Connection |  | Trail Network                 |
|  | Open Space           |  | Natural Heritage System (NHS) |
|  | Park                 |  |                               |



**Block 2**

**Block 3**

**Block 4**

**Block 6**

**Block TT**

**Block 5a**

**Block 5b**

Glenorchy  
Conservation  
Area

Fourteen Mile  
Creek

stormwater  
management  
pond



# Block 1

Block Information				
	ft <sup>2</sup>	m <sup>2</sup>	acre	hectare
Area	<b>124,921</b>	<b>11,606</b>	<b>2.87</b>	<b>1.16</b>



Seaport Common, Boston. Source: Seaport



## Block 2

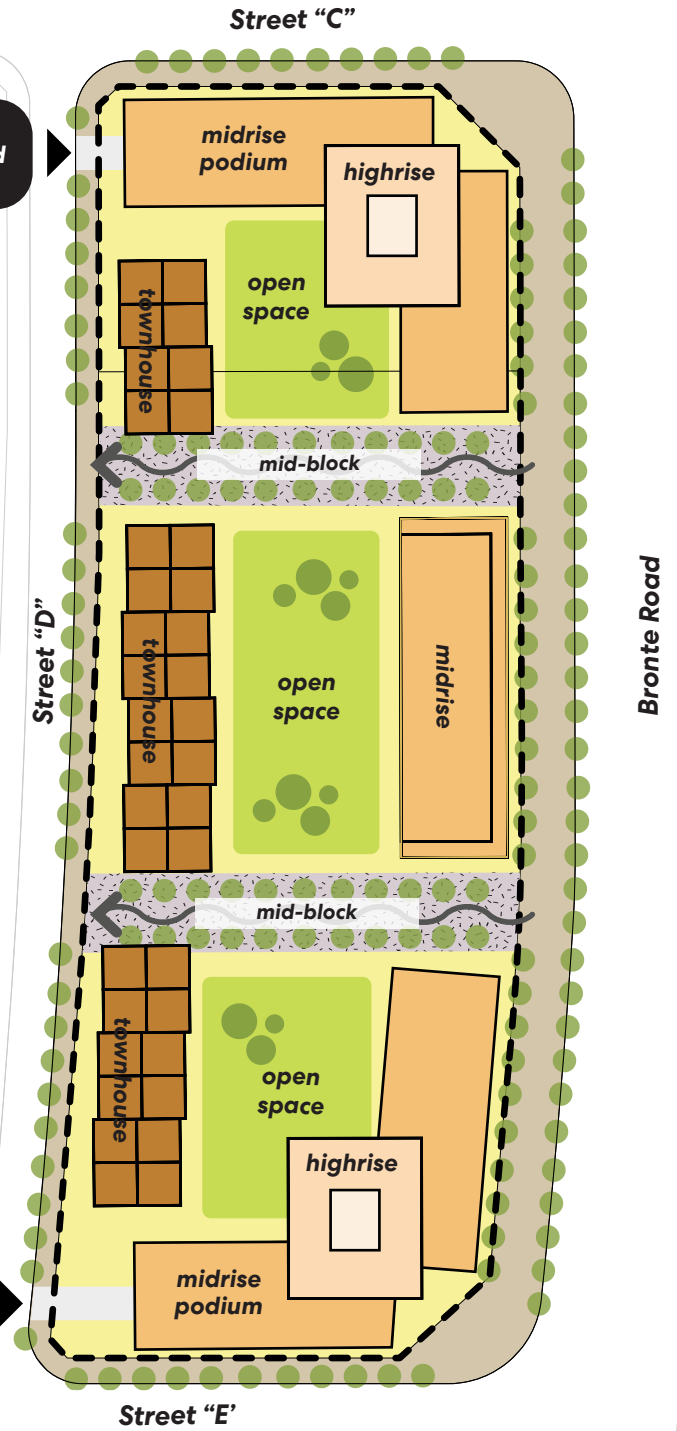
Block Information				
	ft <sup>2</sup>	m <sup>2</sup>	acre	hectare
Area	<b>198,039</b>	<b>18,398</b>	<b>4.55</b>	<b>1.84</b>



One Cole Development, Toronto. Source: Tom Arban

loading/  
underground  
parking

loading/  
underground  
parking



# Block 3

Block Information				
	ft <sup>2</sup>	m <sup>2</sup>	acre	hectare
Area	<b>248,091</b>	<b>23,048</b>	<b>5.70</b>	<b>2.30</b>



At grade units, Scarborough. Source: Paul Kulig

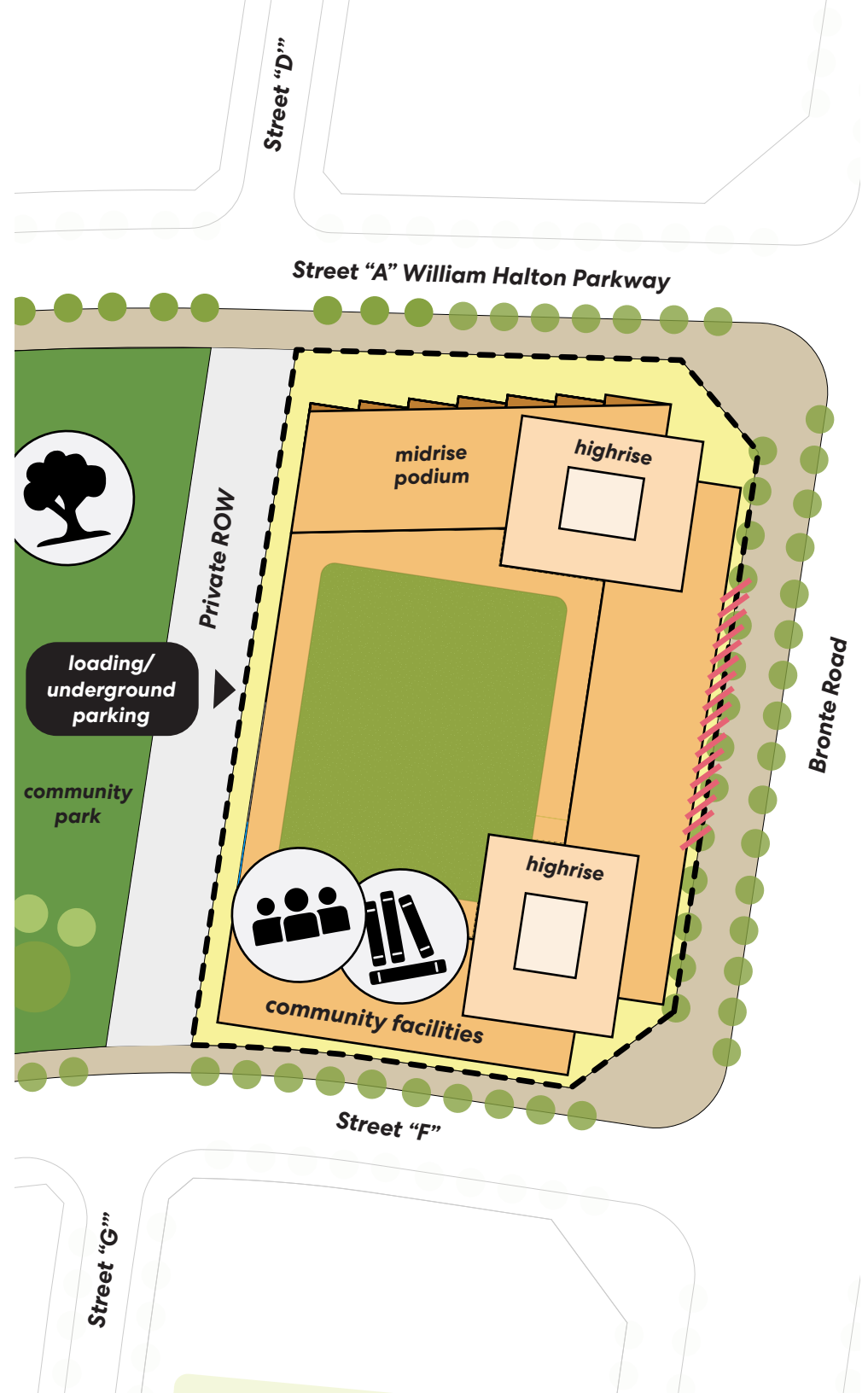


## Block 4

Block Information				
	ft <sup>2</sup>	m <sup>2</sup>	acre	hectare
Area	<b>97,504</b>	<b>9,058</b>	<b>2.24</b>	<b>0.91</b>



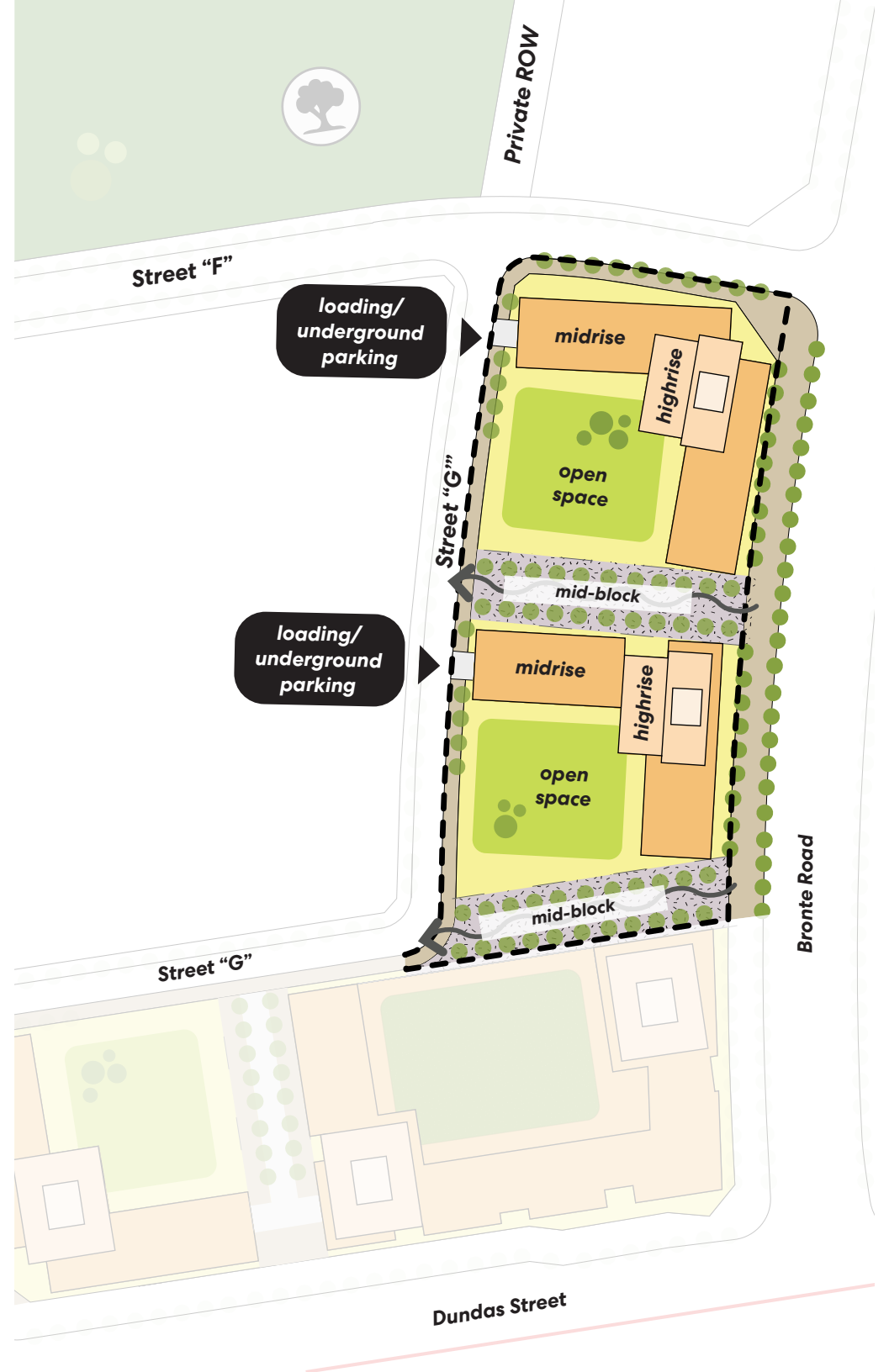
Daniels Spectrum, Toronto. Source: Architect Magazine





## Block 5a

Block Information				
	ft <sup>2</sup>	m <sup>2</sup>	acre	hectare
Area	<b>156,751</b>	<b>14,563</b>	<b>3.60</b>	<b>1.46</b>



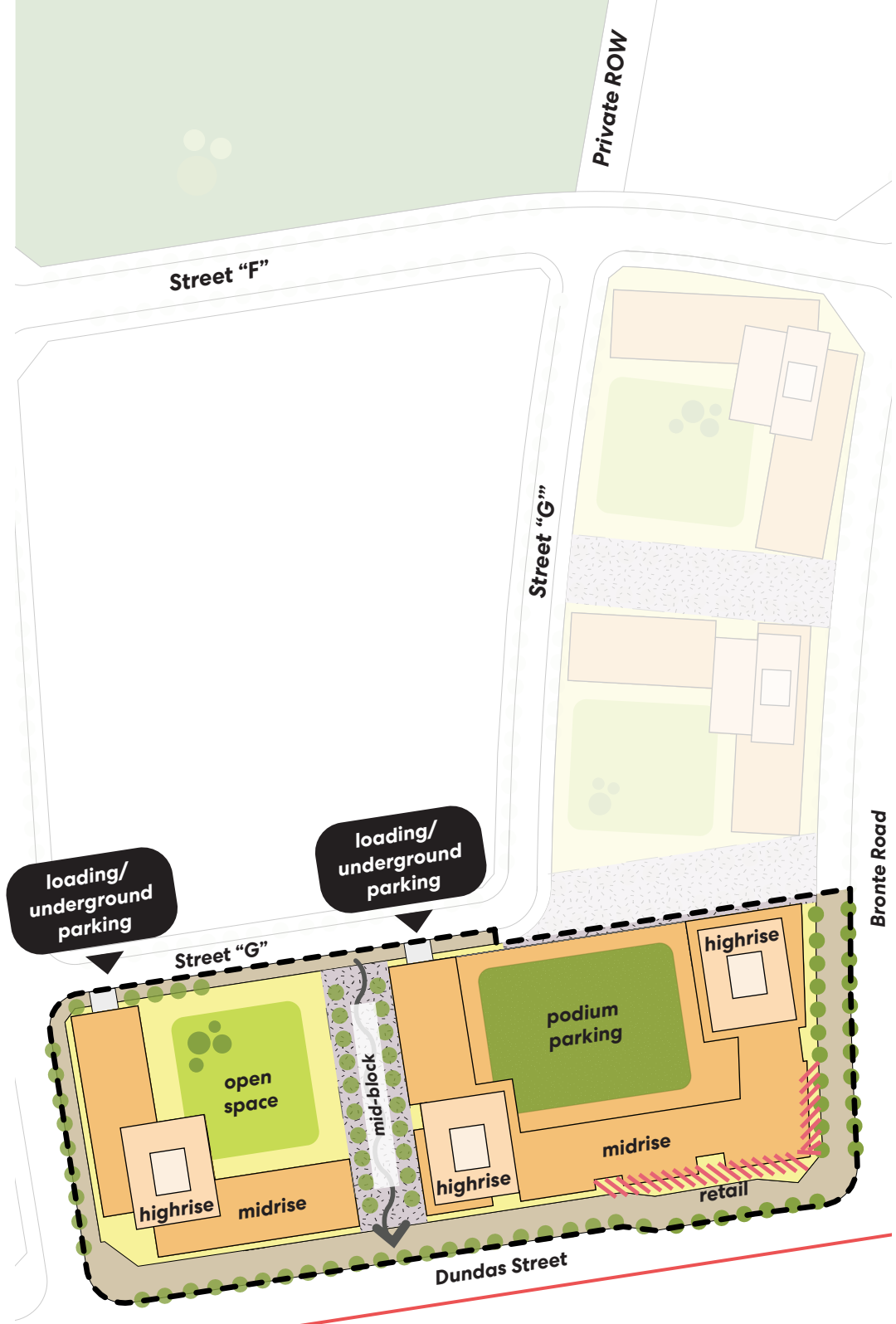
Rocket and Tigerli by SHL. Source: SHL

## Block 5b

Block Information				
	ft <sup>2</sup>	m <sup>2</sup>	acre	hectare
Area	<b>184,449</b>	<b>17,136</b>	<b>4.23</b>	<b>1.71</b>



55 Regent Park Boulevard, Toronto. Source: Strata

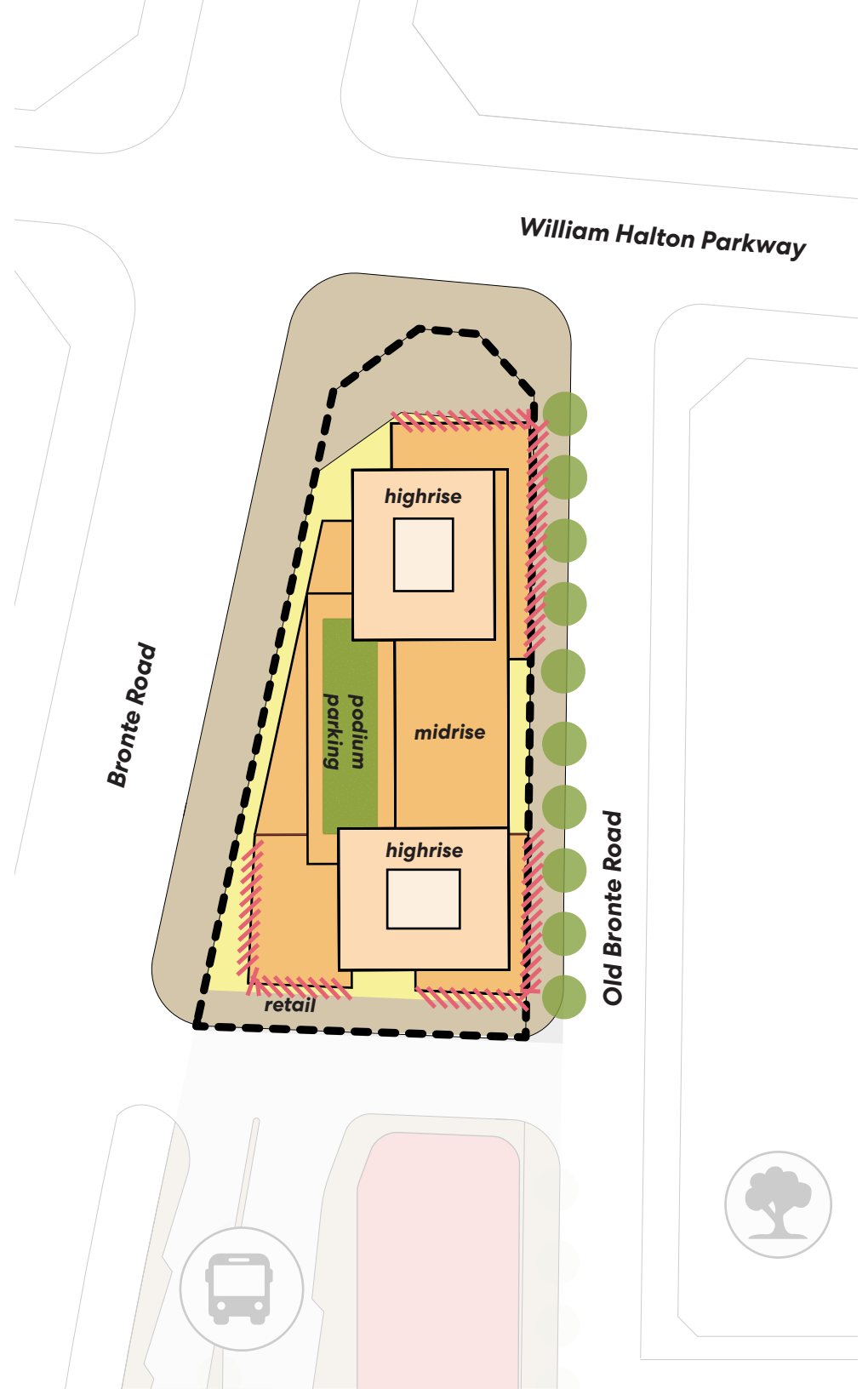


## Block 6

Block Information				
	ft <sup>2</sup>	m <sup>2</sup>	acre	hectare
Area	<b>57,108</b>	<b>5,305</b>	<b>1.31</b>	<b>0.53</b>



Marine Gateway, Vancouver. Source: Perkins&Will

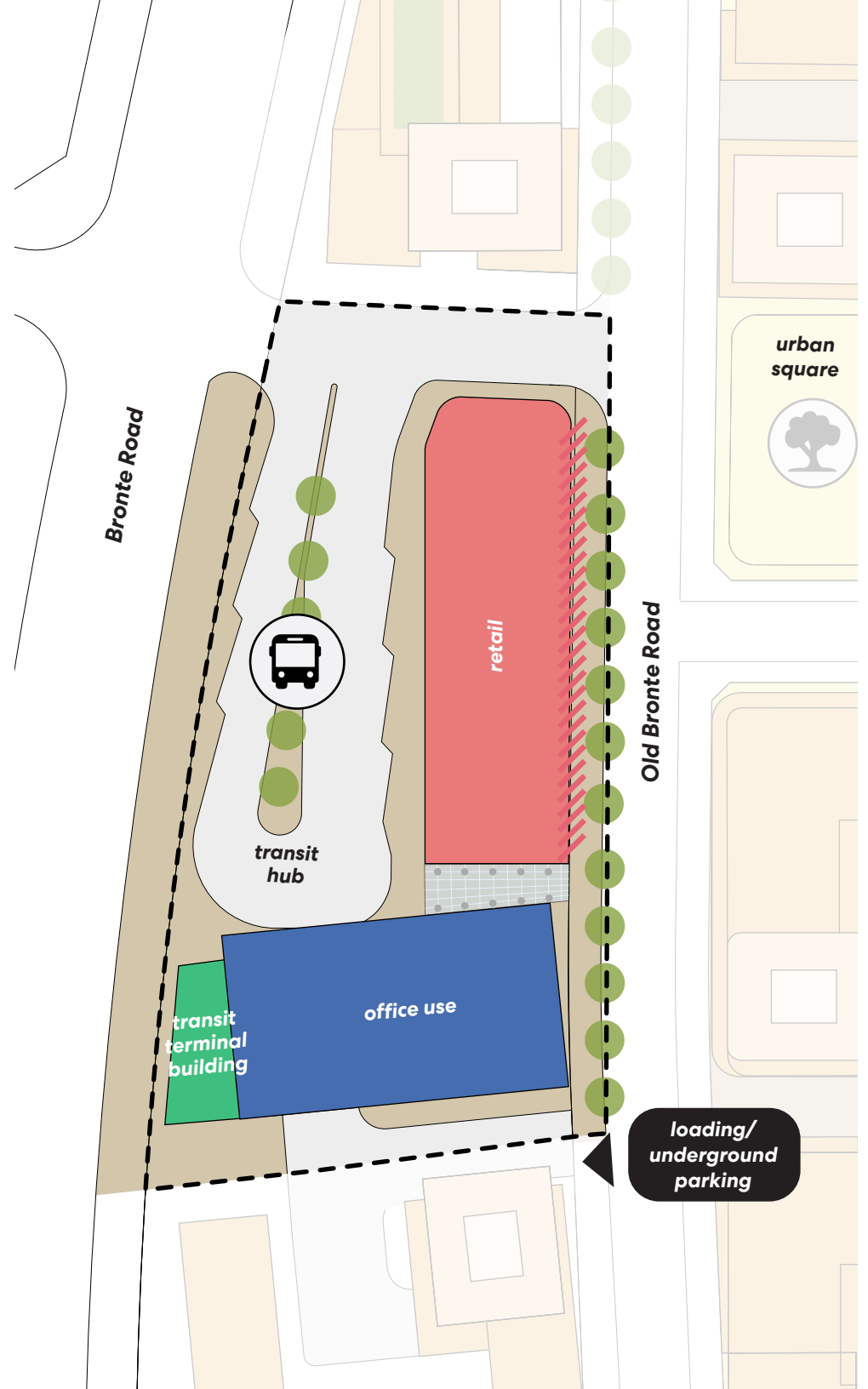


# Transit Terminal Block

Block Information				
	ft <sup>2</sup>	m <sup>2</sup>	acre	hectare
Area	<b>124,746</b>	<b>11,589</b>	<b>2.86</b>	<b>1.16</b>



Tilburg Bus Station, Netherlands. Source: ArchDaily



## Appendix C: Turning Movement Counts





Turning Movement Count (8 . BRONTE RD & DUNDAS ST W)

Start Time	N Approach BRONTE RD						E Approach DUNDAS ST W						S Approach BRONTE RD						W Approach DUNDAS ST W						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
06:30:00	24	132	30	0	0	186	16	46	23	0	0	85	27	94	22	0	1	143	35	133	35	0	0	203	617	
06:45:00	17	190	30	0	0	237	16	59	14	0	0	89	35	123	14	0	0	172	41	170	41	0	0	252	750	
07:00:00	9	157	30	0	0	196	37	71	9	0	0	117	29	96	27	0	1	152	46	219	59	0	0	324	789	
07:15:00	38	247	38	0	0	323	33	81	38	1	0	153	32	161	25	0	0	218	86	239	69	0	1	394	1088	3244
07:30:00	38	264	60	0	0	362	31	101	32	1	1	165	32	151	18	0	2	201	106	316	73	0	0	495	1223	3850
07:45:00	22	295	80	0	0	397	41	127	34	6	1	208	71	167	37	0	2	275	84	316	53	0	0	453	1333	4433
08:00:00	35	244	67	0	0	346	58	165	35	4	1	262	38	166	34	0	1	238	72	354	59	1	0	486	1332	4976
08:15:00	49	256	60	0	0	365	43	151	33	2	1	229	56	148	47	0	0	251	73	280	63	0	0	416	1261	5149
08:30:00	53	270	69	0	0	392	47	165	39	4	0	255	46	155	35	0	2	236	67	245	62	0	0	374	1257	5183
08:45:00	27	233	51	0	1	311	32	183	36	3	1	254	44	112	55	0	1	211	90	308	70	1	1	469	1245	5095
09:00:00	34	196	59	0	0	289	32	145	24	5	1	206	38	115	53	0	0	206	57	201	43	0	0	301	1002	4765
09:15:00	34	197	32	0	0	263	31	117	30	3	0	181	34	116	50	0	0	200	50	176	41	0	0	267	911	4415
***BREAK***																										
16:00:00	77	151	63	0	0	291	47	313	39	1	1	400	19	240	93	0	1	352	57	190	49	0	0	296	1339	
16:15:00	56	177	46	0	0	279	52	342	50	3	1	447	21	276	89	0	1	386	56	163	43	0	0	262	1374	
16:30:00	57	146	46	0	0	249	51	338	38	3	1	430	21	242	99	1	1	363	49	194	44	0	0	287	1329	
16:45:00	36	150	51	0	0	237	57	278	42	4	1	381	30	294	87	0	4	411	58	175	50	0	0	283	1312	5354
17:00:00	51	125	47	0	0	223	60	308	38	3	0	409	31	238	88	0	1	357	60	226	52	0	0	338	1327	5342
17:15:00	55	178	64	0	0	297	61	304	38	0	1	403	31	287	100	0	6	418	58	226	53	0	0	337	1455	5423
17:30:00	50	162	55	0	0	267	54	319	30	3	1	406	24	213	91	0	0	328	58	234	59	0	0	351	1352	5446
17:45:00	46	149	68	0	0	263	61	274	35	1	1	371	23	213	83	0	1	319	49	201	58	0	0	308	1261	5395
18:00:00	49	116	44	0	0	209	39	239	46	1	1	325	21	191	53	0	2	265	60	220	61	0	0	341	1140	5208
18:15:00	26	131	51	0	0	208	46	199	39	5	1	289	32	190	62	0	1	284	52	176	45	0	0	273	1054	4807
18:30:00	37	142	36	0	0	215	32	236	30	1	0	299	27	184	62	0	8	273	44	147	44	0	0	235	1022	4477
18:45:00	29	121	35	0	0	185	42	154	37	5	3	238	38	147	57	0	1	242	59	153	34	0	0	246	911	4127
<b>Grand Total</b>	<b>949</b>	<b>4429</b>	<b>1212</b>	<b>0</b>	<b>1</b>	<b>6590</b>	<b>1019</b>	<b>4715</b>	<b>809</b>	<b>59</b>	<b>18</b>	<b>6602</b>	<b>800</b>	<b>4319</b>	<b>1381</b>	<b>1</b>	<b>37</b>	<b>6501</b>	<b>1467</b>	<b>5262</b>	<b>1260</b>	<b>2</b>	<b>2</b>	<b>7991</b>	<b>27684</b>	<b>-</b>
<b>Approach%</b>	14.4%	67.2%	18.4%	0%	-	-	15.4%	71.4%	12.3%	0.9%	-	-	12.3%	66.4%	21.2%	0%	-	-	18.4%	65.8%	15.8%	0%	-	-	-	-
<b>Totals %</b>	3.4%	16%	4.4%	0%	-	23.8%	3.7%	17%	2.9%	0.2%	-	23.8%	2.9%	15.6%	5%	0%	-	23.5%	5.3%	19%	4.6%	0%	-	28.9%	-	-
<b>Heavy</b>	90	340	18	0	-	-	22	253	87	0	-	-	67	310	64	0	-	-	59	213	66	0	-	-	-	-
<b>Heavy %</b>	9.5%	7.7%	1.5%	0%	-	-	2.2%	5.4%	10.8%	0%	-	-	8.4%	7.2%	4.6%	0%	-	-	4%	4%	5.2%	0%	-	-	-	-
<b>Bicycles</b>	0	0	0	0	-	-	0	2	0	0	-	-	0	0	1	0	-	-	0	2	0	0	-	-	-	-
<b>Bicycle %</b>	0%	0%	0%	0%	-	-	0%	0%	0%	0%	-	-	0%	0%	0.1%	0%	-	-	0%	0%	0%	0%	-	-	-	-



Peak Hour: 07:45 AM - 08:45 AM Weather: Clear Sky (15.03 °C)

Start Time	N Approach BRONTE RD						E Approach DUNDAS ST W						S Approach BRONTE RD						W Approach DUNDAS ST W						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
07:45:00	22	295	80	0	0	397	41	127	34	6	1	208	71	167	37	0	2	275	84	316	53	0	0	453	1333
08:00:00	35	244	67	0	0	346	58	165	35	4	1	262	38	166	34	0	1	238	72	354	59	1	0	486	1332
08:15:00	49	256	60	0	0	365	43	151	33	2	1	229	56	148	47	0	0	251	73	280	63	0	0	416	1261
08:30:00	53	270	69	0	0	392	47	165	39	4	0	255	46	155	35	0	2	236	67	245	62	0	0	374	1257
<b>Grand Total</b>	<b>159</b>	<b>1065</b>	<b>276</b>	<b>0</b>	<b>0</b>	<b>1500</b>	<b>189</b>	<b>608</b>	<b>141</b>	<b>16</b>	<b>3</b>	<b>954</b>	<b>211</b>	<b>636</b>	<b>153</b>	<b>0</b>	<b>5</b>	<b>1000</b>	<b>296</b>	<b>1195</b>	<b>237</b>	<b>1</b>	<b>0</b>	<b>1729</b>	<b>5183</b>
<b>Approach%</b>	10.6%	71%	18.4%	0%	-	-	19.8%	63.7%	14.8%	1.7%	-	-	21.1%	63.6%	15.3%	0%	-	-	17.1%	69.1%	13.7%	0.1%	-	-	-
<b>Totals %</b>	3.1%	20.5%	5.3%	0%	28.9%	28.9%	3.6%	11.7%	2.7%	0.3%	18.4%	18.4%	4.1%	12.3%	3%	0%	19.3%	19.3%	5.7%	23.1%	4.6%	0%	33.4%	33.4%	-
<b>PHF</b>	0.75	0.9	0.86	0	0.94	0.94	0.81	0.92	0.9	0.67	0.91	0.91	0.74	0.95	0.81	0	0.91	0.91	0.88	0.84	0.94	0.25	-	-	0.89
<b>Heavy</b>	18	94	12	0	124	124	8	57	26	0	91	91	27	51	9	0	87	87	13	50	17	0	80	80	-
<b>Heavy %</b>	11.3%	8.8%	4.3%	0%	8.3%	8.3%	4.2%	9.4%	18.4%	0%	9.5%	9.5%	12.8%	8%	5.9%	0%	8.7%	8.7%	4.4%	4.2%	7.2%	0%	4.6%	4.6%	-
<b>Lights</b>	141	971	264	0	1376	1376	181	551	115	16	863	863	184	585	144	0	913	913	283	1145	220	1	1649	1649	-
<b>Lights %</b>	88.7%	91.2%	95.7%	0%	91.7%	91.7%	95.8%	90.6%	81.6%	100%	90.5%	90.5%	87.2%	92%	94.1%	0%	91.3%	91.3%	95.6%	95.8%	92.8%	100%	95.4%	95.4%	-
<b>Single-Unit Trucks</b>	9	51	3	0	63	63	2	21	10	0	33	33	14	36	5	0	55	55	8	22	14	0	44	44	-
<b>Single-Unit Trucks %</b>	5.7%	4.8%	1.1%	0%	4.2%	4.2%	1.1%	3.5%	7.1%	0%	3.5%	3.5%	6.6%	5.7%	3.3%	0%	5.5%	5.5%	2.7%	1.8%	5.9%	0%	2.5%	2.5%	-
<b>Buses</b>	1	1	9	0	11	11	6	25	1	0	32	32	3	2	3	0	8	8	3	19	2	0	24	24	-
<b>Buses %</b>	0.6%	0.1%	3.3%	0%	0.7%	0.7%	3.2%	4.1%	0.7%	0%	3.4%	3.4%	1.4%	0.3%	2%	0%	0.8%	0.8%	1%	1.6%	0.8%	0%	1.4%	1.4%	-
<b>Articulated Trucks</b>	8	42	0	0	50	50	0	11	15	0	26	26	10	13	1	0	24	24	2	9	1	0	12	12	-
<b>Articulated Trucks %</b>	5%	3.9%	0%	0%	3.3%	3.3%	0%	1.8%	10.6%	0%	2.7%	2.7%	4.7%	2%	0.7%	0%	2.4%	2.4%	0.7%	0.8%	0.4%	0%	0.7%	0.7%	-
<b>Pedestrians</b>	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-
<b>Pedestrians%</b>	-	-	-	0%	-	-	-	-	-	37.5%	-	-	-	-	-	12.5%	-	-	-	-	-	0%	-	-	-
<b>Bicycles on Crosswalk</b>	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	0	-	-	-
<b>Bicycles on Crosswalk%</b>	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	50%	-	-	-	-	-	0%	-	-	-
<b>Bicycles on Road</b>	0	0	0	0	-	-	0	0	0	0	-	-	0	0	0	0	-	-	0	1	0	0	-	-	-
<b>Bicycles on Road%</b>	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-

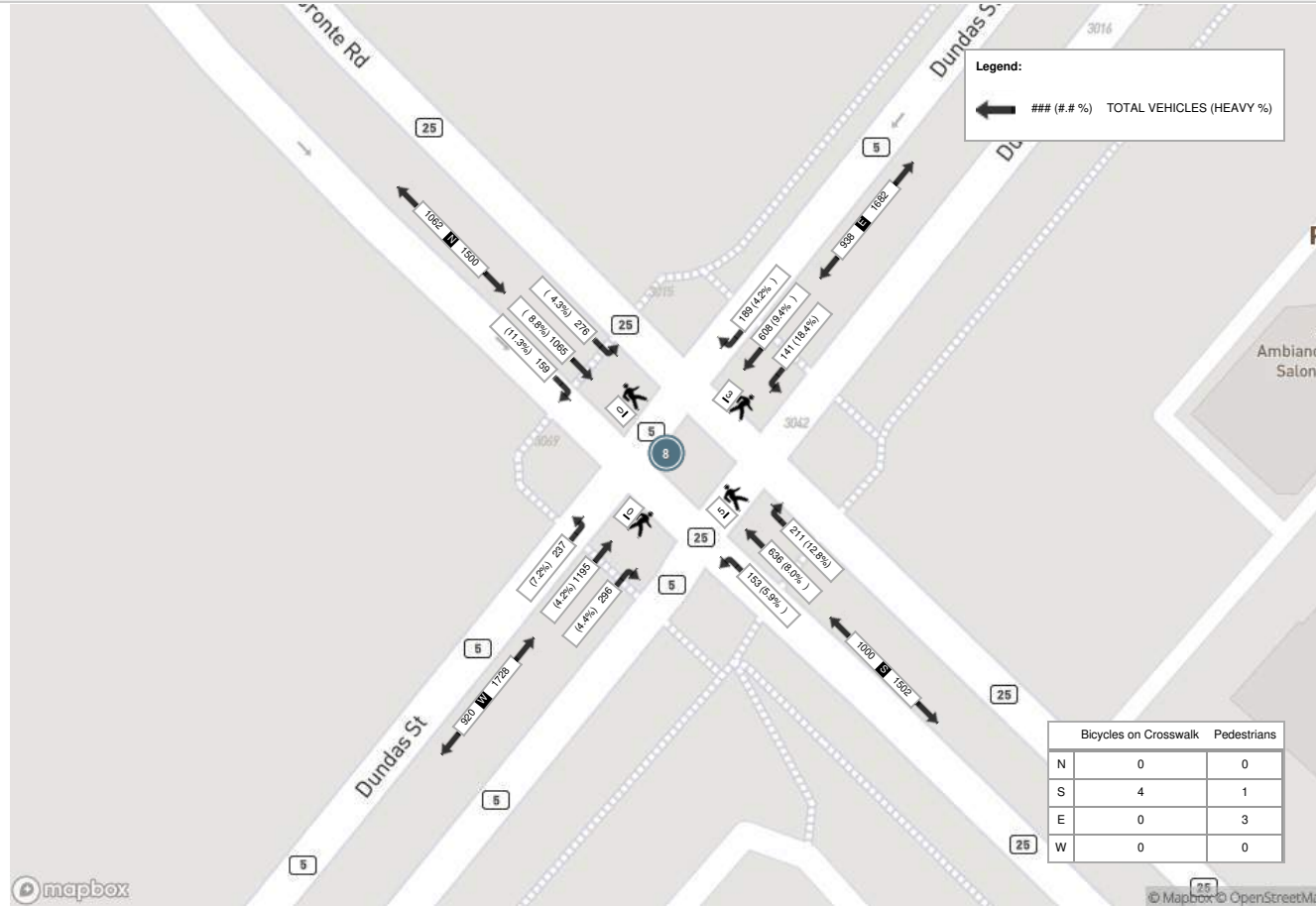


Peak Hour: 04:45 PM - 05:45 PM Weather: Clear Sky (24.91 °C)

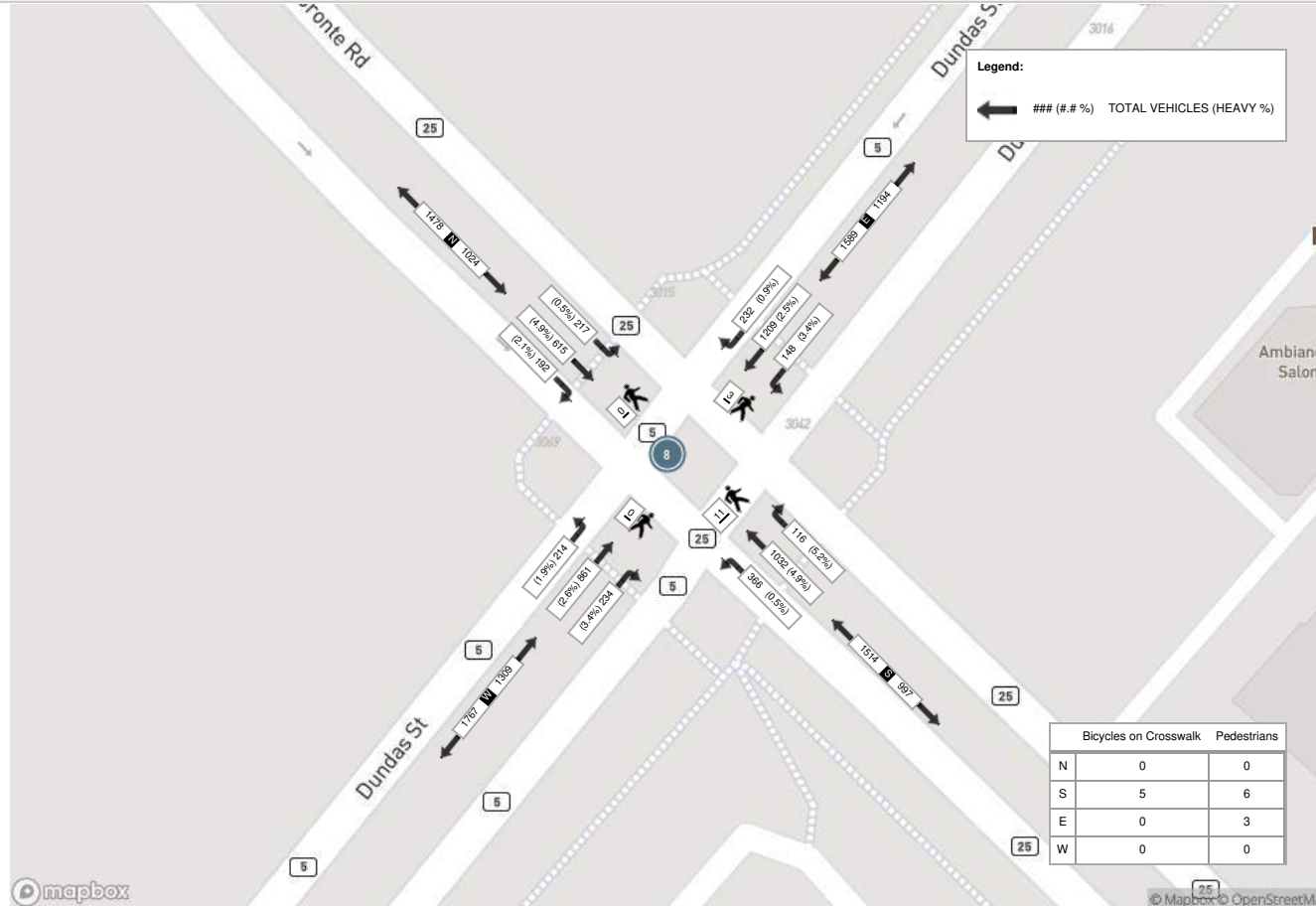
Start Time	N Approach BRONTE RD						E Approach DUNDAS ST W						S Approach BRONTE RD						W Approach DUNDAS ST W						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:45:00	36	150	51	0	0	237	57	278	42	4	1	381	30	294	87	0	4	411	58	175	50	0	0	283	1312
17:00:00	51	125	47	0	0	223	60	308	38	3	0	409	31	238	88	0	1	357	60	226	52	0	0	338	1327
17:15:00	55	178	64	0	0	297	61	304	38	0	1	403	31	287	100	0	6	418	58	226	53	0	0	337	1455
17:30:00	50	162	55	0	0	267	54	319	30	3	1	406	24	213	91	0	0	328	58	234	59	0	0	351	1352
<b>Grand Total</b>	<b>192</b>	<b>615</b>	<b>217</b>	<b>0</b>	<b>0</b>	<b>1024</b>	<b>232</b>	<b>1209</b>	<b>148</b>	<b>10</b>	<b>3</b>	<b>1599</b>	<b>116</b>	<b>1032</b>	<b>366</b>	<b>0</b>	<b>11</b>	<b>1514</b>	<b>234</b>	<b>861</b>	<b>214</b>	<b>0</b>	<b>0</b>	<b>1309</b>	<b>5446</b>
<b>Approach%</b>	18.8%	60.1%	21.2%	0%	-	-	14.5%	75.6%	9.3%	0.6%	-	-	7.7%	68.2%	24.2%	0%	-	-	17.9%	65.8%	16.3%	0%	-	-	-
<b>Totals %</b>	3.5%	11.3%	4%	0%	18.8%	4.3%	22.2%	2.7%	0.2%	29.4%	2.1%	18.9%	6.7%	0%	27.8%	4.3%	15.8%	3.9%	0%	24%	-	-	-		
<b>PHF</b>	0.87	0.86	0.85	0	0.86	0.95	0.95	0.88	0.63	0.98	0.94	0.88	0.92	0	0.91	0.98	0.92	0.91	0	0.93	-	-	-		
<b>Heavy</b>	4	30	1	0	35	2	30	5	0	37	6	51	2	0	59	8	22	4	0	34	-	-	-		
<b>Heavy %</b>	2.1%	4.9%	0.5%	0%	3.4%	0.9%	2.5%	3.4%	0%	2.3%	5.2%	4.9%	0.5%	0%	3.9%	3.4%	2.6%	1.9%	0%	2.6%	-	-	-		
<b>Lights</b>	188	585	216	0	989	230	1179	143	10	1562	110	981	364	0	1455	226	839	210	0	1275	-	-	-		
<b>Lights %</b>	97.9%	95.1%	99.5%	0%	96.6%	99.1%	97.5%	96.6%	100%	97.7%	94.8%	95.1%	99.5%	0%	96.1%	96.6%	97.4%	98.1%	0%	97.4%	-	-	-		
<b>Single-Unit Trucks</b>	1	12	0	0	13	2	10	1	0	13	3	18	0	0	21	4	5	2	0	11	-	-	-		
<b>Single-Unit Trucks %</b>	0.5%	2%	0%	0%	1.3%	0.9%	0.8%	0.7%	0%	0.8%	2.6%	1.7%	0%	0%	1.4%	1.7%	0.6%	0.9%	0%	0.8%	-	-	-		
<b>Buses</b>	0	0	0	0	0	0	12	0	0	12	0	0	1	0	1	4	9	0	0	13	-	-	-		
<b>Buses %</b>	0%	0%	0%	0%	0%	0%	0%	1%	0%	0.8%	0%	0%	0.3%	0%	0.1%	1.7%	1%	0%	0%	1%	-	-	-		
<b>Articulated Trucks</b>	3	18	1	0	22	0	8	4	0	12	3	33	1	0	37	0	8	2	0	10	-	-	-		
<b>Articulated Trucks %</b>	1.6%	2.9%	0.5%	0%	2.1%	0%	0.7%	2.7%	0%	0.8%	2.6%	3.2%	0.3%	0%	2.4%	0%	0.9%	0.9%	0%	0.8%	-	-	-		
<b>Pedestrians</b>	-	-	-	0	-	-	-	-	3	-	-	-	-	6	-	-	-	-	0	-	-	-	-		
<b>Pedestrians%</b>	-	-	-	0%	-	-	-	-	21.4%	-	-	-	-	42.9%	-	-	-	-	0%	-	-	-	-		
<b>Bicycles on Crosswalk</b>	-	-	-	0	-	-	-	-	0	-	-	-	-	5	-	-	-	-	0	-	-	-	-		
<b>Bicycles on Crosswalk%</b>	-	-	-	0%	-	-	-	-	0%	-	-	-	-	35.7%	-	-	-	-	0%	-	-	-	-		
<b>Bicycles on Road</b>	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	1	0	0	-	-	-	-		
<b>Bicycles on Road%</b>	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-		



Peak Hour: 07:45 AM - 08:45 AM Weather: Clear Sky (15.03 °C)



Peak Hour: 04:45 PM - 05:45 PM Weather: Clear Sky (24.91 °C)





Turning Movement Count (10 . BRONTE RD & HIGHVALLEY RD / PINE GLEN RD)

Start Time	N Approach BRONTE RD						E Approach PINE GLEN RD						S Approach BRONTE RD						W Approach HIGHVALLEY RD						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
06:30:00	2	176	10	0	0	188	7	1	15	0	1	23	26	133	0	0	0	159	5	0	1	0	1	6	376	
06:45:00	1	245	5	0	0	251	5	0	17	0	0	22	30	170	1	1	0	202	4	0	0	0	0	4	479	
07:00:00	2	217	4	0	0	223	14	0	15	0	2	29	16	147	3	1	0	167	4	1	1	0	2	6	425	
07:15:00	2	353	6	1	0	362	14	1	22	0	0	37	12	191	3	0	2	206	15	1	1	0	1	17	622	1902
07:30:00	0	418	5	0	1	423	18	0	20	0	2	38	13	213	4	1	1	231	11	0	3	0	4	14	706	2232
07:45:00	2	404	11	0	0	417	19	3	43	0	0	65	25	226	6	1	1	258	13	2	2	0	0	17	757	2510
08:00:00	4	325	14	1	0	344	29	5	39	0	1	73	25	204	6	0	1	235	16	6	3	0	2	25	677	2762
08:15:00	3	352	20	0	3	375	22	7	36	0	2	65	34	253	15	0	2	302	10	9	7	0	1	26	768	2908
08:30:00	3	344	15	0	2	362	15	8	49	0	2	72	15	208	21	0	2	244	20	3	2	0	12	25	703	2905
08:45:00	5	374	8	0	4	387	19	4	23	0	1	46	24	213	6	0	4	243	20	2	4	0	13	26	702	2850
09:00:00	1	261	16	0	1	278	12	2	28	0	0	42	19	173	6	1	6	199	4	2	1	0	0	7	526	2699
09:15:00	1	271	10	0	0	282	19	2	16	0	0	37	18	180	7	0	1	205	9	1	0	0	3	10	534	2465
***BREAK***																										
16:00:00	4	216	16	0	0	236	29	5	29	0	0	63	25	328	9	2	0	364	7	1	1	0	0	9	672	
16:15:00	4	278	9	0	1	291	25	4	24	0	0	53	25	390	11	0	0	426	7	5	4	0	3	16	786	
16:30:00	1	218	15	4	0	238	27	4	37	0	0	68	27	357	21	1	1	406	8	0	0	0	0	8	720	
16:45:00	5	234	7	0	2	246	21	4	24	0	0	49	28	370	18	0	1	416	7	6	1	0	3	14	725	2903
17:00:00	2	212	17	0	1	231	25	5	16	0	0	46	14	360	9	1	4	384	9	1	2	0	3	12	673	2904
17:15:00	9	236	16	0	0	261	29	11	29	0	0	69	28	337	13	0	2	378	4	8	0	0	7	12	720	2838
17:30:00	4	251	10	0	0	265	25	7	32	0	0	64	30	323	11	0	1	364	8	3	1	0	1	12	705	2823
17:45:00	3	214	11	1	1	229	19	6	23	0	1	48	33	280	13	0	1	326	5	3	1	0	0	9	612	2710
18:00:00	7	216	6	0	2	229	21	2	17	0	3	40	15	242	13	0	0	270	8	5	3	0	1	16	555	2592
18:15:00	5	197	15	0	0	217	19	3	21	0	0	43	20	266	8	0	2	294	6	3	2	0	0	11	565	2437
18:30:00	6	199	7	0	6	212	18	1	25	0	7	44	25	242	14	0	5	281	10	0	1	0	2	11	548	2280
18:45:00	5	203	10	0	1	218	15	4	17	0	3	36	17	227	8	0	2	252	13	1	1	0	1	15	521	2189
<b>Grand Total</b>	<b>81</b>	<b>6414</b>	<b>263</b>	<b>7</b>	<b>25</b>	<b>6765</b>	<b>466</b>	<b>89</b>	<b>617</b>	<b>0</b>	<b>25</b>	<b>1172</b>	<b>544</b>	<b>6033</b>	<b>226</b>	<b>9</b>	<b>39</b>	<b>6812</b>	<b>223</b>	<b>63</b>	<b>42</b>	<b>0</b>	<b>60</b>	<b>328</b>	<b>15077</b>	<b>-</b>
<b>Approach%</b>	1.2%	94.8%	3.9%	0.1%	-	-	39.8%	7.6%	52.6%	0%	-	-	8%	88.6%	3.3%	0.1%	-	-	68%	19.2%	12.8%	0%	-	-	-	-
<b>Totals %</b>	0.5%	42.5%	1.7%	0%	44.9%	-	3.1%	0.6%	4.1%	0%	7.8%	-	3.6%	40%	1.5%	0.1%	45.2%	-	1.5%	0.4%	0.3%	0%	2.2%	-	-	-
<b>Heavy</b>	1	427	55	0	-	-	49	2	20	0	-	-	10	369	10	0	-	-	9	2	0	0	-	-	-	-
<b>Heavy %</b>	1.2%	6.7%	20.9%	0%	-	-	10.5%	2.2%	3.2%	0%	-	-	1.8%	6.1%	4.4%	0%	-	-	4%	3.2%	0%	0%	-	-	-	-
<b>Bicycles</b>	0	0	0	0	-	-	0	4	0	0	-	-	0	0	1	0	-	-	0	1	0	0	-	-	-	-
<b>Bicycle %</b>	0%	0%	0%	0%	-	-	0%	4.5%	0%	0%	-	-	0%	0%	0.4%	0%	-	-	0%	1.6%	0%	0%	-	-	-	-



Peak Hour: 07:30 AM - 08:30 AM Weather: Clear Sky (15.03 °C)

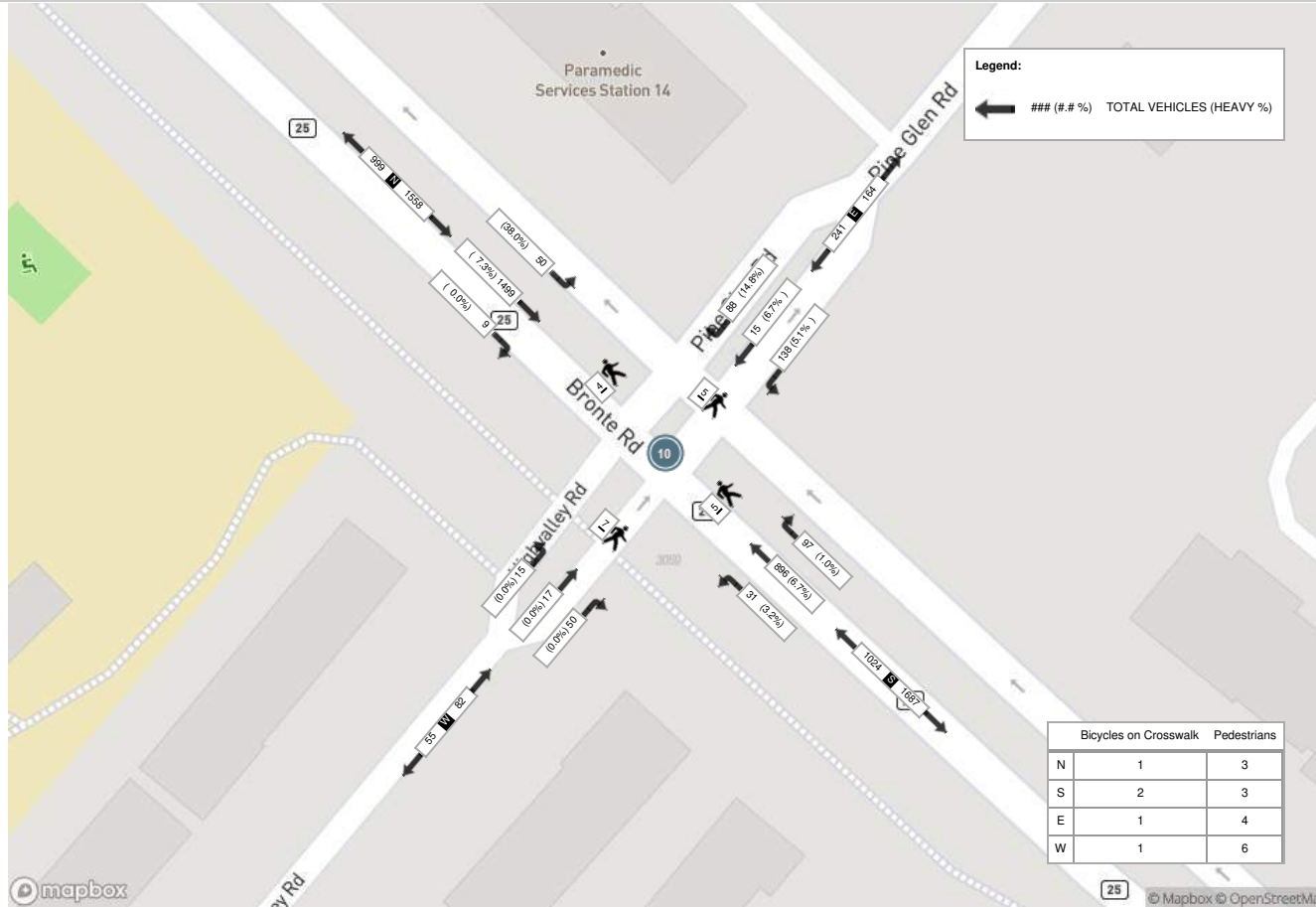
Start Time	N Approach BRONTE RD						E Approach PINE GLEN RD						S Approach BRONTE RD						W Approach HIGHVALLEY RD						Int. Total (15 min)	
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total		
07:30:00	0	418	5	0	1	423	18	0	20	0	2	38	13	213	4	1	1	231	11	0	3	0	4	14	706	
07:45:00	2	404	11	0	0	417	19	3	43	0	0	65	25	226	6	1	1	258	13	2	2	0	0	17	757	
08:00:00	4	325	14	1	0	344	29	5	39	0	1	73	25	204	6	0	1	235	16	6	3	0	2	25	677	
08:15:00	3	352	20	0	3	375	22	7	36	0	2	65	34	253	15	0	2	302	10	9	7	0	1	26	768	
<b>Grand Total</b>	<b>9</b>	<b>1499</b>	<b>50</b>	<b>1</b>	<b>4</b>	<b>1559</b>	<b>88</b>	<b>15</b>	<b>138</b>	<b>0</b>	<b>5</b>	<b>241</b>	<b>97</b>	<b>896</b>	<b>31</b>	<b>2</b>	<b>5</b>	<b>1026</b>	<b>50</b>	<b>17</b>	<b>15</b>	<b>0</b>	<b>7</b>	<b>82</b>	<b>2908</b>	
<b>Approach%</b>	0.6%	96.2%	3.2%	0.1%	-	-	36.5%	6.2%	57.3%	0%	-	-	9.5%	87.3%	3%	0.2%	-	61%	20.7%	18.3%	0%	-	-	-		
<b>Totals %</b>	0.3%	51.5%	1.7%	0%	53.6%	3%	0.5%	4.7%	0%	8.3%	3.3%	30.8%	1.1%	0.1%	35.3%	1.7%	0.6%	0.5%	0%	2.8%	-	-	-	-	-	-
<b>PHF</b>	0.56	0.9	0.63	0.25	0.92	0.76	0.54	0.8	0	0.83	0.71	0.89	0.52	0.5	0.85	0.78	0.47	0.54	0	0.79	-	-	-	-	-	-
<b>Heavy</b>	0	109	19	0	128	13	1	7	0	21	1	60	1	0	62	0	0	0	0	0	-	-	-	-	-	-
<b>Heavy %</b>	0%	7.3%	38%	0%	8.2%	14.8%	6.7%	5.1%	0%	8.7%	1%	6.7%	3.2%	0%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Lights</b>	9	1390	31	1	1431	75	14	131	0	220	96	836	30	2	964	50	17	15	0	82	-	-	-	-	-	-
<b>Lights %</b>	100%	92.7%	62%	100%	91.8%	85.2%	93.3%	94.9%	0%	91.3%	99%	93.3%	96.8%	100%	94%	100%	100%	100%	0%	100%	-	-	-	-	-	-
<b>Single-Unit Trucks</b>	0	52	17	0	69	13	0	1	0	14	0	27	0	0	27	0	0	0	0	0	-	-	-	-	-	-
<b>Single-Unit Trucks %</b>	0%	3.5%	34%	0%	4.4%	14.8%	0%	0.7%	0%	5.8%	0%	3%	0%	0%	2.6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Buses</b>	0	4	2	0	6	0	1	6	0	7	1	11	1	0	13	0	0	0	0	0	-	-	-	-	-	-
<b>Buses %</b>	0%	0.3%	4%	0%	0.4%	0%	6.7%	4.3%	0%	2.9%	1%	1.2%	3.2%	0%	1.3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Articulated Trucks</b>	0	53	0	0	53	0	0	0	0	0	0	22	0	0	22	0	0	0	0	0	-	-	-	-	-	-
<b>Articulated Trucks %</b>	0%	3.5%	0%	0%	3.4%	0%	0%	0%	0%	0%	0%	2.5%	0%	0%	2.1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Pedestrians</b>	-	-	-	-	3	-	-	-	-	4	-	-	-	-	3	-	-	-	-	6	-	-	-	-	-	-
<b>Pedestrians%</b>	-	-	-	-	14.3%	-	-	-	-	19%	-	-	-	-	14.3%	-	-	-	-	28.6%	-	-	-	-	-	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	1	-	-	-	-	1	-	-	-	-	2	-	-	-	-	1	-	-	-	-	-	-
<b>Bicycles on Crosswalk%</b>	-	-	-	-	4.8%	-	-	-	-	4.8%	-	-	-	-	9.5%	-	-	-	-	4.8%	-	-	-	-	-	-
<b>Bicycles on Road</b>	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	-	-	-	-	-	-
<b>Bicycles on Road%</b>	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	-



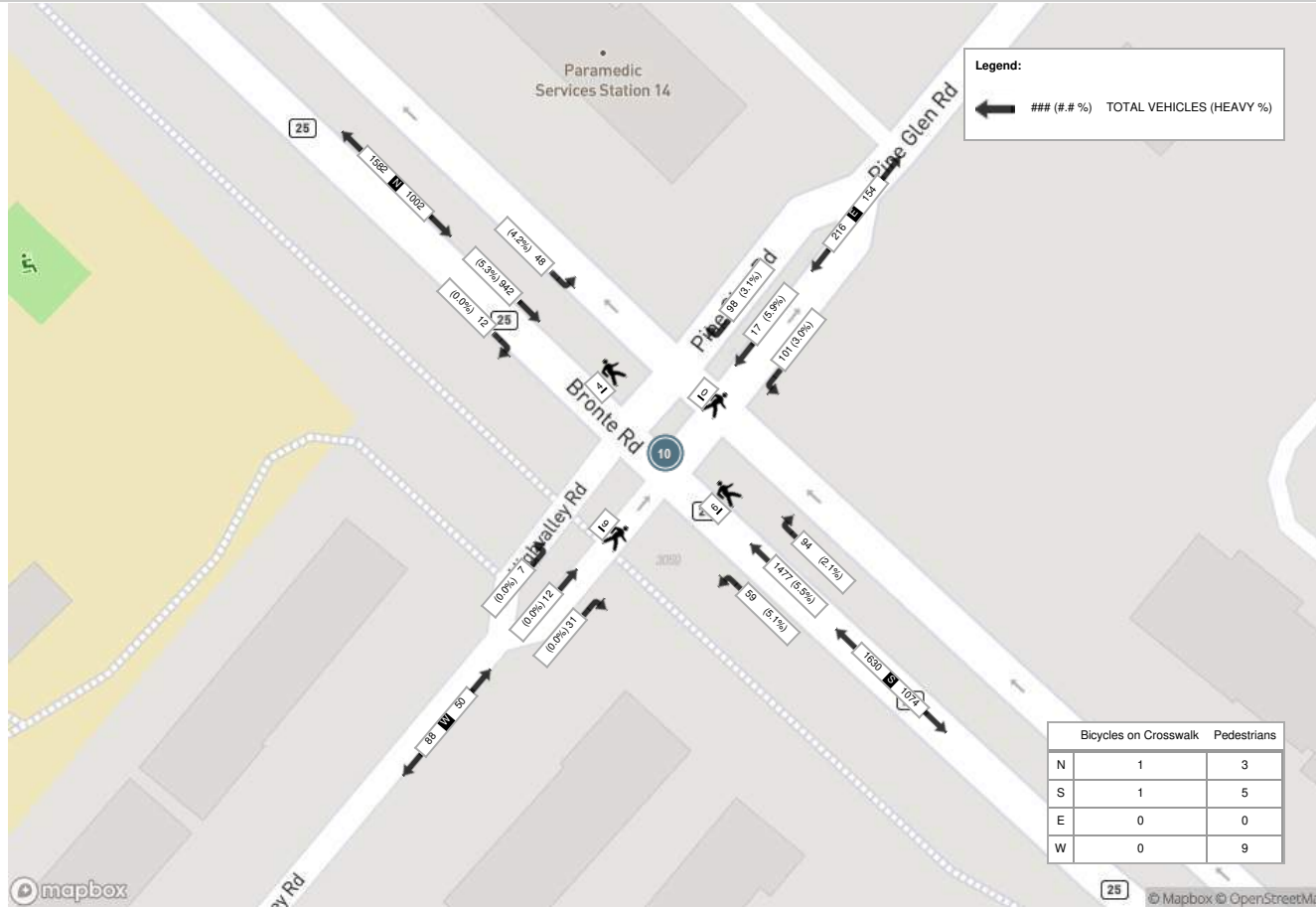
Peak Hour: 04:15 PM - 05:15 PM Weather: Clear Sky (24.91 °C)

Start Time	N Approach BRONTE RD						E Approach PINE GLEN RD						S Approach BRONTE RD						W Approach HIGHVALLEY RD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:15:00	4	278	9	0	1	291	25	4	24	0	0	53	25	390	11	0	0	426	7	5	4	0	3	16	786
16:30:00	1	218	15	4	0	238	27	4	37	0	0	68	27	357	21	1	1	406	8	0	0	0	0	8	720
16:45:00	5	234	7	0	2	246	21	4	24	0	0	49	28	370	18	0	1	416	7	6	1	0	3	14	725
17:00:00	2	212	17	0	1	231	25	5	16	0	0	46	14	360	9	1	4	384	9	1	2	0	3	12	673
<b>Grand Total</b>	<b>12</b>	<b>942</b>	<b>48</b>	<b>4</b>	<b>4</b>	<b>1006</b>	<b>98</b>	<b>17</b>	<b>101</b>	<b>0</b>	<b>0</b>	<b>216</b>	<b>94</b>	<b>1477</b>	<b>59</b>	<b>2</b>	<b>6</b>	<b>1632</b>	<b>31</b>	<b>12</b>	<b>7</b>	<b>0</b>	<b>9</b>	<b>50</b>	<b>2904</b>
<b>Approach%</b>	1.2%	93.6%	4.8%	0.4%	-	-	45.4%	7.9%	46.8%	0%	-	-	5.8%	90.5%	3.6%	0.1%	-	-	62%	24%	14%	0%	-	-	-
<b>Totals %</b>	0.4%	32.4%	1.7%	0.1%	-	34.6%	3.4%	0.6%	3.5%	0%	-	7.4%	3.2%	50.9%	2%	0.1%	-	56.2%	1.1%	0.4%	0.2%	0%	-	1.7%	-
<b>PHF</b>	0.6	0.85	0.71	0.25	-	0.86	0.91	0.85	0.68	0	-	0.79	0.84	0.95	0.7	0.5	-	0.96	0.86	0.5	0.44	0	-	0.78	-
<b>Heavy</b>	0	50	2	0	-	52	3	1	3	0	-	7	2	81	3	0	-	86	0	0	0	0	-	0	-
<b>Heavy %</b>	0%	5.3%	4.2%	0%	-	5.2%	3.1%	5.9%	3%	0%	-	3.2%	2.1%	5.5%	5.1%	0%	-	5.3%	0%	0%	0%	0%	-	0%	-
<b>Lights</b>	12	892	46	4	-	954	95	16	98	0	-	209	92	1396	56	2	-	1546	31	12	7	0	-	50	-
<b>Lights %</b>	100%	94.7%	95.8%	100%	-	94.8%	96.9%	94.1%	97%	0%	-	96.8%	97.9%	94.5%	94.9%	100%	-	94.7%	100%	100%	100%	0%	-	100%	-
<b>Single-Unit Trucks</b>	0	26	1	0	-	27	3	1	1	0	-	5	2	24	0	0	-	26	0	0	0	0	-	0	-
<b>Single-Unit Trucks %</b>	0%	2.8%	2.1%	0%	-	2.7%	3.1%	5.9%	1%	0%	-	2.3%	2.1%	1.6%	0%	0%	-	1.6%	0%	0%	0%	0%	-	0%	-
<b>Buses</b>	0	2	1	0	-	3	0	0	2	0	-	2	0	7	3	0	-	10	0	0	0	0	-	0	-
<b>Buses %</b>	0%	0.2%	2.1%	0%	-	0.3%	0%	0%	2%	0%	-	0.9%	0%	0.5%	5.1%	0%	-	0.6%	0%	0%	0%	0%	-	0%	-
<b>Articulated Trucks</b>	0	22	0	0	-	22	0	0	0	0	-	0	0	50	0	0	-	50	0	0	0	0	-	0	-
<b>Articulated Trucks %</b>	0%	2.3%	0%	0%	-	2.2%	0%	0%	0%	0%	-	0%	0%	3.4%	0%	0%	-	3.1%	0%	0%	0%	0%	-	0%	-
<b>Pedestrians</b>	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	5	-	-	-	-	-	9	-	-
<b>Pedestrians%</b>	-	-	-	-	15.8%	-	-	-	-	-	0%	-	-	-	-	-	26.3%	-	-	-	-	-	47.4%	-	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
<b>Bicycles on Crosswalk%</b>	-	-	-	-	5.3%	-	-	-	-	-	0%	-	-	-	-	-	5.3%	-	-	-	-	-	0%	-	-
<b>Bicycles on Road</b>	0	0	0	0	0	-	0	1	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	-
<b>Bicycles on Road%</b>	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-

Peak Hour: 07:30 AM - 08:30 AM Weather: Clear Sky (15.03 °C)



Peak Hour: 04:15 PM - 05:15 PM Weather: Clear Sky (24.91 °C)





**Turning Movement Count ( 2 . BRONTE RD & HWY 407 (EB ON / OFF RAMPS))**

Start Time	N Approach BRONTE RD					E Approach HWY 407 EB ON RAMP				S Approach BRONTE RD				W Approach HWY 407 EB OFF RAMP					NW Approach HWY 407 EB ON RAMP			Int. Total (15 min)	Int. Total (1 hr)	
	Hard Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	UTurn S:S	Peds S:	Approach Total	Right W:S	Left W:N	UTurn W:W	Peds W:	Approach Total	UTurn NW:W	Peds NW:			Approach Total
06:30:00	8	205	0	0	0	213	0	0	0	16	149	0	0	165	4	19	0	0	23	0	0	0	401	
06:45:00	8	260	0	0	0	268	0	0	0	15	165	0	0	180	3	18	0	0	21	0	0	0	469	
07:00:00	9	242	0	0	0	251	0	0	0	17	200	0	0	217	6	23	0	0	29	0	0	0	497	
07:15:00	16	389	0	0	0	405	0	0	0	32	233	0	0	265	26	20	0	0	46	0	0	0	716	2083
07:30:00	19	428	0	0	0	447	0	0	0	63	234	0	0	297	26	41	0	0	67	0	0	0	811	2493
07:45:00	17	438	0	0	0	455	0	0	0	48	223	0	0	271	38	35	0	0	73	0	0	0	799	2623
08:00:00	22	356	0	0	0	378	0	0	0	53	231	0	0	284	48	39	0	0	87	0	0	0	749	3075
08:15:00	32	427	0	0	0	459	0	0	0	65	233	0	0	298	34	33	0	0	67	0	0	0	824	3183
08:30:00	20	416	0	0	0	436	0	0	0	52	231	0	0	283	38	32	0	0	70	0	0	0	789	3161
08:45:00	25	363	0	0	0	388	0	0	0	36	214	0	0	250	23	26	0	0	49	0	0	0	687	3049
09:00:00	16	300	0	0	0	316	0	0	0	37	177	0	0	214	12	16	0	0	28	0	0	0	558	2858
09:15:00	7	266	0	0	0	273	0	0	0	29	180	0	0	209	10	14	0	0	24	0	0	0	506	2540
***BREAK***																								
16:00:00	16	263	0	0	0	279	0	0	0	43	382	0	0	425	14	30	0	0	44	0	0	0	748	
16:15:00	17	299	0	0	0	316	0	0	0	40	405	0	0	445	8	28	0	0	36	0	0	0	797	
16:30:00	15	243	0	0	0	258	0	0	0	40	410	0	0	450	10	20	0	0	30	0	0	0	738	
16:45:00	12	243	0	0	0	255	0	0	0	41	400	0	0	441	11	27	0	0	38	0	0	0	734	3017
17:00:00	12	241	0	0	0	253	0	0	0	34	397	0	0	431	16	29	0	0	45	0	0	0	729	2998
17:15:00	10	294	0	0	0	304	0	0	0	36	409	0	0	445	13	19	0	0	32	0	0	0	781	2982
17:30:00	16	272	0	0	0	288	0	0	0	33	362	0	0	395	17	34	0	0	51	0	0	0	734	2978
17:45:00	10	247	0	1	0	258	0	0	0	21	332	0	0	353	18	22	0	0	40	0	0	0	651	2895
18:00:00	11	214	0	0	0	225	0	0	0	32	288	0	0	320	18	16	0	0	34	0	0	0	579	2745
18:15:00	18	189	0	0	0	207	0	0	0	25	275	0	0	300	17	29	0	0	46	0	0	0	553	2517
18:30:00	5	211	0	0	0	216	0	0	0	20	281	0	0	301	5	24	0	1	29	0	0	0	546	2329
18:45:00	5	191	0	0	0	196	0	0	0	15	221	0	0	236	3	8	0	0	11	0	0	0	443	2121
<b>Grand Total</b>	<b>346</b>	<b>6997</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>7344</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>843</b>	<b>6632</b>	<b>0</b>	<b>0</b>	<b>7475</b>	<b>418</b>	<b>602</b>	<b>0</b>	<b>1</b>	<b>1020</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>15839</b>	<b>-</b>
<b>Approach%</b>	4.7%	95.3%	0%	0%	-	-	0%	-	-	11.3%	88.7%	0%	-	-	41%	59%	0%	-	-	0%	-	-	-	-
<b>Totals %</b>	2.2%	44.2%	0%	0%	46.4%	0%	0%	0%	5.3%	41.9%	0%	-	47.2%	2.6%	3.8%	0%	-	6.4%	0%	0%	0%	-	-	
<b>Heavy</b>	28	447	0	0	-	0	-	-	33	379	0	-	-	15	55	0	-	-	0	-	-	-	-	
<b>Heavy %</b>	8.1%	6.4%	0%	0%	-	0%	-	-	3.9%	5.7%	0%	-	-	3.6%	9.1%	0%	-	-	0%	-	-	-	-	
<b>Bicycles</b>	0	2	0	0	-	0	-	-	0	1	0	-	-	0	0	0	-	-	0	-	-	-	-	
<b>Bicycle %</b>	0%	0%	0%	0%	-	0%	-	-	0%	0%	0%	-	-	0%	0%	0%	-	-	0%	-	-	-	-	





Peak Hour: 07:30 AM - 08:30 AM Weather: Clear Sky (15.03 °C)

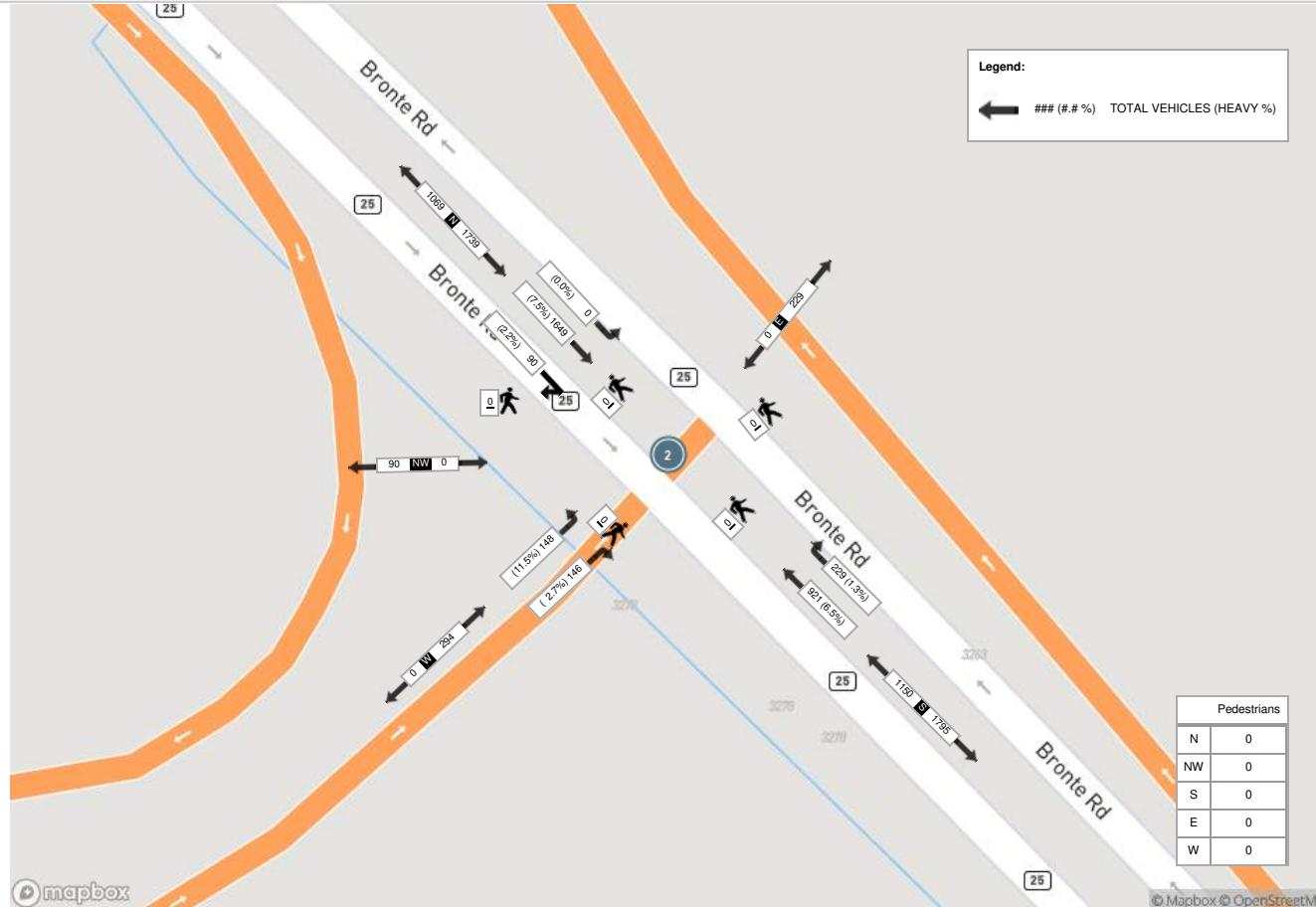
Start Time	N Approach BRONTE RD					E Approach HWY 407 EB ON RAMP			S Approach BRONTE RD				W Approach HWY 407 EB OFF RAMP				NW Approach HWY 407 EB ON RAMP			Int. Total (15 min)			
	Hard Right	Thru	Left	UTurn	Peds	Approach Total	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total		UTurn	Peds	Approach Total
07:30:00	19	428	0	0	0	447	0	0	0	63	234	0	0	297	26	41	0	0	67	0	0	0	811
07:45:00	17	438	0	0	0	455	0	0	0	48	223	0	0	271	38	35	0	0	73	0	0	0	799
08:00:00	22	356	0	0	0	378	0	0	0	53	231	0	0	284	48	39	0	0	87	0	0	0	749
08:15:00	32	427	0	0	0	459	0	0	0	65	233	0	0	298	34	33	0	0	67	0	0	0	824
<b>Grand Total</b>	<b>90</b>	<b>1649</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1739</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>229</b>	<b>921</b>	<b>0</b>	<b>0</b>	<b>1150</b>	<b>146</b>	<b>148</b>	<b>0</b>	<b>0</b>	<b>294</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3183</b>
<b>Approach%</b>	5.2%	94.8%	0%	0%	-	-	0%	-	19.9%	80.1%	0%	-	49.7%	50.3%	0%	-	0%	-	0%	-	-	-	-
<b>Totals %</b>	2.8%	51.8%	0%	0%	54.6%	0%	0%	0%	7.2%	28.9%	0%	36.1%	4.6%	4.6%	0%	9.2%	0%	0%	0%	0%	0%	-	-
<b>PHF</b>	0.7	0.94	0	0	0.95	0	0	0	0.88	0.98	0	0.96	0.76	0.9	0	0.84	0	0	0	0	0	0	-
<b>Heavy</b>	2	124	0	0	126	0	0	0	3	60	0	63	4	17	0	21	0	0	0	0	0	-	-
<b>Heavy %</b>	2.2%	7.5%	0%	0%	7.2%	0%	0%	0%	1.3%	6.5%	0%	5.5%	2.7%	11.5%	0%	7.1%	0%	0%	0%	0%	0%	-	-
<b>Lights</b>	88	1525	0	0	1613	0	0	0	226	861	0	1087	142	131	0	273	0	0	0	0	0	0	-
<b>Lights %</b>	97.8%	92.5%	0%	0%	92.8%	0%	0%	0%	98.7%	93.5%	0%	94.5%	97.3%	88.5%	0%	92.9%	0%	0%	0%	0%	0%	-	-
<b>Single-Unit Trucks</b>	0	63	0	0	63	0	0	0	2	39	0	41	4	12	0	16	0	0	0	0	0	0	-
<b>Single-Unit Trucks %</b>	0%	3.8%	0%	0%	3.6%	0%	0%	0%	0.9%	4.2%	0%	3.6%	2.7%	8.1%	0%	5.4%	0%	0%	0%	0%	0%	-	-
<b>Buses</b>	2	14	0	0	16	0	0	0	0	10	0	10	0	2	0	2	0	0	0	0	0	0	-
<b>Buses %</b>	2.2%	0.8%	0%	0%	0.9%	0%	0%	0%	0%	1.1%	0%	0.9%	0%	1.4%	0%	0.7%	0%	0%	0%	0%	0%	-	-
<b>Articulated Trucks</b>	0	47	0	0	47	0	0	0	1	11	0	12	0	3	0	3	0	0	0	0	0	0	-
<b>Articulated Trucks %</b>	0%	2.9%	0%	0%	2.7%	0%	0%	0%	0.4%	1.2%	0%	1%	0%	2%	0%	1%	0%	0%	0%	0%	0%	-	-
<b>Pedestrians</b>	-	-	-	-	0	-	0	-	-	-	0	-	-	-	0	-	-	0	-	0	-	-	-
<b>Pedestrians %</b>	-	-	-	-	0%	-	0%	-	-	-	0%	-	-	-	0%	-	-	0%	-	0%	-	-	-
<b>Bicycles on Road</b>	0	1	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
<b>Bicycles on Road %</b>	-	-	-	-	0%	-	0%	-	-	-	0%	-	-	-	0%	-	-	0%	-	0%	-	-	-



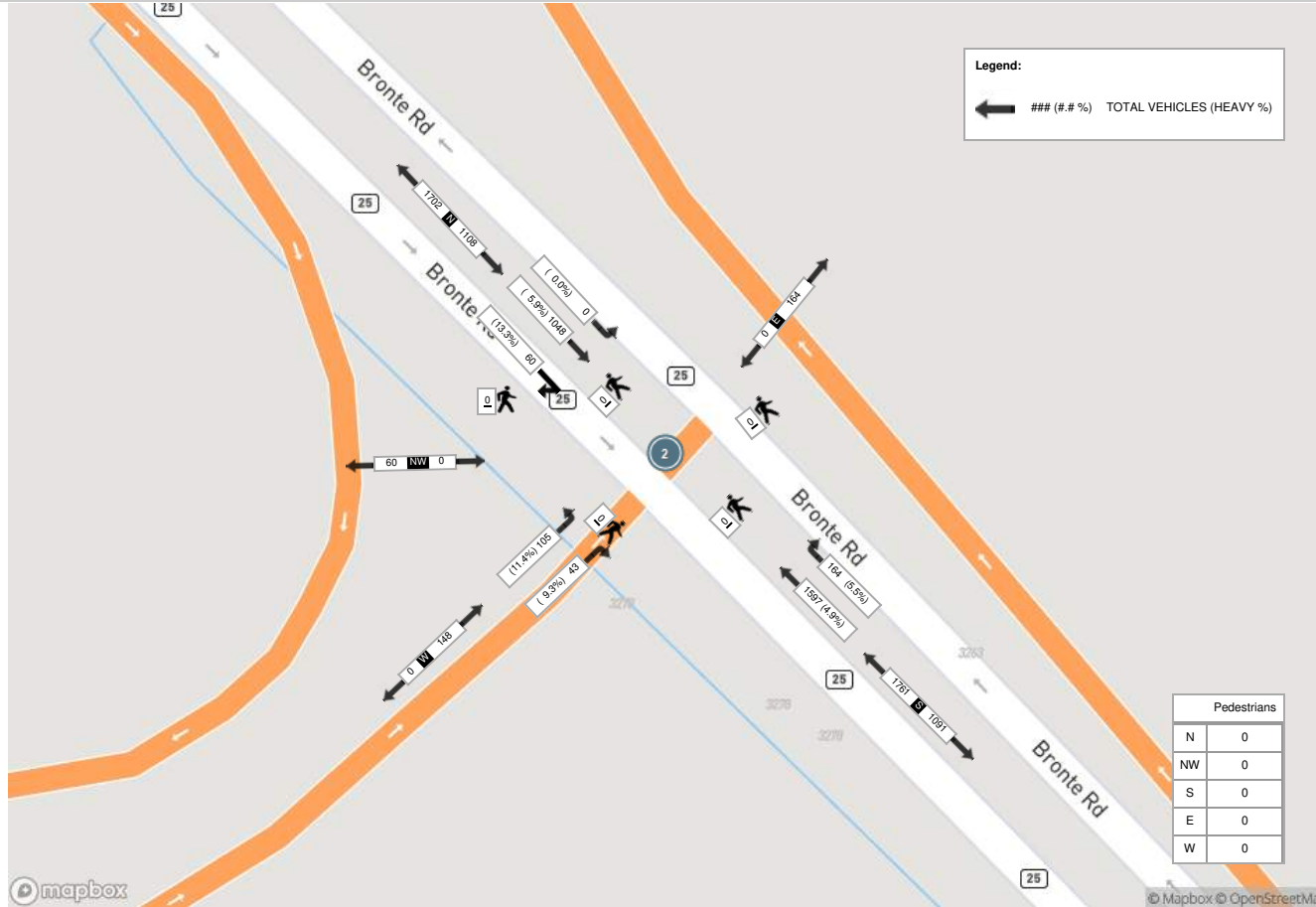
Peak Hour: 04:00 PM - 05:00 PM Weather: Clear Sky (24.91 °C)

Start Time	N Approach BRONTE RD					E Approach HWY 407 EB ON RAMP			S Approach BRONTE RD				W Approach HWY 407 EB OFF RAMP				NW Approach HWY 407 EB ON RAMP			Int. Total (15 min)			
	Hard Right	Thru	Left	UTurn	Peds	Approach Total	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total		UTurn	Peds	Approach Total
16:00:00	16	263	0	0	0	279	0	0	0	43	382	0	0	425	14	30	0	0	44	0	0	0	748
16:15:00	17	299	0	0	0	316	0	0	0	40	405	0	0	445	8	28	0	0	36	0	0	0	797
16:30:00	15	243	0	0	0	258	0	0	0	40	410	0	0	450	10	20	0	0	30	0	0	0	738
16:45:00	12	243	0	0	0	255	0	0	0	41	400	0	0	441	11	27	0	0	38	0	0	0	734
<b>Grand Total</b>	<b>60</b>	<b>1048</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1108</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>164</b>	<b>1597</b>	<b>0</b>	<b>0</b>	<b>1761</b>	<b>43</b>	<b>105</b>	<b>0</b>	<b>0</b>	<b>148</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3017</b>
<b>Approach%</b>	5.4%	94.6%	0%	0%		-	0%	-	9.3%	90.7%	0%		-	29.1%	70.9%	0%		-	0%	-	-	-	
<b>Totals %</b>	2%	34.7%	0%	0%		36.7%	0%	0%	5.4%	52.9%	0%		58.4%	1.4%	3.5%	0%		4.9%	0%	0%	0%	-	
<b>PHF</b>	0.88	0.88	0	0		0.88	0	0	0.95	0.97	0		0.98	0.77	0.88	0		0.84	0	0	0	-	
<b>Heavy</b>	8	62	0	0		70	0	0	9	79	0		88	4	12	0		16	0	0	0	-	
<b>Heavy %</b>	13.3%	5.9%	0%	0%		6.3%	0%	0%	5.5%	4.9%	0%		5%	9.3%	11.4%	0%		10.8%	0%	0%	0%	-	
<b>Lights</b>	52	986	0	0		1038	0	0	155	1518	0		1673	39	93	0		132	0	0	0	-	
<b>Lights %</b>	86.7%	94.1%	0%	0%		93.7%	0%	0%	94.5%	95.1%	0%		95%	90.7%	88.6%	0%		89.2%	0%	0%	0%	-	
<b>Single-Unit Trucks</b>	2	39	0	0		41	0	0	7	32	0		39	2	4	0		6	0	0	0	-	
<b>Single-Unit Trucks %</b>	3.3%	3.7%	0%	0%		3.7%	0%	0%	4.3%	2%	0%		2.2%	4.7%	3.8%	0%		4.1%	0%	0%	0%	-	
<b>Buses</b>	4	3	0	0		7	0	0	0	7	0		7	2	4	0		6	0	0	0	-	
<b>Buses %</b>	6.7%	0.3%	0%	0%		0.6%	0%	0%	0%	0.4%	0%		0.4%	4.7%	3.8%	0%		4.1%	0%	0%	0%	-	
<b>Articulated Trucks</b>	2	20	0	0		22	0	0	2	40	0		42	0	4	0		4	0	0	0	-	
<b>Articulated Trucks %</b>	3.3%	1.9%	0%	0%		2%	0%	0%	1.2%	2.5%	0%		2.4%	0%	3.8%	0%		2.7%	0%	0%	0%	-	
<b>Pedestrians</b>	-	-	-	-	0	-	-	0	-	-	-	0	-	-	-	-	0	-	-	0	-	-	
<b>Pedestrians %</b>	-	-	-	-	0%	-	-	0%	-	-	-	0%	-	-	-	-	0%	-	-	0%	-	-	
<b>Bicycles on Road</b>	0	0	0	0	0	-	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0	-	
<b>Bicycles on Road %</b>	-	-	-	-	0%	-	-	0%	-	-	-	0%	-	-	-	-	0%	-	-	0%	-	-	

Peak Hour: 07:30 AM - 08:30 AM Weather: Clear Sky (15.03 °C)



Peak Hour: 04:00 PM - 05:00 PM Weather: Clear Sky (24.91 °C)





**Turning Movement Count (1 . BRONTE RD & HWY 407 (WB ON / OFF RAMPS))**

Start Time	N Approach BRONTE RD					E Approach HWY 407 WB OFF RAMP					S Approach BRONTE RD					W Approach BRONTE CARPOOL LOT					SE Approach HWY 407 WB ON RAMP			SW Approach HWY 407 WB ON RAMP		Int. Total (15 min)	Int. Total (1 hr)				
	Right N:W	Thru N:S	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Hard Right S:SE	Thru S:N	Left S:W	Hard Left S:SW	UTurn S:S	Peds S:	Approach Total	Right W:S	Left W:N	UTurn W:W	Peds W:	Approach Total	UTurn SE:SE	Peds SE:			Approach Total	UTurn SW:SW	Approach Total	
06:30:00	9	189	0	0	198	2	0	16	0	0	18	4	160	1	0	0	0	165	3	3	0	0	6	0	0	0	0	0	387		
06:45:00	7	267	0	0	274	7	1	12	0	0	20	0	187	3	0	0	0	190	3	6	0	0	9	0	0	0	0	0	493		
07:00:00	7	221	0	0	228	8	1	15	0	0	24	2	202	12	0	0	0	216	10	4	0	0	14	0	0	0	0	0	482		
07:15:00	12	377	0	0	389	5	1	20	0	0	26	5	239	12	0	0	0	256	8	4	0	0	12	0	0	0	0	0	683	2045	
07:30:00	9	448	0	0	457	3	1	20	0	0	24	1	257	7	0	1	0	266	12	12	0	0	24	0	0	0	0	0	771	2429	
07:45:00	10	428	0	0	438	10	1	23	0	0	34	11	248	8	0	0	0	267	6	7	0	0	13	0	0	0	0	0	752	2688	
08:00:00	14	365	0	0	379	14	2	28	0	0	44	9	251	10	0	0	0	270	3	5	0	0	8	0	0	0	0	0	701	2907	
08:15:00	20	426	0	0	446	14	0	22	0	0	36	10	251	10	0	0	0	271	15	15	0	0	30	0	0	0	0	0	783	3007	
08:30:00	10	391	0	0	401	7	2	35	0	0	44	11	236	8	0	0	0	255	8	3	0	0	11	0	0	0	0	0	711	2947	
08:45:00	9	312	0	0	321	10	0	54	0	0	64	26	216	6	0	0	0	248	9	7	0	0	16	0	0	0	0	0	649	2844	
09:00:00	9	280	0	0	289	4	2	34	0	0	40	15	170	7	0	2	0	194	7	1	0	0	8	0	0	0	0	0	531	2674	
09:15:00	12	253	0	0	265	8	0	26	0	0	34	11	178	6	0	0	0	195	6	7	0	0	13	0	0	0	0	0	507	2398	
***BREAK***																															
16:00:00	3	218	0	0	221	31	1	48	0	0	80	50	372	4	0	0	0	426	1	4	0	0	5	0	0	0	0	0	732		
16:15:00	16	253	0	0	269	19	0	48	0	0	67	46	376	7	0	0	1	429	13	12	0	0	25	0	1	0	0	0	790		
16:30:00	5	230	0	0	235	34	0	42	0	0	76	46	378	8	0	0	0	432	4	8	0	0	12	0	0	0	0	0	755		
16:45:00	9	187	0	0	196	30	1	48	0	0	79	27	403	6	0	0	0	436	5	9	0	0	14	0	0	0	0	0	725	3002	
17:00:00	5	204	0	0	209	23	1	52	0	0	76	40	349	3	0	0	0	392	5	17	0	0	22	0	0	0	0	0	699	2969	
17:15:00	7	243	0	0	250	18	0	59	0	0	77	28	423	4	0	0	0	455	6	7	0	1	13	0	0	0	0	0	795	2974	
17:30:00	5	245	0	0	250	15	1	51	0	0	67	26	358	1	0	0	0	385	2	6	0	0	8	0	0	0	0	0	710	2929	
17:45:00	1	203	0	0	204	25	0	47	0	0	72	24	350	4	0	0	0	378	2	6	0	0	8	0	0	0	0	0	662	2866	
18:00:00	6	186	0	0	192	15	3	36	0	0	54	21	273	10	0	0	0	304	4	0	0	0	4	0	0	0	0	0	554	2721	
18:15:00	7	180	0	1	187	8	0	18	0	0	26	24	262	8	0	1	0	295	13	17	0	1	30	0	0	0	0	0	538	2464	
18:30:00	6	181	0	0	187	13	2	26	0	0	41	12	286	4	0	1	0	303	5	4	0	1	9	0	0	0	0	0	540	2294	
18:45:00	9	174	0	0	183	11	1	23	0	0	35	5	226	4	0	0	0	235	5	8	0	0	13	0	0	0	0	0	466	2098	
<b>Grand Total</b>	207	6461	0	1	6668	334	21	803	0	0	1158	454	6651	153	0	5	1	7263	155	172	0	3	327	0	1	0	0	0	<b>15416</b>	-	
<b>Approach%</b>	3.1%	96.9%	0%	-	-	28.8%	1.8%	69.3%	0%	-	-	6.3%	91.6%	2.1%	0%	0.1%	-	47.4%	52.6%	0%	-	-	0%	-	-	0%	0%	-	-	-	
<b>Totals %</b>	1.3%	41.9%	0%	43.3%	-	2.2%	0.1%	5.2%	0%	7.5%	-	2.9%	43.1%	1%	0%	0%	47.1%	1%	1.1%	0%	-	2.1%	0%	0%	0%	0%	0%	-	-	-	
<b>Heavy</b>	1	378	0	-	-	15	17	72	0	-	-	12	414	17	0	0	-	17	1	0	-	0	-	0	-	0	-	-	-	-	
<b>Heavy %</b>	0.5%	5.9%	0%	-	-	4.5%	81%	9%	0%	-	-	2.6%	6.2%	11.1%	0%	0%	-	11%	0.6%	0%	-	0%	-	-	0%	-	-	-	-	-	
<b>Bicycles</b>	0	1	0	-	-	0	0	0	0	-	-	0	1	0	0	0	-	0	0	0	-	0	-	0	-	0	-	-	-	-	
<b>Bicycle %</b>	0%	0%	0%	-	-	0%	0%	0%	0%	-	-	0%	0%	0%	0%	0%	-	0%	0%	0%	-	0%	-	0%	-	0%	-	-	-	-	-

**Peak Hour: 07:30 AM - 08:30 AM Weather: Clear Sky (15.03 °C)**

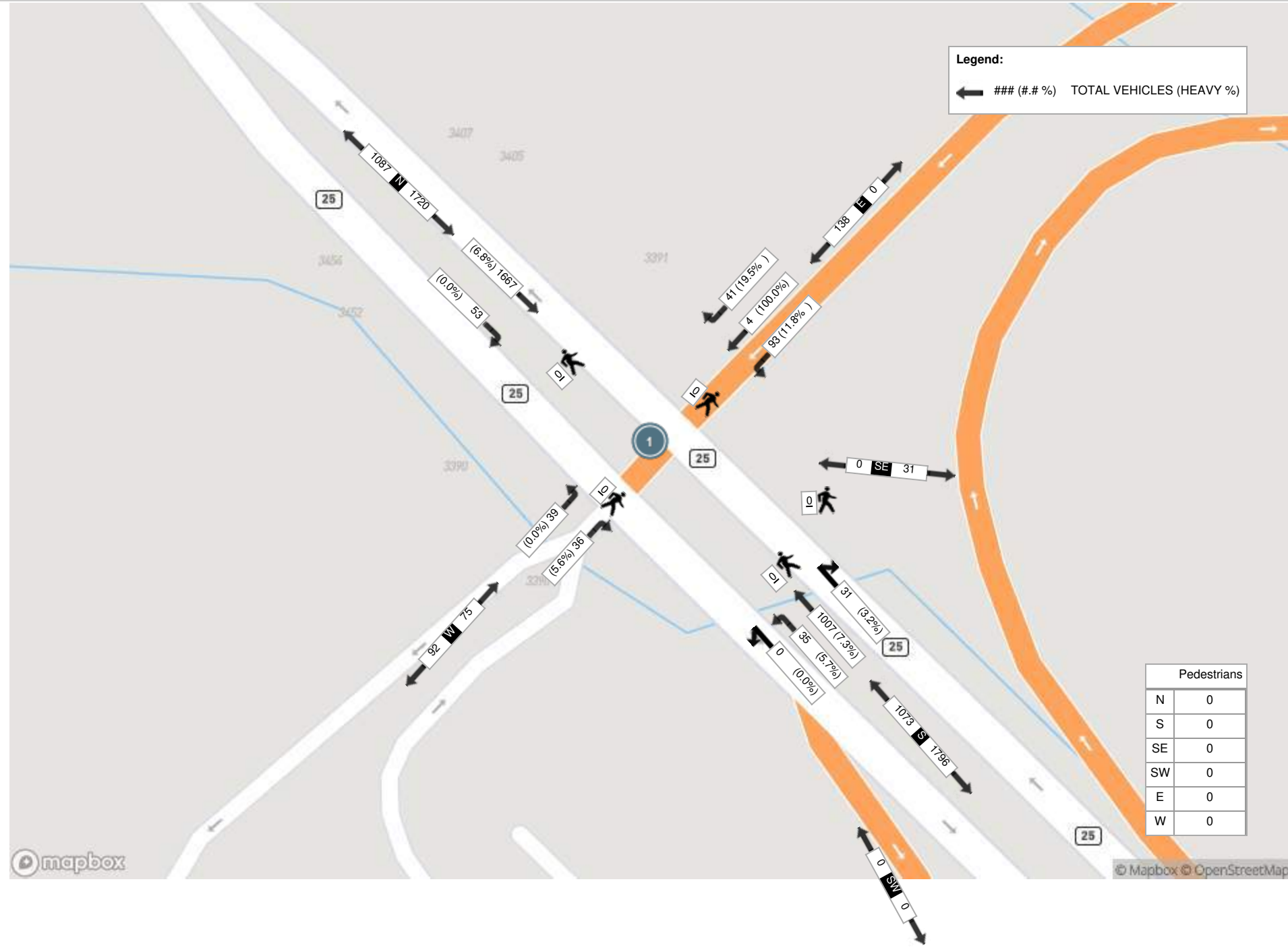
Start Time	N Approach BRONTE RD					E Approach HWY 407 WB OFF RAMP					S Approach BRONTE RD					W Approach BRONTE CARPOOL LOT					SE Approach HWY 407 WB ON RAMP			SW Approach HWY 407 WB ON RAMP		Int. Total (15 min)			
	Right	Thru	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Hard Right	Thru	Left	Hard Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	UTurn	Peds		Approach Total	UTurn	Approach Total
07:30:00	9	448	0	0	457	3	1	20	0	0	24	1	257	7	0	1	0	266	12	12	0	0	24	0	0	0	0	0	771
07:45:00	10	428	0	0	438	10	1	23	0	0	34	11	248	8	0	0	0	267	6	7	0	0	13	0	0	0	0	752	
08:00:00	14	365	0	0	379	14	2	28	0	0	44	9	251	10	0	0	0	270	3	5	0	0	8	0	0	0	0	701	
08:15:00	20	426	0	0	446	14	0	22	0	0	36	10	251	10	0	0	0	271	15	15	0	0	30	0	0	0	0	783	
<b>Grand Total</b>	<b>53</b>	<b>1667</b>	<b>0</b>	<b>0</b>	<b>1720</b>	<b>41</b>	<b>4</b>	<b>93</b>	<b>0</b>	<b>0</b>	<b>138</b>	<b>31</b>	<b>1007</b>	<b>35</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1074</b>	<b>36</b>	<b>39</b>	<b>0</b>	<b>0</b>	<b>75</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3007</b>	
<b>Approach%</b>	3.1%	96.9%	0%	-	-	29.7%	2.9%	67.4%	0%	-	-	2.9%	93.8%	3.3%	0%	0.1%	-	-	48%	52%	0%	-	-	0%	-	0%	-	-	
<b>Totals</b>	1.8%	55.4%	0%	57.2%	57.2%	1.4%	0.1%	3.1%	0%	4.6%	4.6%	1%	33.5%	1.2%	0%	0%	35.7%	35.7%	1.2%	1.3%	0%	2.5%	2.5%	0%	0%	0%	0%	0%	
<b>PHF</b>	0.66	0.93	0	0.94	0.94	0.73	0.5	0.83	0	0.78	0.78	0.7	0.98	0.88	0	0.25	0.99	0.99	0.6	0.65	0	0.63	0.63	0	0	0	0	-	
<b>Heavy</b>	0	113	0	113	113	8	4	11	0	23	23	1	74	2	0	0	77	77	2	0	0	2	2	0	0	0	0	-	
<b>Heavy %</b>	0%	6.8%	0%	6.6%	6.6%	19.5%	100%	11.8%	0%	16.7%	16.7%	3.2%	7.3%	5.7%	0%	0%	7.2%	7.2%	5.6%	0%	0%	2.7%	2.7%	0%	0%	0%	0%	-	
<b>Lights</b>	53	1554	0	1607	1607	33	0	82	0	115	115	30	933	33	0	1	997	997	34	39	0	73	73	0	0	0	0	-	
<b>Lights %</b>	100%	93.2%	0%	93.4%	93.4%	80.5%	0%	88.2%	0%	83.3%	83.3%	96.8%	92.7%	94.3%	0%	100%	92.8%	92.8%	94.4%	100%	0%	97.3%	97.3%	0%	0%	0%	0%	-	
<b>Single-Unit Trucks</b>	0	56	0	56	56	5	0	8	0	13	13	0	51	0	0	0	51	51	0	0	0	0	0	0	0	0	0	-	
<b>Single-Unit Trucks %</b>	0%	3.4%	0%	3.3%	3.3%	12.2%	0%	8.6%	0%	9.4%	9.4%	0%	5.1%	0%	0%	0%	4.7%	4.7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	
<b>Buses</b>	0	13	0	13	13	0	4	0	0	4	4	1	9	2	0	0	12	12	2	0	0	2	2	0	0	0	0	-	
<b>Buses %</b>	0%	0.8%	0%	0.8%	0.8%	0%	100%	0%	0%	2.9%	2.9%	3.2%	0.9%	5.7%	0%	0%	1.1%	1.1%	5.6%	0%	0%	2.7%	2.7%	0%	0%	0%	0%	-	
<b>Articulated Trucks</b>	0	44	0	44	44	3	0	3	0	6	6	0	14	0	0	0	14	14	0	0	0	0	0	0	0	0	0	-	
<b>Articulated Trucks %</b>	0%	2.6%	0%	2.6%	2.6%	7.3%	0%	3.2%	0%	4.3%	4.3%	0%	1.4%	0%	0%	0%	1.3%	1.3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	
<b>Pedestrians</b>	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	0	-	-	0	-	-	-	
<b>Pedestrians%</b>	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	0%	-	-	-	-	0%	-	-	0%	-	-	-	
<b>Bicycles on Road</b>	0	1	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	-	0	0	-	0	-	
<b>Bicycles on Road%</b>	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	0%	-	-	-	-	0%	-	-	0%	-	-	-	



**Peak Hour: 04:00 PM - 05:00 PM Weather: Clear Sky (24.91 °C)**

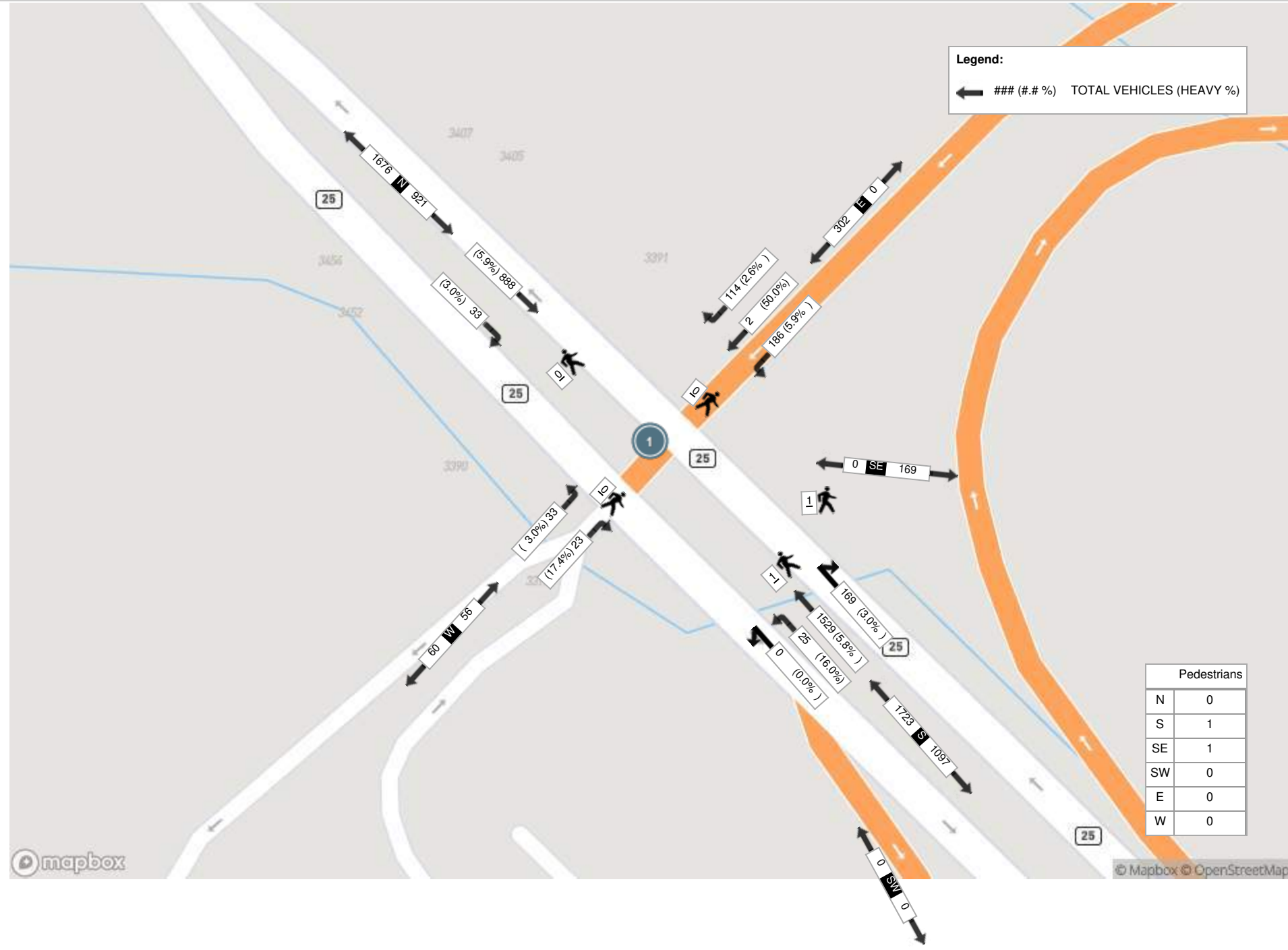
Start Time	N Approach BRONTE RD					E Approach HWY 407 WB OFF RAMP						S Approach BRONTE RD						W Approach BRONTE CARPOOL LOT					SE Approach HWY 407 WB ON RAMP			SW Approach HWY 407 WB ON RAMP		Int. Total (15 min)	
	Right	Thru	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Hard Right	Thru	Left	Hard Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	UTurn	Peds	Approach Total	UTurn		Approach Total
16:00:00	3	218	0	0	221	31	1	48	0	0	80	50	372	4	0	0	0	426	1	4	0	0	5	0	0	0	0	0	732
16:15:00	16	253	0	0	269	19	0	48	0	0	67	46	376	7	0	0	1	429	13	12	0	0	25	0	1	0	0	0	790
16:30:00	5	230	0	0	235	34	0	42	0	0	76	46	378	8	0	0	0	432	4	8	0	0	12	0	0	0	0	0	755
16:45:00	9	187	0	0	196	30	1	48	0	0	79	27	403	6	0	0	0	436	5	9	0	0	14	0	0	0	0	0	725
<b>Grand Total</b>	<b>33</b>	<b>888</b>	<b>0</b>	<b>0</b>	<b>921</b>	<b>114</b>	<b>2</b>	<b>186</b>	<b>0</b>	<b>0</b>	<b>302</b>	<b>169</b>	<b>1529</b>	<b>25</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1723</b>	<b>23</b>	<b>33</b>	<b>0</b>	<b>0</b>	<b>56</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3002</b>
<b>Approach%</b>	3.6%	96.4%	0%	-	-	37.7%	0.7%	61.6%	0%	-	-	9.8%	88.7%	1.5%	0%	0%	-	-	41.1%	58.9%	0%	-	-	0%	-	0%	0%	0%	-
<b>Totals</b>	1.1%	29.6%	0%	30.7%	30.7%	3.8%	0.1%	6.2%	0%	10.1%	10.1%	5.6%	50.9%	0.8%	0%	0%	57.4%	57.4%	0.8%	1.1%	0%	1.9%	1.9%	0%	0%	0%	0%	0%	-
<b>PHF</b>	0.52	0.88	0	0.86	0.86	0.84	0.5	0.97	0	0.94	0.94	0.85	0.95	0.78	0	0	0.99	0.99	0.44	0.69	0	0.56	0.56	0	0	0	0	0	-
<b>Heavy</b>	1	52	0	53	53	3	1	11	0	15	15	5	88	4	0	0	97	97	4	1	0	5	5	0	0	0	0	0	-
<b>Heavy %</b>	3%	5.9%	0%	5.8%	5.8%	2.6%	50%	5.9%	0%	5%	5%	3%	5.8%	16%	0%	0%	5.6%	5.6%	17.4%	3%	0%	8.9%	8.9%	0%	0%	0%	0%	0%	-
<b>Lights</b>	32	836	0	868	868	111	1	175	0	287	287	164	1441	21	0	0	1626	1626	19	32	0	51	51	0	0	0	0	0	-
<b>Lights %</b>	97%	94.1%	0%	94.2%	94.2%	97.4%	50%	94.1%	0%	95%	95%	97%	94.2%	84%	0%	0%	94.4%	94.4%	82.6%	97%	0%	91.1%	91.1%	0%	0%	0%	0%	0%	-
<b>Single-Unit Trucks</b>	1	32	0	33	33	1	0	8	0	9	9	3	37	0	0	0	40	40	0	1	0	1	1	0	0	0	0	0	-
<b>Single-Unit Trucks %</b>	3%	3.6%	0%	3.6%	3.6%	0.9%	0%	4.3%	0%	3%	3%	1.8%	2.4%	0%	0%	0%	2.3%	2.3%	0%	3%	0%	1.8%	1.8%	0%	0%	0%	0%	0%	-
<b>Buses</b>	0	3	0	3	3	0	1	0	0	1	1	2	5	4	0	0	11	11	4	0	0	4	4	0	0	0	0	0	-
<b>Buses %</b>	0%	0.3%	0%	0.3%	0.3%	0%	50%	0%	0%	0.3%	0.3%	1.2%	0.3%	16%	0%	0%	0.6%	0.6%	17.4%	0%	0%	7.1%	7.1%	0%	0%	0%	0%	0%	-
<b>Articulated Trucks</b>	0	17	0	17	17	2	0	3	0	5	5	0	46	0	0	0	46	46	0	0	0	0	0	0	0	0	0	0	-
<b>Articulated Trucks %</b>	0%	1.9%	0%	1.8%	1.8%	1.8%	0%	1.6%	0%	1.7%	1.7%	0%	3%	0%	0%	0%	2.7%	2.7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
<b>Pedestrians</b>	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	1	-	-	-	-	0	-	-	-	1	-	-	-	-
<b>Pedestrians%</b>	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	50%	-	-	-	-	0%	-	-	-	50%	-	-	-	-
<b>Bicycles on Road</b>	0	0	0	-	-	0	0	0	0	-	-	0	0	0	0	0	-	-	0	0	0	-	-	0	0	-	0	-	-
<b>Bicycles on Road%</b>	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	0%	-	-	-	-	0%	-	-	-	0%	-	-	-	-

Peak Hour: 07:30 AM - 08:30 AM Weather: Clear Sky (15.03 °C)





Peak Hour: 04:00 PM - 05:00 PM Weather: Clear Sky (24.91 °C)





**Turning Movement Count (4 . BRONTE RD & OLD BRONTE RD NORTH)**

Start Time	N Approach BRONTE RD					E Approach OLD BRONTE RD N					S Approach BRONTE RD					Int. Total (15 min)	Int. Total (1 hr)
	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	UTurn S:S	Peds S:	Approach Total		
06:30:00	205	0	0	0	205	0	0	0	0	0	0	157	0	0	157	362	
06:45:00	268	0	0	0	268	0	0	0	0	0	0	189	0	0	189	457	
07:00:00	247	0	0	0	247	0	0	0	0	0	0	212	0	0	212	459	
07:15:00	428	0	0	0	428	0	0	0	0	0	0	262	0	0	262	690	1968
07:30:00	466	0	0	0	466	0	0	0	0	0	0	301	0	0	301	767	2373
07:45:00	478	0	0	0	478	0	0	0	0	0	0	272	0	0	272	750	2666
08:00:00	412	0	0	0	412	1	0	0	0	1	0	305	0	0	305	718	2925
08:15:00	468	0	0	0	468	0	0	0	0	0	0	282	0	0	282	750	2985
08:30:00	457	0	0	0	457	0	0	0	0	0	0	292	0	0	292	749	2967
08:45:00	405	0	0	0	405	0	0	0	0	0	0	241	0	0	241	646	2863
09:00:00	308	0	0	0	308	0	0	0	1	0	0	224	0	0	224	532	2677
09:15:00	289	0	0	0	289	0	0	0	0	0	0	208	0	0	208	497	2424
***BREAK***																	
16:00:00	275	0	0	0	275	0	0	0	0	0	0	437	0	0	437	712	
16:15:00	314	0	0	0	314	0	0	0	1	0	0	469	0	0	469	783	
16:30:00	253	0	0	0	253	0	0	0	0	0	0	441	0	0	441	694	
16:45:00	259	0	0	0	259	0	0	0	0	0	0	450	0	0	450	709	2898
17:00:00	262	0	0	0	262	0	0	0	0	0	0	429	0	0	429	691	2877
17:15:00	300	0	0	0	300	0	0	0	0	0	0	471	0	0	471	771	2865
17:30:00	294	0	0	0	294	0	0	0	0	0	0	397	0	0	397	691	2862
17:45:00	268	0	0	0	268	1	0	0	0	1	0	352	0	0	352	621	2774
18:00:00	236	0	0	0	236	0	1	0	0	1	0	325	0	0	325	562	2645
18:15:00	209	0	0	0	209	0	0	0	0	0	0	301	0	0	301	510	2384
18:30:00	220	0	0	0	220	0	0	0	0	0	0	303	0	0	303	523	2216
18:45:00	210	0	0	0	210	0	0	0	1	0	0	254	0	0	254	464	2059
<b>Grand Total</b>	<b>7531</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7531</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>7574</b>	<b>0</b>	<b>0</b>	<b>7574</b>	<b>15108</b>	<b>-</b>
<b>Approach%</b>	100%	0%	0%		-	66.7%	33.3%	0%		-	0%	100%	0%		-	-	-
<b>Totals %</b>	49.8%	0%	0%		49.8%	0%	0%	0%		0%	0%	50.1%	0%		50.1%	-	-
<b>Heavy</b>	458	0	0		-	0	0	0		-	0	428	0		-	-	-
<b>Heavy %</b>	6.1%	0%	0%		-	0%	0%	0%		-	0%	5.7%	0%		-	-	-
<b>Bicycles</b>	1	0	0		-	0	0	0		-	0	1	0		-	-	-
<b>Bicycle %</b>	0%	0%	0%		-	0%	0%	0%		-	0%	0%	0%		-	-	-



**Peak Hour: 07:30 AM - 08:30 AM Weather: Clear Sky (15.03 °C)**

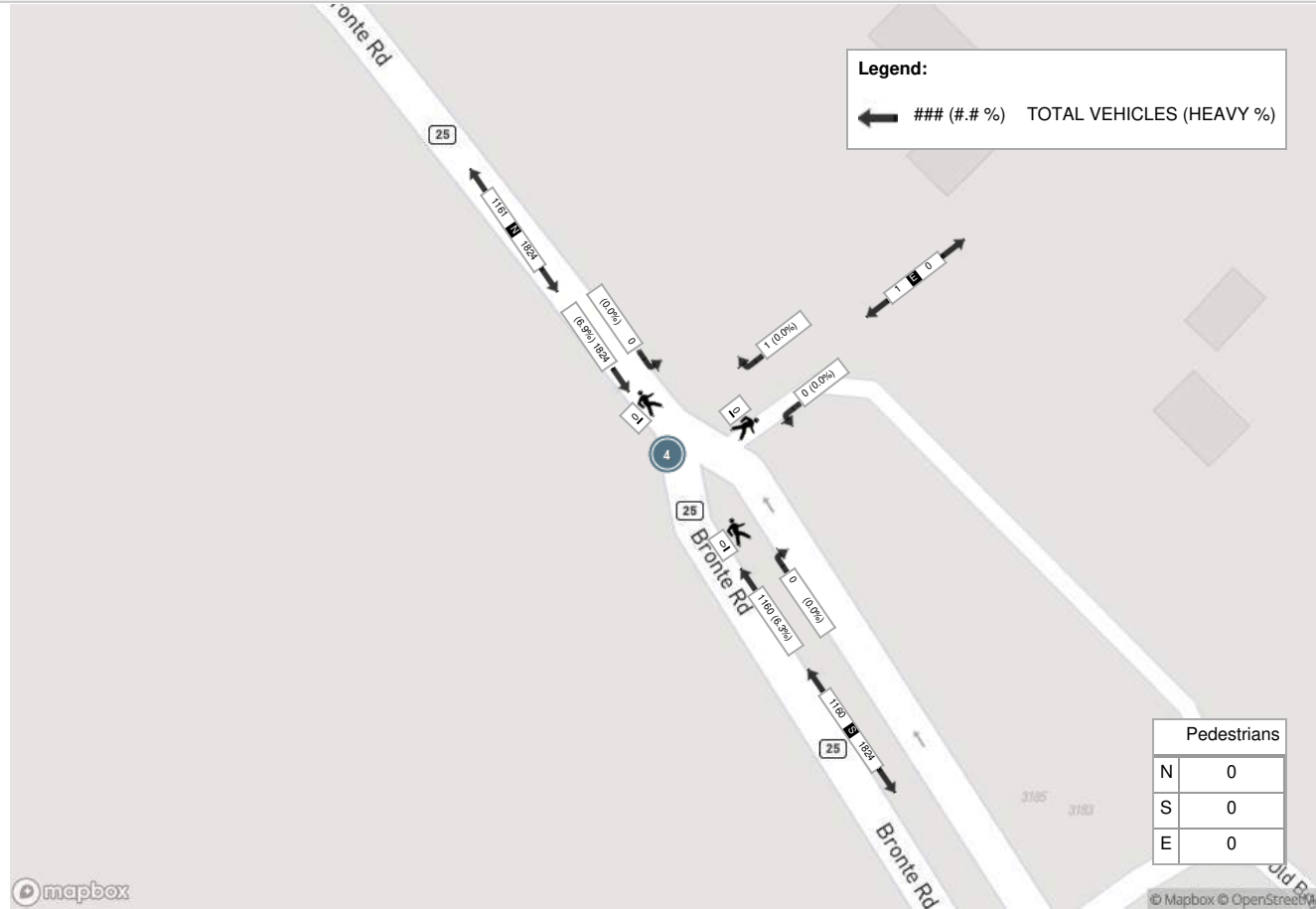
Start Time	N Approach BRONTE RD					E Approach OLD BRONTE RD N					S Approach BRONTE RD					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
07:30:00	466	0	0	0	466	0	0	0	0	0	0	301	0	0	301	767
07:45:00	478	0	0	0	478	0	0	0	0	0	0	272	0	0	272	750
08:00:00	412	0	0	0	412	1	0	0	0	1	0	305	0	0	305	718
08:15:00	468	0	0	0	468	0	0	0	0	0	0	282	0	0	282	750
<b>Grand Total</b>	<b>1824</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1824</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1160</b>	<b>0</b>	<b>0</b>	<b>1160</b>	<b>2985</b>
<b>Approach%</b>	100%	0%	0%		-	100%	0%	0%		-	0%	100%	0%		-	-
<b>Totals %</b>	61.1%	0%	0%		61.1%	0%	0%	0%		0%	0%	38.9%	0%		38.9%	-
<b>PHF</b>	0.95	0	0		0.95	0.25	0	0		0.25	0	0.95	0		0.95	-
<b>Heavy</b>	126	0	0		126	0	0	0		0	0	73	0		73	-
<b>Heavy %</b>	6.9%	0%	0%		6.9%	0%	0%	0%		0%	0%	6.3%	0%		6.3%	-
<b>Lights</b>	1698	0	0		1698	1	0	0		1	0	1087	0		1087	-
<b>Lights %</b>	93.1%	0%	0%		93.1%	100%	0%	0%		100%	0%	93.7%	0%		93.7%	-
<b>Single-Unit Trucks</b>	66	0	0		66	0	0	0		0	0	52	0		52	-
<b>Single-Unit Trucks %</b>	3.6%	0%	0%		3.6%	0%	0%	0%		0%	0%	4.5%	0%		4.5%	-
<b>Buses</b>	13	0	0		13	0	0	0		0	0	10	0		10	-
<b>Buses %</b>	0.7%	0%	0%		0.7%	0%	0%	0%		0%	0%	0.9%	0%		0.9%	-
<b>Articulated Trucks</b>	47	0	0		47	0	0	0		0	0	11	0		11	-
<b>Articulated Trucks %</b>	2.6%	0%	0%		2.6%	0%	0%	0%		0%	0%	0.9%	0%		0.9%	-
<b>Pedestrians</b>	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
<b>Pedestrians%</b>	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-
<b>Bicycles on Road</b>	1	0	0	0	-	0	0	0	0	-	0	0	0	0	-	-
<b>Bicycles on Road%</b>	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-



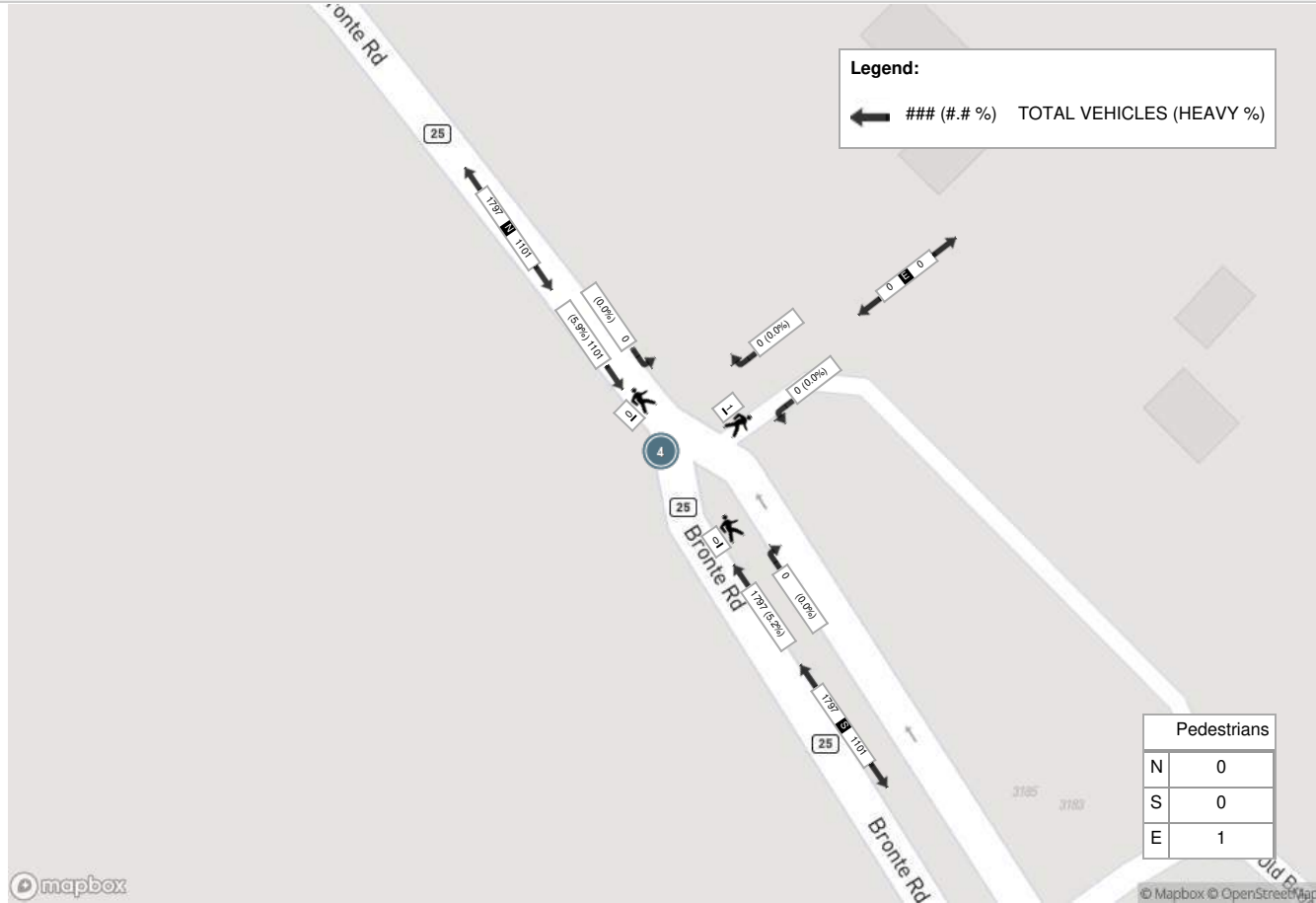
**Peak Hour: 04:00 PM - 05:00 PM Weather: Clear Sky (24.91 °C)**

Start Time	N Approach BRONTE RD					E Approach OLD BRONTE RD N					S Approach BRONTE RD					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
16:00:00	275	0	0	0	275	0	0	0	0	0	0	437	0	0	437	712
16:15:00	314	0	0	0	314	0	0	0	1	0	0	469	0	0	469	783
16:30:00	253	0	0	0	253	0	0	0	0	0	0	441	0	0	441	694
16:45:00	259	0	0	0	259	0	0	0	0	0	0	450	0	0	450	709
<b>Grand Total</b>	<b>1101</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1101</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1797</b>	<b>0</b>	<b>0</b>	<b>1797</b>	<b>2898</b>
<b>Approach%</b>	100%	0%	0%		-	0%	0%	0%		-	0%	100%	0%		-	-
<b>Totals %</b>	38%	0%	0%		38%	0%	0%	0%		0%	0%	62%	0%		62%	-
<b>PHF</b>	0.88	0	0		0.88	0	0	0		0	0	0.96	0		0.96	-
<b>Heavy</b>	65	0	0		65	0	0	0		0	0	93	0		93	-
<b>Heavy %</b>	5.9%	0%	0%		5.9%	0%	0%	0%		0%	0%	5.2%	0%		5.2%	-
<b>Lights</b>	1036	0	0		1036	0	0	0		0	0	1704	0		1704	-
<b>Lights %</b>	94.1%	0%	0%		94.1%	0%	0%	0%		0%	0%	94.8%	0%		94.8%	-
<b>Single-Unit Trucks</b>	40	0	0		40	0	0	0		0	0	40	0		40	-
<b>Single-Unit Trucks %</b>	3.6%	0%	0%		3.6%	0%	0%	0%		0%	0%	2.2%	0%		2.2%	-
<b>Buses</b>	5	0	0		5	0	0	0		0	0	7	0		7	-
<b>Buses %</b>	0.5%	0%	0%		0.5%	0%	0%	0%		0%	0%	0.4%	0%		0.4%	-
<b>Articulated Trucks</b>	20	0	0		20	0	0	0		0	0	46	0		46	-
<b>Articulated Trucks %</b>	1.8%	0%	0%		1.8%	0%	0%	0%		0%	0%	2.6%	0%		2.6%	-
<b>Pedestrians</b>	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
<b>Pedestrians%</b>	-	-	-	0%	-	-	-	-	100%	-	-	-	-	0%	-	-
<b>Bicycles on Road</b>	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	-
<b>Bicycles on Road%</b>	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-

Peak Hour: 07:30 AM - 08:30 AM Weather: Clear Sky (15.03 °C)



Peak Hour: 04:00 PM - 05:00 PM Weather: Clear Sky (24.91 °C)





**Turning Movement Count (3 . BRONTE RD & OLD BRONTE RD SOUTH)**

Start Time	N Approach BRONTE RD					E Approach OLD BRONTE RD S					S Approach BRONTE RD					Int. Total (15 min)	Int. Total (1 hr)
	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	UTurn S:S	Peds S:	Approach Total		
06:30:00	208	0	0	0	208	0	1	0	0	1	0	152	0	0	152	361	
06:45:00	264	0	0	0	264	0	1	0	0	1	0	195	0	0	195	460	
07:00:00	248	0	0	0	248	0	0	0	0	0	0	210	0	0	210	458	
07:15:00	430	2	0	0	432	2	0	0	0	2	0	273	0	0	273	707	1986
07:30:00	472	0	0	0	472	0	0	0	0	0	2	282	0	0	284	756	2381
07:45:00	480	0	0	0	480	0	0	0	0	0	0	282	0	0	282	762	2683
08:00:00	411	2	0	0	413	0	3	0	0	3	0	307	0	0	307	723	2948
08:15:00	462	0	0	0	462	0	0	0	0	0	0	274	0	0	274	736	2977
08:30:00	454	1	0	0	455	0	1	0	0	1	0	294	0	0	294	750	2971
08:45:00	401	2	0	0	403	1	1	0	0	2	0	237	0	0	237	642	2851
09:00:00	307	1	0	0	308	0	1	0	0	1	1	221	0	0	222	531	2659
09:15:00	285	2	0	0	287	1	2	0	0	3	0	207	0	0	207	497	2420
***BREAK***																	
16:00:00	282	1	0	0	283	0	2	0	0	2	1	436	0	0	437	722	
16:15:00	312	0	0	0	312	1	1	0	0	2	1	467	0	0	468	782	
16:30:00	258	0	0	0	258	0	0	0	0	0	2	438	0	0	440	698	
16:45:00	257	0	1	0	258	0	0	0	0	0	1	458	0	0	459	717	2919
17:00:00	263	0	0	0	263	0	0	0	0	0	2	409	0	0	411	674	2871
17:15:00	299	1	0	0	300	0	3	0	0	3	0	465	0	0	465	768	2857
17:30:00	288	1	0	0	289	0	1	0	0	1	2	397	0	0	399	689	2848
17:45:00	265	0	0	0	265	1	1	0	0	2	2	357	0	0	359	626	2757
18:00:00	237	1	0	0	238	1	1	0	0	2	1	316	1	0	318	558	2641
18:15:00	209	0	0	0	209	0	0	0	0	0	0	309	0	0	309	518	2391
18:30:00	218	0	0	0	218	0	0	0	0	0	1	298	0	0	299	517	2219
18:45:00	206	0	1	0	207	0	2	0	0	2	2	247	0	0	249	458	2051
<b>Grand Total</b>	<b>7516</b>	<b>14</b>	<b>2</b>	<b>0</b>	<b>7532</b>	<b>7</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>28</b>	<b>18</b>	<b>7531</b>	<b>1</b>	<b>0</b>	<b>7550</b>	<b>15110</b>	<b>-</b>
<b>Approach%</b>	99.8%	0.2%	0%		-	25%	75%	0%		-	0.2%	99.7%	0%		-	-	-
<b>Totals %</b>	49.7%	0.1%	0%		49.8%	0%	0.1%	0%		0.2%	0.1%	49.8%	0%		50%	-	-
<b>Heavy</b>	465	1	1		-	1	2	0		-	2	413	0		-	-	-
<b>Heavy %</b>	6.2%	7.1%	50%		-	14.3%	9.5%	0%		-	11.1%	5.5%	0%		-	-	-
<b>Bicycles</b>	2	0	0		-	0	0	0		-	0	0	0		-	-	-
<b>Bicycle %</b>	0%	0%	0%		-	0%	0%	0%		-	0%	0%	0%		-	-	-



**Peak Hour: 07:30 AM - 08:30 AM Weather: Clear Sky (15.03 °C)**

Start Time	N Approach BRONTE RD					E Approach OLD BRONTE RD S					S Approach BRONTE RD					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
07:30:00	472	0	0	0	472	0	0	0	0	0	2	282	0	0	284	756
07:45:00	480	0	0	0	480	0	0	0	0	0	0	282	0	0	282	762
08:00:00	411	2	0	0	413	0	3	0	0	3	0	307	0	0	307	723
08:15:00	462	0	0	0	462	0	0	0	0	0	0	274	0	0	274	736
<b>Grand Total</b>	<b>1825</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>1827</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>1145</b>	<b>0</b>	<b>0</b>	<b>1147</b>	<b>2977</b>
<b>Approach%</b>	99.9%	0.1%	0%		-	0%	100%	0%		-	0.2%	99.8%	0%		-	-
<b>Totals %</b>	61.3%	0.1%	0%		61.4%	0%	0.1%	0%		0.1%	0.1%	38.5%	0%		38.5%	-
<b>PHF</b>	0.95	0.25	0		0.95	0	0.25	0		0.25	0.25	0.93	0		0.93	-
<b>Heavy</b>	137	0	0		137	0	2	0		2	0	63	0		63	-
<b>Heavy %</b>	7.5%	0%	0%		7.5%	0%	66.7%	0%		66.7%	0%	5.5%	0%		5.5%	-
<b>Lights</b>	1688	2	0		1690	0	1	0		1	2	1082	0		1084	-
<b>Lights %</b>	92.5%	100%	0%		92.5%	0%	33.3%	0%		33.3%	100%	94.5%	0%		94.5%	-
<b>Single-Unit Trucks</b>	67	0	0		67	0	0	0		0	0	42	0		42	-
<b>Single-Unit Trucks %</b>	3.7%	0%	0%		3.7%	0%	0%	0%		0%	0%	3.7%	0%		3.7%	-
<b>Buses</b>	14	0	0		14	0	0	0		0	0	10	0		10	-
<b>Buses %</b>	0.8%	0%	0%		0.8%	0%	0%	0%		0%	0%	0.9%	0%		0.9%	-
<b>Articulated Trucks</b>	56	0	0		56	0	2	0		2	0	11	0		11	-
<b>Articulated Trucks %</b>	3.1%	0%	0%		3.1%	0%	66.7%	0%		66.7%	0%	1%	0%		1%	-
<b>Bicycles on Road</b>	1	0	0	0	-	0	0	0	0	-	0	0	0	0	-	-
<b>Bicycles on Road%</b>	-	-	-	%	-	-	-	-	%	-	-	-	-	%	-	-

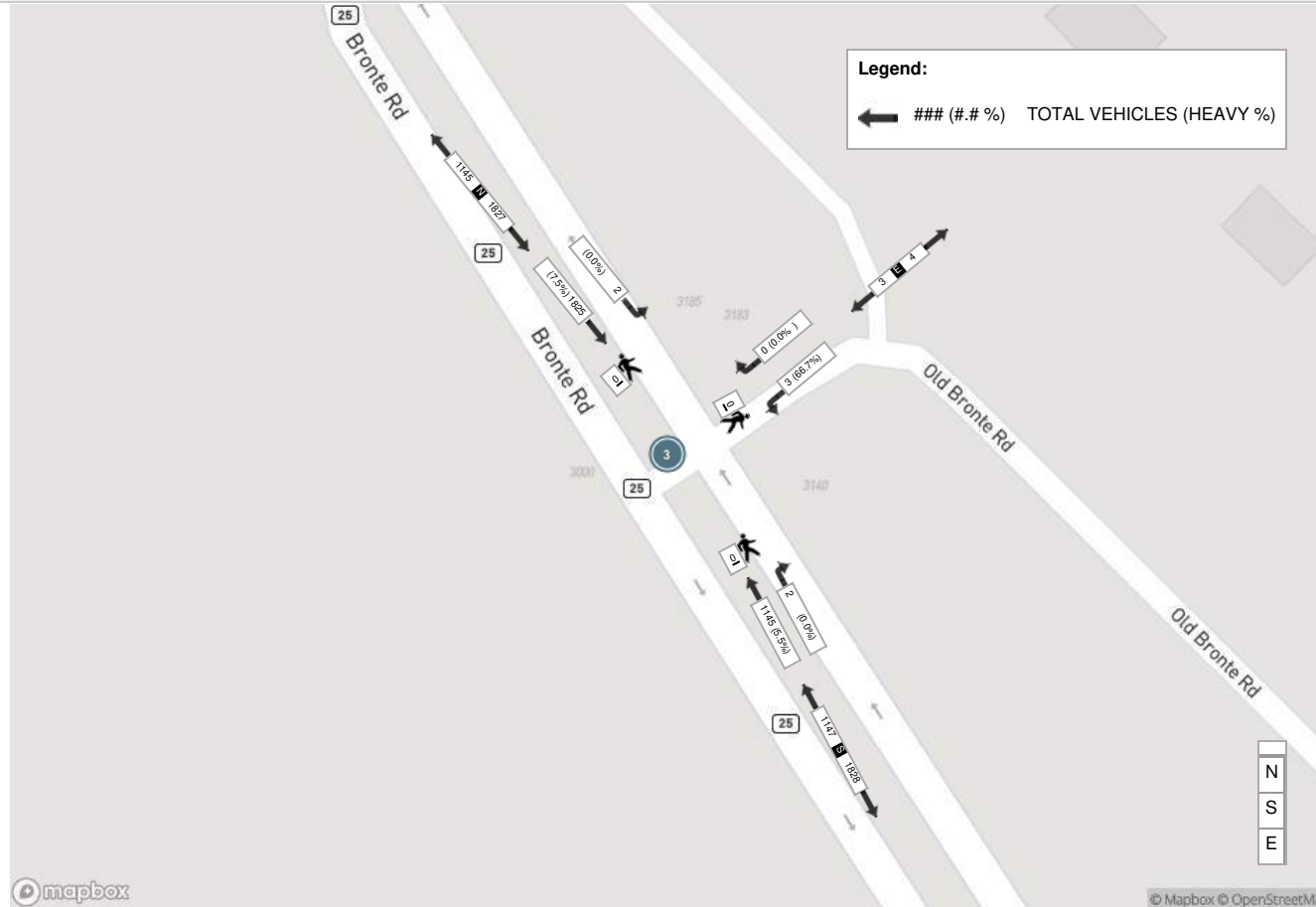




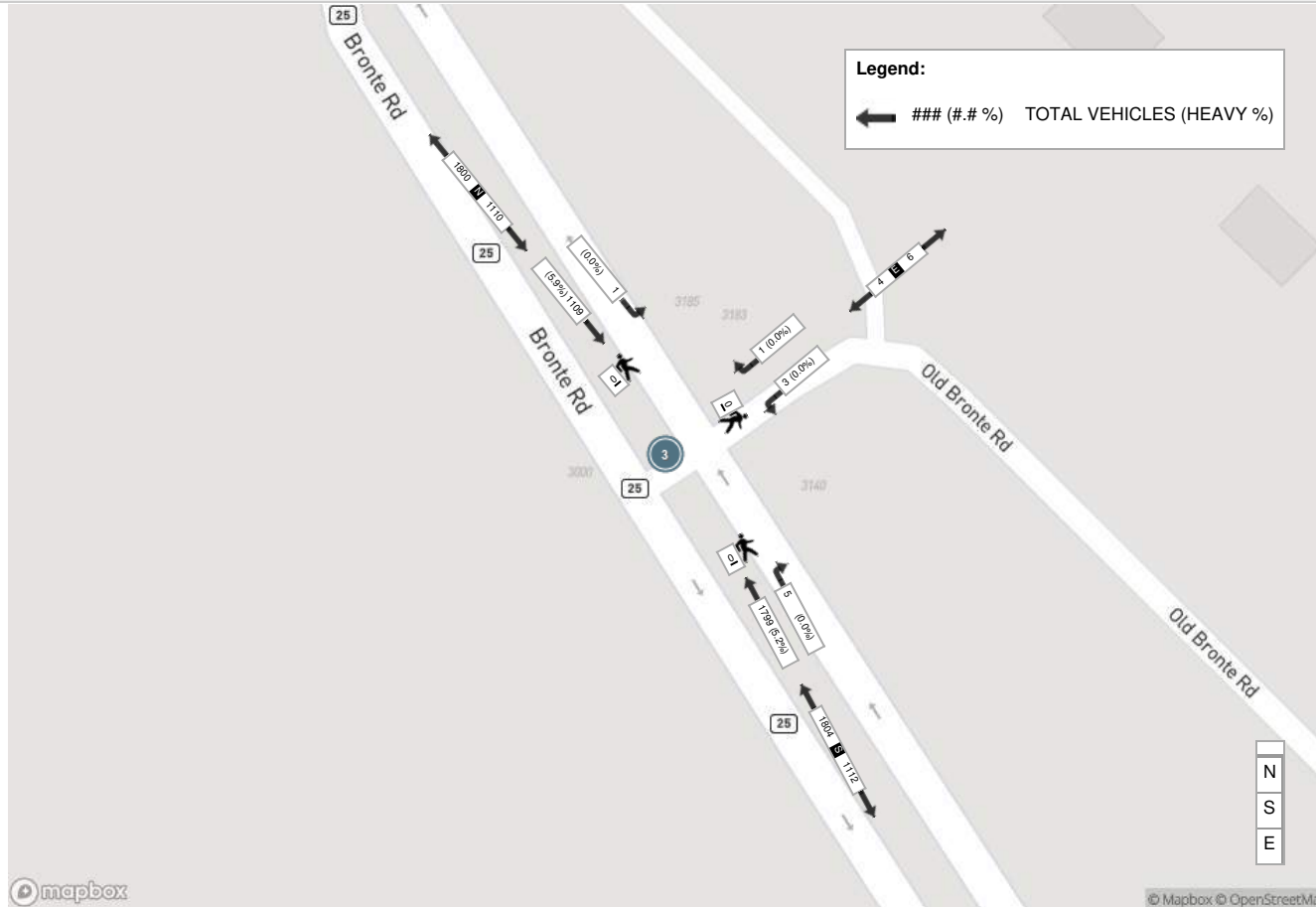
**Peak Hour: 04:00 PM - 05:00 PM Weather: Clear Sky (24.91 °C)**

Start Time	N Approach BRONTE RD					E Approach OLD BRONTE RD S					S Approach BRONTE RD					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
16:00:00	282	1	0	0	283	0	2	0	0	2	1	436	0	0	437	722
16:15:00	312	0	0	0	312	1	1	0	0	2	1	467	0	0	468	782
16:30:00	258	0	0	0	258	0	0	0	0	0	2	438	0	0	440	698
16:45:00	257	0	1	0	258	0	0	0	0	0	1	458	0	0	459	717
<b>Grand Total</b>	<b>1109</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>1111</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>5</b>	<b>1799</b>	<b>0</b>	<b>0</b>	<b>1804</b>	<b>2919</b>
<b>Approach%</b>	99.8%	0.1%	0.1%		-	25%	75%	0%		-	0.3%	99.7%	0%		-	-
<b>Totals %</b>	38%	0%	0%		38.1%	0%	0.1%	0%		0.1%	0.2%	61.6%	0%		61.8%	-
<b>PHF</b>	0.89	0.25	0.25		0.89	0.25	0.38	0		0.5	0.63	0.96	0		0.96	-
<b>Heavy</b>	65	0	1		66	0	0	0		0	0	93	0		93	-
<b>Heavy %</b>	5.9%	0%	100%		5.9%	0%	0%	0%		0%	0%	5.2%	0%		5.2%	-
<b>Lights</b>	1044	1	0		1045	1	3	0		4	5	1706	0		1711	-
<b>Lights %</b>	94.1%	100%	0%		94.1%	100%	100%	0%		100%	100%	94.8%	0%		94.8%	-
<b>Single-Unit Trucks</b>	40	0	1		41	0	0	0		0	0	42	0		42	-
<b>Single-Unit Trucks %</b>	3.6%	0%	100%		3.7%	0%	0%	0%		0%	0%	2.3%	0%		2.3%	-
<b>Buses</b>	5	0	0		5	0	0	0		0	0	7	0		7	-
<b>Buses %</b>	0.5%	0%	0%		0.5%	0%	0%	0%		0%	0%	0.4%	0%		0.4%	-
<b>Articulated Trucks</b>	20	0	0		20	0	0	0		0	0	44	0		44	-
<b>Articulated Trucks %</b>	1.8%	0%	0%		1.8%	0%	0%	0%		0%	0%	2.4%	0%		2.4%	-
<b>Bicycles on Road</b>	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	-
<b>Bicycles on Road%</b>	-	-	-	%	-	-	-	-	%	-	-	-	-	%	-	-

Peak Hour: 07:30 AM - 08:30 AM Weather: Clear Sky (15.03 °C)



Peak Hour: 04:00 PM - 05:00 PM Weather: Clear Sky (24.91 °C)



mapbox

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**Turning Movement Count (5 . BRONTE RD & WILLIAM HALTON PKWY)**

Start Time	N Approach BRONTE RD					E Approach WILLIAM HALTON PKWY					S Approach BRONTE RD					Int. Total (15 min)	Int. Total (1 hr)
	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	UTurn S:S	Peds S:	Approach Total		
06:30:00	178	30	0	0	208	8	1	0	0	9	0	145	0	0	145	362	
06:45:00	248	28	0	0	276	13	0	0	0	13	3	182	0	0	185	474	
07:00:00	210	36	0	0	246	21	0	0	0	21	6	190	0	0	196	463	
07:15:00	352	66	0	0	418	22	0	0	0	22	9	250	0	0	259	699	1998
07:30:00	387	81	0	0	468	24	2	0	0	26	3	260	0	0	263	757	2393
07:45:00	392	90	0	0	482	35	1	0	0	36	10	245	1	0	256	774	2693
08:00:00	354	62	0	0	416	30	0	0	0	30	10	278	0	0	288	734	2964
08:15:00	272	86	0	0	358	32	1	0	0	33	9	244	1	0	254	645	2910
08:30:00	395	67	0	0	462	34	0	0	0	34	10	259	0	0	269	765	2918
08:45:00	335	67	0	0	402	28	1	0	0	29	12	211	0	0	223	654	2798
09:00:00	263	41	0	0	304	36	3	0	1	39	3	185	0	0	188	531	2595
09:15:00	261	27	0	0	288	18	1	0	0	19	5	188	0	0	193	500	2450
***BREAK***																	
16:00:00	248	24	0	0	272	97	19	0	1	116	1	341	0	0	342	730	
16:15:00	294	33	0	0	327	81	16	0	0	97	2	388	0	0	390	814	
16:30:00	229	22	0	0	251	91	10	0	0	101	3	352	0	0	355	707	
16:45:00	232	35	0	0	267	58	11	0	0	69	2	401	0	0	403	739	2990
17:00:00	231	21	0	0	252	65	15	0	0	80	1	350	0	0	351	683	2943
17:15:00	291	28	0	0	319	66	2	0	0	68	1	397	0	0	398	785	2914
17:30:00	259	20	0	0	279	62	3	0	0	65	4	338	0	0	342	686	2893
17:45:00	262	21	0	0	283	30	1	0	0	31	1	325	0	0	326	640	2794
18:00:00	220	16	1	0	237	26	1	0	0	27	0	292	0	0	292	556	2667
18:15:00	192	19	0	0	211	40	2	0	0	42	0	275	0	0	275	528	2410
18:30:00	201	11	0	0	212	23	0	0	0	23	2	277	1	0	280	515	2239
18:45:00	193	18	0	0	211	19	0	0	0	19	1	231	0	0	232	462	2061
<b>Grand Total</b>	<b>6499</b>	<b>949</b>	<b>1</b>	<b>0</b>	<b>7449</b>	<b>959</b>	<b>90</b>	<b>0</b>	<b>2</b>	<b>1049</b>	<b>98</b>	<b>6604</b>	<b>3</b>	<b>0</b>	<b>6705</b>	<b>15203</b>	<b>-</b>
<b>Approach%</b>	87.2%	12.7%	0%	-	-	91.4%	8.6%	0%	-	-	1.5%	98.5%	0%	-	-	-	-
<b>Totals %</b>	42.7%	6.2%	0%	-	49%	6.3%	0.6%	0%	-	6.9%	0.6%	43.4%	0%	-	44.1%	-	-
<b>Heavy</b>	447	12	0	-	-	15	0	0	-	-	1	398	0	-	-	-	-
<b>Heavy %</b>	6.9%	1.3%	0%	-	-	1.6%	0%	0%	-	-	1%	6%	0%	-	-	-	-
<b>Bicycles</b>	0	2	0	-	-	0	0	0	-	-	0	0	0	-	-	-	-
<b>Bicycle %</b>	0%	0.2%	0%	-	-	0%	0%	0%	-	-	0%	0%	0%	-	-	-	-



**Peak Hour: 07:15 AM - 08:15 AM Weather: Clear Sky (15.03 °C)**

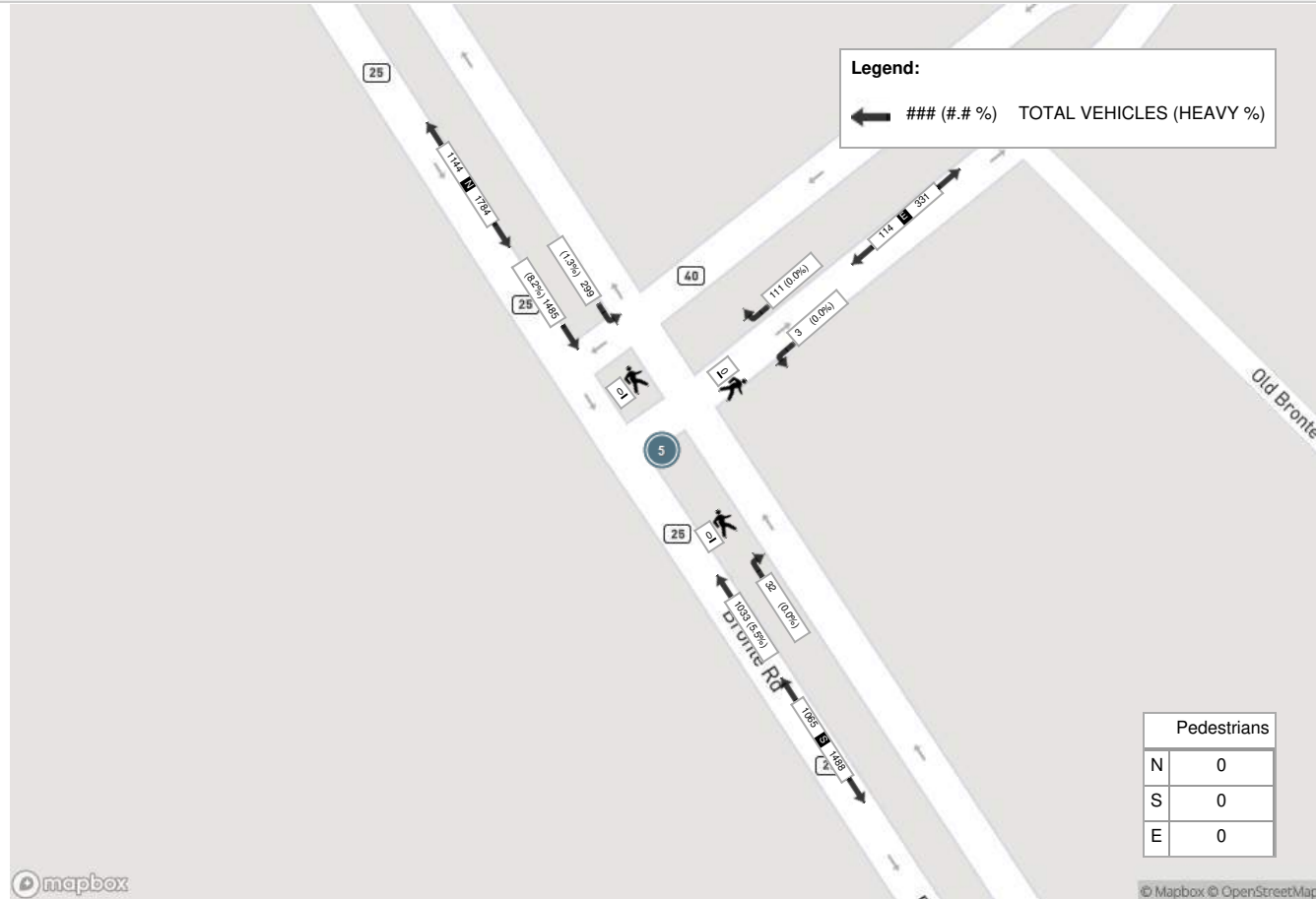
Start Time	N Approach BRONTE RD				E Approach WILLIAM HALTON PKWY				S Approach BRONTE RD				Int. Total (15 min)			
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru		UTurn	Peds	Approach Total
07:15:00	352	66	0	0	418	22	0	0	0	22	9	250	0	0	259	699
07:30:00	387	81	0	0	468	24	2	0	0	26	3	260	0	0	263	757
07:45:00	392	90	0	0	482	35	1	0	0	36	10	245	1	0	256	774
08:00:00	354	62	0	0	416	30	0	0	0	30	10	278	0	0	288	734
<b>Grand Total</b>	<b>1485</b>	<b>299</b>	<b>0</b>	<b>0</b>	<b>1784</b>	<b>111</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>114</b>	<b>32</b>	<b>1033</b>	<b>1</b>	<b>0</b>	<b>1066</b>	<b>2964</b>
<b>Approach%</b>	83.2%	16.8%	0%		-	97.4%	2.6%	0%		-	3%	96.9%	0.1%		-	-
<b>Totals %</b>	50.1%	10.1%	0%		60.2%	3.7%	0.1%	0%		3.8%	1.1%	34.9%	0%		36%	-
<b>PHF</b>	0.95	0.83	0		0.93	0.79	0.38	0		0.79	0.8	0.93	0.25		0.93	-
<b>Heavy</b>	122	4	0		126	0	0	0		0	0	57	0		57	-
<b>Heavy %</b>	8.2%	1.3%	0%		7.1%	0%	0%	0%		0%	0%	5.5%	0%		5.3%	-
<b>Lights</b>	1363	295	0		1658	111	3	0		114	32	976	1		1009	-
<b>Lights %</b>	91.8%	98.7%	0%		92.9%	100%	100%	0%		100%	100%	94.5%	100%		94.7%	-
<b>Single-Unit Trucks</b>	65	1	0		66	0	0	0		0	0	38	0		38	-
<b>Single-Unit Trucks %</b>	4.4%	0.3%	0%		3.7%	0%	0%	0%		0%	0%	3.7%	0%		3.6%	-
<b>Buses</b>	9	2	0		11	0	0	0		0	0	7	0		7	-
<b>Buses %</b>	0.6%	0.7%	0%		0.6%	0%	0%	0%		0%	0%	0.7%	0%		0.7%	-
<b>Articulated Trucks</b>	48	1	0		49	0	0	0		0	0	12	0		12	-
<b>Articulated Trucks %</b>	3.2%	0.3%	0%		2.7%	0%	0%	0%		0%	0%	1.2%	0%		1.1%	-
<b>Pedestrians</b>	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
<b>Pedestrians%</b>	-	-	-	0%	-	-	-	0%	-	-	-	-	-	0%	-	-
<b>Bicycles on Road</b>	0	1	0	0	-	0	0	0	0	-	0	0	0	0	-	-
<b>Bicycles on Road%</b>	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-



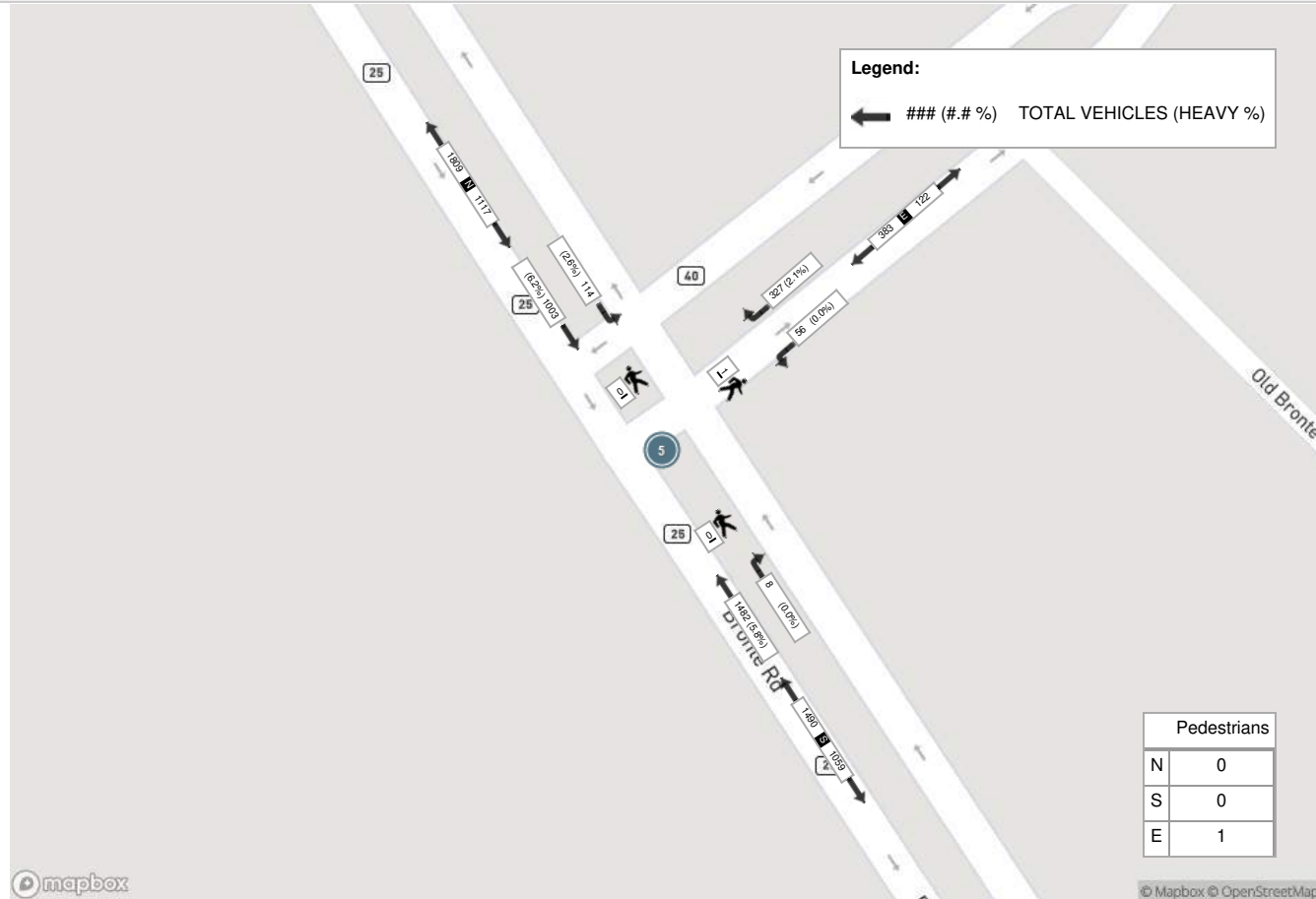
**Peak Hour: 04:00 PM - 05:00 PM Weather: Clear Sky (24.91 °C)**

Start Time	N Approach BRONTE RD					E Approach WILLIAM HALTON PKWY					S Approach BRONTE RD				Int. Total (15 min)	
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds		Approach Total
16:00:00	248	24	0	0	272	97	19	0	1	116	1	341	0	0	342	730
16:15:00	294	33	0	0	327	81	16	0	0	97	2	388	0	0	390	814
16:30:00	229	22	0	0	251	91	10	0	0	101	3	352	0	0	355	707
16:45:00	232	35	0	0	267	58	11	0	0	69	2	401	0	0	403	739
<b>Grand Total</b>	<b>1003</b>	<b>114</b>	<b>0</b>	<b>0</b>	<b>1117</b>	<b>327</b>	<b>56</b>	<b>0</b>	<b>1</b>	<b>383</b>	<b>8</b>	<b>1482</b>	<b>0</b>	<b>0</b>	<b>1490</b>	<b>2990</b>
<b>Approach%</b>	89.8%	10.2%	0%		-	85.4%	14.6%	0%		-	0.5%	99.5%	0%		-	-
<b>Totals %</b>	33.5%	3.8%	0%		37.4%	10.9%	1.9%	0%		12.8%	0.3%	49.6%	0%		49.8%	-
<b>PHF</b>	0.85	0.81	0		0.85	0.84	0.74	0		0.83	0.67	0.92	0		0.92	-
<b>Heavy</b>	62	3	0		65	7	0	0		7	0	86	0		86	-
<b>Heavy %</b>	6.2%	2.6%	0%		5.8%	2.1%	0%	0%		1.8%	0%	5.8%	0%		5.8%	-
<b>Lights</b>	941	111	0		1052	320	56	0		376	8	1396	0		1404	-
<b>Lights %</b>	93.8%	97.4%	0%		94.2%	97.9%	100%	0%		98.2%	100%	94.2%	0%		94.2%	-
<b>Single-Unit Trucks</b>	39	1	0		40	1	0	0		1	0	41	0		41	-
<b>Single-Unit Trucks %</b>	3.9%	0.9%	0%		3.6%	0.3%	0%	0%		0.3%	0%	2.8%	0%		2.8%	-
<b>Buses</b>	3	2	0		5	6	0	0		6	0	1	0		1	-
<b>Buses %</b>	0.3%	1.8%	0%		0.4%	1.8%	0%	0%		1.6%	0%	0.1%	0%		0.1%	-
<b>Articulated Trucks</b>	20	0	0		20	0	0	0		0	0	44	0		44	-
<b>Articulated Trucks %</b>	2%	0%	0%		1.8%	0%	0%	0%		0%	0%	3%	0%		3%	-
<b>Pedestrians</b>	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
<b>Pedestrians%</b>	-	-	-	0%	-	-	-	-	100%	-	-	-	-	0%	-	-
<b>Bicycles on Road</b>	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	-
<b>Bicycles on Road%</b>	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-

Peak Hour: 07:15 AM - 08:15 AM Weather: Clear Sky (15.03 °C)



Peak Hour: 04:00 PM - 05:00 PM Weather: Clear Sky (24.91 °C)







Turning Movement Count (9 . DUNDAS ST W & OLD BRONTE RD)

Start Time	N Approach OLD BRONTE RD						E Approach DUNDAS ST W						S Approach OLD BRONTE RD						W Approach DUNDAS ST W						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
06:30:00	0	0	0	0	0	0	0	92	0	0	0	92	10	0	0	0	6	10	4	187	0	0	0	191	293	
06:45:00	1	0	0	0	0	1	2	91	0	0	0	93	13	0	0	0	0	13	12	227	0	0	1	239	346	
07:00:00	0	0	0	0	0	0	0	117	0	0	0	117	11	0	0	0	2	11	5	278	0	0	0	283	411	
07:15:00	1	0	0	0	0	1	2	156	0	0	0	158	8	0	0	0	1	8	5	305	0	0	0	310	477	1527
07:30:00	0	0	0	0	0	0	1	165	0	0	0	166	11	0	0	0	1	11	9	396	0	0	0	405	582	1816
07:45:00	1	0	0	0	0	1	1	220	0	0	0	221	10	0	0	0	2	10	14	459	0	0	0	473	705	2175
08:00:00	1	0	0	0	0	1	1	248	0	0	0	249	16	0	0	0	0	16	14	449	0	0	0	463	729	2493
08:15:00	0	0	0	0	0	0	3	241	0	0	0	244	15	0	0	0	1	15	21	382	0	0	0	403	662	2678
08:30:00	0	0	0	0	0	0	6	267	0	0	0	273	17	0	0	0	2	17	25	345	0	0	0	370	660	2756
08:45:00	5	0	0	0	0	5	7	234	0	0	0	241	15	0	0	0	2	15	22	385	0	0	0	407	668	2719
09:00:00	5	0	0	0	0	5	0	206	0	0	0	206	13	0	0	0	2	13	20	293	0	0	0	313	537	2527
09:15:00	1	0	0	0	0	1	0	198	0	0	0	198	15	0	0	0	1	15	20	223	0	0	0	243	457	2322
***BREAK***																										
16:00:00	1	0	0	0	0	1	2	422	0	0	0	424	24	0	0	0	1	24	16	260	0	0	0	276	725	
16:15:00	1	0	0	0	0	1	4	431	0	0	0	435	27	0	0	0	2	27	13	225	0	0	0	238	701	
16:30:00	0	0	0	0	0	0	1	410	0	0	0	411	26	0	0	0	1	26	13	253	0	0	0	266	703	
16:45:00	1	0	0	0	0	1	1	384	0	0	0	385	14	0	0	0	2	14	20	241	0	0	0	261	661	2790
17:00:00	0	0	0	0	0	0	1	402	0	0	0	403	25	0	0	0	1	25	13	306	0	0	0	319	747	2812
17:15:00	0	0	0	0	0	0	1	415	0	0	0	416	16	0	0	0	4	16	13	312	0	0	0	325	757	2868
17:30:00	1	0	0	0	0	1	1	391	0	0	0	392	20	0	0	0	0	20	16	307	0	0	0	323	736	2901
17:45:00	0	0	0	0	0	0	2	375	0	0	0	377	14	0	0	0	4	14	16	278	0	0	0	294	685	2925
18:00:00	1	0	0	0	0	1	1	311	0	0	0	312	12	0	0	0	2	12	12	279	0	0	0	291	616	2794
18:15:00	0	0	0	0	0	0	1	303	0	0	0	304	21	0	0	0	1	21	16	253	0	0	0	269	594	2631
18:30:00	1	0	0	0	0	1	2	288	0	0	0	290	14	0	0	0	1	14	5	206	0	0	0	211	516	2411
18:45:00	0	0	0	0	1	0	0	246	0	0	0	246	12	0	0	0	7	12	9	221	0	0	0	230	488	2214
<b>Grand Total</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>21</b>	<b>40</b>	<b>6613</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6653</b>	<b>379</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>46</b>	<b>379</b>	<b>333</b>	<b>7070</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>7403</b>	<b>14456</b>	<b>-</b>
<b>Approach%</b>	100%	0%	0%	0%	0%	-	0.6%	99.4%	0%	0%	-	-	100%	0%	0%	0%	-	-	4.5%	95.5%	0%	0%	-	-	-	
<b>Totals %</b>	0.1%	0%	0%	0%	0%	0.1%	0.3%	45.7%	0%	0%	46%	2.6%	0%	0%	0%	0%	2.6%	2.3%	48.9%	0%	0%	51.2%	-	-	-	
<b>Heavy</b>	0	0	0	0	0	-	3	370	0	0	-	7	0	0	0	0	-	3	288	0	0	-	-	-	-	
<b>Heavy %</b>	0%	0%	0%	0%	0%	-	7.5%	5.6%	0%	0%	-	1.8%	0%	0%	0%	0%	-	0.9%	4.1%	0%	0%	-	-	-	-	
<b>Bicycles</b>	0	0	0	0	0	-	0	2	0	0	-	0	0	0	0	0	-	0	0	0	0	-	-	-	-	
<b>Bicycle %</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	-	-	-	-	



Peak Hour: 07:45 AM - 08:45 AM Weather: Clear Sky (15.03 °C)

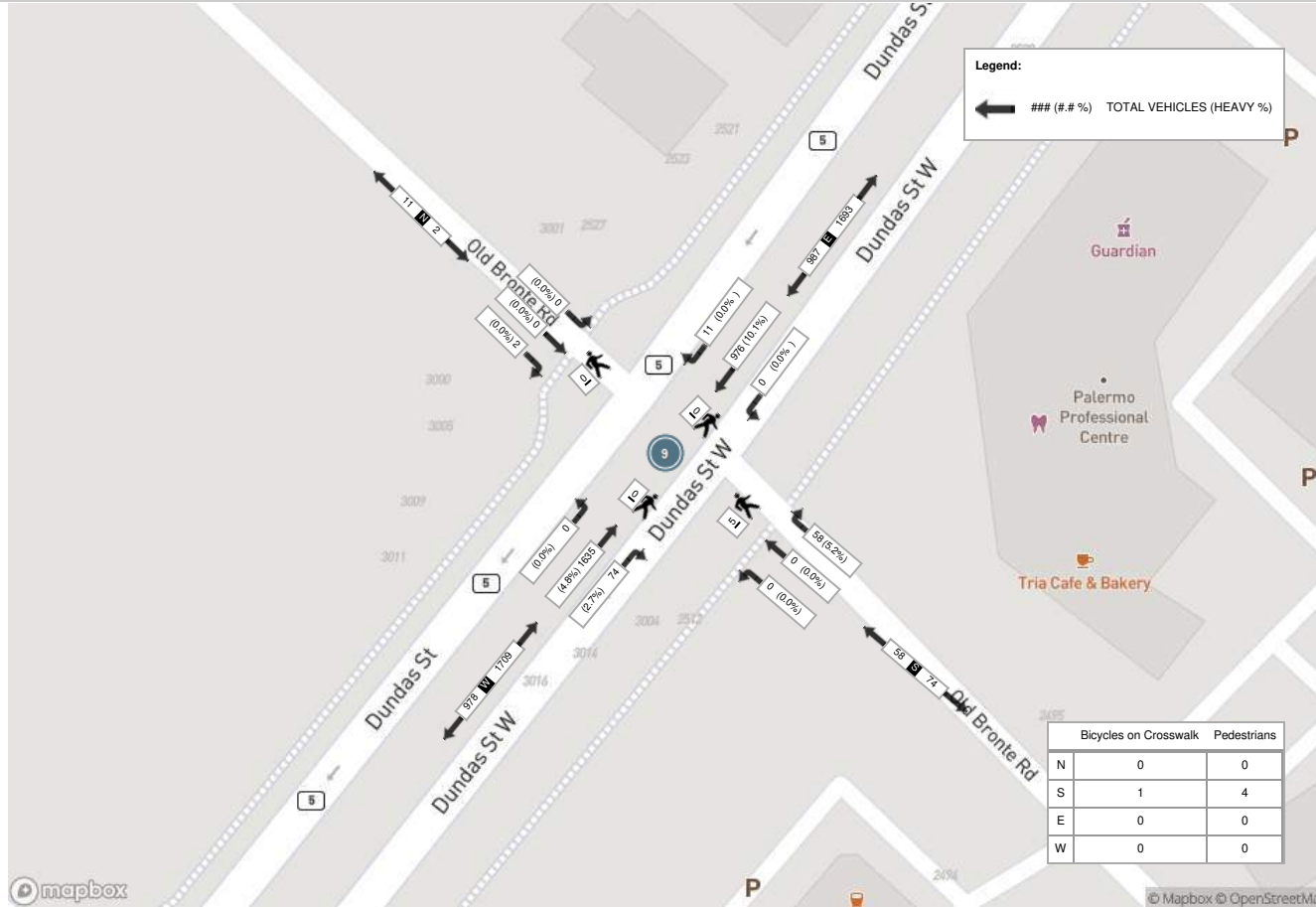
Start Time	N Approach OLD BRONTE RD						E Approach DUNDAS ST W						S Approach OLD BRONTE RD						W Approach DUNDAS ST W						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
07:45:00	1	0	0	0	0	1	1	220	0	0	0	221	10	0	0	0	2	10	14	459	0	0	0	473	705
08:00:00	1	0	0	0	0	1	1	248	0	0	0	249	16	0	0	0	0	16	14	449	0	0	0	463	729
08:15:00	0	0	0	0	0	0	3	241	0	0	0	244	15	0	0	0	1	15	21	382	0	0	0	403	662
08:30:00	0	0	0	0	0	0	6	267	0	0	0	273	17	0	0	0	2	17	25	345	0	0	0	370	660
<b>Grand Total</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>11</b>	<b>976</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>987</b>	<b>58</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>58</b>	<b>74</b>	<b>1635</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1709</b>	<b>2756</b>
<b>Approach%</b>	100%	0%	0%	0%	-	-	1.1%	98.9%	0%	0%	-	-	100%	0%	0%	0%	-	-	4.3%	95.7%	0%	0%	-	-	-
<b>Totals %</b>	0.1%	0%	0%	0%	0.1%	0.1%	0.4%	35.4%	0%	0%	35.8%	35.8%	2.1%	0%	0%	0%	2.1%	2.1%	2.7%	59.3%	0%	0%	62%	62%	-
<b>PHF</b>	0.5	0	0	0	0.5	0.5	0.46	0.91	0	0	0.9	0.9	0.85	0	0	0	0.85	0.85	0.74	0.89	0	0	0.9	0.9	-
<b>Heavy</b>	0	0	0	0	0	0	0	99	0	0	99	99	3	0	0	0	3	3	2	78	0	0	80	80	-
<b>Heavy %</b>	0%	0%	0%	0%	0%	0%	0%	10.1%	0%	0%	10%	10%	5.2%	0%	0%	0%	5.2%	5.2%	2.7%	4.8%	0%	0%	4.7%	4.7%	-
<b>Lights</b>	2	0	0	0	2	2	11	877	0	0	888	888	55	0	0	0	55	55	72	1557	0	0	1629	1629	-
<b>Lights %</b>	100%	0%	0%	0%	100%	100%	100%	89.9%	0%	0%	90%	90%	94.8%	0%	0%	0%	94.8%	94.8%	97.3%	95.2%	0%	0%	95.3%	95.3%	-
<b>Single-Unit Trucks</b>	0	0	0	0	0	0	0	36	0	0	36	36	3	0	0	0	3	3	1	30	0	0	31	31	-
<b>Single-Unit Trucks %</b>	0%	0%	0%	0%	0%	0%	0%	3.7%	0%	0%	3.6%	3.6%	5.2%	0%	0%	0%	5.2%	5.2%	1.4%	1.8%	0%	0%	1.8%	1.8%	-
<b>Buses</b>	0	0	0	0	0	0	0	35	0	0	35	35	0	0	0	0	0	0	1	29	0	0	30	30	-
<b>Buses %</b>	0%	0%	0%	0%	0%	0%	0%	3.6%	0%	0%	3.5%	3.5%	0%	0%	0%	0%	0%	0%	1.4%	1.8%	0%	0%	1.8%	1.8%	-
<b>Articulated Trucks</b>	0	0	0	0	0	0	0	28	0	0	28	28	0	0	0	0	0	0	0	19	0	0	19	19	-
<b>Articulated Trucks %</b>	0%	0%	0%	0%	0%	0%	0%	2.9%	0%	0%	2.8%	2.8%	0%	0%	0%	0%	0%	0%	0%	1.2%	0%	0%	1.1%	1.1%	-
<b>Pedestrians</b>	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	0	-	-	-
<b>Pedestrians%</b>	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	80%	-	-	-	-	-	-	0%	-	-	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-	-	-	-	-	0	-	-	-
<b>Bicycles on Crosswalk%</b>	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	20%	-	-	-	-	-	-	0%	-	-	-
<b>Bicycles on Road</b>	0	0	0	0	0	-	0	0	0	0	-	-	0	0	0	0	-	-	0	0	0	0	-	-	-
<b>Bicycles on Road%</b>	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	-	0%	-	-	-



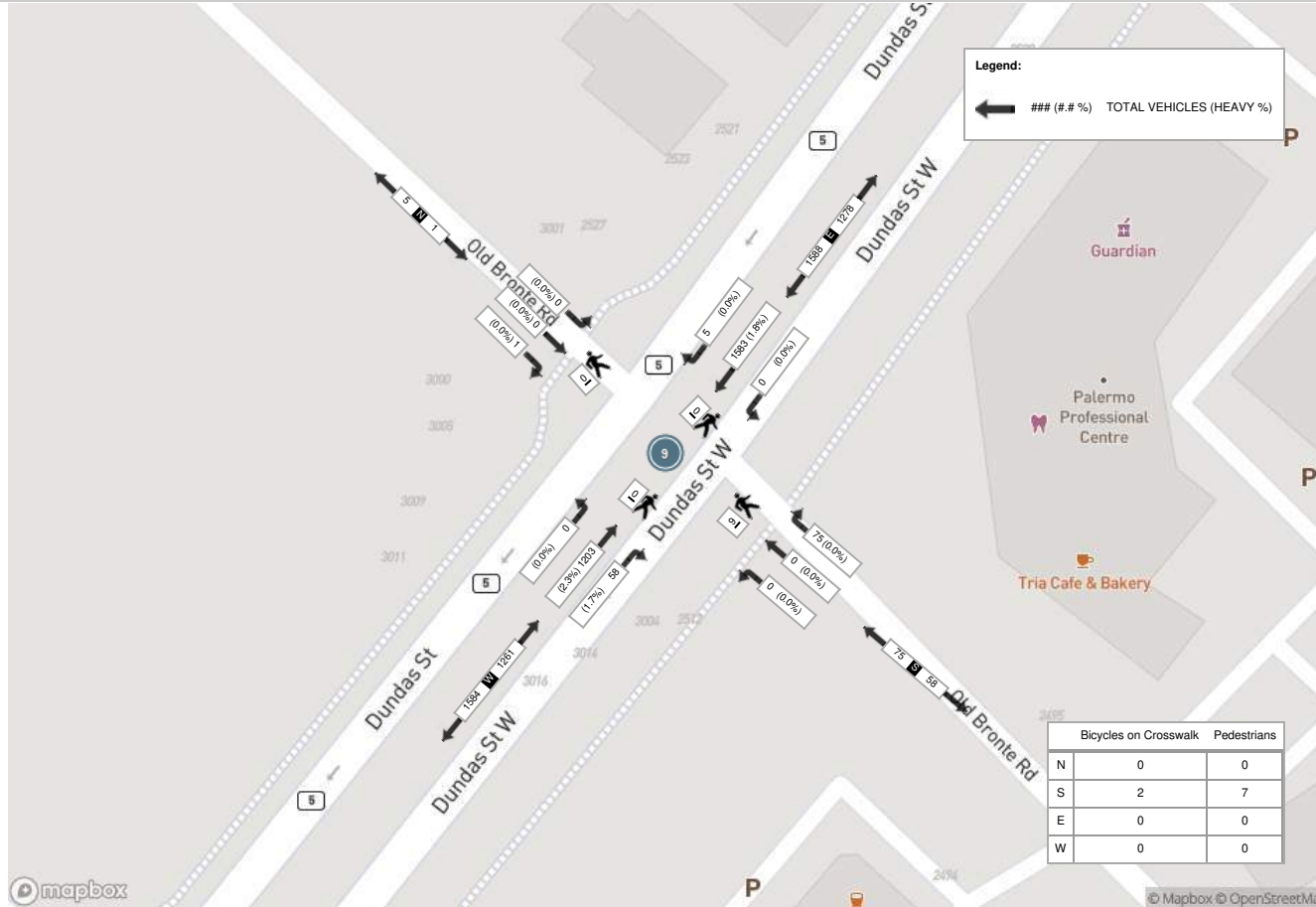
Peak Hour: 05:00 PM - 06:00 PM Weather: Clear Sky (24.91 °C)

Start Time	N Approach OLD BRONTE RD						E Approach DUNDAS ST W						S Approach OLD BRONTE RD						W Approach DUNDAS ST W						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
17:00:00	0	0	0	0	0	0	1	402	0	0	0	403	25	0	0	0	1	25	13	306	0	0	0	319	747
17:15:00	0	0	0	0	0	0	1	415	0	0	0	416	16	0	0	0	4	16	13	312	0	0	0	325	757
17:30:00	1	0	0	0	0	1	1	391	0	0	0	392	20	0	0	0	0	20	16	307	0	0	0	323	736
17:45:00	0	0	0	0	0	0	2	375	0	0	0	377	14	0	0	0	4	14	16	278	0	0	0	294	685
<b>Grand Total</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>5</b>	<b>1583</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1588</b>	<b>75</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>75</b>	<b>58</b>	<b>1203</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1261</b>	<b>2925</b>
<b>Approach%</b>	100%	0%	0%	0%	-	-	0.3%	99.7%	0%	0%	-	100%	0%	0%	0%	-	-	4.6%	95.4%	0%	0%	-	-	-	
<b>Totals %</b>	0%	0%	0%	0%	0%	0%	0.2%	54.1%	0%	0%	54.3%	2.6%	0%	0%	0%	2.6%	2%	41.1%	0%	0%	43.1%	-	-	-	
<b>PHF</b>	0.25	0	0	0	0	0.25	0.63	0.95	0	0	0.95	0.75	0	0	0	0.75	0.91	0.96	0	0	0.97	-	-	-	
<b>Heavy</b>	0	0	0	0	0	0	0	29	0	0	29	0	0	0	0	0	1	28	0	0	29	-	-	-	
<b>Heavy %</b>	0%	0%	0%	0%	0%	0%	0%	1.8%	0%	0%	1.8%	0%	0%	0%	0%	0%	1.7%	2.3%	0%	0%	2.3%	-	-	-	
<b>Lights</b>	1	0	0	0	0	1	5	1554	0	0	1559	75	0	0	0	75	57	1175	0	0	1232	-	-	-	
<b>Lights %</b>	100%	0%	0%	0%	0%	100%	100%	98.2%	0%	0%	98.2%	100%	0%	0%	0%	100%	98.3%	97.7%	0%	0%	97.7%	-	-	-	
<b>Single-Unit Trucks</b>	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	1	8	0	0	9	-	-	-	
<b>Single-Unit Trucks %</b>	0%	0%	0%	0%	0%	0%	0%	0.6%	0%	0%	0.6%	0%	0%	0%	0%	0%	1.7%	0.7%	0%	0%	0.7%	-	-	-	
<b>Buses</b>	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	7	0	0	7	-	-	-	
<b>Buses %</b>	0%	0%	0%	0%	0%	0%	0%	0.5%	0%	0%	0.5%	0%	0%	0%	0%	0%	0%	0.6%	0%	0%	0.6%	-	-	-	
<b>Articulated Trucks</b>	0	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	13	0	0	13	-	-	-	
<b>Articulated Trucks %</b>	0%	0%	0%	0%	0%	0%	0%	0.7%	0%	0%	0.7%	0%	0%	0%	0%	0%	0%	1.1%	0%	0%	1%	-	-	-	
<b>Pedestrians</b>	-	-	-	-	0	-	-	-	-	0	-	-	-	-	7	-	-	-	-	0	-	-	-	-	
<b>Pedestrians%</b>	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	77.8%	-	-	-	-	0%	-	-	-	-	
<b>Bicycles on Crosswalk</b>	-	-	-	-	0	-	-	-	-	0	-	-	-	-	2	-	-	-	-	0	-	-	-	-	
<b>Bicycles on Crosswalk%</b>	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	22.2%	-	-	-	-	0%	-	-	-	-	
<b>Bicycles on Road</b>	0	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	-	-	-	
<b>Bicycles on Road%</b>	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	

Peak Hour: 07:45 AM - 08:45 AM Weather: Clear Sky (15.03 °C)



Peak Hour: 05:00 PM - 06:00 PM Weather: Clear Sky (24.91 °C)





**Turning Movement Count (7 . DUNDAS ST W & VALLEYRIDGE DR)**

Start Time	E Approach DUNDAS ST W					S Approach VALLEYRIDGE DR					W Approach DUNDAS ST W					Int. Total (15 min)	Int. Total (1 hr)
	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	UTurn W:W	Peds W:	Approach Total		
06:30:00	93	0	0	1	93	5	2	0	2	7	3	211	0	0	214	314	
06:45:00	93	3	0	0	96	8	3	0	1	11	4	247	0	0	251	358	
07:00:00	103	1	1	1	105	9	1	0	0	10	4	319	0	0	323	438	
07:15:00	142	3	0	0	145	20	6	0	0	26	6	408	0	1	414	585	1695
07:30:00	153	5	0	0	158	13	2	0	3	15	2	441	0	0	443	616	1997
07:45:00	183	7	0	0	190	7	2	0	2	9	7	454	0	1	461	660	2299
08:00:00	209	8	1	0	218	16	7	0	1	23	8	451	0	0	459	700	2561
08:15:00	260	11	0	0	271	17	3	0	0	20	15	425	0	0	440	731	2707
08:30:00	241	15	0	1	256	24	21	0	4	45	26	372	0	0	398	699	2790
08:45:00	262	8	1	0	271	25	42	0	0	67	32	433	0	0	465	803	2933
09:00:00	233	6	1	3	240	12	6	0	0	18	8	284	0	0	292	550	2783
09:15:00	200	10	0	0	210	14	2	0	0	16	3	260	0	0	263	489	2541
***BREAK***																	
16:00:00	472	12	1	0	485	13	12	0	1	25	8	280	0	1	288	798	
16:15:00	482	9	1	0	492	9	9	0	0	18	9	265	0	0	274	784	
16:30:00	478	8	1	0	487	10	10	0	0	20	10	262	0	0	272	779	
16:45:00	414	9	0	0	423	6	11	0	4	17	10	288	0	0	298	738	3099
17:00:00	422	7	0	0	429	10	18	0	2	28	9	322	0	1	331	788	3089
17:15:00	469	13	0	0	482	16	5	0	2	21	18	362	0	0	380	883	3188
17:30:00	447	13	1	0	461	10	9	0	1	19	10	310	0	0	320	800	3209
17:45:00	391	12	0	0	403	10	6	0	0	16	10	313	0	0	323	742	3213
18:00:00	333	12	0	0	345	14	14	0	1	28	10	308	0	0	318	691	3116
18:15:00	284	8	1	1	293	4	12	0	1	16	10	277	0	0	287	596	2829
18:30:00	334	8	1	0	343	7	16	0	1	23	9	217	0	0	226	592	2621
18:45:00	232	9	0	0	241	9	16	0	2	25	10	249	0	0	259	525	2404
<b>Grand Total</b>	<b>6930</b>	<b>197</b>	<b>10</b>	<b>7</b>	<b>7137</b>	<b>288</b>	<b>235</b>	<b>0</b>	<b>28</b>	<b>523</b>	<b>241</b>	<b>7758</b>	<b>0</b>	<b>4</b>	<b>7999</b>	<b>15659</b>	<b>-</b>
<b>Approach%</b>	97.1%	2.8%	0.1%	-	-	55.1%	44.9%	0%	-	-	3%	97%	0%	-	-	-	-
<b>Totals %</b>	44.3%	1.3%	0.1%	-	45.6%	1.8%	1.5%	0%	-	3.3%	1.5%	49.5%	0%	-	51.1%	-	-
<b>Heavy</b>	405	4	0	-	-	6	6	0	-	-	12	332	0	-	-	-	-
<b>Heavy %</b>	5.8%	2%	0%	-	-	2.1%	2.6%	0%	-	-	5%	4.3%	0%	-	-	-	-
<b>Bicycles</b>	3	0	0	-	-	0	0	0	-	-	0	3	0	-	-	-	-
<b>Bicycle %</b>	0%	0%	0%	-	-	0%	0%	0%	-	-	0%	0%	0%	-	-	-	-



**Peak Hour: 08:00 AM - 09:00 AM Weather: Clear Sky (15.03 °C)**

Start Time	E Approach DUNDAS ST W					S Approach VALLEYRIDGE DR					W Approach DUNDAS ST W					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
08:00:00	209	8	1	0	218	16	7	0	1	23	8	451	0	0	459	700
08:15:00	260	11	0	0	271	17	3	0	0	20	15	425	0	0	440	731
08:30:00	241	15	0	1	256	24	21	0	4	45	26	372	0	0	398	699
08:45:00	262	8	1	0	271	25	42	0	0	67	32	433	0	0	465	803
<b>Grand Total</b>	<b>972</b>	<b>42</b>	<b>2</b>	<b>1</b>	<b>1016</b>	<b>82</b>	<b>73</b>	<b>0</b>	<b>5</b>	<b>155</b>	<b>81</b>	<b>1681</b>	<b>0</b>	<b>0</b>	<b>1762</b>	<b>2933</b>
<b>Approach%</b>	95.7%	4.1%	0.2%	-	-	52.9%	47.1%	0%	-	-	4.6%	95.4%	0%	-	-	-
<b>Totals %</b>	33.1%	1.4%	0.1%	-	34.6%	2.8%	2.5%	0%	-	5.3%	2.8%	57.3%	0%	-	60.1%	-
<b>PHF</b>	0.93	0.7	0.5	-	0.94	0.82	0.43	0	-	0.58	0.63	0.93	0	-	0.95	-
<b>Heavy</b>	100	3	0	-	103	1	1	0	-	2	5	81	0	-	86	-
<b>Heavy %</b>	10.3%	7.1%	0%	-	10.1%	1.2%	1.4%	0%	-	1.3%	6.2%	4.8%	0%	-	4.9%	-
<b>Lights</b>	872	39	2	-	913	81	72	0	-	153	76	1600	0	-	1676	-
<b>Lights %</b>	89.7%	92.9%	100%	-	89.9%	98.8%	98.6%	0%	-	98.7%	93.8%	95.2%	0%	-	95.1%	-
<b>Single-Unit Trucks</b>	44	0	0	-	44	0	0	0	-	0	1	54	0	-	55	-
<b>Single-Unit Trucks %</b>	4.5%	0%	0%	-	4.3%	0%	0%	0%	-	0%	1.2%	3.2%	0%	-	3.1%	-
<b>Buses</b>	31	3	0	-	34	1	1	0	-	2	4	11	0	-	15	-
<b>Buses %</b>	3.2%	7.1%	0%	-	3.3%	1.2%	1.4%	0%	-	1.3%	4.9%	0.7%	0%	-	0.9%	-
<b>Articulated Trucks</b>	25	0	0	-	25	0	0	0	-	0	0	16	0	-	16	-
<b>Articulated Trucks %</b>	2.6%	0%	0%	-	2.5%	0%	0%	0%	-	0%	0%	1%	0%	-	0.9%	-
<b>Pedestrians</b>	-	-	-	1	-	-	-	-	3	-	-	-	-	0	-	-
<b>Pedestrians%</b>	-	-	-	16.7%	-	-	-	-	50%	-	-	-	-	0%	-	-
<b>Bicycles on Crosswalk</b>	-	-	-	0	-	-	-	-	2	-	-	-	-	0	-	-
<b>Bicycles on Crosswalk%</b>	-	-	-	0%	-	-	-	-	33.3%	-	-	-	-	0%	-	-
<b>Bicycles on Road</b>	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	-
<b>Bicycles on Road%</b>	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-

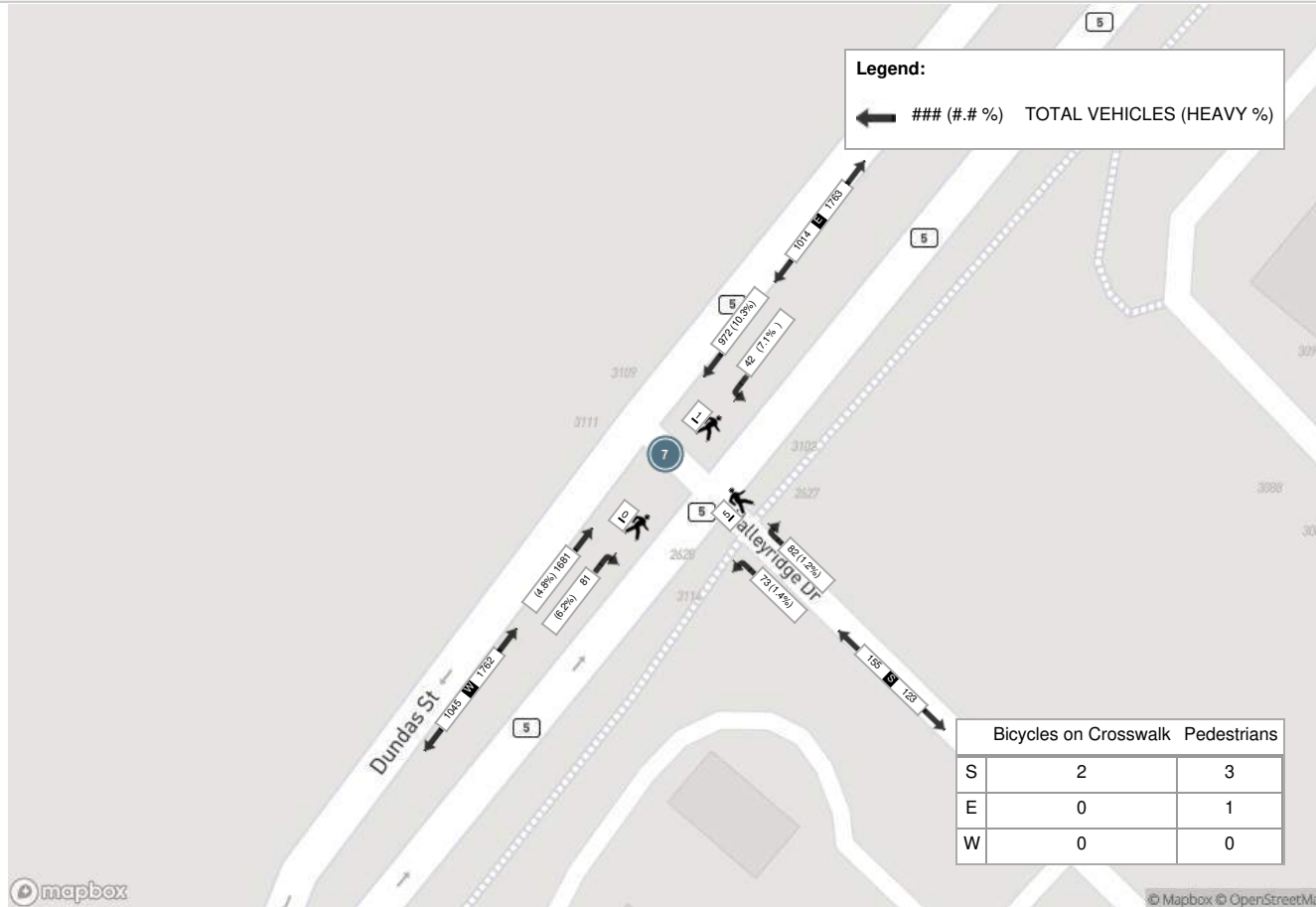


**Peak Hour: 05:00 PM - 06:00 PM Weather: Clear Sky (24.91 °C)**

Start Time	E Approach DUNDAS ST W					S Approach VALLEYRIDGE DR					W Approach DUNDAS ST W					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
17:00:00	422	7	0	0	429	10	18	0	2	28	9	322	0	1	331	788
17:15:00	469	13	0	0	482	16	5	0	2	21	18	362	0	0	380	883
17:30:00	447	13	1	0	461	10	9	0	1	19	10	310	0	0	320	800
17:45:00	391	12	0	0	403	10	6	0	0	16	10	313	0	0	323	742
<b>Grand Total</b>	<b>1729</b>	<b>45</b>	<b>1</b>	<b>0</b>	<b>1775</b>	<b>46</b>	<b>38</b>	<b>0</b>	<b>5</b>	<b>84</b>	<b>47</b>	<b>1307</b>	<b>0</b>	<b>1</b>	<b>1354</b>	<b>3213</b>
<b>Approach%</b>	97.4%	2.5%	0.1%	-	-	54.8%	45.2%	0%	-	-	3.5%	96.5%	0%	-	-	-
<b>Totals %</b>	53.8%	1.4%	0%	55.2%	1.4%	1.2%	0%	2.6%	1.5%	40.7%	0%	42.1%	-	-	-	-
<b>PHF</b>	0.92	0.87	0.25	0.92	0.72	0.53	0	0.75	0.65	0.9	0	0.89	-	-	-	-
<b>Heavy</b>	27	0	0	27	0	0	0	0	0	30	0	30	-	-	-	-
<b>Heavy %</b>	1.6%	0%	0%	1.5%	0%	0%	0%	0%	0%	2.3%	0%	2.2%	-	-	-	-
<b>Lights</b>	1702	45	1	1748	46	38	0	84	47	1277	0	1324	-	-	-	-
<b>Lights %</b>	98.4%	100%	100%	98.5%	100%	100%	0%	100%	100%	97.7%	0%	97.8%	-	-	-	-
<b>Single-Unit Trucks</b>	8	0	0	8	0	0	0	0	0	9	0	9	-	-	-	-
<b>Single-Unit Trucks %</b>	0.5%	0%	0%	0.5%	0%	0%	0%	0%	0%	0.7%	0%	0.7%	-	-	-	-
<b>Buses</b>	9	0	0	9	0	0	0	0	0	11	0	11	-	-	-	-
<b>Buses %</b>	0.5%	0%	0%	0.5%	0%	0%	0%	0%	0%	0.8%	0%	0.8%	-	-	-	-
<b>Articulated Trucks</b>	10	0	0	10	0	0	0	0	0	10	0	10	-	-	-	-
<b>Articulated Trucks %</b>	0.6%	0%	0%	0.6%	0%	0%	0%	0%	0%	0.8%	0%	0.7%	-	-	-	-
<b>Pedestrians</b>	-	-	-	0	-	-	-	3	-	-	-	-	1	-	-	-
<b>Pedestrians%</b>	-	-	-	0%	-	-	-	50%	-	-	-	16.7%	-	-	-	-
<b>Bicycles on Crosswalk</b>	-	-	-	0	-	-	-	2	-	-	-	0	-	-	-	-
<b>Bicycles on Crosswalk%</b>	-	-	-	0%	-	-	-	33.3%	-	-	-	0%	-	-	-	-
<b>Bicycles on Road</b>	0	0	0	0	-	0	0	0	0	-	0	0	0	-	-	-
<b>Bicycles on Road%</b>	-	-	-	0%	-	-	-	0%	-	-	-	0%	-	-	-	-



Peak Hour: 08:00 AM - 09:00 AM Weather: Clear Sky (15.03 °C)



Peak Hour: 05:00 PM - 06:00 PM Weather: Clear Sky (24.91 °C)





**Turning Movement Count (6 . OLD BRONTE RD & WILLIAM HALTON PKWY)**

Start Time	E Approach WILLIAM HALTON PKWY					S Approach OLD BRONTE RD					W Approach WILLIAM HALTON PKWY					Int. Total (15 min)	Int. Total (1 hr)
	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	UTurn W:W	Peds W:	Approach Total		
06:30:00	9	0	0	0	9	0	0	0	0	0	0	28	0	0	28	37	
06:45:00	14	0	0	0	14	1	0	0	0	1	1	29	0	0	30	45	
07:00:00	21	0	0	0	21	0	0	0	0	0	0	42	0	0	42	63	
07:15:00	21	0	0	0	21	1	0	0	0	1	0	74	0	0	74	96	241
07:30:00	26	0	0	0	26	2	0	0	0	2	2	83	0	0	85	113	317
07:45:00	36	0	0	0	36	1	0	0	0	1	0	100	0	0	100	137	409
08:00:00	30	0	0	0	30	1	0	0	0	1	1	71	0	0	72	103	449
08:15:00	33	0	0	0	33	2	0	0	0	2	1	96	0	0	97	132	485
08:30:00	35	1	0	0	36	3	0	0	0	3	5	72	0	0	77	116	488
08:45:00	29	0	0	0	29	10	0	0	0	10	7	72	0	0	79	118	469
09:00:00	38	0	0	0	38	4	0	0	0	4	2	42	0	0	44	86	452
09:15:00	21	0	0	0	21	0	0	0	0	0	2	30	0	0	32	53	373
***BREAK***																	
16:00:00	118	0	0	0	118	7	0	0	0	7	1	26	0	0	27	152	
16:15:00	97	0	0	0	97	5	0	0	0	5	2	32	0	0	34	136	
16:30:00	102	0	0	0	102	1	0	0	0	1	0	25	0	0	25	128	
16:45:00	70	0	0	0	70	3	0	0	0	3	0	36	0	0	36	109	525
17:00:00	75	0	0	0	75	1	0	0	0	1	1	21	0	0	22	98	471
17:15:00	69	0	0	0	69	2	0	0	0	2	2	25	0	0	27	98	433
17:30:00	62	0	0	0	62	2	0	0	0	2	3	22	0	0	25	89	394
17:45:00	31	0	0	0	31	6	0	0	0	6	2	20	0	0	22	59	344
18:00:00	29	0	0	0	29	2	0	0	0	2	0	17	0	0	17	48	294
18:15:00	39	0	0	0	39	2	0	0	0	2	1	18	0	0	19	60	256
18:30:00	24	0	0	0	24	1	0	0	0	1	0	13	0	0	13	38	205
18:45:00	19	0	0	0	19	2	0	0	3	2	1	18	0	0	19	40	186
<b>Grand Total</b>	<b>1048</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1049</b>	<b>59</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>59</b>	<b>34</b>	<b>1012</b>	<b>0</b>	<b>0</b>	<b>1046</b>	<b>2154</b>	<b>-</b>
<b>Approach%</b>	99.9%	0.1%	0%	-	-	100%	0%	0%	-	-	3.3%	96.7%	0%	-	-	-	-
<b>Totals %</b>	48.7%	0%	0%	48.7%	48.7%	2.7%	0%	0%	2.7%	2.7%	1.6%	47%	0%	48.6%	-	-	-
<b>Heavy</b>	15	0	0	-	-	3	0	0	-	-	0	11	0	-	-	-	-
<b>Heavy %</b>	1.4%	0%	0%	-	-	5.1%	0%	0%	-	-	0%	1.1%	0%	-	-	-	-
<b>Bicycles</b>	1	2	0	-	-	1	0	0	-	-	0	2	0	-	-	-	-
<b>Bicycle %</b>	0.1%	200%	0%	-	-	1.7%	0%	0%	-	-	0%	0.2%	0%	-	-	-	-



**Peak Hour: 07:45 AM - 08:45 AM Weather: Clear Sky (15.03 °C)**

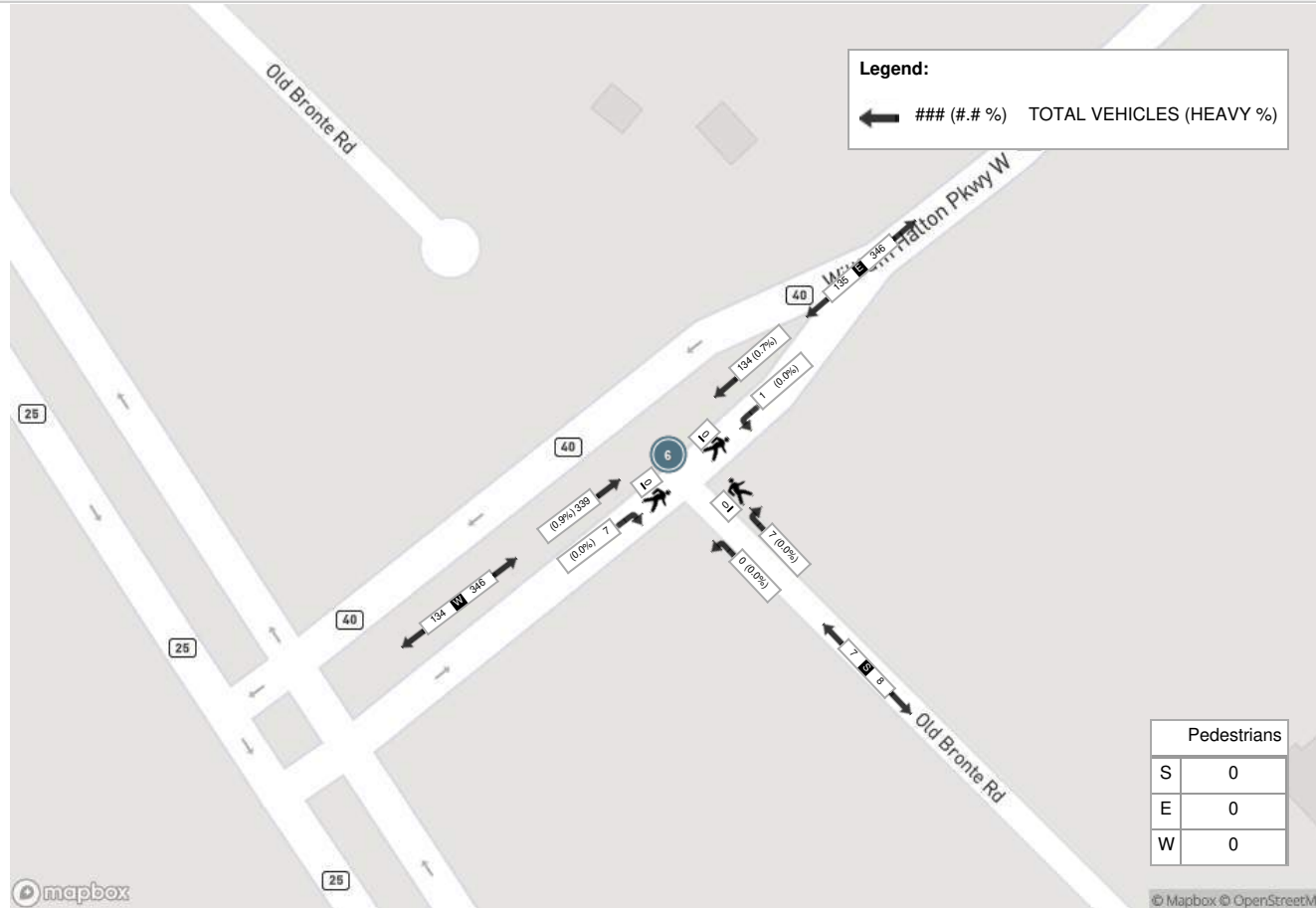
Start Time	E Approach WILLIAM HALTON PKWY					S Approach OLD BRONTE RD					W Approach WILLIAM HALTON PKWY					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
07:45:00	36	0	0	0	36	1	0	0	0	1	0	100	0	0	100	137
08:00:00	30	0	0	0	30	1	0	0	0	1	1	71	0	0	72	103
08:15:00	33	0	0	0	33	2	0	0	0	2	1	96	0	0	97	132
08:30:00	35	1	0	0	36	3	0	0	0	3	5	72	0	0	77	116
<b>Grand Total</b>	<b>134</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>135</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>7</b>	<b>339</b>	<b>0</b>	<b>0</b>	<b>346</b>	<b>488</b>
<b>Approach%</b>	99.3%	0.7%	0%		-	100%	0%	0%		-	2%	98%	0%		-	-
<b>Totals %</b>	27.5%	0.2%	0%		27.7%	1.4%	0%	0%		1.4%	1.4%	69.5%	0%		70.9%	-
<b>PHF</b>	0.93	0.25	0		0.94	0.58	0	0		0.58	0.35	0.85	0		0.87	-
<b>Heavy</b>	1	0	0		1	0	0	0		0	0	3	0		3	-
<b>Heavy %</b>	0.7%	0%	0%		0.7%	0%	0%	0%		0%	0%	0.9%	0%		0.9%	-
<b>Lights</b>	133	1	0		134	7	0	0		7	7	336	0		343	-
<b>Lights %</b>	99.3%	100%	0%		99.3%	100%	0%	0%		100%	100%	99.1%	0%		99.1%	-
<b>Single-Unit Trucks</b>	0	0	0		0	0	0	0		0	0	1	0		1	-
<b>Single-Unit Trucks %</b>	0%	0%	0%		0%	0%	0%	0%		0%	0%	0.3%	0%		0.3%	-
<b>Buses</b>	1	0	0		1	0	0	0		0	0	2	0		2	-
<b>Buses %</b>	0.7%	0%	0%		0.7%	0%	0%	0%		0%	0%	0.6%	0%		0.6%	-
<b>Articulated Trucks</b>	0	0	0		0	0	0	0		0	0	0	0		0	-
<b>Articulated Trucks %</b>	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	-
<b>Pedestrians</b>	-	-	-	0	-	-	-	0		-	-	-	-	0	-	-
<b>Pedestrians%</b>	-	-	-	0%	-	-	-	0%		-	-	-	-	0%	-	-
<b>Bicycles on Road</b>	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	-
<b>Bicycles on Road%</b>	-	-	-	0%	-	-	-	0%		-	-	-	-	0%	-	-



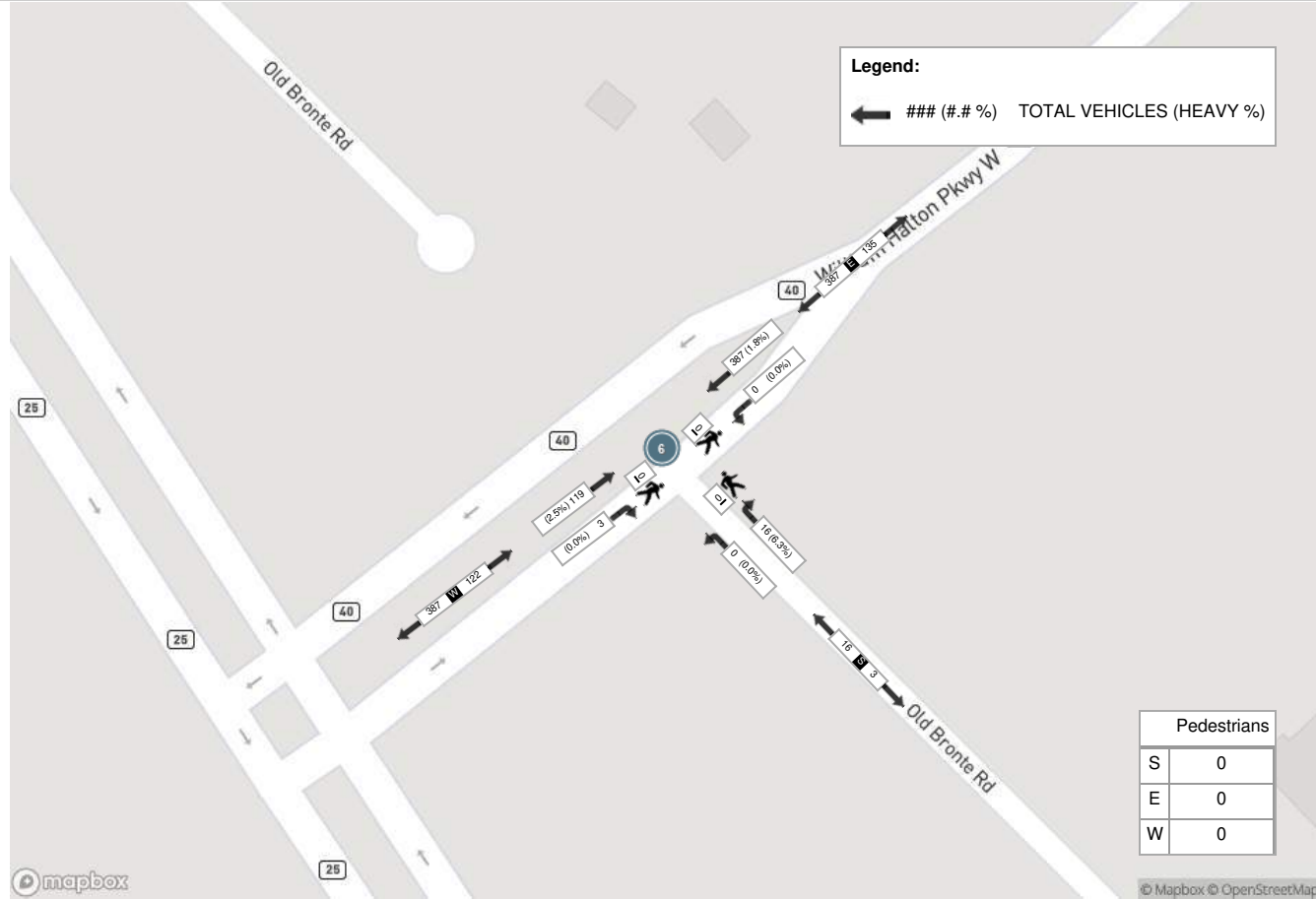
**Peak Hour: 04:00 PM - 05:00 PM Weather: Clear Sky (24.91 °C)**

Start Time	E Approach WILLIAM HALTON PKWY					S Approach OLD BRONTE RD					W Approach WILLIAM HALTON PKWY				Int. Total (15 min)	
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds		Approach Total
16:00:00	118	0	0	0	118	7	0	0	0	7	1	26	0	0	27	152
16:15:00	97	0	0	0	97	5	0	0	0	5	2	32	0	0	34	136
16:30:00	102	0	0	0	102	1	0	0	0	1	0	25	0	0	25	128
16:45:00	70	0	0	0	70	3	0	0	0	3	0	36	0	0	36	109
<b>Grand Total</b>	<b>387</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>387</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>3</b>	<b>119</b>	<b>0</b>	<b>0</b>	<b>122</b>	<b>525</b>
<b>Approach%</b>	100%	0%	0%		-	100%	0%	0%		-	2.5%	97.5%	0%		-	-
<b>Totals %</b>	73.7%	0%	0%		73.7%	3%	0%	0%		3%	0.6%	22.7%	0%		23.2%	-
<b>PHF</b>	0.82	0	0		0.82	0.57	0	0		0.57	0.38	0.83	0		0.85	-
<b>Heavy</b>	7	0	0		7	1	0	0		1	0	3	0		3	-
<b>Heavy %</b>	1.8%	0%	0%		1.8%	6.3%	0%	0%		6.3%	0%	2.5%	0%		2.5%	-
<b>Lights</b>	380	0	0		380	15	0	0		15	3	116	0		119	-
<b>Lights %</b>	98.2%	0%	0%		98.2%	93.8%	0%	0%		93.8%	100%	97.5%	0%		97.5%	-
<b>Single-Unit Trucks</b>	1	0	0		1	0	0	0		0	0	1	0		1	-
<b>Single-Unit Trucks %</b>	0.3%	0%	0%		0.3%	0%	0%	0%		0%	0%	0.8%	0%		0.8%	-
<b>Buses</b>	6	0	0		6	1	0	0		1	0	2	0		2	-
<b>Buses %</b>	1.6%	0%	0%		1.6%	6.3%	0%	0%		6.3%	0%	1.7%	0%		1.6%	-
<b>Articulated Trucks</b>	0	0	0		0	0	0	0		0	0	0	0		0	-
<b>Articulated Trucks %</b>	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	-
<b>Pedestrians</b>	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
<b>Pedestrians%</b>	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-
<b>Bicycles on Road</b>	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	-
<b>Bicycles on Road%</b>	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-

Peak Hour: 07:45 AM - 08:45 AM Weather: Clear Sky (15.03 °C)



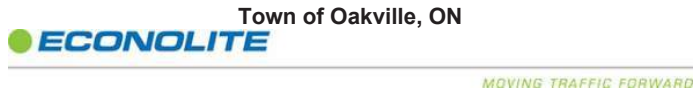
Peak Hour: 04:00 PM - 05:00 PM Weather: Clear Sky (24.91 °C)



**Appendix D:  
Signal Timing Plans**







REG1217 - Dundas St @ Valleyridge Dr - Econolite Type - Cobalt

**Configuration Controller Sequence**

**Phase Ring Sequence and Assignment (MM) 1-1-1**

Hardware Alternate Sequence Enable: Yes

**Phase Ring Sequence.....(Note: Sequences identical to the prior one are not printed)**

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
	B	B	B	B	B											
Sequence 1																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 2																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 3																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 4																
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 5																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 6																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 7																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 8																
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 9																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 10																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 11																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 12																
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.

Sequence 13																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	8	7	12	11	16	15	.	.	.	.	.	.	.	.
Sequence 14																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	8	7	12	11	16	15	.	.	.	.	.	.	.	.
Sequence 15																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	6	5	8	7	12	11	16	15	.	.	.	.	.	.	.	.
Sequence 16																
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	6	5	8	7	12	11	16	15	.	.	.	.	.	.	.	.

**Phases In Use/Exclusive Ped (MM) 1-2**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phases In Use	X	X				X	X									
Exclusive Ped																

**Phase Compatibility (MM) 1-1-2**

Phase	
n/a	Barrier Mode

**Phase and Overlap Descriptions**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Approach	N	S	E	W	S	N	W	E	N	N	N	N	N	N	N	N
Movement	L	T	L	T	L	T	L	T								
Associated PED																
Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Approach	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Movement																

**Administration (MM) 1-7-1**

Enable Controller/Cabinet No  
 Interlock CRC  
 CRC (16 bit) 3FF3  
 Enable Automatic Backup to Datakey No

**Backup Prevent (MM) 1-1-3**

Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Timing	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phases	2	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	10	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	11	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	14	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

10	4	P					-	Auto			
11	6	P					+	Auto			
12	8	P					+	Auto			
13	1	.					-	Auto	X		
14	2	.					+	Auto	X		X
15	3	.					-	Auto	X		
16	4	.					+	Auto	X		X

**Simultaneous Gap (MM) 1-1-4**

Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phase	6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Must	7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Gap	8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
With	9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phase	10	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	11	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	14	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Disable	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Load Switch Assignments (MM) 1-3**

Phase / Overlap	Type	Dimming				Power Up	Auto		Flash Together
		Red	Yellow	Green	Dark		Red	Yellow	
1	1	V				-	Auto	X	
2	2	V				-	Auto	X	X
3	3	V				-	Auto	X	
4	4	V				-	Auto	X	X
5	5	V				+	Auto	X	
6	6	V				+	Auto	X	X
7	7	V				+	Auto	X	
8	8	V				+	Auto	X	X
9	2	P				-	Auto		



MOVING TRAFFIC FORWARD

REG1217 - Dundas St @ Valleyridge Dr - Econolite Type - Cobalt

**Configuration Port 1 (SDLC)**

**Port 1 SDLC (MM) 1-4-1**

BIU	1	2	3	4	5	6	7	8
Term & Facility	X	X						
Detector Rack	X	X						

Enable TS2/MMU Type Cabinet: No  
 Enable MMU Extended Status: Yes  
 Enable SDLC Stop Time: No  
 Enable 3 Critical RFE's Lockup: Yes

**MMU Program (MM) 1-4-2**

Channel Can Serve With Channel	
Channel 1	Channel 2

**Color Check Enable (MM) 1-4-3**

Enable Color Check: No

MMU/LS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Green	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Yellow	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Red	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

**Secondary Stations/Tests (MM) 1-4-4**

ID	1	2	3	4	5	6	7	8	MMU
Term & Facility									

ID	1	2	3	4	5	6	7	8	Diag
Detector Rack									

Enable SDLC Diagnostic Test: No



MOVING TRAFFIC FORWARD

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**Configuration Communications 1 (SDLC)**

**Ethernet Port Configuration (MM) 1-5-1**

Controller IP: 172.16.2.14  
 Subnet Mask: 255.255.0.0  
 Default Gateway IP: 10.104.0.1  
 Server IP: 172.16.1.254

**NTCIP (MM) 1-5-5**

NTCIP Backup Time (Sec): 0  
 NTCIP UDP Port: 501  
 Ethernet Priority: 1  
 Port 2 Priority (Port C50S for 2070): 4  
 Port 3A Priority (Port C21S for 2070): 2  
 Port 3B Priority (Port C22S for 2070): 3

**Port Configuration (MM) 1-5-2 to 1-5-4**

Port	2 (C50S)	3A (C21S)	3B (C22S)
Comm Module	FSK	Telem	Telem
Protocol	NTCIP	NTCIP	ECPIP
Enable	No	No	No
Data Rate (BPS)	9600	9600	1200
Data, Parity, Stop	8 N 1	8 N 1	8 O 1
Address	0	0	2
Telemetry Response Delay	0.0	0.0	1.0
Duplex - Half or Full	Half	Full	Full
Flow Control	No	Yes	Yes
Group Address	0	0	0
Single Flag Enable	Yes	Yes	Yes
RTS to CTS Delay	n/a	n/a	3.0
RTS Turn Off Delay	n/a	n/a	2.0
Dropout Time	10	10	10
Early RTS	n/a	n/a	No
Telemetry Mode	n/a	n/a	FSK
ATCS Railroad	0	n/a	n/a
ATCS Railroad Line	0	n/a	n/a
ATCS Group	0	n/a	n/a
Wayside Device	0	n/a	n/a
ATC Device	0	n/a	n/a
Wayside Subnode	0	n/a	n/a
ATC Subnode	0	n/a	n/a

**ECPIP (MM) 1-5-6**

Controller Address: 2  
 Expanded System Detector Address: 0

**System Detector Assignment**

System Detector	Local Detector
-----------------	----------------

**Wireless Configuration (MM) 1-5-7**

Wireless Channel Number: 1  
 Wireless Access Code: 327423274



MOVING TRAFFIC FORWARD

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**Configuration Logging / Display**

**Event Logging (MM) 1-6-1**

Critical RFE's (MMU/TF)	Yes	3 Critical Errors Within 24 Hours	Yes
MMU Flash Faults	Yes	Local Flash Fault	Yes
Non-Critical RFE's (Det/Test)	No	Detector Errors	Yes
Coordination Errors	No	Controller Download	Yes
Preemption Events	Yes	TSP Events	Yes
Power On/Off	Yes	Low Battery	No
Access	Yes	Data Change	Yes
Online / Offline	Yes		

Alarm Event	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Enable Logging	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

**Display Options (MM) 1-7-2**

Key Click Enable:	Yes
Switch to Graphics Mode:	No
LED Mode:	Auto
Display Mode:	Basic
Trans Mode Pop-Up Disable:	No

**Sign On (MM) 8-5**

Sign On Message Line 1: Solutions that Move the World  
 Sign On Message Line 2:

**Software Modules (MM) 8-7**

Application Version: 32.64.00  
 OS (Boot) Version: 06.04.00



MOVING TRAFFIC FORWARD

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**Logic Processor Page 1**

**Logic Statement Control (MM) 1-8-1**

Logic #	Statement Control
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MOVING TRAFFIC FORWARD

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**Logic Processor Page 2**

**Logic Statements (MM) 1-8-2**



Town of Oakville, ON

MOVING TRAFFIC FORWARD

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Controller Timing Plan (MM) 2-1

Plan 1 - ""

Table with 17 columns (Phase, 1-16) and 38 rows of timing data for Plan 1.

Plan 2 - ""

Table with 17 columns (Phase, 1-16) and 38 rows of timing data for Plan 2.

Plan 3 - ""

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 4 - ""

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



MOVING TRAFFIC FORWARD

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**Controller Overlaps**  
**Vehicle Overlaps (MM) 2-2**

Overlap	Type	Lag Green	Yellow	Red	Adv. Green
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**Phases**

Overlap	Phase	Included	Protect	Ped Protect	Not Overlap	Modifier	Lag X Phases	Lag 2 Phases	Flash Green
---------	-------	----------	---------	-------------	-------------	----------	--------------	--------------	-------------

**PPLT FYA**

Overlap	Protected Phase (Left Turn)	Permissive Phase (Opposing Thru)	Flashing Arrow Output	Flashing Arrow Output CH	Delay Start of FYA	Delay Start of Clearance	Action Plan SF Bit Disable	Ped Protected Enable
---------	-----------------------------	----------------------------------	-----------------------	--------------------------	--------------------	--------------------------	----------------------------	----------------------

**Guaranteed Minimum Time Data (MM) 2-4**

Phase	Min Green	Walk	Ped Clear	Yellow	Red Clear	Overlap Green
A01	5	0	7	3.0	0.0	5
B02	5	0	7	3.0	0.0	5
C03	5	0	7	3.0	0.0	5
D04	5	0	7	3.0	0.0	5
E05	5	0	7	3.0	0.0	5
F06	5	0	7	3.0	0.0	5
G07	5	0	7	3.0	0.0	5
H08	5	0	7	3.0	0.0	5
I09	5	0	7	3.0	0.0	5
J10	5	0	7	3.0	0.0	5
K11	5	0	7	3.0	0.0	5
L12	5	0	7	3.0	0.0	5
M13	5	0	7	3.0	0.0	5
N14	5	0	7	3.0	0.0	5
O15	5	0	7	3.0	0.0	5
P16	5	0	7	3.0	0.0	5



MOVING TRAFFIC FORWARD

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**Controller Pedestrian Overlaps**  
**Vehicle / Pedestrian Overlaps (MM) 2-3**

Included	Pedestrian Overlaps
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MOVING TRAFFIC FORWARD

REG1217 - Dundas St @ Valleyridge Dr - Econolite Type - Cobalt

**Controller Start / Flash Data (MM) 2-5**

**Start Up**

Phase	Phase Setting
1	.
2	Y
3	.
4	.
5	.
6	Y
7	.
8	.
9	.
10	.
11	.
12	.
13	.
14	.
15	.
16	.

Overlap
A
B
C
D

Flash Thru Mon: No  
 Flash Time: 0  
 All Red: 0  
 Power Start Seq: 1  
 MUTCD Enabled: No  
 Y->G: n/a

**Automatic Flash**

Entry
2
6

Exit
2
6

Overlap Exit
A
B
C
D

Flash Thru Mon: No  
 Exit Flash: W  
 Minimum Flash: 8  
 Minimum Recall: No  
 Cycle Through Phase: No



MOVING TRAFFIC FORWARD

REG1217 - Dundas St @ Valleyridge Dr - Econolite Type - Cobalt

**Controller Options**

**Controller Options (MM) 2-6-1**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Grn Ph	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Guar Passage																
Non-Act I	X					X										
Non-Act II		X				X										
Dual Entry																
Cond Service																
Cond Reservice																
Ped Re-Service	X															
Rest In Walk																
Flashing Walk																
Ped Clr-Yel																
Ped Clr-Red																
IGRN + Veh Ext																

Ped Clear Protect: Off Unit Red Revert: 2.0 MUTCD 3 Seconds Don't Walk: No

**Pre-Timed Mode (MM) 2-7**

Enable Pre-Timed Mode: No Free Input Disables Pre-Timed: Yes

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Pre-Timed																

**Phase Recall Options (MM) 2-8**

**Plan # 1**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Lock Detector																
Vehicle Recall		X						X								
Ped Recall																
Max Recall																
Soft Recall																
No Rest																
AI Calc																



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**Coordination Options**

**Options (MM) 3-1**

Manual Pattern	Auto	ECPI Coord	Yes
System Source	TBC	System Format	STD
Splits In	Percent	Offsets In	Percent
Transition	Smooth	Max Select	MAXINH
Dwell / Add Time	0		
Delay Coord Wk-LZ	No	Force Off	Float
Offset Reference	Lead	Use Ped Time	Yes
Ped Recall	No	Ped Reservice	Yes
Local Zero	Yes	FO Added Ini	No
Override		Green	
Re-sync Count	0	Multisync	No

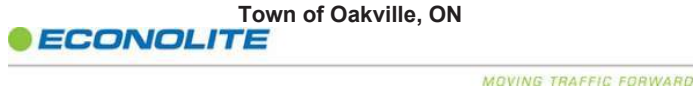
**Auto Perm Minimum Green (Seconds) (MM) 3-4**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**Split Demand (MM) 3-5**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Demand 1																
Demand 2																

Demand	1	2
Detector	0	0
Call Time (Sec)	0	0
Cycle Count	0	0



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**Coordination Pattern Data**

**Coordinator Pattern Data (MM) 3-2**

**Coordinator Pattern # 1**

Split Pattern	1	TS2 (Pat-Off)	0-1	Splits In	Percent
Cycle	70	Std (COS)	9	Offsets In	Percent
Offset Value	26%	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase Reservice	Yes	Action Plan	0		
Max Select	None	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Splits (Split Pat 1)	16	58	0	0	0	74	0	26	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	74%	100%	0%	0%

Misc. Data			
Veh Perm 1	0	Veh Perm 2	0
Veh Perm 2	0	Veh Perm 2 Disp	0
Split Demand Pat 1	0	Split Demand Pat 2	0
Split Demand Pat 2	0	Crossing Arterial Pat	0

**Split Pattern**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function																
Outputs																

**Coordinator Pattern # 2**

Split Pattern	2	TS2 (Pat-Off)	0-2	Splits In	Percent
Cycle	90	Std (COS)	17	Offsets In	Percent
Offset Value	90%	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase Reservice	Yes	Action Plan	0		
Max Select	None	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Splits (Split Pat 2)	13	55	0	0	0	68	0	32	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	68%	100%	0%	0%

Misc. Data			
Veh Perm 1	0	Veh Perm 2	0
Veh Perm 2	0	Veh Perm 2 Disp	0
Split Demand Pat 1	0	Split Demand Pat 2	0
Split Demand Pat 2	0	Crossing Arterial Pat	0

**Split Pattern**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function																
Outputs																

**Coordinator Pattern # 3**

Split Pattern	3	TS2 (Pat-Off)	0-3	Splits In	Percent
Cycle	70	Std (COS)	25	Offsets In	Percent
Offset Value	14%	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase Reservice	Yes	Action Plan	0		
Max Select	None	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Splits (Split Pat 3)	16	58	0	0	0	74	0	26	0	0	0	0	0	0	0	0

Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	74%	100%	0%	0%

Misc. Data  
 Veh Perm 1 0 Veh Perm 2 0 Veh Perm 2 Disp 0  
 Split Demand 0 Pat 1 Split Demand 0 Pat 2 Crossing Arterial 0 Pat

**Split Pattern**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																

**Coordinator Pattern # 4**

Split Pattern	4	TS2 (Pat-Off)	1-1	Splits In	Percent
Cycle	90	Std (COS)	33	Offsets In	Percent
Offset Value	90%	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase					
Reservice	Yes	Action Plan	0		
Max Select	None	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Splits (Split Pat 4)	13	55	0	0	0	68	0	32	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	68%	100%	0%	0%

Misc. Data  
 Veh Perm 1 0 Veh Perm 2 0 Veh Perm 2 Disp 0  
 Split Demand 0 Pat 1 Split Demand 0 Pat 2 Crossing Arterial 0 Pat

**Split Pattern**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																



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Coordination Split Pattern  
Split Pattern Data (MM) 3-3

Split Pattern # 1

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Split (percent)	16	58	0	0	0	74	0	26	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X

Ring	1	2	3	4
Split Sum	74%	100%	0%	0%

Split Pattern # 2

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Split (percent)	13	55	0	0	0	68	0	32	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X

Ring	1	2	3	4
Split Sum	68%	100%	0%	0%

Split Pattern # 3

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Split (percent)	16	58	0	0	0	74	0	26	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X

Ring	1	2	3	4
Split Sum	74%	100%	0%	0%

Split Pattern # 4

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Split (percent)	13	55	0	0	0	68	0	32	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X

Ring	1	2	3	4
Split Sum	68%	100%	0%	0%



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**Preempt Plan**

**Preempt Plan (MM) 4-1**

**Preempt Plan 3**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<b>Overlap</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>I</b>	<b>J</b>	<b>K</b>	<b>L</b>	<b>M</b>	<b>N</b>	<b>O</b>	<b>P</b>
Trk Clr Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Trk Clr Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Enable Trailing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dwell Veh	.	X	.	.	.	X	.	.	.	.	.	.	.	.	.	.
Dwell Ped	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dwell Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Ped	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Phases		X				X										
Exit Calls																
Special Function																

Enable	Yes	Preempt Override	Yes	Interlock Enable	No
Det Lock	Yes	Delay	0	Inhibit	0
Override Flash	Yes	Duration	10	CLR > GRN	No
Term Ovlp	Yes	PC Through	Yes	Terminate Phase	Yes
Asap	No	Track Clear Rsv	No	Dwell Flash	Off
Ped Dark	No	FL Exit Color	Grn	Exit Options	Off
Linked Pmt	0	Reservice	0	Fault Type	Hard
Exit Timing Plan	0				

Ring	1	2	3	4
Free During Pmt	No	No	No	No

Timing	Walk	Ped Clr	Min Grn	Yellow	Red
Entrance	0	7	5	4.0	2.0
	Min Grn	Ext Grn	Max Grn	Yellow	Red
Track Clear	0	0	0	4.0	1.0
	Min Dwell	Pmt Ext	Max Time	Yellow	Red
Dwell / Cycle-Exit	0	0.0	0	4.0	1.0

Preemption Active On Out		Preempt Act Dwell	No
Other - Priority Preempt	Off	Non-Priority Pmt	Off
Inhibit Extension Time	0.0	Ped Priority Return	Off
Veh Priority Return	Off	Queue Delay	Off
Conditional Delay	Off		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Pri Return %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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**Preempt Preempt Filtering**  
**Enable Preempt Filtering & TSP/SCP (MM) 4-2**

Input	Solid	Pulsing
1	...BYPASSED...	...BYPASSED...
2	...BYPASSED...	...BYPASSED...
3	PREEMPTION 3	PREEMPTION 7
4	PREEMPTION 4	PREEMPTION 8
5	PREEMPTION 5	PREEMPTION 9
6	PREEMPTION 6	PREEMPTION 10
7	...BYPASSED...	...BYPASSED...
8	...BYPASSED...	...BYPASSED...
9	...BYPASSED...	...BYPASSED...
10	...BYPASSED...	...BYPASSED...

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**Preempt TSP/SCP Plan and Split**

**TSP / SCP Plan (MM) 4-3**

TSP/SCP Plan	Enable Option	Signal Type	Det Lock	Delay Time	Max Presence	PMT Enables Reservice	No Delay in TSP	Action SF Inhibit	Reservice Cycles	Bus Heading
1	No	Solid	No	0	0	No	False	0	0	NB
2	No	Solid	No	0	0	No	False	0	0	SB
3	No	Solid	No	0	0	No	False	0	0	EB
4	No	Solid	No	0	0	No	False	0	0	WB
5	No	Solid	No	0	0	No	False	0	0	.
6	No	Solid	No	0	0	No	False	0	0	.

Mode: TSP  
 Free Default Pattern: 120  
 Headway Allowance: 0

TSP/SCP Plan	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**TSP / SCP Split Pattern (MM) 4-4**

TSP/SCP Split Pattern	Max Type	Phase															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
4	Max Reduction	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255



MOVING TRAFFIC FORWARD

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**Time Base Clock/Calendar**

**Clock/Calendar Data (MM) 5-1**

Manual Action Plan: 0  
 SYNC Reference Time: 03:15  
 SYNC Reference: Reference Time  
 Day Light Savings: No  
 Time Reset Input Set Time: 3:30:00  
 Standard Time From GMT: 0



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**Time Base Action Plan**

**Action Plan (MM) 5-2**

**Action Plan - 1 - "1"**

Pattern 1 Override Sys No  
 Timing Plan 0 Sequence 0  
 Veh Detector Plan 0 Det Log None  
 Flash No Red Rest No  
 Veh Det Diag 0 Ped Det Diag Plan 0  
 Dimming Enable No Pmt Veh Priority Ret No  
 Pmt Ped Priority Ret No Pmt Queue Delay No  
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.



**Action Plan - 2 - "2"**

Pattern 2 Override Sys No  
 Timing Plan 0 Sequence 0  
 Veh Detector Plan 0 Det Log None  
 Flash No Red Rest No  
 Veh Det Diag 0 Ped Det Diag 0  
 Plan  
 Dimming Enable No Pmt Veh Priority No  
 Ret  
 Pmt Ped Priority No Pmt Queue Delay No  
 Ret  
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Action Plan - 3 - "3"**

Pattern 3 Override Sys No  
 Timing Plan 0 Sequence 0  
 Veh Detector Plan 0 Det Log None  
 Flash No Red Rest No  
 Veh Det Diag 0 Ped Det Diag 0  
 Plan  
 Dimming Enable No Pmt Veh Priority No  
 Ret  
 Pmt Ped Priority No Pmt Queue Delay No  
 Ret  
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Action Plan - 4 - "4"**

Pattern 4 Override Sys No  
 Timing Plan 0 Sequence 0  
 Veh Detector Plan 0 Det Log None  
 Flash No Red Rest No  
 Veh Det Diag 0 Ped Det Diag 0  
 Plan  
 Dimming Enable No Pmt Veh Priority No  
 Ret  
 Pmt Ped Priority No Pmt Queue Delay No  
 Ret  
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Action Plan - 5 - "5"**

Pattern 5 Override Sys No  
 Timing Plan 0 Sequence 0  
 Veh Detector Plan 0 Det Log None  
 Flash No Red Rest No  
 Veh Det Diag 0 Ped Det Diag 0  
 Plan  
 Dimming Enable No Pmt Veh Priority No  
 Ret  
 Pmt Ped Priority No Pmt Queue Delay No  
 Ret  
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Action Plan - 6 - "6"**

Pattern 6 Override Sys No  
 Timing Plan 0 Sequence 0  
 Veh Detector Plan 0 Det Log None  
 Flash No Red Rest No  
 Veh Det Diag 0 Ped Det Diag 0  
 Plan 0  
 Dimming Enable No Pmt Veh Priority No  
 Ret  
 Pmt Ped Priority No Pmt Queue Delay No  
 Ret  
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	



REG1217 - Dundas St @ Valleyridge Dr - Econolite Type - Cobalt

**Time Base Day Plan/Schedule  
Day Plan (MM) 5-3**

**Day Plan #1 - "1"**

Event	Action Plan	Start Time
1	1	06:00
2	2	09:00
3	3	15:15
4	4	18:00
5	5	19:00

**Day Plan #2 - "2"**

Event	Action Plan	Start Time
1	5	08:00
2	6	20:00

**Schedule (MM) 5-4**

**Schedule Number - 1**

Day Plan No.: 1

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X	X	X	X	X	X	X	X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
		X	X	X	X	X	

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

**Schedule Number - 2**

Day Plan No.: 2

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X	X	X	X	X	X	X	X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
	X						X

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		



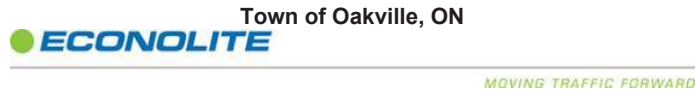
MOVING TRAFFIC FORWARD

REG1217 - Dundas St @ Valleyridge Dr - Econolite Type - Cobalt

**Time Base Exceptions**

**Exception Day Program (MM) 5-5**

Except Day	Float/Fixed	Mon/Mon	DOW/DOM	WOM/Year	Day Plan



REG1217 - Dundas St @ Valleyridge Dr - Econolite Type - Cobalt

**Detectors**  
Detectors - Pg 1

**Veh Det Phase Assignment (MM) 6-1**

**Vehicle Detector Plan Number - 1**

Veh Detector	Assigned Phase	Called Phase	Type
1	1	1	S
2	2	2	S
3	8	8	S
4	8	8	S
5	6		S
6	6	6	S
7	8	8	S
8	8	8	S
9	6		S
10	10		S
11	11		S
12	12		S
13	13		S
14	14		S
15	15		S
16	16		S
17	1		S
18	2		S
22	6		S
24	8		S
32	8		S

**Vehicle Detector Plan Number - 2**

Veh Detector	Assigned Phase	Called Phase	Type
1	1		S
2	2		S
3	3		S
4	4		S
5	5		S
6	6		S
7	7		S
8	8		S
9	2		S
10	2		S
11	4		S
12	4		S
13	6		S

14	6		S
15	8		S
16	8		S
17	1		S
18	2		S
19	3		S
20	4		S
21	5		S
22	6		S
23	7		S
24	8		S
25	2		S
26	4		S
27	6		S
28	8		S

**Vehicle Detector Plan Number - 3**

Veh Detector	Assigned Phase	Called Phase	Type
1	1		S
2	2		S
3	3		S
4	4		S
5	5		S
6	6		S
7	7		S
8	8		S
9	2		S
10	2		S
11	4		S
12	4		S
13	6		S
14	6		S
15	8		S
16	8		S
17	1		S
18	2		S
19	3		S
20	4		S
21	5		S
22	6		S
23	7		S
24	8		S
25	2		S
26	4		S
27	6		S
28	8		S

**Vehicle Detector Plan Number - 4**

Veh Detector	Assigned Phase	Called Phase	Type
1	1		S
2	2		S

3	3		S
4	4		S
5	5		S
6	6		S
7	7		S
8	8		S
9	2		S
10	2		S
11	4		S
12	4		S
13	6		S
14	6		S
15	8		S
16	8		S
17	1		S
18	2		S
19	3		S
20	4		S
21	5		S
22	6		S
23	7		S
24	8		S
25	2		S
26	4		S
27	6		S
28	8		S

22	S-STANDARD	Yes	
23	S-STANDARD	Yes	
24	S-STANDARD	Yes	
25	S-STANDARD	Yes	
26	S-STANDARD	Yes	
27	S-STANDARD	Yes	
28	S-STANDARD	Yes	
29	S-STANDARD	Yes	
30	S-STANDARD	Yes	
31	S-STANDARD	Yes	
32	S-STANDARD	Yes	
33	S-STANDARD	Yes	
34	S-STANDARD	Yes	
35	S-STANDARD	Yes	
36	S-STANDARD	Yes	
37	S-STANDARD	Yes	
38	S-STANDARD	Yes	
39	S-STANDARD	Yes	
40	S-STANDARD	Yes	
41	S-STANDARD	Yes	
42	S-STANDARD	Yes	
43	S-STANDARD	Yes	
44	S-STANDARD	Yes	
45	S-STANDARD	Yes	
46	S-STANDARD	Yes	
47	S-STANDARD	Yes	
48	S-STANDARD	Yes	
49	S-STANDARD	Yes	
50	S-STANDARD	Yes	
51	S-STANDARD	Yes	
52	S-STANDARD	Yes	
53	S-STANDARD	Yes	
54	S-STANDARD	Yes	
55	S-STANDARD	Yes	
56	S-STANDARD	Yes	
57	S-STANDARD	Yes	
58	S-STANDARD	Yes	
59	S-STANDARD	Yes	
60	S-STANDARD	Yes	
61	S-STANDARD	Yes	
62	S-STANDARD	Yes	
63	S-STANDARD	Yes	
64	S-STANDARD	Yes	

**Vehicle Detector Setup (MM) 6-2**

Veh Detector	Type	TS2 Detector	Description
1	S-STANDARD	Yes	
2	S-STANDARD	Yes	
3	S-STANDARD	Yes	
4	S-STANDARD	Yes	
5	S-STANDARD	Yes	
6	S-STANDARD	Yes	
7	S-STANDARD	Yes	
8	S-STANDARD	Yes	
9	S-STANDARD	Yes	
10	S-STANDARD	Yes	
11	S-STANDARD	Yes	
12	S-STANDARD	Yes	
13	S-STANDARD	Yes	
14	S-STANDARD	Yes	
15	S-STANDARD	Yes	
16	S-STANDARD	Yes	
17	S-STANDARD	Yes	
18	S-STANDARD	Yes	
19	S-STANDARD	Yes	
20	S-STANDARD	Yes	
21	S-STANDARD	Yes	

**Vehicle Detector Plan Number - 1**

Veh Detector	Phase	ECPI Log	Call Option	Delay Time	Ext Option	Extend Time / Passage Time	Queue Lim. / Discon. Time	Use Added Initial	Cross Switch Ph	Lock In	NTCIP Vol.	NTCIP Occ.	Pmt Queue Delay
1	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

2	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
3	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
4	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
5	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
6	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
7	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
9	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
10	10	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
11	11	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
12	12	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
13	13	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
14	14	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
15	15	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
16	16	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
17	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
18	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
19	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
20	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
21	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
22	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
23	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
24	8	No	Yes	5.0	Passage	0.0	0	No	0	None	No	No	No
25	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
26	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
27	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
28	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
29	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
30	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
31	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
32	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
33	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
34	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
35	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
36	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
37	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
38	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
39	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
40	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
41	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
42	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
43	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
44	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
45	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
46	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
47	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
48	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
49	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
50	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
51	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
52	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

53	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
54	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
55	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
56	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
57	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
58	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
59	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
60	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
61	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
62	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
63	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
64	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

Vehicle Detector Plan Number - 2

Veh Detector	Phase	ECPI Log	Call Option	Delay Time	Ext Option	Extend Time / Passage Time	Queue Lim. / Discon. Time	Use Added Initial	Cross Switch Ph	Lock In	NTCIP Vol.	NTCIP Occ.	Pmt Queue Delay
1	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
2	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
3	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
4	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
5	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
6	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
7	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
9	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
10	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
11	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
12	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
13	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
14	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
15	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
16	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
17	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
18	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
19	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
20	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
21	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
22	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
23	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
24	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
25	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
26	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
27	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
28	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
29	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
30	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
31	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
32	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
33	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

34	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
35	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
36	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
37	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
38	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
39	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
40	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
41	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
42	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
43	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
44	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
45	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
46	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
47	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
48	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
49	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
50	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
51	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
52	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
53	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
54	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
55	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
56	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
57	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
58	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
59	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
60	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
61	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
62	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
63	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
64	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

Vehicle Detector Plan Number - 3

Veh Detector	Phase	ECPI Log	Call Option	Delay Time	Ext Option	Extend Time / Passage Time	Queue Lim. / Discon. Time	Use Added Initial	Cross Switch Ph	Lock In	NTPCIP Vol.	NTPCIP Occ.	Pmt Queue Delay
1	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
2	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
3	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
4	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
5	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
6	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
7	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
9	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
10	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
11	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
12	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
13	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
14	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

15	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
16	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
17	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
18	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
19	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
20	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
21	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
22	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
23	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
24	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
25	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
26	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
27	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
28	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
29	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
30	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
31	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
32	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
33	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
34	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
35	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
36	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
37	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
38	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
39	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
40	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
41	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
42	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
43	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
44	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
45	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
46	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
47	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
48	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
49	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
50	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
51	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
52	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
53	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
54	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
55	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
56	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
57	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
58	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
59	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
60	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
61	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
62	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
63	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
64	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No



Vehicle Detector Plan Number - 4

Veh Detector	Phase	ECP/Log	Call Option	Delay Time	Ext Option	Extend Time / Passage Time	Queue Lim. / Discon. Time	Use Added Initial	Cross Switch Ph	Lock In	NTCIP Vol.	NTCIP Occ.	Pmt Queue Delay
1	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
2	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
3	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
4	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
5	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
6	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
7	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
9	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
10	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
11	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
12	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
13	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
14	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
15	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
16	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
17	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
18	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
19	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
20	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
21	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
22	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
23	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
24	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
25	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
26	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
27	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
28	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
29	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
30	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
31	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
32	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
33	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
34	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
35	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
36	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
37	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
38	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
39	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
40	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
41	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
42	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
43	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
44	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
45	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
46	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

47	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
48	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
49	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
50	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
51	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
52	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
53	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
54	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
55	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
56	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
57	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
58	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
59	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
60	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
61	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
62	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
63	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
64	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

Ped Detector Phase Assignment (MM) 6-3

Mode: NTCIP

Called Phase	Detector
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16



REG1217 - Dundas St @ Valleyridge Dr - Econolite Type - Cobalt

**Detectors**

**Detectors - Pg 2**

**Log - Speed Detector Setup (MM) 6-4**

NTCIP Log ECPI Log Length Unit:  
 Period: 60 Period: 0 Inches

Speed Detector	Local Detector	One/Two Detector	Vehicle Length	Trap length	Enable Log
1	0	1	0	0	No
2	0	1	0	0	No
3	0	1	0	0	No
4	0	1	0	0	No
5	0	1	0	0	No
6	0	1	0	0	No
7	0	1	0	0	No
8	0	1	0	0	No
9	0	1	0	0	No
10	0	1	0	0	No
11	0	1	0	0	No
12	0	1	0	0	No
13	0	1	0	0	No
14	0	1	0	0	No
15	0	1	0	0	No
16	0	1	0	0	No

**Vehicle Detector Diagnostics (MM) 6-5**

**Veh Diagnostic Plan Number - 1**

Det	Counts	Act	Pres	Multiplier	Failed Time	Failed Call Delay

**Veh Diagnostic Plan Number - 2**

Det	Counts	Act	Pres	Multiplier	Failed Time	Failed Call Delay

**Veh Diagnostic Plan Number - 3**

Det	Counts	Act	Pres	Multiplier	Failed Time	Failed Call Delay

**Veh Diagnostic Plan Number - 4**

Det	Counts	Act	Pres	Multiplier	Failed Time	Failed Call Delay

**Pedestrian Detector Diagnostics (MM) 6-6**

**Ped Diagnostic Plan Number - 1**

Det	Counts	Act	Pres	Multiplier

**Ped Diagnostic Plan Number - 2**

Det	Counts	Act	Pres	Multiplier

**Ped Diagnostic Plan Number - 3**

Det	Counts	Act	Pres	Multiplier

**Ped Diagnostic Plan Number - 4**

Det	Counts	Act	Pres	Multiplier



REG1218 - Bronte Rd @ Dundas St - Econolite Type - Cobalt

**Configuration Controller Sequence**

**Phase Ring Sequence and Assignment (MM) 1-1-1**

Hardware Alternate Sequence Enable: No

Phase Ring Sequence.....(Note: Sequences identical to the prior one are not printed)

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
	B	B	B	B	B											
Sequence 1																
Ring 1	1	2	3	4	9	10	13	14								
Ring 2	5	6	7	8	11	12	15	16								
Sequence 2																
Ring 1	2	1	3	4	10	9	13	14								
Ring 2	5	6	7	8	11	12	15	16								
Sequence 3																
Ring 1	1	2	4	3	9	10	14	13								
Ring 2	5	6	7	8	11	12	15	16								
Sequence 4																
Ring 1	2	1	4	3	10	9	14	13								
Ring 2	5	6	7	8	11	12	15	16								
Sequence 5																
Ring 1	1	2	3	4	9	10	13	14								
Ring 2	6	5	7	8	12	11	15	16								
Sequence 6																
Ring 1	2	1	3	4	10	9	13	14								
Ring 2	6	5	7	8	12	11	15	16								
Sequence 7																
Ring 1	1	2	4	3	9	10	14	13								
Ring 2	6	5	7	8	12	11	15	16								
Sequence 8																
Ring 1	2	1	4	3	10	9	14	13								
Ring 2	6	5	7	8	12	11	15	16								
Sequence 9																
Ring 1	1	2	3	4	9	10	13	14								
Ring 2	5	6	8	7	11	12	16	15								
Sequence 10																
Ring 1	2	1	3	4	10	9	13	14								
Ring 2	5	6	8	7	11	12	16	15								
Sequence 11																
Ring 1	1	2	4	3	9	10	14	13								
Ring 2	5	6	8	7	11	12	16	15								
Sequence 12																
Ring 1	2	1	4	3	10	9	14	13								
Ring 2	5	6	8	7	11	12	16	15								

Sequence 13

Ring 1	1	2	3	4	9	10	13	14								
Ring 2	6	5	8	7	12	11	16	15								

Sequence 14

Ring 1	2	1	3	4	10	9	13	14								
Ring 2	6	5	8	7	12	11	16	15								

Sequence 15

Ring 1	1	2	4	3	9	10	14	13								
Ring 2	6	5	8	7	12	11	16	15								

Sequence 16

Ring 1	2	1	4	3	10	9	14	13								
Ring 2	6	5	8	7	12	11	16	15								

**Phases In Use/Exclusive Ped (MM) 1-2**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phases In Use	X	X	X	X	X	X	X	X								
Exclusive Ped																

**Phase Compatibility (MM) 1-1-2**

Phase	
n/a	Barrier Mode

**Phase and Overlap Descriptions**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Approach	W	E	N	S	E	W	S	N	N	N	N	N	N	N	N	N
Movement	L	T	L	T	L	T	L	T								
Associated PED																
Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Approach	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Movement																

**Administration (MM) 1-7-1**

Enable Controller/Cabinet No  
 Interlock CRC  
 CRC (16 bit) 2C3E  
 Enable Automatic Backup No  
 to Datakey

**Backup Prevent (MM) 1-1-3**

Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Timing	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phases	2	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	3	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.
	4	.	.	X	.	.	.	.	.	.	.	.	.	.	.	.
	5	.	.	.	X	.	.	.	.	.	.	.	.	.	.	.
	6	.	.	.	.	X	.	.	.	.	.	.	.	.	.	.
	7	.	.	.	.	.	X	.	.	.	.	.	.	.	.	.
	8	.	.	.	.	.	.	X	.	.	.	.	.	.	.	.
	9	.	.	.	.	.	.	.	X	.	.	.	.	.	.	.
	10	.	.	.	.	.	.	.	.	X	.	.	.	.	.	.
	11	.	.	.	.	.	.	.	.	.	X	.	.	.	.	.
	12	.	.	.	.	.	.	.	.	.	.	X	.	.	.	.
	13	.	.	.	.	.	.	.	.	.	.	.	X	.	.	.
	14	.	.	.	.	.	.	.	.	.	.	.	.	X	.	.
	15	.	.	.	.	.	.	.	.	.	.	.	.	.	X	.
	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	X

10	4	P					-	Auto								
11	6	P					+	Auto								
12	8	P					+	Auto								
13	0	O					-	Auto	X							
14	0	O					+	Auto	X					X		
15	0	O					-	Auto	X							
16	0	O					+	Auto	X						X	

**Simultaneous Gap (MM) 1-1-4**

Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phase	6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Must	7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Gap	8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
With	9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phase	10	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	11	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	14	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Disable		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Load Switch Assignments (MM) 1-3**

Phase / Overlap	Type	Dimming				Power Up	Auto Flash			
		Red	Yellow	Green	Dark		Red	Yellow	Together	
1	1	V				-	Auto	X		
2	2	V				-	Auto	X		X
3	3	V				-	Auto	X		
4	4	V				-	Auto	X		X
5	5	V				+	Auto	X		
6	6	V				+	Auto	X		X
7	7	V				+	Auto	X		
8	8	V				+	Auto	X		X
9	2	P				-	Auto			



MOVING TRAFFIC FORWARD

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**Configuration Port 1 (SDLC)**

**Port 1 SDLC (MM) 1-4-1**

BIU	1	2	3	4	5	6	7	8
Term & Facility	X	X						
Detector Rack	X	X						

Enable TS2/MMU Type Cabinet: No  
 Enable MMU Extended Status: Yes  
 Enable SDLC Stop Time: No  
 Enable 3 Critical RFE's Lockup: Yes

**MMU Program (MM) 1-4-2**

Channel Can Serve With Channel	
Channel 1	Channel 2
1	5
1	6
1	11
1	15
2	5
2	6
2	9
2	11
2	13
2	15
3	7
3	8
3	12
3	16
4	7
4	8
4	10
4	12
4	14
4	16
5	9
5	13
6	9
6	11
6	13
6	15

7	10
7	14
8	10
8	12
8	14
8	16
9	11
9	13
9	15
10	12
10	14
10	16
11	13
11	15
12	14
12	16
13	15
14	16

**Color Check Enable (MM) 1-4-3**

Enable Color Check: No

MMU/LS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Green	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Yellow	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Red		X		X		X		X	X	X	X	X	X	X	X	X

**Secondary Stations/Tests (MM) 1-4-4**

ID	1	2	3	4	5	6	7	8	MMU
Term & Facility									

ID	1	2	3	4	5	6	7	8	Diag
Detector Rack									

Enable SDLC Diagnostic Test: No



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**Configuration Communications 1 (SDLC)**

**Ethernet Port Configuration (MM) 1-5-1**

Controller IP: 172.16.2.13  
 Subnet Mask: 255.255.0.0  
 Default Gateway IP: 10.104.0.1  
 Server IP: 172.16.1.254

**NTCIP (MM) 1-5-5**

NTCIP Backup Time (Sec): 0  
 NTCIP UDP Port: 501  
 Ethernet Priority: 1  
 Port 2 Priority (Port C50S for 2070): 4  
 Port 3A Priority (Port C21S for 2070): 2  
 Port 3B Priority (Port C22S for 2070): 3

**Port Configuration (MM) 1-5-2 to 1-5-4**

Port	2 (C50S)	3A (C21S)	3B (C22S)
Comm Module	None	Auto	Auto
Protocol	ECPIP	NTCIP	ECPIP
Enable	Yes	No	No
Data Rate (BPS)	9600	19.2K	1200
Data, Parity, Stop	8 N 1	8 N 1	8 O 1
Address	0	0	11
Telemetry Response Delay	10.0	0.0	0.9
Duplex - Half or Full	Full	Full	Full
Flow Control	No	Yes	Yes
Group Address	0	0	0
Single Flag Enable	Yes	Yes	Yes
RTS to CTS Delay	n/a	n/a	3.0
RTS Turn Off Delay	n/a	n/a	2.0
Dropout Time	1	10	300
Early RTS	n/a	n/a	No
Telemetry Mode	n/a	n/a	FSK
ATCS Railroad	0	n/a	n/a
ATCS Railroad Line	0	n/a	n/a
ATCS Group	0	n/a	n/a
Wayside Device	0	n/a	n/a
ATC Device	0	n/a	n/a
Wayside Subnode	0	n/a	n/a
ATC Subnode	0	n/a	n/a

**ECPIP (MM) 1-5-6**

Controller Address: 11  
 Expanded System Detector Address: 0

**System Detector Assignment**

System Detector	Local Detector
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**Wireless Configuration (MM) 1-5-7**

Wireless Channel Number: 1  
 Wireless Access Code:



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Configuration Logging / Display

Event Logging (MM) 1-6-1

Critical RFE's (MMU/TF)	Yes	3 Critical Errors Within 24 Hours	Yes
MMU Flash Faults	Yes	Local Flash Fault	Yes
Non-Critical RFE's (Det/Test)	No	Detector Errors	No
Coordination Errors	No	Controller Download	Yes
Preemption Events	Yes	TSP Events	Yes
Power On/Off	Yes	Low Battery	Yes
Access	Yes	Data Change	Yes
Online / Offline	Yes		

Alarm Event	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Enable Logging	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Display Options (MM) 1-7-2

Key Click Enable:	Yes
Switch to Graphics Mode:	No
LED Mode:	Auto
Display Mode:	Basic
Trans Mode Pop-Up Disable:	No

Sign On (MM) 8-5

Sign On Message Line 1: Solutions that Move the World  
Sign On Message Line 2:

Software Modules (MM) 8-7

Application Version: 32.64.00  
OS (Boot) Version: 06.04.00



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Logic Processor Page 1

Logic Statement Control (MM) 1-8-1

Logic #	Statement Control
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Logic Processor Page 2

Logic Statements (MM) 1-8-2



MOVING TRAFFIC FORWARD

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Controller Timing Plan (MM) 2-1

Plan 1 - ""

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	W-L	E-T	N-L	S-T	E-L	W-T	S-L	N-T	N	N	N	N	N	N	N	N
Min Green	7	20	10	10	7	20	7	10	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	7	0	7	0	7	0	7	0	10	0	10	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	35	0	37	0	35	0	37	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	3.0	6.0	3.0	5.0	3.0	6.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	11	55	15	30	11	45	15	30	35	35	35	35	35	35	35	35
Max2	15	55	15	35	15	55	15	35	40	40	40	40	40	40	40	40
Max3	15	55	25	35	15	55	25	35	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	3.0	1.0	3.0	1.0	3.0	1.0	3.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Plan 2 - ""

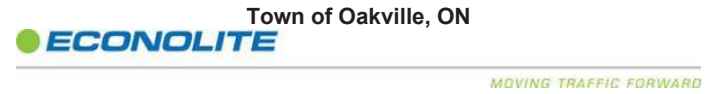
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	W-L	E-T	N-L	S-T	E-L	W-T	S-L	N-T	N	N	N	N	N	N	N	N
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 3 - ""

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	W-L	E-T	N-L	S-T	E-L	W-T	S-L	N-T	N	N	N	N	N	N	N	N
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 4 - ""

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	W-L	E-T	N-L	S-T	E-L	W-T	S-L	N-T	N	N	N	N	N	N	N	N
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REG1218 - Bronte Rd @ Dundas St - Econolite Type - Cobalt

Controller Overlaps  
Vehicle Overlaps (MM) 2-2

Overlap	Type	Lag Green	Yellow	Red	Adv. Green
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Phases

Overlap	Phase	Included	Protect	Ped Protect	Not Overlap	Modifier	Lag X Phases	Lag 2 Phases	Flash Green
A	2	Yes	No	No	No		No	No	.
B	4	Yes	No	No	No		No	No	.
C	6	Yes	No	No	No		No	No	.
D	8	Yes	No	No	No		No	No	.

PPLT FYA

Overlap	Protected Phase (Left Turn)	Permissive Phase (Opposing Thru)	Flashing Arrow Output	Flashing Arrow Output CH	Delay Start of FYA	Delay Start of Clearance	Action Plan SF Bit Disable	Ped Protected Enable
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Guaranteed Minimum Time Data (MM) 2-4

Phase	Min Green	Walk	Ped Clear	Yellow	Red Clear	Overlap Green
A01	5	0	7	3.0	0.0	5
B02	5	0	7	3.0	0.0	5
C03	5	0	7	3.0	0.0	5
D04	5	0	7	3.0	0.0	5
E05	5	0	7	3.0	0.0	5
F06	5	0	7	3.0	0.0	5
G07	5	0	7	3.0	0.0	5
H08	5	0	7	3.0	0.0	5
I09	5	0	7	3.0	0.0	5
J10	5	0	7	3.0	0.0	5
K11	5	0	7	3.0	0.0	5
L12	5	0	7	3.0	0.0	5
M13	5	0	7	3.0	0.0	5
N14	5	0	7	3.0	0.0	5
O15	5	0	7	3.0	0.0	5
P16	5	0	7	3.0	0.0	5



MOVING TRAFFIC FORWARD

REG1218 - Bronte Rd @ Dundas St - Econolite Type - Cobalt

**Controller Pedestrian Overlaps**  
**Vehicle / Pedestrian Overlaps (MM) 2-3**

Included	Pedestrian Overlaps
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MOVING TRAFFIC FORWARD

REG1218 - Bronte Rd @ Dundas St - Econolite Type - Cobalt

**Controller Start / Flash Data (MM) 2-5**

**Start Up**

Phase	Phase Setting
1	.
2	Y
3	.
4	.
5	.
6	Y
7	.
8	.
9	.
10	.
11	.
12	.
13	.
14	.
15	.
16	.

**Overlap**

A
B
C
D

Flash Thru Mon: Yes  
 Flash Time: 0  
 All Red: 0  
 Power Start Seq: 1  
 MUTCD Enabled: No  
 Y->G: n/a

**Automatic Flash**

**Entry**

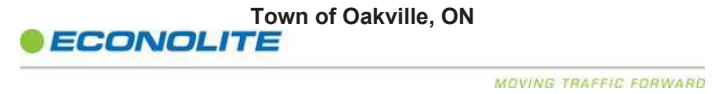
2
6

**Exit**

2
6

Overlap Exit
A
B
C
D

Flash Thru Mon: Yes  
 Exit Flash: W  
 Minimum Flash: 8  
 Minimum Recall: No  
 Cycle Through Phase: No



REG1218 - Bronte Rd @ Dundas St - Econolite Type - Cobalt

**Controller Options**

**Controller Options (MM) 2-6-1**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Grn Ph	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Guar Passage																
Non-Act I		X				X										
Non-Act II																
Dual Entry	X	X	X	X	X											
Cond Service																
Cond Reservice																
Ped Re-Service	X					X										
Rest In Walk																
Flashing Walk																
Ped Clr-Yel																
Ped Clr-Red																
IGRN + Veh Ext																

Ped Clear Protect: Off Unit Red Revert: 2.0 MUTCD 3 Seconds Don't Walk: No

**Pre-Timed Mode (MM) 2-7**

Enable Pre-Timed Mode: No Free Input Disables Pre-Timed: No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Pre-Timed																

**Phase Recall Options (MM) 2-8**

**Plan # 1**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Lock Detector																
Vehicle Recall		X					X									
Ped Recall																
Max Recall																
Soft Recall																
No Rest																
AI Calc																



MOVING TRAFFIC FORWARD

REG1218 - Bronte Rd @ Dundas St - Econolite Type - Cobalt

**Coordination Options**

**Options (MM) 3-1**

Manual Pattern	Auto	ECPI Coord	Yes
System Source	TBC	System Format	STD
Splits In	Percent	Offsets In	Percent
Transition	Smooth	Max Select	MAXINH
Dwell / Add Time	0		
Delay Coord Wk-LZ	No	Force Off	Float
Offset Reference	Lead	Use Ped Time	Yes
Ped Recall	No	Ped Reservice	Yes
Local Zero	Yes	FO Added Ini	No
Override		Green	
Re-sync Count	0	Multisync	No

**Auto Perm Minimum Green (Seconds) (MM) 3-4**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**Split Demand (MM) 3-5**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Demand 1																
Demand 2																

Demand	1	2
Detector	0	0
Call Time (Sec)	0	0
Cycle Count	0	0



MOVING TRAFFIC FORWARD

REG1218 - Bronte Rd @ Dundas St - Econolite Type - Cobalt

**Coordination Pattern Data**

**Coordinator Pattern Data (MM) 3-2**

**Coordinator Pattern # 1**

Split Pattern	1	TS2 (Pat-Off)	0-1	Splits In	Percent
Cycle	140	Std (COS)	9	Offsets In	Percent
Offset Value	35%	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase	Yes	Action Plan	0		
Reservice					
Max Select	MAXINH	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	W-L	E-T	N-L	S-T	E-L	W-T	S-L	N-T	N	N	N	N	N	N	N	N
Splits (Split Pat 1)	11	37	15	37	11	37	15	37	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	100%	100%	0%	0%

Misc. Data			
Veh Perm 1	0	Veh Perm 2	0
Split Demand Pat 1	0	Split Demand Pat 2	0
		Crossing Arterial Pat	0

**Split Pattern**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																

Coordinator Pattern # 2

Split Pattern 2 TS2 (Pat-Off) 0-2 Splits In Percent  
 Cycle 140 Std (COS) 17 Offsets In Percent  
 Offset Value 0% Dwell/Add Time 0  
 Actuated Coord Yes Timing Plan 0  
 Actuated Walk Rest No Sequence 0  
 Phase Reservice Yes Action Plan 0  
 Max Select MAXINH Force Off None

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	W-L	E-T	N-L	S-T	E-L	W-T	S-L	N-T	N	N	N	N	N	N	N	N
Splits (Split Pat 2)	11	37	15	37	11	37	15	37	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	100%	100%	0%	0%

Misc. Data  
 Veh Perm 1 0 Veh Perm 2 0 Veh Perm 2 Disp 0  
 Split Demand 0 Pat 1 Split Demand 0 Pat 2 Crossing Arterial Pat 0

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																

Coordinator Pattern # 3

Split Pattern 3 TS2 (Pat-Off) 0-3 Splits In Percent  
 Cycle 140 Std (COS) 25 Offsets In Percent  
 Offset Value 55% Dwell/Add Time 0  
 Actuated Coord Yes Timing Plan 0  
 Actuated Walk Rest No Sequence 0  
 Phase Reservice Yes Action Plan 0  
 Max Select MAXINH Force Off None

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	W-L	E-T	N-L	S-T	E-L	W-T	S-L	N-T	N	N	N	N	N	N	N	N
Splits (Split Pat 3)	12	35	23	30	12	35	12	41	0	0	0	0	0	0	0	0

Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	100%	100%	0%	0%

Misc. Data  
 Veh Perm 1 0 Veh Perm 2 0 Veh Perm 2 Disp 0  
 Split Demand 0 Pat 1 Split Demand 0 Pat 2 Crossing Arterial Pat 0

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																

**Coordinator Pattern # 4**

Split Pattern 4 TS2 (Pat-Off) 1-1 Splits In Percent  
 Cycle 140 Std (COS) 33 Offsets In Percent  
 Offset Value 0% Dwell/Add Time 0  
 Actuated Coord Yes Timing Plan 0  
 Actuated Walk Rest No Sequence 0  
 Phase Reservice Yes Action Plan 0  
 Max Select MAXINH Force Off None

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	W-L	E-T	N-L	S-T	E-L	W-T	S-L	N-T	N	N	N	N	N	N	N	N
Splits (Split Pat 4)	11	37	15	37	11	37	15	37	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4	Misc. Data
Ring Split Ext	0	0	0	0	Veh Perm 1 0 Veh Perm 2 0 Veh Perm 2 Disp 0
Ring Displacement	-	0	0	0	Split Demand 0 Split Demand 0 Crossing Arterial Pat 0
Split Sum	100%	100%	0%	0%	

**Split Pattern**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																

**Coordinator Pattern # 10**

Split Pattern 10 TS2 (Pat-Off) 3-1 Splits In Percent  
 Cycle 120 Std (COS) 105 Offsets In Percent  
 Offset Value 31% Dwell/Add Time 0  
 Actuated Coord Yes Timing Plan 0  
 Actuated Walk Rest No Sequence 0  
 Phase Reservice No Action Plan 0  
 Max Select MAXINH Force Off None

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	W-L	E-T	N-L	S-T	E-L	W-T	S-L	N-T	N	N	N	N	N	N	N	N
Splits (Split Pat 10)	10	40	13	37	12	38	11	39	0	0	0	0	0	0	0	0

Splits (Split Pat 10)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4	Misc. Data
Ring Split Ext	0	0	0	0	Veh Perm 1 0 Veh Perm 2 0 Veh Perm 2 Disp 0
Ring Displacement	-	0	0	0	Split Demand 0 Split Demand 0 Crossing Arterial Pat 0
Split Sum	100%	100%	0%	0%	

**Split Pattern**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																

**Coordinator Pattern # 11**

Split Pattern 11 TS2 (Pat-Off) 3-2 Splits In Percent  
 Cycle 120 Std (COS) 137 Offsets In Percent  
 Offset Value 77% Dwell/Add Time 0  
 Actuated Coord Yes Timing Plan 0  
 Actuated Walk Rest No Sequence 0  
 Phase No Action Plan 0  
 Reserve None Force Off None  
 Max Select None Force Off None

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	W-L	E-T	N-L	S-T	E-L	W-T	S-L	N-T	N	N	N	N	N	N	N	N
Splits (Split Pat 11)	11	40	12	37	11	40	10	39	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	100%	100%	0%	0%

Misc. Data  
 Veh Perm 1 0 Veh Perm 2 0 Veh Perm 2 Disp 0  
 Split Demand Pat 1 0 Split Demand Pat 2 0 Crossing Arterial Pat 0

**Split Pattern**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase	X					X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase								X	X	X	X	X	X	X	X	X
Special Function Outputs																

**Coordinator Pattern # 12**

Split Pattern 12 TS2 (Pat-Off) 3-3 Splits In Percent  
 Cycle 130 Std (COS) 145 Offsets In Percent  
 Offset Value 18% Dwell/Add Time 0  
 Actuated Coord Yes Timing Plan 0  
 Actuated Walk Rest No Sequence 0  
 Phase No Action Plan 0  
 Reserve None Force Off None  
 Max Select None Force Off None

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	W-L	E-T	N-L	S-T	E-L	W-T	S-L	N-T	N	N	N	N	N	N	N	N

Splits (Split Pat 12)	10	37	17	36	10	37	14	39	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	100%	100%	0%	0%

Misc. Data  
 Veh Perm 1 0 Veh Perm 2 0 Veh Perm 2 Disp 0  
 Split Demand Pat 1 0 Split Demand Pat 2 0 Crossing Arterial Pat 0

**Split Pattern**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																



**Coordinator Pattern # 13**

Split Pattern	13	TS2 (Pat-Off)	4-1	Splits In	Percent
Cycle	120	Std (COS)	153	Offsets In	Percent
Offset Value	77%	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase					
Reservice	No	Action Plan	0		
Max Select	None	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	W-L	E-T	N-L	S-T	E-L	W-T	S-L	N-T	N	N	N	N	N	N	N	N
Splits (Split Pat 13)	11	40	12	37	11	40	10	39	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4	Misc. Data
Ring Split Ext	0	0	0	0	Veh Perm 1 0 Veh Perm 2 0 Veh Perm 2 Disp 0
Ring Displacement	-	0	0	0	Split Demand 0 Split Demand 0 Crossing Arterial Pat 0
Split Sum	100%	100%	0%	0%	

**Split Pattern**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																



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**Coordination Split Pattern**

**Split Pattern Data (MM) 3-3**

**Split Pattern # 1**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	W-L	E-T	N-L	S-T	E-L	W-T	S-L	N-T	N	N	N	N	N	N	N	N
Split (percent)	11	37	15	37	11	37	15	37	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X

Ring	1	2	3	4
Split Sum	100%	100%	0%	0%

**Split Pattern # 2**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	W-L	E-T	N-L	S-T	E-L	W-T	S-L	N-T	N	N	N	N	N	N	N	N
Split (percent)	11	37	15	37	11	37	15	37	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase										X	X	X	X	X	X	X

Ring	1	2	3	4
Split Sum	100%	100%	0%	0%

**Split Pattern # 3**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	W-L	E-T	N-L	S-T	E-L	W-T	S-L	N-T	N	N	N	N	N	N	N	N
Split (percent)	12	35	23	30	12	35	12	41	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase										X	X	X	X	X	X	X

<b>Ring</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Split Sum	100%	100%	0%	0%

**Split Pattern # 4**

<b>Phase</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>
Description	W-L	E-T	N-L	S-T	E-L	W-T	S-L	N-T	N	N	N	N	N	N	N	N
Split (percent)	11	37	15	37	11	37	15	37	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase										X	X	X	X	X	X	X

<b>Ring</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Split Sum	100%	100%	0%	0%

**Split Pattern # 10**

<b>Phase</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>
Description	W-L	E-T	N-L	S-T	E-L	W-T	S-L	N-T	N	N	N	N	N	N	N	N
Split (percent)	10	40	13	37	12	38	11	39	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase										X	X	X	X	X	X	X

<b>Ring</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Split Sum	100%	100%	0%	0%

**Split Pattern # 11**

<b>Phase</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>
Description	W-L	E-T	N-L	S-T	E-L	W-T	S-L	N-T	N	N	N	N	N	N	N	N
Split (percent)	11	40	12	37	11	40	10	39	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase										X	X	X	X	X	X	X

<b>Ring</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Split Sum	100%	100%	0%	0%

**Split Pattern # 12**

<b>Phase</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>
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Description	W-L	E-T	N-L	S-T	E-L	W-T	S-L	N-T	N	N	N	N	N	N	N	N
Split (percent)	10	37	17	36	10	37	14	39	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase										X	X	X	X	X	X	X

<b>Ring</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Split Sum	100%	100%	0%	0%

**Split Pattern # 13**

<b>Phase</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>
Description	W-L	E-T	N-L	S-T	E-L	W-T	S-L	N-T	N	N	N	N	N	N	N	N
Split (percent)	11	40	12	37	11	40	10	39	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase										X	X	X	X	X	X	X

<b>Ring</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Split Sum	100%	100%	0%	0%



Town of Oakville, ON

MOVING TRAFFIC FORWARD

REG1218 - Bronte Rd @ Dundas St - Econolite Type - Cobalt

Preempt Plan

Preempt Plan (MM) 4-1

Preempt Plan 3

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Trk Clr Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Trk Clr Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Enable Trailing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dwell Veh	X	.	.	.	.	X	.	.	.	.	.	.	.	.	.	.
Dwell Ped	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dwell Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Ped	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Phases		X				X										
Exit Calls																
Special Function																

Enable	Yes	Preempt Override	Yes	Interlock Enable	No
Det Lock	Yes	Delay	0	Inhibit	0
Override Flash	No	Duration	10	CLR > GRN	No
Term Ovlp	No	PC Through		Terminate	Yes
Asap		Yel		Phase	
Ped Dark	No	Track Clear Rsv	No	Dwell Flash	Off
Linked Pmt	0	FL Exit Color	Grn	Exit Options	Off
Exit Timing	0	Reservice	0	Fault Type	Hard
Plan					

Ring	1	2	3	4
Free During Pmt	No	No	No	No

Timing	Walk	Ped Clr	Min Grn	Yellow	Red
Entrance	0	7	2	4.0	2.0
	Min Grn	Ext Grn	Max Grn	Yellow	Red
Track Clear	0	0	0	4.0	1.0
	Min Dwell	Pmt Ext	Max Time	Yellow	Red
Dwell / Cycle-Exit	0	0.0	0	4.0	1.0

Preemption Active On Out		Preempt Act Dwell	No
Other - Priority Preempt	Off	Non-Priority Pmt	Off
Inhibit Extension Time	0.0	Ped Priority Return	Off
Veh Priority Return	Off	Queue Delay	Off
Conditional Delay	Off		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Pri Return %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Preempt Plan 4

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Trk Clr Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Trk Clr Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Enable Trailing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dwell Veh	.	X	.	.	X	.	.	.	.	.	.	.	.	.	.	.
Dwell Ped	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dwell Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Ped	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Phases		X					X									
Exit Calls																
Special Function																

Enable	Yes	Preempt Override	Yes	Interlock Enable	No
Det Lock	Yes	Delay	0	Inhibit	0
Override Flash	No	Duration	10	CLR > GRN	No
Term Ovlp	No	PC Through		Terminate	Yes
Asap		Yel		Phase	
Ped Dark	No	Track Clear Rsv	No	Dwell Flash	Off
Linked Pmt	0	FL Exit Color	Grn	Exit Options	Off
Exit Timing	0	Reservice	0	Fault Type	Hard
Plan					

Ring	1	2	3	4
Free During Pmt	No	No	No	No

Timing	Walk	Ped Clr	Min Grn	Yellow	Red
Entrance	0	7	2	4.0	2.0
	Min Grn	Ext Grn	Max Grn	Yellow	Red
Track Clear	0	0	0	4.0	1.0
	Min Dwell	Pmt Ext	Max Time	Yellow	Red

Dwell / Cycle-Exit	0	0.0	0	4.0	1.0
--------------------	---	-----	---	-----	-----

Preemption Active On Preempt Act No  
 Out Dwell  
 Other - Priority Off Non-Priority Pmt Off  
 Preempt  
 Inhibit Extension 0.0 Ped Priority Off  
 Time Return  
 Veh Priority Off Queue Delay Off  
 Return  
 Conditional Delay Off

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Pri Return %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**Preempt Plan 5**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Trk Clr Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Trk Clr Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Enable Trailing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dwell Veh	.	.	X	.	.	.	.	X	.	.	.	.	.	.	.	.
Dwell Ped	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dwell Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Ped	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Phases	.	.	.	X	.	.	.	X	.	.	.	.	.	.	.	.
Exit Calls	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Special Function	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Enable Yes Preempt Override Yes Interlock Enable No  
 Det Lock Yes Delay 0 Inhibit 0  
 Override Flash No Duration 10 CLR > GRN No  
 Term Ovlp No PC Through No Terminate No  
 Asap Yel Phase  
 Ped Dark No Track Clear No Dwell Flash Off  
 Rsrv  
 Linked Pmt 0 FL Exit Color Grn Exit Options Off  
 Exit Timing 0 Reservice 0 Fault Type Hard  
 Plan

Ring	1	2	3	4
Free During Pmt	No	No	No	No

Timing	Walk	Ped Clr	Min Grn	Yellow	Red
Entrance	0	7	2	4.0	2.0
	Min Grn	Ext Grn	Max Grn	Yellow	Red
Track Clear	0	0	0	4.0	1.0
				Yellow	Red

	Min Dwell	Pmt Ext	Max Time		
Dwell / Cycle-Exit	0	0.0	0	4.0	1.0

Preemption Active On Preempt Act No  
 Out Dwell  
 Other - Priority Off Non-Priority Pmt Off  
 Preempt  
 Inhibit Extension 0.0 Ped Priority Off  
 Time Return  
 Veh Priority Off Queue Delay Off  
 Return  
 Conditional Delay Off

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Pri Return %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**Preempt Plan 6**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Trk Clr Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Trk Clr Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Enable Trailing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dwell Veh	.	.	.	X	.	.	X	.	.	.	.	.	.	.	.	.
Dwell Ped	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dwell Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Ped	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Phases	.	.	.	.	.	X	.	.	X	.	.	.	.	.	.	.
Exit Calls	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Special Function	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Enable Yes Preempt Override Yes Interlock Enable No  
 Det Lock Yes Delay 0 Inhibit 0  
 Override Flash No Duration 10 CLR > GRN No  
 Term Ovlp No PC Through No Terminate Yes  
 Asap Yel Phase  
 Ped Dark No Track Clear No Dwell Flash Off  
 Rsrv  
 Linked Pmt 0 FL Exit Color Grn Exit Options Off  
 Exit Timing 0 Reservice 0 Fault Type Hard  
 Plan

Ring	1	2	3	4
Free During Pmt	No	No	No	No

Timing	Walk	Ped Clr	Min Grn	Yellow	Red
Entrance	0	7	2	4.0	2.0
	Min Grn	Ext Grn	Max Grn	Yellow	Red

Track Clear	0	0	0	4.0	1.0
	<b>Min Dwell</b>	<b>Pmt Ext</b>	<b>Max Time</b>	<b>Yellow</b>	<b>Red</b>
Dwell / Cycle-Exit	0	0.0	0	4.0	1.0

Preemption Active Out On Preempt Act Dwell No  
 Other - Priority Preempt Off Non-Priority Pmt Off  
 Inhibit Extension Time 0.0 Ped Priority Return Off  
 Veh Priority Return Off Queue Delay Off  
 Conditional Delay Off

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Pri Return %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



REG1218 - Bronte Rd @ Dundas St - Econolite Type - Cobalt

**Preempt Preempt Filtering  
 Enable Preempt Filtering &  
 TSP/SCP (MM) 4-2**

Input	Solid	Pulsing
1	...BYPASSED...	...BYPASSED...
2	...BYPASSED...	...BYPASSED...
3	PREEMPTION 3	PREEMPTION 7
4	PREEMPTION 4	PREEMPTION 8
5	PREEMPTION 5	PREEMPTION 9
6	PREEMPTION 6	PREEMPTION 10
7	...BYPASSED...	...BYPASSED...
8	...BYPASSED...	...BYPASSED...
9	...BYPASSED...	...BYPASSED...
10	...BYPASSED...	...BYPASSED...



MOVING TRAFFIC FORWARD

REG1218 - Bronte Rd @ Dundas St - Econolite Type - Cobalt

**Preempt TSP/SCP Plan and Split**

**TSP / SCP Plan (MM) 4-3**

TSP/SCP Plan	Enable Option	Signal Type	Det Lock	Delay Time	Max Presence	PMT Enables Reservice	No Delay in TSP	Action SF Inhibit	Reservice Cycles	Bus Heading
1	No	Solid	No	0	0	No	False	0	0	NB
2	No	Solid	No	0	0	No	False	0	0	SB
3	No	Solid	No	0	0	No	False	0	0	EB
4	No	Solid	No	0	0	No	False	0	0	WB
5	No	Solid	No	0	0	No	False	0	0	.
6	No	Solid	No	0	0	No	False	0	0	.

Mode: TSP  
 Free Default Pattern: 120  
 Headway Allowance: 0

TSP/SCP Plan	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**TSP / SCP Split Pattern (MM) 4-4**

TSP/SCP Split Pattern	Max Type	Phase															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
4	Max Reduction	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255



MOVING TRAFFIC FORWARD

REG1218 - Bronte Rd @ Dundas St - Econolite Type - Cobalt

**Time Base Clock/Calendar**

**Clock/Calendar Data (MM) 5-1**

Manual Action Plan: 0  
 SYNC Reference Time: 03:15  
 SYNC Reference: Reference Time  
 Day Light Savings: No  
 Time Reset Input Set Time: 3:30:00  
 Standard Time From GMT: 0



Town of Oakville, ON

MOVING TRAFFIC FORWARD

REG1218 - Bronte Rd @ Dundas St - Econolite Type - Cobalt

Time Base Action Plan  
Action Plan (MM) 5-2

Action Plan - 1 - "cord 0"

Pattern 1 Override Sys No  
 Timing Plan 0 Sequence 0  
 Veh Detector Plan 0 Det Log None  
 Flash No Red Rest No  
 Veh Det Diag 0 Ped Det Diag 0  
 Plan Plan 0  
 Dimming Enable No Pmt Veh Priority No  
 Ret  
 Pmt Ped Priority No Pmt Queue Delay No  
 Ret  
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Action Plan - 2 - "cord 1"

Pattern 2 Override Sys No  
 Timing Plan 0 Sequence 0  
 Veh Detector Plan 0 Det Log None  
 Flash No Red Rest No  
 Veh Det Diag 0 Ped Det Diag 0  
 Plan Plan 0  
 Dimming Enable No Pmt Veh Priority No  
 Ret  
 Pmt Ped Priority No Pmt Queue Delay No  
 Ret  
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Action Plan - 3 - "cord 2"

Pattern 3 Override Sys No  
 Timing Plan 0 Sequence 0  
 Veh Detector Plan 0 Det Log None  
 Flash No Red Rest No  
 Veh Det Diag 0 Ped Det Diag 0  
 Plan Plan 0  
 Dimming Enable No Pmt Veh Priority No  
 Ret  
 Pmt Ped Priority No Pmt Queue Delay No  
 Ret  
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Action Plan - 4 - "cord 3"**

Pattern 4 Override Sys No  
 Timing Plan 0 Sequence 0  
 Veh Detector Plan 0 Det Log None  
 Flash No Red Rest No  
 Veh Det Diag 0 Ped Det Diag 0  
 Plan Plan  
 Dimming Enable No Pmt Veh Priority No  
 Ret Ret  
 Pmt Ped Priority No Pmt Queue Delay No  
 Ret Ret  
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Action Plan - 5 - "free"**

Pattern 5 Override Sys No  
 Timing Plan 0 Sequence 0  
 Veh Detector Plan 0 Det Log None  
 Flash No Red Rest No  
 Veh Det Diag 0 Ped Det Diag 0  
 Plan Plan  
 Dimming Enable No Pmt Veh Priority No  
 Ret Ret  
 Pmt Ped Priority No Pmt Queue Delay No  
 Ret Ret  
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																



Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Action Plan - 10 - "10"**

Pattern 10 Override Sys No  
 Timing Plan 0 Sequence 0  
 Veh Detector Plan 0 Det Log None  
 Flash No Red Rest No  
 Veh Det Diag 0 Ped Det Diag 0  
 Plan Plan  
 Dimming Enable No Pmt Veh Priority No  
 Ret Ret  
 Pmt Ped Priority No Pmt Queue Delay No  
 Ret Ret  
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Action Plan - 11 - "11"**

Pattern 11 Override Sys No  
 Timing Plan 0 Sequence 0  
 Veh Detector Plan 0 Det Log None  
 Flash No Red Rest No  
 Veh Det Diag 0 Ped Det Diag 0  
 Plan Plan  
 Dimming Enable No Pmt Veh Priority No  
 Ret Ret  
 Pmt Ped Priority No Pmt Queue Delay No  
 Ret Ret  
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Action Plan - 12 - "12"**

Pattern 12 Override Sys No  
 Timing Plan 0 Sequence 0  
 Veh Detector Plan 0 Det Log None  
 Flash No Red Rest No  
 Veh Det Diag 0 Ped Det Diag 0  
 Plan Plan  
 Dimming Enable No Pmt Veh Priority No  
 Ret Ret  
 Pmt Ped Priority No Pmt Queue Delay No  
 Ret Ret  
 Pmt Cond Delay No

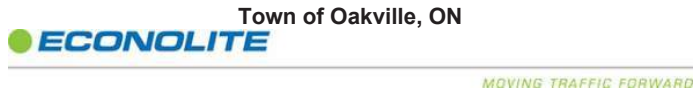
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Action Plan - 13 - "13"**

Pattern 13 Override Sys No  
 Timing Plan 0 Sequence 0  
 Veh Detector Plan 0 Det Log None  
 Flash No Red Rest No  
 Veh Det Diag 0 Ped Det Diag 0  
 Plan Plan  
 Dimming Enable No Pmt Veh Priority No  
 Ret Ret  
 Pmt Ped Priority No Pmt Queue Delay No  
 Ret Ret  
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.



REG1218 - Bronte Rd @ Dundas St - Econolite Type - Cobalt

**Time Base Day Plan/Schedule**  
Day Plan (MM) 5-3

**Day Plan #1 - "1"**

Event	Action Plan	Start Time
1	1	06:00
2	2	09:00
3	3	15:15
4	4	18:00
5	5	21:00

**Day Plan #2 - "PANAM"**

Event	Action Plan	Start Time
1	10	06:00
2	11	10:00
3	12	15:15
4	13	19:00
5	5	22:00

**Schedule (MM) 5-4**

**Schedule Number - 1**

Day Plan No.: 1

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X	X	X	X	X	X	X	X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
	X	X	X	X	X	X	X

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

**Schedule Number - 2**

Day Plan No.: 2

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	12	13	14	15	16	17	18	19	20	21	22
	23	24	25	26	27	28	29	30	31		

**Schedule Number - 3**

Day Plan No.: 2

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
								X				

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
	X	X	X	X	X	X	X

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
				X	X	X	X	X	X	X	X

	12	13	14	15	16	17	18	19	20	21	22
	X	X									
	23	24	25	26	27	28	29	30	31		



MOVING TRAFFIC FORWARD

REG1218 - Bronte Rd @ Dundas St - Econolite Type - Cobalt

**Time Base Exceptions**  
**Exception Day Program (MM) 5-5**

Excep Day	Float/Fixed	Mon/Mon	DOW/DOM	WOM/Year	Day Plan



MOVING TRAFFIC FORWARD

REG1218 - Bronte Rd @ Dundas St - Econolite Type - Cobalt

**Detectors**  
**Detectors - Pg 1**

**Veh Det Phase Assignment (MM) 6-1**

**Vehicle Detector Plan Number - 1**

Veh Detector	Assigned Phase	Called Phase	Type
1	1		S
2	2		S
3	3		S
4	4	8	S
5	5		S
6	6		S
7	7		S
9	8	4	S
10	8	4	S
11	8	4	S
12	4	8	S
13	3		N
14	3		N
17	1		S
18	2		S
19	3		S
20	4	8	S
21	5		S
22	6		S
23	7		S
24	8	4	S
28	4		S
32	8		S

**Vehicle Detector Plan Number - 2**

Veh Detector	Assigned Phase	Called Phase	Type
1	1		S
2	2		S
3	3		S
4	4		S
5	5		S
6	6		S
7	7		S
8	8		S
9	9		S
10	10		S
11	11		S

12	12		S
13	13		N
14	14		N
15	15		N
16	16		N

**Vehicle Detector Plan Number - 3**

Veh Detector	Assigned Phase	Called Phase	Type
1	1		S
2	2		S
3	3		S
4	4		S
5	5		S
6	6		S
7	7		S
8	8		S
9	9		S
10	10		S
11	11		S
12	12		S
13	13		N
14	14		N
15	15		N
16	16		N

**Vehicle Detector Plan Number - 4**

Veh Detector	Assigned Phase	Called Phase	Type
1	1		S
2	2		S
3	3		S
4	4		S
5	5		S
6	6		S
7	7		S
8	8		S
9	9		S
10	10		S
11	11		S
12	12		S
13	13		N
14	14		N
15	15		N
16	16		N

**Vehicle Detector Setup (MM) 6-2**

Veh Detector	Type	TS2 Detector	Description
1	S-STANDARD	Yes	
2	S-STANDARD	Yes	
3	S-STANDARD	Yes	
4	S-STANDARD	Yes	

5	S-STANDARD	Yes	
6	S-STANDARD	Yes	
7	S-STANDARD	Yes	
8	S-STANDARD	Yes	
9	S-STANDARD	Yes	
10	S-STANDARD	Yes	
11	S-STANDARD	Yes	
12	S-STANDARD	Yes	
13	N-NTCIP	Yes	
14	N-NTCIP	Yes	
15	N-NTCIP	No	
16	N-NTCIP	No	
17	S-STANDARD	Yes	
18	S-STANDARD	Yes	
19	S-STANDARD	Yes	
20	S-STANDARD	Yes	
21	S-STANDARD	Yes	
22	S-STANDARD	Yes	
23	S-STANDARD	Yes	
24	S-STANDARD	Yes	
25	N-NTCIP	Yes	
26	N-NTCIP	Yes	
27	N-NTCIP	Yes	
28	S-STANDARD	Yes	
29	N-NTCIP	Yes	
30	N-NTCIP	Yes	
31	N-NTCIP	Yes	
32	S-STANDARD	Yes	
33	N-NTCIP	Yes	
34	N-NTCIP	Yes	
35	N-NTCIP	Yes	
36	N-NTCIP	Yes	
37	N-NTCIP	Yes	
38	N-NTCIP	Yes	
39	N-NTCIP	Yes	
40	N-NTCIP	Yes	
41	N-NTCIP	Yes	
42	N-NTCIP	Yes	
43	N-NTCIP	Yes	
44	N-NTCIP	Yes	
45	N-NTCIP	Yes	
46	N-NTCIP	Yes	
47	N-NTCIP	Yes	
48	N-NTCIP	Yes	
49	N-NTCIP	Yes	
50	N-NTCIP	Yes	
51	N-NTCIP	Yes	
52	N-NTCIP	Yes	
53	N-NTCIP	Yes	
54	N-NTCIP	Yes	
55	N-NTCIP	Yes	

56	N-NTCIP	Yes	
57	N-NTCIP	Yes	
58	N-NTCIP	Yes	
59	N-NTCIP	Yes	
60	N-NTCIP	Yes	
61	N-NTCIP	Yes	
62	N-NTCIP	Yes	
63	N-NTCIP	Yes	
64	N-NTCIP	Yes	

Vehicle Detector Plan Number - 1

Veh Detector	Phase	ECPI Log	Call Option	Delay Time	Ext Option	Extend Time / Passage Time	Queue Lim. / Discon. Time	Use Added Initial	Cross Switch Ph	Lock In	NTCIP Vol.	NTCIP Occ.	Pmt Queue Delay
1	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
2	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
3	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
4	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
5	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
6	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
7	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
9	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
10	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
11	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
12	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
13	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
14	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
17	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
18	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
19	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
20	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
21	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
22	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
23	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
24	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
28	4	No	Yes	7.0	Passage	0.0	0	No	0	None	No	No	No
32	8	No	Yes	7.0	Passage	0.0	0	No	0	None	No	No	No

Vehicle Detector Plan Number - 2

Veh Detector	Phase	ECPI Log	Call Option	Delay Time	Ext Option	Extend Time / Passage Time	Queue Lim. / Discon. Time	Use Added Initial	Cross Switch Ph	Lock In	NTCIP Vol.	NTCIP Occ.	Pmt Queue Delay
1	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
2	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
3	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
4	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
5	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
6	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

7	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
9	9	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
10	10	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
11	11	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
12	12	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
13	13	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
14	14	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
15	15	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
16	16	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
17	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
18	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
19	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
20	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
21	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
22	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
23	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
24	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
28	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
32	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

Vehicle Detector Plan Number - 3

Veh Detector	Phase	ECPI Log	Call Option	Delay Time	Ext Option	Extend Time / Passage Time	Queue Lim. / Discon. Time	Use Added Initial	Cross Switch Ph	Lock In	NTCIP Vol.	NTCIP Occ.	Pmt Queue Delay
1	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
2	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
3	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
4	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
5	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
6	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
7	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
9	9	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
10	10	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
11	11	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
12	12	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
13	13	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
14	14	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
15	15	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
16	16	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
17	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
18	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
19	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
20	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
21	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
22	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
23	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
24	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
28	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No



32	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
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**Vehicle Detector Plan Number - 4**

Veh Detector	Phase	ECPI Log	Call Option	Delay Time	Ext Option	Extend Time / Passage Time	Queue Lim. / Discon. Time	Use Added Initial	Cross Switch Ph	Lock In	NTCIP Vol.	NTCIP Occ.	Pmt Queue Delay
1	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
2	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
3	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
4	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
5	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
6	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
7	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
9	9	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
10	10	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
11	11	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
12	12	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
13	13	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
14	14	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
15	15	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
16	16	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
17	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
18	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
19	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
20	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
21	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
22	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
23	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
24	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
28	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
32	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

**Ped Detector Phase Assignment (MM) 6-3**

Mode: NTCIP

Called Phase	Detector
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12

Called Phase	Detector
13	13
14	14
15	15
16	16



REG1218 - Bronte Rd @ Dundas St - Econolite Type - Cobalt

**Detectors**

**Detectors - Pg 2**

**Log - Speed Detector Setup (MM) 6-4**

NTCIP Log ECPI Log Length Unit:  
 Period: 60 Period: 0 Inches

Speed Detector	Local Detector	One/Two Detector	Vehicle Length	Trap length	Enable Log
1	0	1	0	0	No
2	0	1	0	0	No
3	0	1	0	0	No
4	0	1	0	0	No
5	0	1	0	0	No
6	0	1	0	0	No
7	0	1	0	0	No
8	0	1	0	0	No
9	0	1	0	0	No
10	0	1	0	0	No
11	0	1	0	0	No
12	0	1	0	0	No
13	0	1	0	0	No
14	0	1	0	0	No
15	0	1	0	0	No
16	0	1	0	0	No

**Vehicle Detector Diagnostics (MM) 6-5**

**Veh Diagnostic Plan Number - 1**

Det	Counts	Act	Pres	Multiplier	Failed Time	Failed Call Delay

**Veh Diagnostic Plan Number - 2**

Det	Counts	Act	Pres	Multiplier	Failed Time	Failed Call Delay

**Veh Diagnostic Plan Number - 3**

Det	Counts	Act	Pres	Multiplier	Failed Time	Failed Call Delay

**Veh Diagnostic Plan Number - 4**

Det	Counts	Act	Pres	Multiplier	Failed Time	Failed Call Delay

**Pedestrian Detector Diagnostics (MM) 6-6**

**Ped Diagnostic Plan Number - 1**

Det	Counts	Act	Pres	Multiplier

**Ped Diagnostic Plan Number - 2**

Det	Counts	Act	Pres	Multiplier

**Ped Diagnostic Plan Number - 3**

Det	Counts	Act	Pres	Multiplier

**Ped Diagnostic Plan Number - 4**

Det	Counts	Act	Pres	Multiplier



REG1211 - Bronte Rd @ Pine Glen/High Valley - Econolite Type - Cobalt

**Configuration Controller Sequence**

**Phase Ring Sequence and Assignment (MM) 1-1-1**

Hardware Alternate Sequence Enable: No

**Phase Ring Sequence.....**(Note: Sequences identical to the prior one are not printed)

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
	B	B	B	B	B											
Sequence 1																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 2																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 3																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 4																
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 5																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 6																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 7																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 8																
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 9																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 10																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 11																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 12																
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.

Sequence 13

Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	8	7	12	11	16	15	.	.	.	.	.	.	.	.

Sequence 14

Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	8	7	12	11	16	15	.	.	.	.	.	.	.	.

Sequence 15

Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	6	5	8	7	12	11	16	15	.	.	.	.	.	.	.	.

Sequence 16

Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	6	5	8	7	12	11	16	15	.	.	.	.	.	.	.	.

**Phases In Use/Exclusive Ped (MM) 1-2**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phases In Use	X	X		X	X	X		X								
Exclusive Ped																

**Phase Compatibility (MM) 1-1-2**

Phase	
n/a	Barrier Mode

**Phase and Overlap Descriptions**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Approach	N	S	E	W	S	N	W	E	N	N	N	N	N	N	N	N
Movement	L	T	L	T	L	T	L	T								
Associated PED																
Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Approach	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Movement																

**Administration (MM) 1-7-1**

Enable Controller/Cabinet No  
 Interlock CRC  
 CRC (16 bit) B5A7  
 Enable Automatic Backup to Datakey No

**Backup Prevent (MM) 1-1-3**

Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Timing	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phases	2	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	4	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.
	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	6	.	.	.	X	.	.	.	.	.	.	.	.	.	.	.
	7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	8	.	.	.	.	.	X	.	.	.	.	.	.	.	.	.
	9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	10	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	11	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	14	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

10	4	P					-	Auto				
11	6	P					+	Auto				
12	8	P					+	Auto				
13	1	O					-	Auto	X			
14	2	O					+	Auto	X		X	
15	3	O					-	Auto	X			
16	4	O					+	Auto	X			X

**Simultaneous Gap (MM) 1-1-4**

Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phase	6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Must	7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Gap	8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
With	9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phase	10	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	11	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	14	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Disable	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Load Switch Assignments (MM) 1-3**

Phase / Overlap	Type	Dimming				Power Up	Auto		Flash Together
		Red	Yellow	Green	Dark		Red	Yellow	
1	1	V				-	Auto	X	
2	2	V				-	Auto	X	X
3	3	V				-	Auto	X	
4	4	V				-	Auto	X	X
5	5	V				+	Auto	X	
6	6	V				+	Auto	X	X
7	7	V				+	Auto	X	
8	8	V				+	Auto	X	X
9	2	P				-	Auto		



MOVING TRAFFIC FORWARD

REG1211 - Bronte Rd @ Pine Glen/High Valley - Econolite Type - Cobalt

**Configuration Port 1 (SDLC)**

**Port 1 SDLC (MM) 1-4-1**

BIU	1	2	3	4	5	6	7	8
Term & Facility	X	X						
Detector Rack	X		X					

Enable TS2/MMU Type Cabinet: No  
 Enable MMU Extended Status: Yes  
 Enable SDLC Stop Time: No  
 Enable 3 Critical RFE's Lockup: Yes

**MMU Program (MM) 1-4-2**

Channel Can Serve With Channel	
Channel 1	Channel 2
1	5
1	6
1	11
2	5
2	6
2	9
2	11
3	7
3	8
3	12
4	7
4	8
4	10
4	12
5	9
6	9
6	11
7	10
8	10
8	12
9	11
10	12

**Color Check Enable (MM) 1-4-3**

Enable Color Check: No



MMU/LS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Green	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Yellow	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Red	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

**Secondary Stations/Tests (MM) 1-4-4**

ID	1	2	3	4	5	6	7	8	MMU
Term & Facility									

ID	1	2	3	4	5	6	7	8	Diag
Detector Rack									

Enable SDLC Diagnostic Test: No



MOVING TRAFFIC FORWARD

REG1211 - Bronte Rd @ Pine Glen/High Valley - Econolite Type - Cobalt

**Configuration Communications 1 (SDLC)**

**Ethernet Port Configuration (MM) 1-5-1**

Controller IP: 172.16.2.12  
 Subnet Mask: 255.255.0.0  
 Default Gateway IP: 10.104.0.1  
 Server IP: 172.16.1.254

**NTCIP (MM) 1-5-5**

NTCIP Backup Time (Sec): 0  
 NTCIP UDP Port: 501  
 Ethernet Priority: 1  
 Port 2 Priority (Port C50S for 2070): 4  
 Port 3A Priority (Port C21S for 2070): 3  
 Port 3B Priority (Port C22S for 2070): 2

**Port Configuration (MM) 1-5-2 to 1-5-4**

Port	2 (C50S)	3A (C21S)	3B (C22S)
Comm Module	FSK	Telem	Telem
Protocol	ECPIP	NTCIP	ECPIP
Enable	Yes	No	No
Data Rate (BPS)	9600	9600	1200
Data, Parity, Stop	8 N 1	8 N 1	8 O 1
Address	0	0	1
Telemetry Response Delay	10.0	0.0	1.0
Duplex - Half or Full	Full	Full	Full
Flow Control	No	Yes	Yes
Group Address	0	0	0
Single Flag Enable	Yes	Yes	Yes
RTS to CTS Delay	n/a	n/a	3.0
RTS Turn Off Delay	n/a	n/a	2.0
Dropout Time	1	10	10
Early RTS	n/a	n/a	No
Telemetry Mode	n/a	n/a	FSK
ATCS Railroad	0	n/a	n/a
ATCS Railroad Line	0	n/a	n/a
ATCS Group	0	n/a	n/a
Wayside Device	0	n/a	n/a
ATC Device	0	n/a	n/a
Wayside Subnode	0	n/a	n/a
ATC Subnode	0	n/a	n/a

**ECPIP (MM) 1-5-6**

Controller Address: 1  
 Expanded System Detector Address: 0

**System Detector Assignment**

System Detector	Local Detector
-----------------	----------------

**Wireless Configuration (MM) 1-5-7**

Wireless Channel Number: 1  
 Wireless Access Code: 327423274



MOVING TRAFFIC FORWARD

REG1211 - Bronte Rd @ Pine Glen/High Valley - Econolite Type - Cobalt

Configuration Logging / Display

Event Logging (MM) 1-6-1

Critical RFE's (MMU/TF)	Yes	3 Critical Errors Within 24 Hours	Yes
MMU Flash Faults	Yes	Local Flash Fault	Yes
Non-Critical RFE's (Det/Test)	No	Detector Errors	No
Coordination Errors	No	Controller Download	Yes
Preemption Events	Yes	TSP Events	Yes
Power On/Off	Yes	Low Battery	Yes
Access	Yes	Data Change	Yes
Online / Offline	Yes		

Alarm Event	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Enable Logging	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Display Options (MM) 1-7-2

Key Click Enable:	Yes
Switch to Graphics Mode:	No
LED Mode:	Auto
Display Mode:	Basic
Trans Mode Pop-Up Disable:	No

Sign On (MM) 8-5

Sign On Message Line 1: Solutions that Move the World  
Sign On Message Line 2:

Software Modules (MM) 8-7

Application Version: 32.64.00  
OS (Boot) Version: 06.04.00



MOVING TRAFFIC FORWARD

REG1211 - Bronte Rd @ Pine Glen/High Valley - Econolite Type - Cobalt

Logic Processor Page 1  
Logic Statement Control (MM) 1-8-1

Logic #	Statement Control
1	E
2	E
3	E
4	E
5	E
6	E
7	E
8	E



REG1211 - Bronte Rd @ Pine Glen/High Valley - Econolite Type - Cobalt

Logic Processor Page 2

Logic Statements (MM) 1-8-2

Logic #: 1 - ""

If:

Peer	T/F	Assignment	#	State
IF	--	F DET	33	IS On

Then:

Assignment	#	State
DET SET PED	2	On

Logic #: 2 - ""

If:

Peer	T/F	Assignment	#	State
IF	--	F DET	34	IS On

Then:

Assignment	#	State
DET SET PED	4	On

Logic #: 3 - ""

If:

Peer	T/F	Assignment	#	State
IF	--	F DET	35	IS On

Then:

Assignment	#	State
DET SET PED	6	On

Logic #: 4 - ""

If:

Peer	T/F	Assignment	#	State
IF	--	F DET	36	IS On

Then:

Assignment	#	State
DET SET PED	8	On

Logic #: 5 - ""

If:

Peer	T/F	Assignment	#	State
IF	--	F DET FAIL ON DET	33	IS On

Then:

Assignment	#	State
CTR CALL PED PHASE	2	On

Logic #: 6 - ""

If:

Peer	T/F	Assignment	#	State
IF	--	F DET FAIL ON DET	34	IS On

Then:

Assignment	#	State
CTR CALL PED PHASE	4	On

Logic #: 7 - ""

If:

Peer	T/F	Assignment	#	State
IF	--	F DET FAIL ON DET	35	IS On

Then:

Assignment	#	State
CTR CALL PED PHASE	6	On

Logic #: 8 - ""

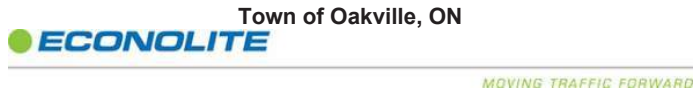
If:

Peer	T/F	Assignment	#	State
IF	--	F DET FAIL ON DET	36	IS On

Then:

Assignment	#	State
CTR CALL PED PHASE	8	On





REG1211 - Bronte Rd @ Pine Glen/High Valley - Econolite Type - Cobalt

**Controller Timing Plan (MM) 2-1**

**Plan 1 - ""**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Min Green	6	15	0	10	6	15	0	10	0	0	0	0	0	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	7	0	7	0	7	0	7	0	10	0	10	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	20	0	25	0	20	0	25	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	3.0	5.0	0.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	15	50	0	50	15	50	0	50	35	35	35	35	35	35	35	35
Max2	14	50	0	40	14	50	0	40	40	40	40	40	40	40	40	40
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.7	0.0	3.7	3.0	3.7	0.0	3.7	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	2.0	0.0	3.4	1.0	2.0	0.0	3.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Plan 2 - ""**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 3 - ""

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 4 - ""

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



MOVING TRAFFIC FORWARD

REG1211 - Bronte Rd @ Pine Glen/High Valley - Econolite Type - Cobalt

**Controller Overlaps**

**Vehicle Overlaps (MM) 2-2**

Overlap	Type	Lag Green	Yellow	Red	Adv. Green
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**Phases**

Overlap	Phase	Included	Protect	Ped Protect	Not Overlap	Modifier	Lag X Phases	Lag 2 Phases	Flash Green
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**PPLT FYA**

Overlap	Protected Phase (Left Turn)	Permissive Phase (Opposing Thru)	Flashing Arrow Output	Flashing Arrow Output CH	Delay Start of FYA	Delay Start of Clearance	Action Plan SF Bit Disable	Ped Protected Enable
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**Guaranteed Minimum Time Data (MM) 2-4**

Phase	Min Green	Walk	Ped Clear	Yellow	Red Clear	Overlap Green
A01	5	0	7	3.0	0.0	5
B02	5	0	7	3.0	0.0	5
C03	0	0	0	0.0	0.0	5
D04	5	0	7	3.0	0.0	5
E05	5	0	7	3.0	0.0	5
F06	5	0	7	3.0	0.0	5
G07	0	0	0	0.0	0.0	5
H08	5	0	7	3.0	0.0	5
I09	5	0	7	3.0	0.0	5
J10	5	0	7	3.0	0.0	5
K11	5	0	7	3.0	0.0	5
L12	5	0	7	3.0	0.0	5
M13	5	0	7	3.0	0.0	5
N14	5	0	7	3.0	0.0	5
O15	5	0	7	3.0	0.0	5
P16	5	0	7	3.0	0.0	5



MOVING TRAFFIC FORWARD

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**Controller Pedestrian Overlaps**

**Vehicle / Pedestrian Overlaps (MM) 2-3**

Included	Pedestrian Overlaps
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MOVING TRAFFIC FORWARD

REG1211 - Bronte Rd @ Pine Glen/High Valley - Econolite Type - Cobalt

**Controller Start / Flash Data (MM) 2-5**

**Start Up**

Phase	Phase Setting
1	.
2	Y
3	.
4	.
5	.
6	Y
7	.
8	.
9	.
10	.
11	.
12	.
13	.
14	.
15	.
16	.

**Overlap**

Flash Thru Mon: Yes  
 Flash Time: 0  
 All Red: 6  
 Power Start Seq: 1  
 MUTCD Enabled: No  
 Y->G: n/a

**Automatic Flash**

Entry
2
6

Exit
2
6

Overlap Exit
A
B

C
D

Flash Thru Mon: Yes  
 Exit Flash: W  
 Minimum Flash: 8  
 Mimimum Recall: No  
 Cycle Through Phase: No



MOVING TRAFFIC FORWARD

REG1211 - Bronte Rd @ Pine Glen/High Valley - Econolite Type - Cobalt

**Controller Options**

**Controller Options (MM) 2-6-1**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Grn Ph	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Guar Passage																
Non-Act I	X					X										
Non-Act II		X					X									
Dual Entry	X	X	X	X	X											
Cond Service																
Cond Reservice																
Ped Re-Service	X					X										
Rest In Walk																
Flashing Walk																
Ped Clr-Yel																
Ped Clr-Red																
IGRN + Veh Ext																

Ped Clear Protect: Off Unit Red Revert: 2.0 MUTCD 3 Seconds Don't Walk: No

**Pre-Timed Mode (MM) 2-7**

Enable Pre-Timed Mode: No Free Input Disables Pre-Timed: No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Pre-Timed																

**Phase Recall Options (MM) 2-8**

**Plan # 1**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Lock Detector												X	X	X	X	X
Vehicle Recall		X					X									
Ped Recall																
Max Recall																
Soft Recall																
No Rest																
AI Calc																



MOVING TRAFFIC FORWARD

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**Coordination Options**

**Options (MM) 3-1**

Manual Pattern	Auto	ECPI Coord	Yes
System Source	SYS	System Format	PTN
Splits In	Percent	Offsets In	Percent
Transition	Smooth	Max Select	MAXINH
Dwell / Add Time	0		
Delay Coord Wk-LZ	No	Force Off	Float
Offset Reference	Lead	Use Ped Time	Yes
Ped Recall	No	Ped Reservice	Yes
Local Zero	No	FO Added Ini	No
Override		Green	
Re-sync Count	0	Multisync	No

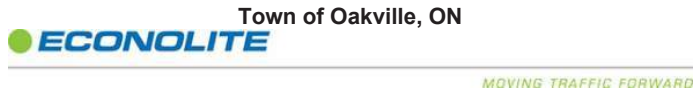
**Auto Perm Minimum Green (Seconds) (MM) 3-4**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**Split Demand (MM) 3-5**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Demand 1																
Demand 2																

Demand	1	2
Detector	0	0
Call Time (Sec)	0	0
Cycle Count	0	0



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**Coordination Pattern Data**

**Coordinator Pattern Data (MM) 3-2**

**Coordinator Pattern # 1**

Split Pattern	13	TS2 (Pat-Off)	0-1	Splits In	Percent
Cycle	140	Std (COS)	9	Offsets In	Percent
Offset Value	75%	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase	No	Action Plan	0		
Reservice					
Max Select	MAXINH	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Splits (Split Pat 13)	9	52	0	39	9	52	0	39	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4	Misc. Data
Ring Split Ext	0	0	0	0	Veh Perm 1 0 Veh Perm 2 0 Veh Perm 2 Disp 0
Ring Displacement	-	0	0	0	Split Demand 0 Split Demand 0 Crossing Arterial Pat 0
Split Sum	100%	100%	0%	0%	

**Split Pattern**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																

**Coordinator Pattern # 2**

Split Pattern	2	TS2 (Pat-Off)	0-2	Splits In	Percent
Cycle	120	Std (COS)	17	Offsets In	Percent
Offset Value	60%	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase	No	Action Plan	0		
Reservice					
Max Select	MAXINH	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Splits (Split Pat 2)	11	54	0	35	9	56	0	35	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4	Misc. Data
Ring Split Ext	0	0	0	0	Veh Perm 1 0 Veh Perm 2 0 Veh Perm 2 Disp 0
Ring Displacement	-	0	0	0	Split Demand 0 Split Demand 0 Crossing Arterial Pat 0
Split Sum	100%	100%	0%	0%	

**Split Pattern**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																

**Coordinator Pattern # 3**

Split Pattern	3	TS2 (Pat-Off)	0-3	Splits In	Percent
Cycle	140	Std (COS)	25	Offsets In	Percent
Offset Value	93%	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase	No	Action Plan	0		
Reservice					
Max Select	MAXINH	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Splits (Split Pat 3)	11	52	0	37	11	52	0	37	0	0	0	0	0	0	0	0

Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	100%	100%	0%	0%

Misc. Data  
 Veh Perm 1 0 Veh Perm 2 0 Veh Perm 2 Disp 0  
 Split Demand 0 Pat 1 Split Demand 0 Pat 2 Crossing Arterial Pat 0

**Split Pattern**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																

**Coordinator Pattern # 4**

Split Pattern	4	TS2 (Pat-Off)	1-1	Splits In	Percent
Cycle	100	Std (COS)	33	Offsets In	Percent
Offset Value	68%	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase					
Reservice	No	Action Plan	0		
Max Select	MAXINH	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Splits (Split Pat 4)	0	55	0	45	0	55	0	45	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	100%	100%	0%	0%

Misc. Data  
 Veh Perm 1 0 Veh Perm 2 0 Veh Perm 2 Disp 0  
 Split Demand 0 Pat 1 Split Demand 0 Pat 2 Crossing Arterial Pat 0

**Split Pattern**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase	X				X				X	X	X	X	X	X	X	X
Special Function Outputs																

**Coordinator Pattern # 5**

Split Pattern	5	TS2 (Pat-Off)	1-2	Splits In	Percent
Cycle	120	Std (COS)	41	Offsets In	Percent
Offset Value	60%	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase					
Reservice	No	Action Plan	0		
Max Select	None	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Splits (Split Pat 5)	11	54	0	35	9	56	0	35	0	0	0	0	0	0	0	0

Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	100%	100%	0%	0%

Misc. Data  
 Veh Perm 1 0 Veh Perm 2 0 Veh Perm 2 Disp 0  
 Split Demand 0 Split Demand 0 Crossing Arterial 0  
 Pat 1 Pat 2 Pat

**Split Pattern**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																

**Coordinator Pattern # 10**

Split Pattern	10	TS2 (Pat-Off)	3-1	Splits In	Percent
Cycle	120	Std (COS)	105	Offsets In	Percent
Offset Value	69%	Dwell/Add Time	0		
Actuated Coord No		Timing Plan	0		
Actuated Walk Rest	Yes	Sequence	0		
Phase					
Reservice	No	Action Plan	0		
Max Select	None	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Splits (Split Pat 10)	10	57	0	33	10	57	0	33	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	100%	100%	0%	0%

Misc. Data  
 Veh Perm 1 0 Veh Perm 2 0 Veh Perm 2 Disp 0  
 Split Demand 0 Split Demand 0 Crossing Arterial 0  
 Pat 1 Pat 2 Pat

**Split Pattern**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall		X				X										
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																

**Coordinator Pattern # 11**

Split Pattern	11	TS2 (Pat-Off)	3-2	Splits In	Percent
Cycle	100	Std (COS)	137	Offsets In	Percent
Offset Value	84%	Dwell/Add Time	0		
Actuated Coord No		Timing Plan	0		
Actuated Walk Rest	Yes	Sequence	0		
Phase					
Reservice	No	Action Plan	0		
Max Select	None	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N



Splits (Split Pat 11)	11	49	0	40	11	49	0	40	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

<b>Ring</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	Misc. Data					
Ring Split Ext	0	0	0	0	Veh Perm 1	0	Veh Perm 2	0	Veh Perm 2 Disp	0
Ring Displacement	-	0	0	0	Split Demand	0	Split Demand	0	Crossing Arterial	0
Split Sum	100%	100%	0%	0%	Pat 1		Pat 2		Pat	

<b>Split Pattern</b>																
<b>Phase</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall		X				X										
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																

**Coordinator Pattern # 12**

Split Pattern	12	TS2 (Pat-Off)	3-3	Splits In	Percent
Cycle	120	Std (COS)	145	Offsets In	Percent
Offset Value	60%	Dwell/Add Time	0		
Actuated Coord No		Timing Plan	0		
Actuated Walk Rest	Yes	Sequence	0		
Phase		Action Plan	0		
Reservice	No	Force Off	None		
Max Select	None				

<b>Split Preference Phases</b>																
<b>Phase</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Splits (Split Pat 12)	10	57	0	33	10	57	0	33	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

<b>Ring</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	Misc. Data					
Ring Split Ext	0	0	0	0	Veh Perm 1	0	Veh Perm 2	0	Veh Perm 2 Disp	0
Ring Displacement	-	0	0	0	Split Demand	0	Split Demand	0	Crossing Arterial	0
Split Sum	100%	100%	0%	0%	Pat 1		Pat 2		Pat	

<b>Split Pattern</b>																
<b>Phase</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall		X				X										
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																

**Coordinator Pattern # 13**

Split Pattern	13	TS2 (Pat-Off)	4-1	Splits In	Percent
Cycle	100	Std (COS)	153	Offsets In	Percent
Offset Value	84%	Dwell/Add Time	0		
Actuated Coord No		Timing Plan	0		
Actuated Walk Rest	Yes	Sequence	0		
Phase		Action Plan	0		
Reservice	No	Force Off	None		
Max Select	None				

<b>Split Preference Phases</b>																
<b>Phase</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N

Splits (Split Pat 13)	9	52	0	39	9	52	0	39	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

<b>Ring</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	Misc. Data					
Ring Split Ext	0	0	0	0	Veh Perm 1	0	Veh Perm 2	0	Veh Perm 2 Disp	0
Ring Displacement	-	0	0	0	Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0
Split Sum	100%	100%	0%	0%						

**Split Pattern**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																



MOVING TRAFFIC FORWARD

REG1211 - Bronte Rd @ Pine Glen/High Valley - Econolite Type - Cobalt

**Coordination Split Pattern  
Split Pattern Data (MM) 3-3**

**Split Pattern # 1**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Split (percent)	10	57	0	33	10	57	0	33	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall		X				X										
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X

Ring	1	2	3	4
Split Sum	100%	100%	0%	0%

**Split Pattern # 2**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Split (percent)	11	54	0	35	9	56	0	35	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X

Ring	1	2	3	4
Split Sum	100%	100%	0%	0%

**Split Pattern # 3**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Split (percent)	11	52	0	37	11	52	0	37	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X

Ring	1	2	3	4
Split Sum	100%	100%	0%	0%

**Split Pattern # 4**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Split (percent)	0	55	0	45	0	55	0	45	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase	X				X				X	X	X	X	X	X	X	X

Ring	1	2	3	4
Split Sum	100%	100%	0%	0%

**Split Pattern # 5**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Split (percent)	11	54	0	35	9	56	0	35	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X

Ring	1	2	3	4
Split Sum	100%	100%	0%	0%

**Split Pattern # 10**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Split (percent)	10	57	0	33	10	57	0	33	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall		X				X										
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X

Ring	1	2	3	4
Split Sum	100%	100%	0%	0%

**Split Pattern # 11**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Split (percent)	10	57	0	33	10	57	0	33	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall		X				X										
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X

Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N	N
Split (percent)	11	49	0	40	11	49	0	40	0	0	0	0	0	0	0	0	0
Coord Phase		X				X											
Vehicle Recall																	
Pedestrian Recall		X				X											
Recall to Max. Time																	
Omit Phase									X	X	X	X	X	X	X	X	X

<b>Ring</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Split Sum	100%	100%	0%	0%

**Split Pattern # 12**

<b>Phase</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Split (percent)	10	57	0	33	10	57	0	33	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall		X				X										
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X

<b>Ring</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Split Sum	100%	100%	0%	0%

**Split Pattern # 13**

<b>Phase</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Split (percent)	9	52	0	39	9	52	0	39	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X

<b>Ring</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Split Sum	100%	100%	0%	0%



REG1211 - Bronte Rd @ Pine Glen/High Valley - Econolite Type - Cobalt

**Preempt Plan**

**Preempt Plan (MM) 4-1**

**Preempt Plan 3**

<b>Phase</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>
<b>Overlap</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>I</b>	<b>J</b>	<b>K</b>	<b>L</b>	<b>M</b>	<b>N</b>	<b>O</b>	<b>P</b>
Trk Clr Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Trk Clr Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Enable Trailing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dwell Veh	X	.	.	.	.	X	.	.	.	.	.	.	.	.	.	.
Dwell Ped	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dwell Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Ped	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Phases																
Exit Calls																
Special Function																

Enable	Yes	Preempt Override	Yes	Interlock Enable	No
Det Lock	Yes	Delay	0	Inhibit	0
Override Flash	Yes	Duration	10	CLR > GRN	No
Term Ovlp		PC Through		Terminate Phase	Yes
Asap	No	Yel	Yes		
Ped Dark	No	Track Clear Rsrv	No	Dwell Flash	Off
Linked Pmt	0	FL Exit Color	Grn	Exit Options	Off
Exit Timing Plan	0	Reservice	0	Fault Type	Hard

<b>Ring</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Free During Pmt	No	No	No	No

<b>Timing</b>	<b>Walk</b>	<b>Ped Clr</b>	<b>Min Grn</b>	<b>Yellow</b>	<b>Red</b>
Entrance	0	7	5	4.0	2.0
	<b>Min Grn</b>	<b>Ext Grn</b>	<b>Max Grn</b>	<b>Yellow</b>	<b>Red</b>
Track Clear	0	0	0	4.0	1.0
	<b>Min Dwell</b>	<b>Pmt Ext</b>	<b>Max Time</b>	<b>Yellow</b>	<b>Red</b>
Dwell / Cycle-Exit	0	0.0	0	4.0	1.0

Preemption Active On Out  
 Other - Priority Preempt Off  
 Inhibit Extension Time 0.0  
 Veh Priority Return Off  
 Conditional Delay Off

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Pri Return %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**Preempt Plan 4**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Trk Clr Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Trk Clr Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Enable Trailing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dwell Veh	.	X	.	.	X	.	.	.	.	.	.	.	.	.	.	.
Dwell Ped	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dwell Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Ped	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Phases																
Exit Calls																
Special Function																

Enable Yes Preempt Override Yes Interlock Enable No  
 Det Lock Yes Delay 0 Inhibit 0  
 Override Flash Yes Duration 10 CLR > GRN No  
 Term Ovlp Asap No PC Through Yel Yes Terminate Phase Yes  
 Ped Dark No Track Clear Rsv No Dwell Flash Off  
 Linked Pmt 0 FL Exit Color Grn Exit Options Off  
 Exit Timing Plan 0 Reservice 0 Fault Type Hard

Ring	1	2	3	4
Free During Pmt	No	No	No	No

Timing	Walk	Ped Clr	Min Grn	Yellow	Red
Entrance	0	7	5	4.0	2.0
	Min Grn	Ext Grn	Max Grn	Yellow	Red
Track Clear	0	0	0	4.0	1.0
	Min Dwell	Pmt Ext	Max Time	Yellow	Red

Dwell / Cycle-Exit	0	0.0	0	4.0	1.0
--------------------	---	-----	---	-----	-----

Preemption Active On Out  
 Other - Priority Preempt Off  
 Inhibit Extension Time 0.0  
 Veh Priority Return Off  
 Conditional Delay Off

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Pri Return %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**Preempt Plan 5**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Trk Clr Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Trk Clr Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Enable Trailing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dwell Veh	.	.	.	X	.	.	.	X	.	.	.	.	.	.	.	.
Dwell Ped	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dwell Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Ped	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Phases				X				X								
Exit Calls																
Special Function																

Enable Yes Preempt Override Yes Interlock Enable No  
 Det Lock Yes Delay 20 Inhibit 0  
 Override Flash Yes Duration 20 CLR > GRN No  
 Term Ovlp Asap No PC Through Yel Yes Terminate Phase No  
 Ped Dark No Track Clear Rsv No Dwell Flash Off  
 Linked Pmt 0 FL Exit Color Grn Exit Options Off  
 Exit Timing Plan 0 Reservice 0 Fault Type Hard

Ring	1	2	3	4
Free During Pmt	No	No	No	No

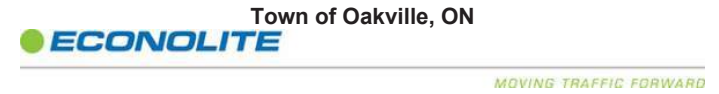
Timing	Walk	Ped Clr	Min Grn	Yellow	Red
Entrance	0	7	5	4.0	2.0
	Min Grn	Ext Grn	Max Grn	Yellow	Red
Track Clear	0	0	0	4.0	1.0
				Yellow	Red

	Min Dwell	Pmt Ext	Max Time		
Dwell / Cycle-Exit	0	0.0	0	4.0	1.0

Preemption Active Out On  
 Other - Priority Preempt Off  
 Inhibit Extension Time 0.0  
 Veh Priority Return Off  
 Conditional Delay Off

Preempt Act Dwell No  
 Non-Priority Pmt Off  
 Ped Priority Return Off  
 Queue Delay Off

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Pri Return %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



REG1211 - Bronte Rd @ Pine Glen/High Valley - Econolite Type - Cobalt

**Preempt Preempt Filtering**  
**Enable Preempt Filtering & TSP/SCP (MM) 4-2**

Input	Solid	Pulsing
1	...BYPASSED...	...BYPASSED...
2	...BYPASSED...	...BYPASSED...
3	PREEMPTION 3	PREEMPTION 7
4	PREEMPTION 4	PREEMPTION 8
5	PREEMPTION 5	PREEMPTION 9
6	PREEMPTION 6	PREEMPTION 10
7	...BYPASSED...	...BYPASSED...
8	...BYPASSED...	...BYPASSED...
9	...BYPASSED...	...BYPASSED...
10	...BYPASSED...	...BYPASSED...



MOVING TRAFFIC FORWARD

REG1211 - Bronte Rd @ Pine Glen/High Valley - Econolite Type - Cobalt

**Preempt TSP/SCP Plan and Split**

**TSP / SCP Plan (MM) 4-3**

TSP/SCP Plan	Enable Option	Signal Type	Det Lock	Delay Time	Max Presence	PMT Enables Reservice	No Delay in TSP	Action SF Inhibit	Reservice Cycles	Bus Heading
1	No	Solid	No	0	0	No	False	0	0	NB
2	No	Solid	No	0	0	No	False	0	0	SB
3	No	Solid	No	0	0	No	False	0	0	EB
4	No	Solid	No	0	0	No	False	0	0	WB
5	No	Solid	No	0	0	No	False	0	0	.
6	No	Solid	No	0	0	No	False	0	0	.

Mode: TSP  
 Free Default Pattern: 120  
 Headway Allowance: 0

TSP/SCP Plan	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**TSP / SCP Split Pattern (MM) 4-4**

TSP/SCP Split Pattern	Max Type	Phase															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
4	Max Reduction	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255



MOVING TRAFFIC FORWARD

REG1211 - Bronte Rd @ Pine Glen/High Valley - Econolite Type - Cobalt

**Time Base Clock/Calendar**

**Clock/Calendar Data (MM) 5-1**

Manual Action Plan: 0  
 SYNC Reference Time: 03:15  
 SYNC Reference: Reference Time  
 Day Light Savings: No  
 Time Reset Input Set Time: 3:30:00  
 Standard Time From GMT: 0



Town of Oakville, ON

MOVING TRAFFIC FORWARD

REG1211 - Bronte Rd @ Pine Glen/High Valley - Econolite Type - Cobalt

**Time Base Action Plan  
Action Plan (MM) 5-2**

**Action Plan - 1 - "1"**

Pattern 1 Override Sys No  
 Timing Plan 0 Sequence 0  
 Veh Detector Plan 0 Det Log None  
 Flash No Red Rest No  
 Veh Det Diag 0 Ped Det Diag 0  
 Plan Plan 0  
 Dimming Enable No Pmt Veh Priority No  
 Ret  
 Pmt Ped Priority No Pmt Queue Delay No  
 Ret  
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Action Plan - 2 - "2"**

Pattern 2 Override Sys Yes  
 Timing Plan 0 Sequence 0  
 Veh Detector Plan 0 Det Log None  
 Flash No Red Rest No  
 Veh Det Diag 0 Ped Det Diag 0  
 Plan Plan 0  
 Dimming Enable No Pmt Veh Priority No  
 Ret  
 Pmt Ped Priority No Pmt Queue Delay No  
 Ret  
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Action Plan - 3 - "3"**

Pattern 3 Override Sys No  
 Timing Plan 0 Sequence 0  
 Veh Detector Plan 0 Det Log None  
 Flash No Red Rest No  
 Veh Det Diag 0 Ped Det Diag 0  
 Plan Plan 0  
 Dimming Enable No Pmt Veh Priority No  
 Ret  
 Pmt Ped Priority No Pmt Queue Delay No  
 Ret  
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																



Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Action Plan - 4 - "4"**

Pattern 4 Override Sys No  
 Timing Plan 0 Sequence 0  
 Veh Detector Plan 0 Det Log None  
 Flash No Red Rest No  
 Veh Det Diag 0 Ped Det Diag 0  
 Plan Plan  
 Dimming Enable No Pmt Veh Priority No  
 Ret Ret  
 Pmt Ped Priority No Pmt Queue Delay No  
 Ret Ret  
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Action Plan - 5 - "5"**

Pattern 5 Override Sys No  
 Timing Plan 0 Sequence 0  
 Veh Detector Plan 0 Det Log None  
 Flash No Red Rest No  
 Veh Det Diag 0 Ped Det Diag 0  
 Plan Plan  
 Dimming Enable No Pmt Veh Priority No  
 Ret Ret  
 Pmt Ped Priority No Pmt Queue Delay No  
 Ret Ret  
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Action Plan - 10 - "10"**

Pattern 10 Override Sys Yes  
 Timing Plan 0 Sequence 0  
 Veh Detector Plan 0 Det Log None  
 Flash No Red Rest No  
 Veh Det Diag 0 Ped Det Diag 0  
 Plan Plan  
 Dimming Enable No Pmt Veh Priority No  
 Ret Ret  
 Pmt Ped Priority No Pmt Queue Delay No  
 Ret Ret  
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Action Plan - 11 - "11"**

Pattern 11 Override Sys Yes  
 Timing Plan 0 Sequence 0  
 Veh Detector Plan 0 Det Log None  
 Flash No Red Rest No  
 Veh Det Diag 0 Ped Det Diag 0  
 Plan Plan  
 Dimming Enable No Pmt Veh Priority No  
 Ret Ret  
 Pmt Ped Priority No Pmt Queue Delay No  
 Ret Ret  
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Action Plan - 12 - "12"**

Pattern 12 Override Sys Yes  
 Timing Plan 0 Sequence 0  
 Veh Detector Plan 0 Det Log None  
 Flash No Red Rest No  
 Veh Det Diag 0 Ped Det Diag 0  
 Plan Plan  
 Dimming Enable No Pmt Veh Priority No  
 Ret Ret  
 Pmt Ped Priority No Pmt Queue Delay No  
 Ret Ret  
 Pmt Cond Delay No

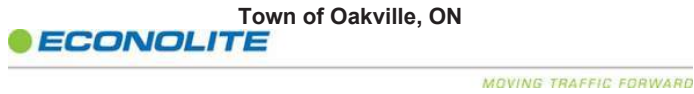
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Action Plan - 13 - "13"**

Pattern 13 Override Sys Yes  
 Timing Plan 0 Sequence 0  
 Veh Detector Plan 0 Det Log None  
 Flash No Red Rest No  
 Veh Det Diag 0 Ped Det Diag 0  
 Plan Plan  
 Dimming Enable No Pmt Veh Priority No  
 Ret Ret  
 Pmt Ped Priority No Pmt Queue Delay No  
 Ret Ret  
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.



REG1211 - Bronte Rd @ Pine Glen/High Valley - Econolite Type - Cobalt

**Time Base Day Plan/Schedule**  
Day Plan (MM) 5-3

**Day Plan #1 - "1"**

Event	Action Plan	Start Time
1	1	06:00
2	2	10:00
3	3	15:15
4	2	19:00
5	4	20:30
6	6	22:00

**Day Plan #2 - "2"**

Event	Action Plan	Start Time
1	5	08:00
2	6	20:00

**Schedule (MM) 5-4**

**Schedule Number - 1**

Day Plan No.: 1

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X	X	X	X	X	X	X	X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
		X	X	X	X	X	

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

**Schedule Number - 2**

Day Plan No.: 2

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X	X	X	X	X	X	X	X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
	X						X

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

**Schedule Number - 3**

Day Plan No.: 3

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT

--	--	--	--	--	--	--	--	--	--	--	--	--

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	12	13	14	15	16	17	18	19	20	21	22
	23	24	25	26	27	28	29	30	31		



MOVING TRAFFIC FORWARD

REG1211 - Bronte Rd @ Pine Glen/High Valley - Econolite Type - Cobalt

**Time Base Exceptions**  
**Exception Day Program (MM) 5-5**

Excep Day	Float/Fixed	Mon/Mon	DOW/DOM	WOM/Year	Day Plan



MOVING TRAFFIC FORWARD

REG1211 - Bronte Rd @ Pine Glen/High Valley - Econolite Type - Cobalt

**Detectors**  
**Detectors - Pg 1**

**Veh Det Phase Assignment (MM) 6-1**

**Vehicle Detector Plan Number - 1**

Veh Detector	Assigned Phase	Called Phase	Type
1	1	1	S
2	2		S
3	8	4	S
4	4	8	S
5	5	5	S
6	6		S
7	4	8	S
8	8	4	S
9	9		S
10	10		S
11	11		S
12	12		S
13	13		S
14	14		S
15	15		S
16	16		S
33	9		S
34	10		S
35	11		S
36	12		S

**Vehicle Detector Plan Number - 2**

Veh Detector	Assigned Phase	Called Phase	Type
1	1		S
2	2		S
3	3		S
4	4		S
5	5		S
6	6		S
7	7		S
8	8		S
9	2		S
10	2		S
11	4		S
12	4		S
13	6		S
14	6		S

15	8		S
16	8		S
17	1		S
18	2		S
19	3		S
20	4		S
21	5		S
22	6		S
23	7		S
24	8		S
25	2		S
26	4		S
27	6		S
28	8		S

**Vehicle Detector Plan Number - 3**

Veh Detector	Assigned Phase	Called Phase	Type
1	1		S
2	2		S
3	3		S
4	4		S
5	5		S
6	6		S
7	7		S
8	8		S
9	2		S
10	2		S
11	4		S
12	4		S
13	6		S
14	6		S
15	8		S
16	8		S
17	1		S
18	2		S
19	3		S
20	4		S
21	5		S
22	6		S
23	7		S
24	8		S
25	2		S
26	4		S
27	6		S
28	8		S

**Vehicle Detector Plan Number - 4**

Veh Detector	Assigned Phase	Called Phase	Type
1	1		S
2	2		S
3	3		S

4	4		S
5	5		S
6	6		S
7	7		S
8	8		S
9	2		S
10	2		S
11	4		S
12	4		S
13	6		S
14	6		S
15	8		S
16	8		S
17	1		S
18	2		S
19	3		S
20	4		S
21	5		S
22	6		S
23	7		S
24	8		S
25	2		S
26	4		S
27	6		S
28	8		S

**Vehicle Detector Setup (MM) 6-2**

Veh Detector	Type	TS2 Detector	Description
1	S-STANDARD	Yes	
2	S-STANDARD	Yes	
3	S-STANDARD	Yes	
4	S-STANDARD	Yes	
5	S-STANDARD	Yes	
6	S-STANDARD	Yes	
7	S-STANDARD	Yes	
8	S-STANDARD	Yes	
9	S-STANDARD	Yes	
10	S-STANDARD	Yes	
11	S-STANDARD	Yes	
12	S-STANDARD	Yes	
13	S-STANDARD	Yes	
14	S-STANDARD	Yes	
15	S-STANDARD	Yes	
16	S-STANDARD	Yes	
17	S-STANDARD	Yes	
18	S-STANDARD	Yes	
19	S-STANDARD	Yes	
20	S-STANDARD	Yes	
21	S-STANDARD	Yes	
22	S-STANDARD	Yes	



23	S-STANDARD	Yes	
24	S-STANDARD	Yes	
25	S-STANDARD	Yes	
26	S-STANDARD	Yes	
27	S-STANDARD	Yes	
28	S-STANDARD	Yes	
29	S-STANDARD	Yes	
30	S-STANDARD	Yes	
31	S-STANDARD	Yes	
32	S-STANDARD	Yes	
33	S-STANDARD	Yes	
34	S-STANDARD	Yes	
35	S-STANDARD	Yes	
36	S-STANDARD	Yes	
37	S-STANDARD	Yes	
38	S-STANDARD	Yes	
39	S-STANDARD	Yes	
40	S-STANDARD	Yes	
41	S-STANDARD	Yes	
42	S-STANDARD	Yes	
43	S-STANDARD	Yes	
44	S-STANDARD	Yes	
45	S-STANDARD	Yes	
46	S-STANDARD	Yes	
47	S-STANDARD	Yes	
48	S-STANDARD	Yes	
49	S-STANDARD	Yes	
50	S-STANDARD	Yes	
51	S-STANDARD	Yes	
52	S-STANDARD	Yes	
53	S-STANDARD	Yes	
54	S-STANDARD	Yes	
55	S-STANDARD	Yes	
56	S-STANDARD	Yes	
57	S-STANDARD	Yes	
58	S-STANDARD	Yes	
59	S-STANDARD	Yes	
60	S-STANDARD	Yes	
61	S-STANDARD	Yes	
62	S-STANDARD	Yes	
63	S-STANDARD	Yes	
64	S-STANDARD	Yes	

Vehicle Detector Plan Number - 1

Veh Detector	Phase	ECPI Log	Call Option	Delay Time	Ext Option	Extend Time / Passage Time	Queue Lim. / Discon. Time	Use Added Initial	Cross Switch Ph	Lock In	NTCIP Vol.	NTCIP Occ.	Pmt Queue Delay
1	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
2	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

3	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
4	4	No	Yes	5.0	Passage	0.0	0	No	0	None	No	No	No
5	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
6	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
7	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	8	No	Yes	5.0	Passage	0.0	0	No	0	None	No	No	No
9	9	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
10	10	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
11	11	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
12	12	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
13	13	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
14	14	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
15	15	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
16	16	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
17	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
18	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
19	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
20	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
21	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
22	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
23	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
24	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
25	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
26	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
27	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
28	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
29	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
30	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
31	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
32	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
33	9	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
34	10	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
35	11	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
36	12	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
37	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
38	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
39	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
40	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
41	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
42	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
43	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
44	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
45	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
46	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
47	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
48	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
49	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
50	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
51	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
52	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
53	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

54	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
55	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
56	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
57	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
58	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
59	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
60	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
61	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
62	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
63	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
64	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

Vehicle Detector Plan Number - 2

Veh Detector	Phase	ECPI Log	Call Option	Delay Time	Ext Option	Extend Time / Passage Time	Queue Lim. / Discon. Time	Use Added Initial	Cross Switch Ph	Lock In	NTCIP Vol.	NTCIP Occ.	Pmt Queue Delay
1	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
2	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
3	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
4	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
5	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
6	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
7	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
9	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
10	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
11	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
12	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
13	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
14	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
15	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
16	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
17	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
18	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
19	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
20	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
21	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
22	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
23	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
24	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
25	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
26	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
27	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
28	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
29	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
30	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
31	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
32	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
33	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
34	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

35	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
36	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
37	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
38	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
39	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
40	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
41	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
42	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
43	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
44	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
45	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
46	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
47	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
48	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
49	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
50	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
51	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
52	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
53	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
54	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
55	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
56	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
57	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
58	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
59	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
60	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
61	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
62	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
63	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
64	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

Vehicle Detector Plan Number - 3

Veh Detector	Phase	ECPI Log	Call Option	Delay Time	Ext Option	Extend Time / Passage Time	Queue Lim. / Discon. Time	Use Added Initial	Cross Switch Ph	Lock In	NTCIP Vol.	NTCIP Occ.	Pmt Queue Delay
1	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
2	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
3	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
4	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
5	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
6	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
7	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
9	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
10	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
11	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
12	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
13	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
14	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
15	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

16	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
17	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
18	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
19	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
20	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
21	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
22	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
23	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
24	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
25	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
26	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
27	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
28	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
29	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
30	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
31	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
32	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
33	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
34	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
35	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
36	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
37	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
38	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
39	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
40	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
41	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
42	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
43	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
44	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
45	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
46	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
47	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
48	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
49	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
50	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
51	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
52	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
53	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
54	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
55	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
56	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
57	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
58	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
59	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
60	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
61	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
62	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
63	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
64	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

Vehicle Detector Plan Number - 4

--	--	--	--	--	--	--	--	--	--	--	--	--	--

Veh Detector	Phase	ECPI Log	Call Option	Delay Time	Ext Option	Extend Time / Passage Time	Queue Lim. / Discon. Time	Use Added Initial	Cross Switch Ph	Lock In	NTCIP Vol.	NTCIP Occ.	Pmt Queue Delay
1	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
2	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
3	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
4	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
5	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
6	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
7	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
9	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
10	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
11	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
12	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
13	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
14	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
15	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
16	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
17	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
18	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
19	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
20	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
21	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
22	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
23	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
24	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
25	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
26	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
27	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
28	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
29	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
30	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
31	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
32	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
33	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
34	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
35	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
36	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
37	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
38	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
39	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
40	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
41	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
42	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
43	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
44	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
45	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
46	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
47	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

48	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
49	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
50	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
51	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
52	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
53	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
54	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
55	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
56	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
57	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
58	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
59	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
60	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
61	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
62	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
63	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
64	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

**Ped Detector Phase Assignment (MM) 6-3**

Mode: NTCIP

Called Phase	Detector
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16



REG1211 - Bronte Rd @ Pine Glen/High Valley - Econolite Type - Cobalt

**Detectors**

**Detectors - Pg 2**

**Log - Speed Detector Setup (MM) 6-4**

NTCIP Log ECPI Log Length Unit:  
 Period: 60 Period: 0 Inches

Speed Detector	Local Detector	One/Two Detector	Vehicle Length	Trap length	Enable Log
1	0	1	0	0	No
2	0	1	0	0	No
3	0	1	0	0	No
4	0	1	0	0	No
5	0	1	0	0	No
6	0	1	0	0	No
7	0	1	0	0	No
8	0	1	0	0	No
9	0	1	0	0	No
10	0	1	0	0	No
11	0	1	0	0	No
12	0	1	0	0	No
13	0	1	0	0	No
14	0	1	0	0	No
15	0	1	0	0	No
16	0	1	0	0	No

**Vehicle Detector Diagnostics (MM) 6-5**

**Veh Diagnostic Plan Number - 1**

Det	Counts	Act	Pres	Multiplier	Failed Time	Failed Call Delay

**Veh Diagnostic Plan Number - 2**

Det	Counts	Act	Pres	Multiplier	Failed Time	Failed Call Delay

**Veh Diagnostic Plan Number - 3**

Det	Counts	Act	Pres	Multiplier	Failed Time	Failed Call Delay

**Veh Diagnostic Plan Number - 4**

Det	Counts	Act	Pres	Multiplier	Failed Time	Failed Call Delay

**Pedestrian Detector Diagnostics (MM) 6-6**

**Ped Diagnostic Plan Number - 1**

Det	Counts	Act	Pres	Multiplier

**Ped Diagnostic Plan Number - 2**

Det	Counts	Act	Pres	Multiplier

**Ped Diagnostic Plan Number - 3**

Det	Counts	Act	Pres	Multiplier

**Ped Diagnostic Plan Number - 4**

Det	Counts	Act	Pres	Multiplier



Town of Oakville

MOVING TRAFFIC FORWARD

REG1228 - Bronte Rd @ William Halton Pkwy - Econolite Type - Cobalt

**Configuration Controller Sequence**

**Phase Ring Sequence and Assignment (MM) 1-1-1**

Hardware Alternate Sequence Enable: No

**Phase Ring Sequence.....(Note: Sequences identical to the prior one are not printed)**

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Sequence 1																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 2																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 3																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 4																
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 5																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 6																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 7																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 8																
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 9																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 10																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 11																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 12																
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 13																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	8	7	12	11	16	15	.	.	.	.	.	.	.	.
Sequence 14																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.

Ring 2	6	5	8	7	12	11	16	15	.	.	.	.	.	.	.	.	.	.	.	.
Sequence 15																				
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.	.	.	.	.
Ring 2	6	5	8	7	12	11	16	15	.	.	.	.	.	.	.	.	.	.	.	.
Sequence 16																				
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.	.	.	.	.
Ring 2	6	5	8	7	12	11	16	15	.	.	.	.	.	.	.	.	.	.	.	.

**Phases In Use/Exclusive Ped (MM) 1-2**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phases In Use	X	X				X		X								
Exclusive Ped																

**Phase Compatibility (MM) 1-1-2**

Phase	
n/a	Barrier Mode

**Phase and Overlap Descriptions**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Approach	S	N	N	N	N	S	W	W	N	N	N	N	N	N	N	N
Movement	L	TR				T		LR								
Associated PED																
Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Approach	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Movement																

**Administration (MM) 1-7-1**

Enable Controller/Cabinet Interlock CRC	No
CRC (16 bit)	1263
Enable Automatic Backup to Datakey	No

**Backup Prevent (MM) 1-1-3**

Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Timing	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phases	2	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	4	.	.	X	.	.	.	.	.	.	.	.	.	.	.	.
	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	6	.	.	.	X	.	.	.	.	.	.	.	.	.	.	.
	7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	8	.	.	.	.	.	X	.	.	.	.	.	.	.	.	.
	9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	10	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	11	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	14	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Simultaneous Gap (MM) 1-1-4**

Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phase	6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Must	7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Gap	8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
With	9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phase	10	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	11	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	14	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Disable		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Load Switch Assignments (MM) 1-3**

Phase / Overlap	Type	Dimming				Power Up	Auto		Flash Together
		Red	Yellow	Green	Dark		Red	Yellow	
1   1	V				-	Auto	X		
2   2	V				-	Auto	X	X	
3   3	V				-	Auto	X		
4   4	V				-	Auto	X	X	
5   5	V				+	Auto	X		
6   6	V				+	Auto	X	X	
7   7	V				+	Auto	X		
8   8	V				+	Auto	X	X	
9   2	P				-	Auto			
10   4	P				-	Auto			
11   6	P				+	Auto			
12   8	P				+	Auto			
13   1	O				-	Auto	X		

14	2	O				+	Auto	X		X
15	3	O				-	Auto	X		
16	4	O				+	Auto	X		X



MOVING TRAFFIC FORWARD

REG1228 - Bronte Rd @ William Halton Pkwy - Econolite Type - Cobalt

**Configuration Port 1 (SDLC)**

**Port 1 SDLC (MM) 1-4-1**

BIU	1	2	3	4	5	6	7	8
Term & Facility	X	X						
Detector Rack	X							

Enable TS2/MMU Type Cabinet: No  
 Enable MMU Extended Status: No  
 Enable SDLC Stop Time: No  
 Enable 3 Critical RFE's Lockup: Yes

**MMU Program (MM) 1-4-2**

Channel Can Serve With Channel	
Channel 1	Channel 2
1	5
1	6
1	11
2	5
2	6
2	9
2	11
3	7
3	8
3	12
4	7
4	8
4	10
4	12
5	9
6	9
6	11
7	10
8	10
8	12
9	11
10	12

**Color Check Enable (MM) 1-4-3**

Enable Color Check: No

MMU/LS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Green																
Yellow																
Red																

Secondary Stations/Tests (MM) 1-4-4

ID	1	2	3	4	5	6	7	8	MMU
Term & Facility									

ID	1	2	3	4	5	6	7	8	Diag
Detector Rack									

Enable SDLC Diagnostic Test: No



Town of Oakville

MOVING TRAFFIC FORWARD

REG1228 - Bronte Rd @ William Halton Pkwy - Econolite Type - Cobalt

Configuration Logging / Display

Event Logging (MM) 1-6-1

Critical RFE's (MMU/TF)	Yes	3 Critical Errors Within 24 Hours	Yes
MMU Flash Faults	Yes	Local Flash Fault	Yes
Non-Critical RFE's (Det/Test)	Yes	Detector Errors	Yes
Coordination Errors	Yes	Controller Download	Yes
Preemption Events	Yes	TSP Events	Yes
Power On/Off	Yes	Low Battery	Yes
Access	Yes	Data Change	Yes
Online / Offline	Yes		

Alarm Event	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Enable Logging	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Display Options (MM) 1-7-2

Key Click Enable:	Yes
Switch to Graphics Mode:	No
LED Mode:	Auto
Display Mode:	Basic
Trans Mode Pop-Up Disable:	No

Sign On (MM) 8-5

Sign On Message Line 1: Solutions that Move the World  
 Sign On Message Line 2:

Software Modules (MM) 8-7

Application Version: 32.64.00  
 OS (Boot) Version: 06.04.00





MOVING TRAFFIC FORWARD

REG1228 - Bronte Rd @ William Halton Pkwy - Econolite Type - Cobalt

Logic Processor Page 1  
Logic Statement Control (MM) 1-8-1

Logic #	Statement Control
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MOVING TRAFFIC FORWARD

REG1228 - Bronte Rd @ William Halton Pkwy - Econolite Type - Cobalt

Controller Timing Plan (MM) 2-1

Plan 1 - ""

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	S-L	N-TR	N	N	N	S-T	W	W-LR	N	N	N	N	N	N	N	N
Min Green	7	20	0	0	0	20	0	10	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	7	0	0	0	0	0	0	0	10	0	10	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	27	0	0	0	0	0	0	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	3.0	3.0	0.0	0.0	0.0	3.0	0.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	15	45	0	0	0	45	0	45	35	35	35	35	35	35	35	35
Max2	20	55	0	0	0	55	0	55	40	40	40	40	40	40	40	40
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	4.2	0.0	0.0	0.0	4.2	0.0	3.3	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	2.2	0.0	0.0	0.0	2.2	0.0	2.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**Controller Overlaps  
Vehicle Overlaps (MM) 2-2**

Overlap	Type	Lag Green	Yellow	Red	Adv. Green

**Phases**

Overlap	Phase	Included	Protect	Ped Protect	Not Overlap	Modifier	Lag X Phases	Lag 2 Phases	Flash Green

**PPLT FYA**

Overlap	Protected Phase (Left Turn)	Permissive Phase (Opposing Thru)	Flashing Arrow Output	Flashing Arrow Output CH	Delay Start of FYA	Delay Start of Clearance	Action Plan SF Bit Disable	Ped Protected Enable

**Guaranteed Minimum Time Data (MM) 2-4**

Phase	Min Green	Walk	Ped Clear	Yellow	Red Clear	Overlap Green
A01	5	0	7	3.0	0.0	5
B02	5	0	7	3.0	0.0	5
C03	5	0	7	3.0	0.0	5
D04	5	0	7	3.0	0.0	5
E05	5	0	7	3.0	0.0	5
F06	5	0	7	3.0	0.0	5
G07	5	0	7	3.0	0.0	5
H08	5	0	7	3.0	0.0	5
I09	5	0	7	3.0	0.0	5
J10	5	0	7	3.0	0.0	5
K11	5	0	7	3.0	0.0	5
L12	5	0	7	3.0	0.0	5
M13	5	0	7	3.0	0.0	5
N14	5	0	7	3.0	0.0	5
O15	5	0	7	3.0	0.0	5
P16	5	0	7	3.0	0.0	5



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**Controller Start / Flash Data (MM) 2-5**

**Start Up**

Phase	Phase Setting
1	.
2	Y
3	.
4	.
5	.
6	Y
7	.
8	.
9	.
10	.
11	.
12	.
13	.
14	.
15	.
16	.

**Overlap**

Flash Thru Mon: Yes  
Flash Time: 0  
All Red: 6  
Power Start Seq: 1  
MUTCD Enabled: No  
Y->G: n/a

**Automatic Flash**

Entry
2
6

**Exit**

2
6

**Overlap Exit**

A
B
C
D

Flash Thru Mon: Yes  
Exit Flash: W  
Minimum Flash: 8

Minimum Recall: No  
 Cycle Through Phase: No



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**Controller Options**

**Controller Options (MM) 2-6-1**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Grn Ph																
Guar Passage																
Non-Act I		X					X									
Non-Act II			X				X									
Dual Entry																
Cond Service																
Cond Reservice																
Ped Re-Service		X														
Rest In Walk																
Flashing Walk																
Ped Clr-Yel																
Ped Clr-Red																
IGRN + Veh Ext																

Ped Clear Protect: Off Unit Red Revert: 2.0 MUTCD 3 Seconds Don't Walk: No

**Pre-Timed Mode (MM) 2-7**

Enable Pre-Timed Mode: No Free Input Disables Pre-Timed: No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Pre-Timed																

**Phase Recall Options (MM) 2-8**

**Plan # 1**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Lock Detector																
Vehicle Recall			X				X									
Ped Recall																
Max Recall																
Soft Recall																
No Rest																
AI Calc																



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**Coordination Options**

**Options (MM) 3-1**

Manual Pattern	Auto	ECPI Coord	Yes
System Source	TBC	System Format	STD
Splits In	Percent	Offsets In	Percent
Transition	Smooth	Max Select	MAXINH
Dwell / Add Time	0		
Delay Coord Wk-LZ	No	Force Off	Float
Offset Reference	Lead	Use Ped Time	Yes
Ped Recall	No	Ped Reserve	No
Local Zero Override	No	FO Added Ini Green	No
Re-sync Count	0	Multisync	No

**Auto Perm Minimum Green (Seconds) (MM) 3-4**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**Split Demand (MM) 3-5**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Demand 1																
Demand 2																

Demand	1	2
Detector	0	0
Call Time (Sec)	0	0
Cycle Count	0	0



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**Coordination Pattern Data**

**Coordinator Pattern Data (MM) 3-2**

**Coordinator Pattern # 1**

Split Pattern	1	TS2 (Pat-Off)	0-1	Splits In	Percent
Cycle	140	Std (COS)	9	Offsets In	Percent
Offset Value	72%	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase Reserve	Yes	Action Plan	0		
Max Select	None	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	S-L	N-TR	N	N	N	S-T	W	W-LR	N	N	N	N	N	N	N	N
Splits (Split Pat 1)	9	73	0	18	0	82	0	18	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	100%	100%	0%	0%

Misc. Data  
 Veh Perm 1 0 Veh Perm 2 0 Veh Perm 2 Disp 0  
 Split Demand Pat 1 0 Split Demand Pat 2 0 Crossing Arterial Pat 0

**Split Pattern**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Ormit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																

**Coordinator Pattern # 2**

Split Pattern	2	TS2 (Pat-Off)	0-2	Splits In	Percent
Cycle	120	Std (COS)	17	Offsets In	Percent
Offset Value	0%	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase Reservice	Yes	Action Plan	0		
Max Select	None	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	S-L	N-TR	N	N	N	S-T	W	W-LR	N	N	N	N	N	N	N	N
Splits (Split Pat 2)	15	45	0	40	0	60	0	40	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	100%	100%	0%	0%

Misc. Data			
Veh Perm 1	0	Veh Perm 2	0
Split Demand Pat 1	0	Split Demand Pat 2	0
		Veh Perm 2 Disp	0
		Crossing Arterial Pat	0

**Split Pattern**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																

**Coordinator Pattern # 3**

Split Pattern	3	TS2 (Pat-Off)	0-3	Splits In	Percent
Cycle	140	Std (COS)	25	Offsets In	Percent
Offset Value	0%	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase Reservice	Yes	Action Plan	0		
Max Select	None	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	S-L	N-TR	N	N	N	S-T	W	W-LR	N	N	N	N	N	N	N	N
Splits (Split Pat 3)	9	73	0	18	0	82	0	18	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	100%	100%	0%	0%

Misc. Data			
Veh Perm 1	0	Veh Perm 2	0
Split Demand Pat 1	0	Split Demand Pat 2	0
		Veh Perm 2 Disp	0
		Crossing Arterial Pat	0

**Split Pattern**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																

**Coordinator Pattern # 4**

Split Pattern	4	TS2 (Pat-Off)	1-1	Splits In	Percent
Cycle	120	Std (COS)	33	Offsets In	Percent
Offset Value	0%	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase Reserve	Yes	Action Plan	0		
Max Select	None	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	S-L	N-TR	N	N	N	S-T	W	W-LR	N	N	N	N	N	N	N	N
Splits (Split Pat 4)	10	50	0	40	0	60	0	40	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	100%	100%	0%	0%

Misc. Data  
 Veh Perm 1 0 Veh Perm 2 0 Veh Perm 2 Disp 0  
 Split Demand Pat 1 0 Split Demand Pat 2 0 Crossing Arterial Pat 0

**Split Pattern**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																



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**Coordination Split Pattern  
 Split Pattern Data (MM) 3-3**

**Split Pattern # 1**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	S-L	N-TR	N	N	N	S-T	W	W-LR	N	N	N	N	N	N	N	N
Split (percent)	9	73	0	18	0	82	0	18	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase										X	X	X	X	X	X	X

Ring	1	2	3	4
Split Sum	100%	100%	0%	0%

**Split Pattern # 2**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	S-L	N-TR	N	N	N	S-T	W	W-LR	N	N	N	N	N	N	N	N
Split (percent)	15	45	0	40	0	60	0	40	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase										X	X	X	X	X	X	X

Ring	1	2	3	4
Split Sum	100%	100%	0%	0%

**Split Pattern # 3**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	S-L	N-TR	N	N	N	S-T	W	W-LR	N	N	N	N	N	N	N	N
Split (percent)	9	73	0	18	0	82	0	18	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase										X	X	X	X	X	X	X

Ring	1	2	3	4
Split Sum	100%	100%	0%	0%

**Split Pattern # 4**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	S-L	N-TR	N	N	N	S-T	W	W-LR	N	N	N	N	N	N	N	N

Split (percent)	10	50	0	40	0	60	0	40	0	0	0	0	0	0	0	0	0
Coord Phase		X				X											
Vehicle Recall																	
Pedestrian Recall																	
Recall to Max. Time																	
Omit Phase									X	X	X	X	X	X	X	X	X

<b>Ring</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Split Sum	100%	100%	0%	0%



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**Preempt Plan**

**Preempt Plan (MM) 4-1**

**Preempt Plan 3**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Trk Clr Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Trk Clr Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Enable Trailing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dwell Veh	.	X	.	.	.	X	.	.	.	.	.	.	.	.	.	.
Dwell Ped	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dwell Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Ped	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Phases																
Exit Calls																
Special Function																

Enable	Yes	Preempt Override	Yes	Interlock Enable	No
Det Lock	Yes	Delay	0	Inhibit	0
Override Flash	Yes	Duration	10	CLR > GRN	No
Term Ovp Asap	No	PC Through Yel	Yes	Terminate Phase	No
Ped Dark	No	Track Clear Rsrv	No	Dwell Flash	Off
Linked Pmt	0	FL Exit Color	Grn	Exit Options	Off
Exit Timing Plan	0	Reservice	0	Fault Type	Hard

<b>Ring</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Free During Pmt	No	No	No	No

Timing	Walk	Ped Clr	Min Grn	Yellow	Red
Entrance	0	7	5	4.2	2.3
	Min Grn	Ext Grn	Max Grn	Yellow	Red
Track Clear	0	0	0	4.0	1.0
	Min Dwell	Pmt Ext	Max Time	Yellow	Red
Dwell / Cycle-Exit	0	0.0	0	4.0	1.0

Preemption Active Out On		Preempt Act Dwell	No
Other - Priority Preempt	Off	Non-Priority Pmt	Off
Inhibit Extension Time	0.0	Ped Priority Return	Off
Veh Priority Return	Off	Queue Delay	Off
Conditional Delay	Off		

<b>Phase</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>
Veh Pri Return %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**Preempt Plan 4**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Trk Clr Veh	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trk Clr Overlap	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Enable Trailing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dwell Veh	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
Dwell Ped	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dwell Overlap	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cycling Veh	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cycling Ped	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cycling Overlap	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Exit Phases																
Exit Calls																
Special Function																

Enable	Yes	Preempt Override	Yes	Interlock Enable	No
Det Lock	Yes	Delay	0	Inhibit	0
Override Flash	Yes	Duration	10	CLR > GRN	No
Term Ovlp Asap	No	PC Through Yel	Yes	Terminate Phase	No
Ped Dark	No	Track Clear Rsrv	No	Dwell Flash	Off
Linked Pmt	0	FL Exit Color	Grn	Exit Options	Off
Exit Timing Plan	0	Reservice	0	Fault Type	Hard

Ring	1	2	3	4
Free During Pmt	No	No	No	No

Timing	Walk	Ped Clr	Min Grn	Yellow	Red
Entrance	0	7	5	3.7	2.2
	Min Grn	Ext Grn	Max Grn	Yellow	Red
Track Clear	0	0	0	4.0	1.0
	Min Dwell	Pmt Ext	Max Time	Yellow	Red
Dwell / Cycle-Exit	0	0.0	0	4.0	1.0

Preemption Active Out On	Preempt Act Dwell	No
Other - Priority Preempt	Non-Priority Pmt	Off
Inhibit Extension Time	Ped Priority Return	Off
Veh Priority Return	Queue Delay	Off
Conditional Delay		Off

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Pri Return %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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**Time Base Clock/Calendar**  
**Clock/Calendar Data (MM) 5-1**  
 Manual Action Plan: 0  
 SYNC Reference Time: 03:15  
 SYNC Reference: Reference Time  
 Day Light Savings: USDLS  
 Time Reset Input Set Time: 3:30:00  
 Standard Time From GMT: -5





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Time Base Action Plan  
Action Plan (MM) 5-2

Action Plan - 1 - "1"

Pattern	1	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																

Spec Func (1-8)									
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Aux Func (1-3)			
----------------	--	--	--

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Action Plan - 2 - "2"

Pattern	2	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																

Spec Func (1-8)									
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Aux Func (1-3)			
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	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Action Plan - 3 - "3"

Pattern	3	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																

Spec Func (1-8)									
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Aux Func (1-3)			
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	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Action Plan - 4 - "4"**

Pattern	4	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Action Plan - 5 - "5"**

Pattern	5	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 1-15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
LP 16-30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 31-45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 46-60	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 61-75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 76-90	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
LP 91-100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.



Town of Oakville

MOVING TRAFFIC FORWARD

REG1228 - Bronte Rd @ William Halton Pkwy - Econolite Type - Cobalt

**Time Base Day Plan/Schedule**  
Day Plan (MM) 5-3

**Day Plan #1 - "1"**

Event	Action Plan	Start Time
1	1	06:00
2	2	10:00
3	3	15:00
4	4	19:00
5	5	22:00

**Schedule (MM) 5-4**

**Schedule Number - 1**

Day Plan No.: 1

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X	X	X	X	X	X	X	X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
	X	X	X	X	X	X	X

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		



Town of Oakville

MOVING TRAFFIC FORWARD

REG1228 - Bronte Rd @ William Halton Pkwy - Econolite Type - Cobalt

**Detectors**  
Detectors - Pg 1

**Veh Det Phase Assignment (MM) 6-1**

**Vehicle Detector Plan Number - 1**

Veh Detector	Assigned Phase	Called Phase	Type
1	1		S
2	2		S
3	8		S
4	8		S
5	2		S
6	6		S
7	6		S
8	8		S
9	9		S
10	10		S
11	11		S
12	12		S
13	13		S
14	14		S
15	15		S
16	16		S

**Vehicle Detector Plan Number - 2**

Veh Detector	Assigned Phase	Called Phase	Type
1	1		S
2	2		S
3	3		S
4	4		S
5	5		S
6	6		S
7	7		S
8	8		S
9	2		S
10	2		S
11	4		S
12	4		S
13	6		S
14	6		S
15	8		S
16	8		S
17	1		S
18	2		S
19	3		S
20	4		S
21	5		S
22	6		S

23	7		S
24	8		S
25	2		S
26	4		S
27	6		S
28	8		S

**Vehicle Detector Setup (MM) 6-2**

Veh Detector	Type	TS2 Detector	Description
1	S-STANDARD	Yes	
2	S-STANDARD	Yes	
3	S-STANDARD	Yes	
4	S-STANDARD	Yes	
5	S-STANDARD	Yes	
6	S-STANDARD	Yes	
7	S-STANDARD	Yes	
8	S-STANDARD	Yes	
9	S-STANDARD	Yes	
10	S-STANDARD	Yes	
11	S-STANDARD	Yes	
12	S-STANDARD	Yes	
13	S-STANDARD	Yes	
14	S-STANDARD	Yes	
15	S-STANDARD	Yes	
16	S-STANDARD	Yes	
17	S-STANDARD	Yes	
18	S-STANDARD	Yes	
19	S-STANDARD	Yes	
20	S-STANDARD	Yes	
21	S-STANDARD	Yes	
22	S-STANDARD	Yes	
23	S-STANDARD	Yes	
24	S-STANDARD	Yes	
25	S-STANDARD	Yes	
26	S-STANDARD	Yes	
27	S-STANDARD	Yes	
28	S-STANDARD	Yes	
29	S-STANDARD	Yes	
30	S-STANDARD	Yes	
31	S-STANDARD	Yes	
32	S-STANDARD	Yes	
33	S-STANDARD	Yes	
34	S-STANDARD	Yes	
35	S-STANDARD	Yes	
36	S-STANDARD	Yes	
37	S-STANDARD	Yes	
38	S-STANDARD	Yes	
39	S-STANDARD	Yes	
40	S-STANDARD	Yes	
41	S-STANDARD	Yes	
42	S-STANDARD	Yes	
43	S-STANDARD	Yes	
44	S-STANDARD	Yes	
45	S-STANDARD	Yes	
46	S-STANDARD	Yes	
47	S-STANDARD	Yes	

48	S-STANDARD	Yes	
49	S-STANDARD	Yes	
50	S-STANDARD	Yes	
51	S-STANDARD	Yes	
52	S-STANDARD	Yes	
53	S-STANDARD	Yes	
54	S-STANDARD	Yes	
55	S-STANDARD	Yes	
56	S-STANDARD	Yes	
57	S-STANDARD	Yes	
58	S-STANDARD	Yes	
59	S-STANDARD	Yes	
60	S-STANDARD	Yes	
61	S-STANDARD	Yes	
62	S-STANDARD	Yes	
63	S-STANDARD	Yes	
64	S-STANDARD	Yes	

Vehicle Detector Plan Number - 1

Veh Detector	Phase	ECPI Log	Call Option	Delay Time	Ext Option	Extend Time / Passage Time	Queue Lim. / Discon. Time	Use Added Initial	Cross Switch Ph	Lock In	NTCIP Vol.	NTCIP Occ.	Pmt Queue Delay
1	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
2	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
3	8	No	Yes	5.0	Passage	0.0	0	No	0	None	No	No	No
4	8	No	Yes	15.0	Passage	0.0	0	No	0	None	No	No	No
5	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
6	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
7	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	8	No	Yes	5.0	Passage	0.0	0	No	0	None	No	No	No
9	9	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
10	10	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
11	11	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
12	12	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
13	13	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
14	14	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
15	15	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
16	16	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
17	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
18	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
19	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
20	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
21	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
22	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
23	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
24	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
25	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
26	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
27	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
28	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
29	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
30	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
31	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
32	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

33	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
34	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
35	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
36	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
37	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
38	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
39	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
40	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
41	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
42	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
43	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
44	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
45	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
46	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
47	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
48	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
49	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
50	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
51	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
52	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
53	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
54	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
55	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
56	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
57	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
58	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
59	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
60	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
61	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
62	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
63	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
64	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

Vehicle Detector Plan Number - 2

Veh Detector	Phase	ECPI Log	Call Option	Delay Time	Ext Option	Extend Time / Passage Time	Queue Lim. / Discon. Time	Use Added Initial	Cross Switch Ph	Lock In	NTCIP Vol.	NTCIP Occ.	Pmt Queue Delay
1	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
2	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
3	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
4	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
5	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
6	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
7	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
9	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
10	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
11	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
12	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
13	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
14	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
15	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
16	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
17	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
18	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

19	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
20	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
21	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
22	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
23	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
24	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
25	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
26	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
27	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
28	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
29	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
30	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
31	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
32	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
33	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
34	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
35	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
36	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
37	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
38	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
39	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
40	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
41	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
42	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
43	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
44	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
45	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
46	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
47	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
48	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
49	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
50	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
51	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
52	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
53	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
54	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
55	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
56	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
57	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
58	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
59	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
60	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
61	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
62	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
63	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
64	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

Called Phase	Detector
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16

**Ped Detector Phase Assignment (MM) 6-3**

Mode: NTCIP

Called Phase	Detector
1	1
2	2
3	3
4	4

Random Uploads - RR 25@407South Ramp

Configuration Phase Sequence Page 1

Phase Ring (MM)1-1-1

Phase															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	1	1	2	2	2	2	1	1	2	2	1	1	2	2
NB				EB				SB							

Hardware Alternate Sequence Enable: No

Phase Ring Sequence

Sequence	Ring	Phase															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Barrier Mode	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1	1	1	2	3	4	9	10	13	14	0	0	0	0	0	0	0	0
1	2	5	6	7	8	11	12	15	16	0	0	0	0	0	0	0	0
2	1	2	1	3	4	10	9	13	14	0	0	0	0	0	0	0	0
2	2	5	6	7	8	11	12	15	16	0	0	0	0	0	0	0	0
3	1	1	2	4	3	9	10	14	13	0	0	0	0	0	0	0	0
3	2	5	6	7	8	11	12	15	16	0	0	0	0	0	0	0	0
4	1	2	1	4	3	10	9	14	13	0	0	0	0	0	0	0	0
4	2	5	6	7	8	11	12	15	16	0	0	0	0	0	0	0	0
5	1	1	2	3	4	9	10	13	14	0	0	0	0	0	0	0	0
5	2	6	5	7	8	12	11	15	16	0	0	0	0	0	0	0	0
6	1	2	1	3	4	10	9	13	14	0	0	0	0	0	0	0	0
6	2	6	5	7	8	12	11	15	16	0	0	0	0	0	0	0	0
7	1	1	2	4	3	9	10	14	13	0	0	0	0	0	0	0	0
7	2	6	5	7	8	12	11	15	16	0	0	0	0	0	0	0	0
8	1	2	1	4	3	10	9	14	13	0	0	0	0	0	0	0	0
8	2	6	5	7	8	12	11	15	16	0	0	0	0	0	0	0	0
9	1	1	2	3	4	9	10	13	14	0	0	0	0	0	0	0	0
9	2	5	6	8	7	11	12	16	15	0	0	0	0	0	0	0	0
10	1	2	1	3	4	10	9	13	14	0	0	0	0	0	0	0	0
10	2	5	6	8	7	11	12	16	15	0	0	0	0	0	0	0	0
11	1	1	2	4	3	9	10	14	13	0	0	0	0	0	0	0	0
11	2	5	6	8	7	11	12	16	15	0	0	0	0	0	0	0	0
12	1	2	1	4	3	10	9	14	13	0	0	0	0	0	0	0	0
12	2	5	6	8	7	11	12	16	15	0	0	0	0	0	0	0	0
13	1	1	2	3	4	9	10	13	14	0	0	0	0	0	0	0	0
13	2	6	5	8	7	12	11	16	15	0	0	0	0	0	0	0	0
14	1	2	1	3	4	10	9	13	14	0	0	0	0	0	0	0	0
14	2	6	5	8	7	12	11	16	15	0	0	0	0	0	0	0	0
15	1	1	2	4	3	9	10	14	13	0	0	0	0	0	0	0	0
15	2	6	5	8	7	12	11	16	15	0	0	0	0	0	0	0	0
16	1	2	1	4	3	10	9	14	13	0	0	0	0	0	0	0	0
16	2	6	5	8	7	12	11	16	15	0	0	0	0	0	0	0	0

Phase Compatibility (MM)1-1-2

Phase 1	Phase 2
1	5
1	6
2	5
2	6
3	7
3	8
4	7
4	8
9	11
9	12
10	11
10	12
13	15
13	16
14	15
14	16

Phase Direction Descriptions

Phase	Description

Overlap Direction Descriptions

Overlap	Description

Administration (MM)1-7-1

Enable CRC Check: No  
 CRC: 0000  
 Request Download Program Data: No  
 Enable Automatic Backup to Datakey: No



Random Uploads - RR 25@407South Ramp

Configuration Phase Sequence Page 2

In Use(MM)1-2	Exclusive Ped(MM)1-2	Backup Prevent(MM)1-1-3	Simultaneous Gap(MM)1-1-4	Disable(MM)1-1-4
Phases In Use	Phase	Phase Timing Phase Backup	Phase Must Gap with Phase	Phase
1		1 2 C		
2		3 4 Yes		
		5 6 Yes		
		7 8 Yes		

Load Switch Assignments (MMU Channel) (MM)1-3

Phase	Overlap	Type	Dim				Auto		Flash Together
			R	Y	G	D	R	Y	
1	1	V				+	Yes		
2	2	V				+	Yes	Yes	
3	3	V				+	Yes		
4	4	V				+	Yes	Yes	
5	1	O				-	Yes		
6	2	O				-	Yes	Yes	
7	2	P				-	Yes		
8	4	P				-	Yes	Yes	
9	2					+			
10	4					+			
11	6					-			
12	8					-			
13	1					+	Yes		
14	2					-	Yes	Yes	
15	3					+	Yes		
16	4					-	Yes	Yes	

Random Uploads - RR 25@407South Ramp

Configuration Port 1 (SDLC)

SDLC Options (MM)1-4-1

Bus Interface Terminal/Facilities

BIU	Term and Facility Enable	Detector Rack Enable
1	Yes	Yes
2	Yes	Yes
3	No	No
4	No	No
5	No	No
6	No	No
7	No	No
8	No	No

Enable TS2/MMU Type Cabinet: No  
 Enable MMU Extended Status: No  
 Enable SDLC Stop Time: No  
 Enable 3 Critical RFE's Lockup: Yes  
 MMU To CU SDLC External Start: Enabled  
 Diagnostics (Test Fixture) Enable: No

Secondary To Secondary Addressing

ID	Term and Facility Enable	Detector Rack Enable
1	No	No
2	No	No
3	No	No
4	No	No
5	No	No
6	No	No
7	No	No
8	No	No

Secondary To Secondary Addressing MMU: No  
 Secondary To Secondary Addressing Diagnostics: No

MMU Program (MM)1-4-2

Channel Can Serve with Channel	
Channel 1	Channel 2
1	5
2	5
2	7
3	6
4	6
4	8
5	7
6	8

Color Check Enable (MM)1-4-3

Enable Color Check: Yes

Color Check Enable

MMU Channel	Green	Yellow	Red
1	Yes	Yes	No
2	Yes	Yes	Yes
5	Yes	Yes	Yes

Random Uploads - RR 25@407South Ramp

**Configuration Communications**

**Ethernet Port Configuration (MM)1-5-1**

Controller IP: 10.70.10.51  
 Subnet Mask: 255.255.255.0  
 Default Gateway IP: 10.70.10.1  
 Server IP: 10.70.10.1

**NTCIP Parameters (MM)1-5-5**

Backup Time: 0  
 UDP Port: 501  
 Ethernet Priority: 1  
 Port 2 Priority: 4  
 Port 3A Priority: 2  
 Port 3B Priority: 3

Note for 2070: Port 2 is C50S, Port 3A is C21S, and Port 3B is C22S

**Port Configuration (MM)1-5-2 to 1-5-4**

Port	Protocol	Enable	Data Rate	Data Parity	Modem Setup Stop	Modem Setup String	User String	Comm Port Address	System Detector 9-1	Telemetry Response Delay	Duplex Half/Full	Flow Control	AB3418 NTCIP Group Address	AB3418 NTCIP Single Flag Enable	RTS to CTS Delay	RTS Turn Off Delay	Droupout Time	Early RTS	F H
2	NTCIP	No	9600	8 N 1	None			1	0	0.0	Half	Yes	0	No	0.0	0.0	10	No	Y
3A	NTCIP	Yes	9600	8 N 1	None			1	0	0.0	Full	Yes	0	No	0.0	0.0	10	No	Y
3B	ECPIP	No	1200	8 0 1	None			1	0	1.0	Full	Yes	0	No	3.0	2.0	10	No	Y

**ECPIP Parameters (MM)1-5-6**

Controller Address: 1  
 Expanded System Detector Address: 0

**Local System Detector**

Local System Detector Number
------------------------------

Random Uploads - RR 25@407South Ramp

**Configuration Logging/Display**

**Enable Event Logs (MM)1-6-1**

Critical RFE's: Yes  
 3 Critical RFE's in 24 Hours: Yes  
 MMU Flash Faults: Yes  
 Local Flash Faults: Yes  
 Non-Critical RFE's (Det/Test): Yes  
 Detector Errors: Yes  
 Coordination Errors: Yes  
 Controller Download: Yes  
 Preempt: Yes  
 TSP: Yes  
 Power On/Off: Yes  
 Low Battery: Yes  
 Access: Yes  
 Data Change: Yes

**Alarm Logs (MM)1-6-1**

Enabled: 12345678910111213141516

**Display Options (MM)1-7-2**

Key Click Enable: No  
 Backlight Enable: Yes  
 LED Mode: Auto  
 Display Mode: Advanced

Random Uploads - RR 25@407South Ramp

**Logic Processor Page 1**

Statement Control (MM)1-8-1

LP	Statement Control
----	-------------------

Random Uploads - RR 25@407South Ramp

**Logic Processor Page 2**

Logic Statements (MM)1-8-2

Random Uploads - RR 25@407South Ramp

Controller Timing Plan (MM)2-1

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min Green	8	20	5	5	5	5	5	5	5	5	5	5	5	5	5	5
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	0	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	7	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	4.5	4.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	25	50	0	0	0	0	0	0	35	35	35	35	35	35	35	35
Max 2	25	0	0	0	0	0	0	0	40	40	40	40	40	40	40	40
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Stp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	5.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 2

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max 2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Stp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 3																
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max 2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Stp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 4																
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max 2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Stp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Random Uploads - RR 25@407South Ramp

**Controller Overlaps  
Vehicle Overlaps (MM)2-2**

Overlap	Type	Lag Green	Yellow	Red	Advance Green
A	Other	0.0	0.0	1.0	0.0

**Phases**

Overlap	Phase	Included	Protect	Modifier	Ped Protect	Not Overlap	Lag X Phase	Lag 2 Phase	Flash Green
A	1	Yes	No	No	No	No	No	No	0
A	2	Yes	No	No	No	No	No	No	0
B	3	Yes	No	No	No	No	No	No	0
B	4	Yes	No	No	No	No	No	No	0

**PPLT FYA**

Overlap	Protected Phase	Permissive Phase	Flash Arrow Output	Flash Arrow Channel	FYA Delay	FYA Clearance	Special Function Disable

**Guaranteed Minimum Time Data (MM) 2-4  
Phase Time Data**

Phase	Min Green	Walk	Ped Clear	Yellow	Red Clear	Overlap Green
A01	5	0	7	3.0	0.0	5
B02	5	0	7	3.0	0.0	5
C03	5	0	7	3.0	0.0	5
D04	5	0	7	3.0	0.0	5
E05	5	0	7	3.0	0.0	5
F06	5	0	7	3.0	0.0	5
G07	5	0	7	3.0	0.0	5
H08	5	0	7	3.0	0.0	5
I09	5	0	7	3.0	0.0	5
J10	5	0	7	3.0	0.0	5
K11	5	0	7	3.0	0.0	5
L12	5	0	7	3.0	0.0	5
M13	5	0	7	3.0	0.0	5
N14	5	0	7	3.0	0.0	5
O15	5	0	7	3.0	0.0	5
P16	5	0	7	3.0	0.0	5

Random Uploads - RR 25@407South Ramp

**Controller Pedestrian Overlaps  
Pedestrian Overlaps (MM) 2-3**

Included Phase	Ped Overlap

Random Uploads - RR 25@407South Ramp

**Controller Start/Fash (MM) 2-5**

**Startup**

Phase	Phase Setting
2	Y

**Overlap**

Flash > Mon: Yes  
 Flash Time: 0  
 All Red: 0  
 Power Start Sequence: 1

**Automatic Flash**

Entry Phase
2

Exit Phase
2

Overlap Exit
A
B
C
D

Flash > Mon: Yes  
 Exit Flash Interval: W  
 Minimum Auto Flash: 8  
 Minimum Recall: No  
 Cycle Through Phase: No

Random Uploads - RR 25@407South Ramp

**Controller Options**

**Controller Options (MM)2-6-1**

Phase	Flashing Green Phase	Guaranteed Passage	Non Act 1	Non Act 2	Dual Entry	Conditional Service	Conditional Reservice	Ped Reservice	Rest in Walk	Flashing Walk	Ped Clear Yellow	Ped Clear Red	IGRN + Veh Ext
2	No	No	Yes	No	No	No	No	No	No	No	No	No	No

Ped Clear Protect: Off      Red Revert: 2.0

**Act Pre-Time (MM)2-7**

Pre-Time Mode Enable: No      Free Input Enables Pre-Timed: Yes

**Pre-Timed Phase**

**Phase Recall Options (MM)2-8**

Plan	Phase	Lock Detector	Vehicle Recall	Ped Recall	Max Recall	Soft Recall	No Rest	AI Calc
1	2	No	Yes	No	No	No	No	No
2	1	Yes	No	No	No	No	No	No
2	2	Yes	No	No	No	No	No	No
2	3	Yes	No	No	No	No	No	No
2	4	Yes	No	No	No	No	No	No
2	5	Yes	No	No	No	No	No	No
2	6	Yes	No	No	No	No	No	No
2	7	Yes	No	No	No	No	No	No
2	8	Yes	No	No	No	No	No	No
2	9	Yes	No	No	No	No	No	No
2	10	Yes	No	No	No	No	No	No
2	11	Yes	No	No	No	No	No	No
2	12	Yes	No	No	No	No	No	No
2	13	Yes	No	No	No	No	No	No
2	14	Yes	No	No	No	No	No	No
2	15	Yes	No	No	No	No	No	No
2	16	Yes	No	No	No	No	No	No
3	1	Yes	No	No	No	No	No	No
3	2	Yes	No	No	No	No	No	No
3	3	Yes	No	No	No	No	No	No
3	4	Yes	No	No	No	No	No	No
3	5	Yes	No	No	No	No	No	No
3	6	Yes	No	No	No	No	No	No
3	7	Yes	No	No	No	No	No	No
3	8	Yes	No	No	No	No	No	No
3	9	Yes	No	No	No	No	No	No
3	10	Yes	No	No	No	No	No	No
3	11	Yes	No	No	No	No	No	No
3	12	Yes	No	No	No	No	No	No
3	13	Yes	No	No	No	No	No	No
3	14	Yes	No	No	No	No	No	No
3	15	Yes	No	No	No	No	No	No
3	16	Yes	No	No	No	No	No	No
4	1	Yes	No	No	No	No	No	No
4	2	Yes	No	No	No	No	No	No
4	3	Yes	No	No	No	No	No	No
4	4	Yes	No	No	No	No	No	No
4	5	Yes	No	No	No	No	No	No
4	6	Yes	No	No	No	No	No	No
4	7	Yes	No	No	No	No	No	No
4	8	Yes	No	No	No	No	No	No
4	9	Yes	No	No	No	No	No	No
4	10	Yes	No	No	No	No	No	No
4	11	Yes	No	No	No	No	No	No
4	12	Yes	No	No	No	No	No	No
4	13	Yes	No	No	No	No	No	No
4	14	Yes	No	No	No	No	No	No
4	15	Yes	No	No	No	No	No	No
4	16	Yes	No	No	No	No	No	No

Random Uploads - RR 25@407South Ramp

**Coordination Options  
Coordination Options (MM)3-1**

Manual Pattern: Auto  
 ECPI Coord: Yes  
 System Source: TBC  
 System Format: STD  
 Splits In: Seconds  
 Offsets In: Seconds  
 Transition: Smooth  
 Max Select: MAXINH  
 Dwell/Add Time: 0  
 Dly Coord Wz-Lz: No  
 Force Off: Float  
 Offset Reference: Lead  
 Use Ped Time: Yes  
 Ped Recall: No  
 Ped Resv: No  
 Local Zero Ovr: No  
 Fo Add Ini Green: No  
 Re-sync Count: 0  
 Multisync: No

**Split Demand (MM)3-5**

Demand 1	Demand 2
Phase	Phase

Demand	Detector	Call Time	Cycle Count

**Auto Perm Minimum Green (Seconds) (MM)3-4**

Phase	Min Green



Random Uploads - RR 25@407South Ramp

Random Uploads - RR 25@407South Ramp

**Coordination Pattern Data**  
**Pattern Data (MM)3-2**

Pattern	Split Pattern	TS2	Cycle	Std(COS)	Offset Value	Splits In	Offsets In	Actuated Coord
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Pattern	Timing Plan	Actuated Walk Rest	Sequence	Phase Reservice	Action Plan	XArt Pattern	Vehicle Perm 1	Vehicle Perm 2	Vehicle Perm 3
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Pattern	Ring Split Ext 1	Ring Split Ext 2	Ring Split Ext 3	Ring Split Ext 4	Split Demand Pattern 1	Split Demand Pattern 2	Ring Displ 2	Ring Displ 3	Ring Displ 4
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**Split Preference Phases**

Pattern	Phase	Preference 1	Preference 2
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**Special Functions**

Pattern	Function	Output
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**Split Pattern Data (MM)3-3**  
**Coord Phases**

Split Pattern	Phase	Split
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**Split/Modes**

Split Pattern	Mode	Phase															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

**Preemptor Preempt Plan (MM)4-1**

**Preempt Phases**

Preempt	Phase	Track Clear Veh	Dwell Veh	Dwell Ped	Cycling Veh	Cycling Ped	Exit Phase	Exit Calls	Special Function
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**Preempt Overlaps**

Preempt	Overlap	Track Clear	Enable Trailing	Dwell Overlap	Cycling Overlap
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Preempt	Enable	Preempt Override	Interlock Enable	Detector Lock	Delay	Inhibit	Override Flash	Duration	CLR > GRN
1	No	Yes	No	Yes	0	0	No	0	No
2	No	Yes	No	Yes	0	0	No	0	No
3	No	Yes	No	Yes	0	0	No	0	No
4	No	Yes	No	Yes	0	0	No	0	No
5	No	Yes	No	Yes	0	0	No	0	No
6	No	Yes	No	Yes	0	0	No	0	No
7	No	Yes	No	Yes	0	0	No	0	No
8	No	Yes	No	Yes	0	0	No	0	No
9	No	Yes	No	Yes	0	0	No	0	No
10	No	Yes	No	Yes	0	0	No	0	No

Preempt	Term Overlap Asap	PC Through Yellow	Terminate Phase	Ped Dark	Track Clearance Re-service	Dwell Flash	Linked Pmt	Flash Exit Color	Preempt To Coord	Fault Type
1	No	No	No	No	No	Off	0	Green	No	Hard
2	No	No	No	No	No	Off	0	Green	No	Hard
3	No	No	No	No	No	Off	0	Green	No	Hard
4	No	No	No	No	No	Off	0	Green	No	Hard
5	No	No	No	No	No	Off	0	Green	No	Hard
6	No	No	No	No	No	Off	0	Green	No	Hard
7	No	No	No	No	No	Off	0	Green	No	Hard
8	No	No	No	No	No	Off	0	Green	No	Hard
9	No	No	No	No	No	Off	0	Green	No	Hard
10	No	No	No	No	No	Off	0	Green	No	Hard

Preempt	Exit Timing Plan	Reservice	Free During Pmt Ring 1	Free During Pmt Ring 2	Free During Pmt Ring 3	Free During Pmt Ring 4
1	0	0	No	No	No	No
2	0	0	No	No	No	No
3	0	0	No	No	No	No
4	0	0	No	No	No	No
5	0	0	No	No	No	No
6	0	0	No	No	No	No
7	0	0	No	No	No	No
8	0	0	No	No	No	No
9	0	0	No	No	No	No
10	0	0	No	No	No	No

Preempt	Entrance Walk	Entrance Ped Clear	Entrance Min Green	Entrance Yellow	Entrance Red	Track Clear Min Green	Gate Down Ext Green	Gate Down Max Green	Track Clear Yellow	Track Clear Red
1	0	255	5	4.0	1.0	0	0	0	4.0	1.0
2	0	255	5	4.0	1.0	0	0	0	4.0	1.0
3	0	255	5	4.0	1.0	0	0	0	4.0	1.0
4	0	255	5	4.0	1.0	0	0	0	4.0	1.0

5	0	255	5	4.0	1.0	0	0	0	4.0	1.0
6	0	255	5	4.0	1.0	0	0	0	4.0	1.0
7	0	255	5	4.0	1.0	0	0	0	4.0	1.0
8	0	255	5	4.0	1.0	0	0	0	4.0	1.0
9	0	255	5	4.0	1.0	0	0	0	4.0	1.0
10	0	255	5	4.0	1.0	0	0	0	4.0	1.0

Preempt	Min Dwell Time	Extend Preempt Input Time	Max Preempt Call Time	Exit Yellow Time	Exit Red Time	Preempt Active Out	Preempt Active Dwell	Other Priority Preempt	Non-Priority Preempt
1	0	0.0	0	4.0	1.0	On	No	Off	Off
2	0	0.0	0	4.0	1.0	On	No	Off	Off
3	0	0.0	0	4.0	1.0	On	No	Off	Off
4	0	0.0	0	4.0	1.0	On	No	Off	Off
5	0	0.0	0	4.0	1.0	On	No	Off	Off
6	0	0.0	0	4.0	1.0	On	No	Off	Off
7	0	0.0	0	4.0	1.0	On	No	Off	Off
8	0	0.0	0	4.0	1.0	On	No	Off	Off
9	0	0.0	0	4.0	1.0	On	No	Off	Off
10	0	0.0	0	4.0	1.0	On	No	Off	Off

Random Uploads - RR 25@407South Ramp

**Preemptor Preempt Filtering**  
**Enable Preempt Filtering and TSP/SCP**  
**(MM)4-2**

Input	Solid	Pulsing
3	Preemption -3	Preemption -7
4	Preemption -4	Preemption -8
5	Preemption -5	Preemption -9
6	Preemption -6	Preemption -10

Random Uploads - RR 25@407South Ramp

**Time Base Clock/Calendar  
Clock/Calendar Options (MM)5-1**

Enable Action Plan: 0  
 Sync Reference Time: 12:00 AM  
 Sync Reference: Reference Time  
 Day Light Savings: USDLS  
 Time Reset Input Set Time: 3:30:00  
 Standard Time From GMT: -5

Random Uploads - RR 25@407South Ramp

**Time Base Action Plan  
Action Plan (MM)5-2**

Plan	Pattern	Veh Det Plan	Flash	Red Rest	Controller Seq	Timing Plan	System Override	Detector Log	Veh Det Diag Plan	Ped Det Diag Plan	Dimming Enable
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**Action Plan Phases**

Plan	Phase	Ped Rcl	Walk 2	Vex 2	Veh Rcl	Max Rcl	Max 2	Max 3	CS Inhibit	Omit
1	1	No	No	No	No	No	Yes	No	No	No

**Action Plan Special  
Functions**

Plan	Function
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**Action Plan  
Auxiliary Functions**

Plan	Function
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**Logic Statement Control**

Plan	LP	Statement Control
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Random Uploads - RR 25@407South Ramp

**Time Base Day Plan/Schedule**  
**Day Plan (MM)5-3**

Plan	Event	Action Plan	Start Time
1	2	1	3:00 PM
1	3	0	6:00 PM

**Schedule (MM)5-4**

Schedule Number	Day Plan Number	Months	Days of Week	Days of Month
1	1	Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sept, Oct, Nov, Dec	Mon, Tues, Wed, Thurs, Fri	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31

Random Uploads - RR 25@407South Ramp

**Time Base Exceptions**  
**Exception Day Program (MM)5-5**

Day	Fixed/Float	Month	Day of Week/Month	Week of Month/Year	Day Plan
1	FLOAT	0	0	0	0
2	FLOAT	0	0	0	0
3	FLOAT	0	0	0	0
4	FLOAT	0	0	0	0
5	FLOAT	0	0	0	0
6	FLOAT	0	0	0	0
7	FLOAT	0	0	0	0
8	FLOAT	0	0	0	0
9	FLOAT	0	0	0	0
10	FLOAT	0	0	0	0
11	FLOAT	0	0	0	0
12	FLOAT	0	0	0	0
13	FLOAT	0	0	0	0
14	FLOAT	0	0	0	0
15	FLOAT	0	0	0	0
16	FLOAT	0	0	0	0
17	FLOAT	0	0	0	0
18	FLOAT	0	0	0	0
19	FLOAT	0	0	0	0
20	FLOAT	0	0	0	0
21	FLOAT	0	0	0	0
22	FLOAT	0	0	0	0
23	FLOAT	0	0	0	0
24	FLOAT	0	0	0	0
25	FLOAT	0	0	0	0
26	FLOAT	0	0	0	0
27	FLOAT	0	0	0	0
28	FLOAT	0	0	0	0
29	FLOAT	0	0	0	0
30	FLOAT	0	0	0	0
31	FLOAT	0	0	0	0
32	FLOAT	0	0	0	0
33	FLOAT	0	0	0	0
34	FLOAT	0	0	0	0
35	FLOAT	0	0	0	0
36	FLOAT	0	0	0	0

Random Uploads - RR 25@407South Ramp

**Detectors**

**Detectors Page 1**

**Vehicle Detectors Setup (MM)6-1**

Vehicle Plan	Detector Number	Called	Type
1	2	2	N
1	4	2	N

**Vehicle Detector Setup (MM)6-2 continued**

Detector Number	ECPI	TS2 Detector	Detector Description
1	N-NTCIP	Yes	
2	N-NTCIP	Yes	
3	N-NTCIP	Yes	
4	N-NTCIP	Yes	
5	N-NTCIP	Yes	
6	N-NTCIP	Yes	
7	N-NTCIP	Yes	
8	N-NTCIP	Yes	
9	N-NTCIP	Yes	
10	N-NTCIP	Yes	
11	N-NTCIP	Yes	
12	N-NTCIP	Yes	
13	N-NTCIP	Yes	
14	N-NTCIP	Yes	
15	N-NTCIP	Yes	
16	S-STANDARD	Yes	
17	S-STANDARD	Yes	
18	N-NTCIP	Yes	
19	N-NTCIP	Yes	
20	N-NTCIP	Yes	
21	N-NTCIP	Yes	
22	N-NTCIP	Yes	
23	N-NTCIP	Yes	
24	N-NTCIP	Yes	
25	N-NTCIP	Yes	
26	N-NTCIP	Yes	
27	N-NTCIP	Yes	
28	N-NTCIP	Yes	
29	N-NTCIP	Yes	
30	N-NTCIP	Yes	
31	N-NTCIP	Yes	
32	N-NTCIP	Yes	
33	N-NTCIP	Yes	
34	N-NTCIP	Yes	
35	N-NTCIP	Yes	
36	N-NTCIP	Yes	
37	N-NTCIP	Yes	
38	N-NTCIP	Yes	
39	N-NTCIP	Yes	
40	N-NTCIP	Yes	
41	N-NTCIP	Yes	
42	N-NTCIP	Yes	
43	N-NTCIP	Yes	
44	N-NTCIP	Yes	
45	N-NTCIP	Yes	
46	N-NTCIP	Yes	
47	N-NTCIP	Yes	
48	N-NTCIP	Yes	
49	N-NTCIP	Yes	
50	N-NTCIP	Yes	
51	N-NTCIP	Yes	
52	N-NTCIP	Yes	
53	N-NTCIP	Yes	
54	N-NTCIP	Yes	
55	N-NTCIP	Yes	
56	N-NTCIP	Yes	
57	N-NTCIP	Yes	
58	N-NTCIP	Yes	
59	N-NTCIP	Yes	
60	N-NTCIP	Yes	
61	N-NTCIP	Yes	

62	N-NTCIP	Yes	
63	N-NTCIP	Yes	
64	N-NTCIP	Yes	

Vehicle Detector Setup (MM)6-2 continued

Detector Number	Vehicle Plan	Assigned Phase	Switch Phase	Extend Time/Passage Time	Delay Time	Queue Limit/Disconnect Time	Added Option	Call Option	NTCIP Occupancy	NTCIP Volume	ECPI Log
1	1	1	0	0.0	0.0	0	No	Yes	No	No	No
1	2	1	0	0.0	0.0	0	No	Yes	No	No	No
1	3	1	0	0.0	0.0	0	No	Yes	No	No	No
1	4	1	0	0.0	0.0	0	No	Yes	No	No	No
2	1	2	0	0.0	0.0	0	No	Yes	No	No	No
2	2	2	0	0.0	0.0	0	No	Yes	No	No	No
2	3	2	0	0.0	0.0	0	No	Yes	No	No	No
2	4	2	0	0.0	0.0	0	No	Yes	No	No	No
3	1	3	0	0.0	0.0	0	No	Yes	No	No	No
3	2	3	0	0.0	0.0	0	No	Yes	No	No	No
3	3	3	0	0.0	0.0	0	No	Yes	No	No	No
3	4	3	0	0.0	0.0	0	No	Yes	No	No	No
4	1	2	0	0.0	0.0	0	No	Yes	No	No	No
4	2	4	0	0.0	0.0	0	No	Yes	No	No	No
4	3	4	0	0.0	0.0	0	No	Yes	No	No	No
4	4	4	0	0.0	0.0	0	No	Yes	No	No	No
5	1	5	0	0.0	0.0	0	No	Yes	No	No	No
5	2	5	0	0.0	0.0	0	No	Yes	No	No	No
5	3	5	0	0.0	0.0	0	No	Yes	No	No	No
5	4	5	0	0.0	0.0	0	No	Yes	No	No	No
6	1	6	0	0.0	0.0	0	No	Yes	No	No	No
6	2	6	0	0.0	0.0	0	No	Yes	No	No	No
6	3	6	0	0.0	0.0	0	No	Yes	No	No	No
6	4	6	0	0.0	0.0	0	No	Yes	No	No	No
7	1	7	0	0.0	0.0	0	No	Yes	No	No	No
7	2	7	0	0.0	0.0	0	No	Yes	No	No	No
7	3	7	0	0.0	0.0	0	No	Yes	No	No	No
7	4	7	0	0.0	0.0	0	No	Yes	No	No	No
8	1	8	0	0.0	0.0	0	No	Yes	No	No	No
8	2	8	0	0.0	0.0	0	No	Yes	No	No	No
8	3	8	0	0.0	0.0	0	No	Yes	No	No	No
8	4	8	0	0.0	0.0	0	No	Yes	No	No	No
9	1	9	0	0.0	0.0	0	No	Yes	No	No	No
9	2	9	0	0.0	0.0	0	No	Yes	No	No	No
9	3	9	0	0.0	0.0	0	No	Yes	No	No	No
9	4	9	0	0.0	0.0	0	No	Yes	No	No	No
10	1	10	0	0.0	0.0	0	No	Yes	No	No	No
10	2	10	0	0.0	0.0	0	No	Yes	No	No	No
10	3	10	0	0.0	0.0	0	No	Yes	No	No	No
10	4	10	0	0.0	0.0	0	No	Yes	No	No	No
11	1	11	0	0.0	0.0	0	No	Yes	No	No	No
11	2	11	0	0.0	0.0	0	No	Yes	No	No	No
11	3	11	0	0.0	0.0	0	No	Yes	No	No	No
11	4	11	0	0.0	0.0	0	No	Yes	No	No	No
12	1	12	0	0.0	0.0	0	No	Yes	No	No	No
12	2	12	0	0.0	0.0	0	No	Yes	No	No	No
12	3	12	0	0.0	0.0	0	No	Yes	No	No	No
12	4	12	0	0.0	0.0	0	No	Yes	No	No	No
13	1	13	0	0.0	0.0	0	No	Yes	No	No	No
13	2	13	0	0.0	0.0	0	No	Yes	No	No	No
13	3	13	0	0.0	0.0	0	No	Yes	No	No	No
13	4	13	0	0.0	0.0	0	No	Yes	No	No	No
14	1	14	0	0.0	0.0	0	No	Yes	No	No	No
14	2	14	0	0.0	0.0	0	No	Yes	No	No	No
14	3	14	0	0.0	0.0	0	No	Yes	No	No	No

14	4	14	0	0.0	0.0	0	No	Yes	No	No	No
15	1	15	0	0.0	0.0	0	No	Yes	No	No	No
15	2	15	0	0.0	0.0	0	No	Yes	No	No	No
15	3	15	0	0.0	0.0	0	No	Yes	No	No	No
15	4	15	0	0.0	0.0	0	No	Yes	No	No	No
16	1	16	0	0.0	0.0	0	No	Yes	No	No	No
16	2	16	0	0.0	0.0	0	No	Yes	No	No	No
16	3	16	0	0.0	0.0	0	No	Yes	No	No	No
16	4	16	0	0.0	0.0	0	No	Yes	No	No	No
17	1	1	0	0.0	25.0	0	No	Yes	No	No	No
17	2	0	0	0.0	0.0	0	No	Yes	No	No	No
17	3	0	0	0.0	0.0	0	No	Yes	No	No	No
17	4	0	0	0.0	0.0	0	No	Yes	No	No	No

Ped Detector Options (MM)6-3

Phase Ped Detector (NTCIP)

Local Ped Detector	Number
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16

Local System Detector

Local System Detector	Number
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Random Uploads - RR 25@407South Ramp

**Detectors**

**Detectors Page 2**

**Log - Speed Detector Setup (MM)6-5**

NTCIP Log Period: 0 ECPI Log Period: TBAP Length Unit: Inch

Speed Detector	Local Detector	One/Two Detector	Vehicle Length	Trap Length	Enable Log
1	0	1	0	0	No
2	0	1	0	0	No
3	0	1	0	0	No
4	0	1	0	0	No
5	0	1	0	0	No
6	0	1	0	0	No
7	0	1	0	0	No
8	0	1	0	0	No
9	0	1	0	0	No
10	0	1	0	0	No
11	0	1	0	0	No
12	0	1	0	0	No
13	0	1	0	0	No
14	0	1	0	0	No
15	0	1	0	0	No
16	0	1	0	0	No

**Vehicle Detector Diagnostics (MM)6-6**

Plan	Detector	Counts	Act	Pres	Multiplier	Failed Time	Failed Call Delay
1	1	0	0	0	1	255	0
1	2	0	0	0	1	255	0
1	3	0	0	0	1	255	0
1	4	0	0	0	1	255	0
1	5	0	0	0	1	255	0
1	6	0	0	0	1	255	0
1	7	0	0	0	1	255	0
1	8	0	0	0	1	255	0
1	9	0	0	0	1	255	0
1	10	0	0	0	1	255	0
1	11	0	0	0	1	255	0
1	12	0	0	0	1	255	0
1	13	0	0	0	1	255	0
1	14	0	0	0	1	255	0
1	15	0	0	0	1	255	0
1	16	0	0	0	1	255	0
1	17	0	0	0	1	255	0
1	18	0	0	0	1	255	0
1	19	0	0	0	1	255	0
1	20	0	0	0	1	255	0
1	21	0	0	0	1	255	0
1	22	0	0	0	1	255	0
1	23	0	0	0	1	255	0
1	24	0	0	0	1	255	0
1	25	0	0	0	1	255	0
1	26	0	0	0	1	255	0
1	27	0	0	0	1	255	0
1	28	0	0	0	1	255	0
1	29	0	0	0	1	255	0

1	30	0	0	0	1	255	0
1	31	0	0	0	1	255	0
1	32	0	0	0	1	255	0
1	33	0	0	0	1	255	0
1	34	0	0	0	1	255	0
1	35	0	0	0	1	255	0
1	36	0	0	0	1	255	0
1	37	0	0	0	1	255	0
1	38	0	0	0	1	255	0
1	39	0	0	0	1	255	0
1	40	0	0	0	1	255	0
1	41	0	0	0	1	255	0
1	42	0	0	0	1	255	0
1	43	0	0	0	1	255	0
1	44	0	0	0	1	255	0
1	45	0	0	0	1	255	0
1	46	0	0	0	1	255	0
1	47	0	0	0	1	255	0
1	48	0	0	0	1	255	0
1	49	0	0	0	1	255	0
1	50	0	0	0	1	255	0
1	51	0	0	0	1	255	0
1	52	0	0	0	1	255	0
1	53	0	0	0	1	255	0
1	54	0	0	0	1	255	0
1	55	0	0	0	1	255	0
1	56	0	0	0	1	255	0
1	57	0	0	0	1	255	0
1	58	0	0	0	1	255	0
1	59	0	0	0	1	255	0
1	60	0	0	0	1	255	0
1	61	0	0	0	1	255	0
1	62	0	0	0	1	255	0
1	63	0	0	0	1	255	0
1	64	0	0	0	1	255	0
2	1	0	0	0	1	255	0
2	2	0	0	0	1	255	0
2	3	0	0	0	1	255	0
2	4	0	0	0	1	255	0
2	5	0	0	0	1	255	0
2	6	0	0	0	1	255	0
2	7	0	0	0	1	255	0
2	8	0	0	0	1	255	0
2	9	0	0	0	1	255	0
2	10	0	0	0	1	255	0
2	11	0	0	0	1	255	0
2	12	0	0	0	1	255	0
2	13	0	0	0	1	255	0
2	14	0	0	0	1	255	0
2	15	0	0	0	1	255	0
2	16	0	0	0	1	255	0
2	17	0	0	0	1	255	0
2	18	0	0	0	1	255	0
2	19	0	0	0	1	255	0
2	20	0	0	0	1	255	0
2	21	0	0	0	1	255	0
2	22	0	0	0	1	255	0
2	23	0	0	0	1	255	0
2	24	0	0	0	1	255	0
2	25	0	0	0	1	255	0
2	26	0	0	0	1	255	0
2	27	0	0	0	1	255	0
2	28	0	0	0	1	255	0
2	29	0	0	0	1	255	0

2	30	0	0	0	1	255	0
2	31	0	0	0	1	255	0
2	32	0	0	0	1	255	0
2	33	0	0	0	1	255	0
2	34	0	0	0	1	255	0
2	35	0	0	0	1	255	0
2	36	0	0	0	1	255	0
2	37	0	0	0	1	255	0
2	38	0	0	0	1	255	0
2	39	0	0	0	1	255	0
2	40	0	0	0	1	255	0
2	41	0	0	0	1	255	0
2	42	0	0	0	1	255	0
2	43	0	0	0	1	255	0
2	44	0	0	0	1	255	0
2	45	0	0	0	1	255	0
2	46	0	0	0	1	255	0
2	47	0	0	0	1	255	0
2	48	0	0	0	1	255	0
2	49	0	0	0	1	255	0
2	50	0	0	0	1	255	0
2	51	0	0	0	1	255	0
2	52	0	0	0	1	255	0
2	53	0	0	0	1	255	0
2	54	0	0	0	1	255	0
2	55	0	0	0	1	255	0
2	56	0	0	0	1	255	0
2	57	0	0	0	1	255	0
2	58	0	0	0	1	255	0
2	59	0	0	0	1	255	0
2	60	0	0	0	1	255	0
2	61	0	0	0	1	255	0
2	62	0	0	0	1	255	0
2	63	0	0	0	1	255	0
2	64	0	0	0	1	255	0
3	1	0	0	0	1	255	0
3	2	0	0	0	1	255	0
3	3	0	0	0	1	255	0
3	4	0	0	0	1	255	0
3	5	0	0	0	1	255	0
3	6	0	0	0	1	255	0
3	7	0	0	0	1	255	0
3	8	0	0	0	1	255	0
3	9	0	0	0	1	255	0
3	10	0	0	0	1	255	0
3	11	0	0	0	1	255	0
3	12	0	0	0	1	255	0
3	13	0	0	0	1	255	0
3	14	0	0	0	1	255	0
3	15	0	0	0	1	255	0
3	16	0	0	0	1	255	0
3	17	0	0	0	1	255	0
3	18	0	0	0	1	255	0
3	19	0	0	0	1	255	0
3	20	0	0	0	1	255	0
3	21	0	0	0	1	255	0
3	22	0	0	0	1	255	0
3	23	0	0	0	1	255	0
3	24	0	0	0	1	255	0
3	25	0	0	0	1	255	0
3	26	0	0	0	1	255	0
3	27	0	0	0	1	255	0
3	28	0	0	0	1	255	0
3	29	0	0	0	1	255	0

3	30	0	0	0	1	255	0
3	31	0	0	0	1	255	0
3	32	0	0	0	1	255	0
3	33	0	0	0	1	255	0
3	34	0	0	0	1	255	0
3	35	0	0	0	1	255	0
3	36	0	0	0	1	255	0
3	37	0	0	0	1	255	0
3	38	0	0	0	1	255	0
3	39	0	0	0	1	255	0
3	40	0	0	0	1	255	0
3	41	0	0	0	1	255	0
3	42	0	0	0	1	255	0
3	43	0	0	0	1	255	0
3	44	0	0	0	1	255	0
3	45	0	0	0	1	255	0
3	46	0	0	0	1	255	0
3	47	0	0	0	1	255	0
3	48	0	0	0	1	255	0
3	49	0	0	0	1	255	0
3	50	0	0	0	1	255	0
3	51	0	0	0	1	255	0
3	52	0	0	0	1	255	0
3	53	0	0	0	1	255	0
3	54	0	0	0	1	255	0
3	55	0	0	0	1	255	0
3	56	0	0	0	1	255	0
3	57	0	0	0	1	255	0
3	58	0	0	0	1	255	0
3	59	0	0	0	1	255	0
3	60	0	0	0	1	255	0
3	61	0	0	0	1	255	0
3	62	0	0	0	1	255	0
3	63	0	0	0	1	255	0
3	64	0	0	0	1	255	0
4	1	0	0	0	1	255	0
4	2	0	0	0	1	255	0
4	3	0	0	0	1	255	0
4	4	0	0	0	1	255	0
4	5	0	0	0	1	255	0
4	6	0	0	0	1	255	0
4	7	0	0	0	1	255	0
4	8	0	0	0	1	255	0
4	9	0	0	0	1	255	0
4	10	0	0	0	1	255	0
4	11	0	0	0	1	255	0
4	12	0	0	0	1	255	0
4	13	0	0	0	1	255	0
4	14	0	0	0	1	255	0
4	15	0	0	0	1	255	0
4	16	0	0	0	1	255	0
4	17	0	0	0	1	255	0
4	18	0	0	0	1	255	0
4	19	0	0	0	1	255	0
4	20	0	0	0	1	255	0
4	21	0	0	0	1	255	0
4	22	0	0	0	1	255	0
4	23	0	0	0	1	255	0
4	24	0	0	0	1	255	0
4	25	0	0	0	1	255	0
4	26	0	0	0	1	255	0
4	27	0	0	0	1	255	0
4	28	0	0	0	1	255	0
4	29	0	0	0	1	255	0



4	30	0	0	0	1	255	0
4	31	0	0	0	1	255	0
4	32	0	0	0	1	255	0
4	33	0	0	0	1	255	0
4	34	0	0	0	1	255	0
4	35	0	0	0	1	255	0
4	36	0	0	0	1	255	0
4	37	0	0	0	1	255	0
4	38	0	0	0	1	255	0
4	39	0	0	0	1	255	0
4	40	0	0	0	1	255	0
4	41	0	0	0	1	255	0
4	42	0	0	0	1	255	0
4	43	0	0	0	1	255	0
4	44	0	0	0	1	255	0
4	45	0	0	0	1	255	0
4	46	0	0	0	1	255	0
4	47	0	0	0	1	255	0
4	48	0	0	0	1	255	0
4	49	0	0	0	1	255	0
4	50	0	0	0	1	255	0
4	51	0	0	0	1	255	0
4	52	0	0	0	1	255	0
4	53	0	0	0	1	255	0
4	54	0	0	0	1	255	0
4	55	0	0	0	1	255	0
4	56	0	0	0	1	255	0
4	57	0	0	0	1	255	0
4	58	0	0	0	1	255	0
4	59	0	0	0	1	255	0
4	60	0	0	0	1	255	0
4	61	0	0	0	1	255	0
4	62	0	0	0	1	255	0
4	63	0	0	0	1	255	0
4	64	0	0	0	1	255	0

**Pedestrian Detector Diagnostics (MM)6-7**

Plan	Detector	Counts	Act	Pres	Multiplier
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Random Uploads - RR 25@407North Ramp

**Configuration Phase Sequence Page 1**

**Phase Ring (MM)1-1-1**

Phase															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	0	2	2	0	2	1	1	2	2	1	1	2	2	

SBL NB      EB NBSB      WB

Hardware Alternate Sequence Enable: No

**Phase Ring Sequence**

Sequence	Ring	Phase															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Barrier Mode	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1	1	1	2	0	0	9	10	13	14	0	0	0	0	0	0	0	0
1	2	5	6	4	8	11	12	15	16	0	0	0	0	0	0	0	0
2	1	1	2	0	0	9	10	13	14	0	0	0	0	0	0	0	0
2	2	5	6	4	8	11	12	15	16	0	0	0	0	0	0	0	0
3	1	1	2	0	0	9	10	13	14	0	0	0	0	0	0	0	0
3	2	5	6	4	8	11	12	15	16	0	0	0	0	0	0	0	0
4	1	1	2	0	0	9	10	13	14	0	0	0	0	0	0	0	0
4	2	5	6	4	8	11	12	15	16	0	0	0	0	0	0	0	0
5	1	1	2	0	0	9	10	13	14	0	0	0	0	0	0	0	0
5	2	5	6	4	8	11	12	15	16	0	0	0	0	0	0	0	0
6	1	1	2	0	0	9	10	13	14	0	0	0	0	0	0	0	0
6	2	5	6	4	8	11	12	15	16	0	0	0	0	0	0	0	0
7	1	1	2	0	0	9	10	13	14	0	0	0	0	0	0	0	0
7	2	5	6	4	8	11	12	15	16	0	0	0	0	0	0	0	0
8	1	1	2	0	0	9	10	13	14	0	0	0	0	0	0	0	0
8	2	5	6	4	8	11	12	15	16	0	0	0	0	0	0	0	0
9	1	1	2	0	0	9	10	13	14	0	0	0	0	0	0	0	0
9	2	5	6	4	8	11	12	15	16	0	0	0	0	0	0	0	0
10	1	1	2	0	0	9	10	13	14	0	0	0	0	0	0	0	0
10	2	5	6	4	8	11	12	15	16	0	0	0	0	0	0	0	0
11	1	1	2	0	0	9	10	13	14	0	0	0	0	0	0	0	0
11	2	5	6	4	8	11	12	15	16	0	0	0	0	0	0	0	0
12	1	1	2	0	0	9	10	13	14	0	0	0	0	0	0	0	0
12	2	5	6	4	8	11	12	15	16	0	0	0	0	0	0	0	0
13	1	1	2	0	0	9	10	13	14	0	0	0	0	0	0	0	0
13	2	5	6	4	8	11	12	15	16	0	0	0	0	0	0	0	0
14	1	1	2	0	0	9	10	13	14	0	0	0	0	0	0	0	0
14	2	5	6	4	8	11	12	15	16	0	0	0	0	0	0	0	0
15	1	1	2	0	0	9	10	13	14	0	0	0	0	0	0	0	0
15	2	5	6	4	8	11	12	15	16	0	0	0	0	0	0	0	0
16	1	1	2	0	0	9	10	13	14	0	0	0	0	0	0	0	0
16	2	5	6	4	8	11	12	15	16	0	0	0	0	0	0	0	0

**Phase Compatibility (MM)1-1-2**

Phase 1	Phase 2
1	5
1	6
2	5
2	6
9	11
9	12
10	11
10	12
13	15
13	16
14	15
14	16

**Phase Direction Descriptions**

Phase	Description
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**Overlap Direction Descriptions**

Overlap	Description
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**Administration (MM)1-7-1**

Enable CRC Check: No  
 CRC: 0000  
 Request Download Program Data: No  
 Enable Automatic Backup to Datakey: No

Random Uploads - RR 25@407North Ramp

**Configuration Phase Sequence Page 2**

In Use(MM)1-2	Exclusive Ped(MM)1-2	Backup Prevent(MM)1-1-3	Simultaneous Gap(MM)1-1-4	Disable(MM)1-1-4
Phases In Use	Phase	Phase	Timing Phase	Backup
1		2		Yes
4		3	4	Yes
5		5	6	Yes
6		7	8	Yes
8				

**Load Switch Assignments (MMU Channel) (MM)1-3**

Phase	Overlap	Type	Dim				Auto		Flash Together
			R	Y	G	D	R	Y	
1	1	V				+	Yes		
2	2	V				+	Yes	Yes	
3	3	V				+	Yes		
4	4	V				+	Yes	Yes	
5	5	V				-	Yes		
6	6	V				-	Yes	Yes	
7	7	V				-	Yes		
8	8	V				-	Yes	Yes	
9	2	P				+			
10	4	P				+			
11	6	P				-			
12	8	P				-			
13	1	O				+	Yes		
14	2	O				+	Yes	Yes	
15	3	O				+	Yes		
16	4	O				-	Yes	Yes	

Random Uploads - RR 25@407North Ramp

**Configuration Port 1 (SDLC)**

**SDLC Options (MM)1-4-1**

**Bus Interface Terminal/Facilities**

BIU	Term and Facility Enable	Detector Rack Enable
1	Yes	Yes
2	Yes	No
3	No	No
4	No	No
5	No	No
6	No	No
7	No	No
8	No	No

Enable TS2/MMU Type Cabinet: No  
 Enable MMU Extended Status: No  
 Enable SDLC Stop Time: No  
 Enable 3 Critical RFE's Lockup: Yes  
 MMU To CU SDLC External Start: Enabled  
 Diagnostics (Test Fixture) Enable: No

**Secondary To Secondary Addressing**

ID	Term and Facility Enable	Detector Rack Enable
1	No	No
2	No	No
3	No	No
4	No	No
5	No	No
6	No	No
7	No	No
8	No	No

Secondary To Secondary Addressing MMU: No  
 Secondary To Secondary Addressing Diagnostics: No

**MMU Program (MM)1-4-2**

Channel Can Serve with Channel	
Channel 1	Channel 2
1	5
1	6
1	11
2	5
2	6
2	9
2	11
3	7
3	8
3	12
4	7
4	8
4	10
4	12
5	9
6	9
6	11

7	10
8	10
8	12
9	11
10	12

**Color Check Enable (MM)1-4-3**

Enable Color Check: No

**Color Check Enable**

MMU Channel	Green	Yellow	Red
1	Yes	Yes	Yes
2	Yes	Yes	Yes
3	Yes	Yes	Yes
4	Yes	Yes	Yes
5	Yes	Yes	Yes
6	Yes	Yes	Yes
7	Yes	Yes	Yes
8	Yes	Yes	Yes
9	Yes	Yes	Yes
10	Yes	Yes	Yes
11	Yes	Yes	Yes
12	Yes	Yes	Yes
13	Yes	Yes	Yes
14	Yes	Yes	Yes
15	Yes	Yes	Yes
16	Yes	Yes	Yes

Random Uploads - RR 25@407North Ramp

**Configuration Communications**

**Ethernet Port Configuration (MM)1-5-1**

Controller IP: 10.70.10.51  
 Subnet Mask: 255.255.255.0  
 Default Gateway IP: 10.70.10.1  
 Server IP: 10.70.10.1

**NTCIP Parameters (MM)1-5-5**

Backup Time: 0  
 UDP Port: 501  
 Ethernet Priority: 1  
 Port 2 Priority: 4  
 Port 3A Priority: 2  
 Port 3B Priority: 3

Note for 2070: Port 2 is C50S, Port 3A is C21S, and Port 3B is C22S

**Port Configuration (MM)1-5-2 to 1-5-4**

Port	Protocol	Enable	Data Rate	Data Parity	Modem Setup Stop	Modem Setup String	User String	Comm Port Address	System Detector 9-1	Telemetry Response Delay	Duplex Half/Full	Flow Control	AB3418 NTCIP Group Address	AB3418 NTCIP Single Flag Enable	RTS to CTS Delay	RTS Turn Off Delay	Droupout Time	Early RTS	F H
2	Terminal	No	9600	8 N 1	None			0	0	0.0	Half	Yes	0	No	0.0	0.0	10	No	Y
3A	NTCIP	Yes	9600	8 N 1	None			1	0	0.0	Full	Yes	0	No	0.0	0.0	10	No	Y
3B	ECPIP	Yes	1200	8 0 1	None			1	0	0.9	Full	Yes	0	No	3.0	2.0	300	No	Y

**ECPIP Parameters (MM)1-5-6**

Controller Address: 1  
 Expanded System Detector Address: 0

**Local System Detector**

Local System Detector Number
------------------------------

Random Uploads - RR 25@407North Ramp

**Configuration Logging/Display**

**Enable Event Logs (MM)1-6-1**

Critical RFE's: Yes  
 3 Critical RFE's in 24 Hours: Yes  
 MMU Flash Faults: Yes  
 Local Flash Faults: Yes  
 Non-Critical RFE's (Det/Test): Yes  
 Detector Errors: Yes  
 Coordination Errors: Yes  
 Controller Download: Yes  
 Preempt: Yes  
 TSP: Yes  
 Power On/Off: Yes  
 Low Battery: Yes  
 Access: Yes  
 Data Change: Yes

**Alarm Logs (MM)1-6-1**

Enabled: 12345678910111213141516

**Display Options (MM)1-7-2**

Key Click Enable: No  
 Backlight Enable: Yes  
 LED Mode: Auto  
 Display Mode: Advanced

Random Uploads - RR 25@407North Ramp

**Logic Processor Page 1**

Statement Control (MM)1-8-1

LP	Statement Control
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Random Uploads - RR 25@407North Ramp

**Logic Processor Page 2**

Logic Statements (MM)1-8-2

Random Uploads - RR 25@407North Ramp

Controller Timing Plan (MM)2-1

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min Green	5	20	5	5	5	20	5	5	5	5	5	5	5	5	5	5
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	0	0	0	0	0	0	0	0	10	0	10	0	10	0	10
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	7	0	7	0	7	0	7	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	7.0	5.0	3.0	2.5	7.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	35	55	35	25	25	55	35	30	35	35	35	35	35	35	35	35
Max 2	40	75	40	35	35	75	40	40	40	40	40	40	40	40	40	40
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Stp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	4.0	2.0	4.0	4.0	2.0	4.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	1.5	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	30	0	0	0	30	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 2

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max 2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Stp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 3																
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max 2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Stp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Plan 4																
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max 2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Stp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Random Uploads - RR 25@407North Ramp

**Controller Overlaps  
Vehicle Overlaps (MM)2-2**

Overlap	Type	Lag Green	Yellow	Red	Advance Green
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**Phases**

Overlap	Phase	Included	Protect	Modifier	Ped Protect	Not Overlap	Lag X Phase	Lag 2 Phase	Flash Green
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**PPLT FYA**

Overlap	Protected Phase	Permissive Phase	Flash Arrow Output	Flash Arrow Channel	FYA Delay	FYA Clearance	Special Function Disable
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**Guaranteed Minimum Time Data (MM) 2-4  
Phase Time Data**

Phase	Min Green	Walk	Ped Clear	Yellow	Red Clear	Overlap Green
A01	5	0	7	3.0	0.0	5
B02	5	0	7	3.0	0.0	5
C03	5	0	7	3.0	0.0	5
D04	5	0	7	3.0	0.0	5
E05	5	0	7	3.0	0.0	5
F06	5	0	7	3.0	0.0	5
G07	5	0	7	3.0	0.0	5
H08	5	0	7	3.0	0.0	5
I09	5	0	7	3.0	0.0	5
J10	5	0	7	3.0	0.0	5
K11	5	0	7	3.0	0.0	5
L12	5	0	7	3.0	0.0	5
M13	5	0	7	3.0	0.0	5
N14	5	0	7	3.0	0.0	5
O15	5	0	7	3.0	0.0	5
P16	5	0	7	3.0	0.0	5

Random Uploads - RR 25@407North Ramp

**Controller Pedestrian Overlaps  
Pedestrian Overlaps (MM) 2-3**

Included Phase	Ped Overlap
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Random Uploads - RR 25@407North Ramp

**Controller Start/Fash (MM) 2-5**

**Startup**

Phase	Phase Setting
2	R
6	R

**Overlap**

Flash > Mon: Yes  
 Flash Time: 0  
 All Red: 6  
 Power Start Sequence: 1

**Automatic Flash**

**Entry Phase**

2
6

**Exit Phase**

2
6

**Overlap Exit**

A
B
C
D

Flash > Mon: Yes  
 Exit Flash Interval: W  
 Minimum Auto Flash: 8  
 Minimum Recall: No  
 Cycle Through Phase: No

Random Uploads - RR 25@407North Ramp

**Controller Options**

**Controller Options (MM)2-6-1**

Phase	Flashing Green Phase	Guaranteed Passage	Non Act 1	Non Act 2	Dual Entry	Conditional Service	Conditional Reservice	Ped Reservice	Rest in Walk	Flashing Walk	Ped Clear Yellow	Ped Clear Red	IGRN + Veh Ext
2	No	No	Yes	No	No	No	No	No	No	No	No	No	No
4	No	No	No	Yes	No	No	No	No	No	No	No	No	No
6	No	No	Yes	No	No	No	No	No	No	No	No	No	No
8	No	No	No	Yes	No	No	No	No	No	No	No	No	No

Ped Clear Protect: Off      Red Revert: 2.0

**Act Pre-Time (MM)2-7**

Pre-Time Mode Enable: No      Free Input Enables Pre-Timed: Yes

**Pre-Timed Phase**

**Phase Recall Options (MM)2-8**

Plan	Phase	Lock Detector	Vehicle Recall	Ped Recall	Max Recall	Soft Recall	No Rest	AI Calc
1	2	No	Yes	No	No	No	No	No
1	6	No	Yes	No	No	No	No	No
1	11	Yes	No	No	No	No	No	No
1	12	Yes	No	No	No	No	No	No
1	13	Yes	No	No	No	No	No	No
1	14	Yes	No	No	No	No	No	No
1	15	Yes	No	No	No	No	No	No
1	16	Yes	No	No	No	No	No	No
2	1	Yes	No	No	No	No	No	No
2	2	Yes	No	No	No	No	No	No
2	3	Yes	No	No	No	No	No	No
2	4	Yes	No	No	No	No	No	No
2	5	Yes	No	No	No	No	No	No
2	6	Yes	No	No	No	No	No	No
2	7	Yes	No	No	No	No	No	No
2	8	Yes	No	No	No	No	No	No
2	9	Yes	No	No	No	No	No	No
2	10	Yes	No	No	No	No	No	No
2	11	Yes	No	No	No	No	No	No
2	12	Yes	No	No	No	No	No	No
2	13	Yes	No	No	No	No	No	No
2	14	Yes	No	No	No	No	No	No
2	15	Yes	No	No	No	No	No	No
2	16	Yes	No	No	No	No	No	No
3	1	Yes	No	No	No	No	No	No
3	2	Yes	No	No	No	No	No	No
3	3	Yes	No	No	No	No	No	No
3	4	Yes	No	No	No	No	No	No
3	5	Yes	No	No	No	No	No	No
3	6	Yes	No	No	No	No	No	No
3	7	Yes	No	No	No	No	No	No
3	8	Yes	No	No	No	No	No	No
3	9	Yes	No	No	No	No	No	No
3	10	Yes	No	No	No	No	No	No
3	11	Yes	No	No	No	No	No	No
3	12	Yes	No	No	No	No	No	No
3	13	Yes	No	No	No	No	No	No
3	14	Yes	No	No	No	No	No	No
3	15	Yes	No	No	No	No	No	No
3	16	Yes	No	No	No	No	No	No
4	1	Yes	No	No	No	No	No	No
4	2	Yes	No	No	No	No	No	No
4	3	Yes	No	No	No	No	No	No
4	4	Yes	No	No	No	No	No	No
4	5	Yes	No	No	No	No	No	No
4	6	Yes	No	No	No	No	No	No
4	7	Yes	No	No	No	No	No	No
4	8	Yes	No	No	No	No	No	No
4	9	Yes	No	No	No	No	No	No
4	10	Yes	No	No	No	No	No	No
4	11	Yes	No	No	No	No	No	No
4	12	Yes	No	No	No	No	No	No
4	13	Yes	No	No	No	No	No	No
4	14	Yes	No	No	No	No	No	No
4	15	Yes	No	No	No	No	No	No
4	16	Yes	No	No	No	No	No	No

Random Uploads - RR 25@407North Ramp

**Coordination Options  
Coordination Options (MM)3-1**

Manual Pattern: Auto  
 ECPI Coord: Yes  
 System Source: TBC  
 System Format: STD  
 Splits In: Seconds  
 Offsets In: Seconds  
 Transition: Smooth  
 Max Select: MAXINH  
 Dwell/Add Time: 0  
 Dly Coord Wz-Lz: No  
 Force Off: Float  
 Offset Reference: Lead  
 Use Ped Time: Yes  
 Ped Recall: No  
 Ped Resv: No  
 Local Zero Ovr: No  
 Fo Add Ini Green: No  
 Re-sync Count: 0  
 Multisync: No

**Split Demand (MM)3-5**

**Demand 1**   **Demand 2**  
  

Demand	Detector	Call Time	Cycle Count
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**Auto Perm Minimum Green (Seconds) (MM)3-4**

Phase	Min Green
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Random Uploads - RR 25@407North Ramp

Random Uploads - RR 25@407North Ramp

**Coordination Pattern Data**  
**Pattern Data (MM)3-2**

Pattern	Split Pattern	TS2	Cycle	Std(COS)	Offset Value	Splits In	Offsets In	Actuated Coord
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Pattern	Timing Plan	Actuated Walk Rest	Sequence	Phase Reservice	Action Plan	XArt Pattern	Vehicle Perm 1	Vehicle Perm 2	Vehicle Perm 3
---------	-------------	--------------------	----------	-----------------	-------------	--------------	----------------	----------------	----------------

Pattern	Ring Split Ext 1	Ring Split Ext 2	Ring Split Ext 3	Ring Split Ext 4	Split Demand Pattern 1	Split Demand Pattern 2	Ring Displ 2	Ring Displ 3	Ring Displ 4
---------	------------------	------------------	------------------	------------------	------------------------	------------------------	--------------	--------------	--------------

**Split Preference Phases**

Pattern	Phase	Preference 1	Preference 2
---------	-------	--------------	--------------

**Special Functions**

Pattern	Function	Output
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**Split Pattern Data (MM)3-3**  
**Coord Phases**

Split Pattern	Phase	Split
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**Split/Modes**

Split Pattern	Mode	Phase															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

**Preemptor Preempt Plan (MM)4-1**

**Preempt Phases**

Preempt	Phase	Track Clear Veh	Dwell Veh	Dwell Ped	Cycling Veh	Cycling Ped	Exit Phase	Exit Calls	Special Function
3	2	No	Yes	No	No	No	Yes	No	No
3	6	No	Yes	No	No	No	Yes	No	No

**Preempt Overlaps**

Preempt	Overlap	Track Clear	Enable Trailing	Dwell Overlap	Cycling Overlap
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Preempt	Enable	Preempt Override	Interlock Enable	Detector Lock	Delay	Inhibit	Override Flash	Duration	CLR > GRN
1	No	Yes	No	Yes	0	0	Yes	0	No
2	No	Yes	No	Yes	0	0	Yes	0	No
3	Standard	Yes	No	Yes	0	0	Yes	10	No
4	No	Yes	No	Yes	0	0	Yes	0	No
5	No	Yes	No	Yes	0	0	Yes	0	No
6	No	Yes	No	Yes	0	0	Yes	0	No
7	No	Yes	No	Yes	0	0	Yes	0	No
8	No	Yes	No	Yes	0	0	Yes	0	No
9	No	Yes	No	Yes	0	0	Yes	0	No
10	No	Yes	No	Yes	0	0	Yes	0	No

Preempt	Term Overlap Asap	PC Through Yellow	Terminate Phase	Ped Dark	Track Clearance Re-service	Dwell Flash	Linked Pmt	Flash Exit Color	Preempt To Coord	Fault Type
1	No	No	No	No	No	Off	0	Red	No	Hard
2	No	No	No	No	No	Off	0	Green	No	Hard
3	No	No	No	No	No	Off	0	Green	No	Hard
4	No	No	No	No	No	Off	0	Green	No	Hard
5	No	No	No	No	No	Off	0	Green	No	Hard
6	No	No	No	No	No	Off	0	Green	No	Hard
7	No	No	No	No	No	Off	0	Green	No	Hard
8	No	No	No	No	No	Off	0	Green	No	Hard
9	No	No	No	No	No	Off	0	Green	No	Hard
10	No	No	No	No	No	Off	0	Green	No	Hard

Preempt	Exit Timing Plan	Reservice	Free During Pmt Ring 1	Free During Pmt Ring 2	Free During Pmt Ring 3	Free During Pmt Ring 4
1	0	0	No	No	No	No
2	0	0	No	No	No	No
3	0	0	No	No	No	No
4	0	0	No	No	No	No
5	0	0	No	No	No	No
6	0	0	No	No	No	No
7	0	0	No	No	No	No
8	0	0	No	No	No	No
9	0	0	No	No	No	No
10	0	0	No	No	No	No

Preempt	Entrance Walk	Entrance Ped Clear	Entrance Min Green	Entrance Yellow	Entrance Red	Track Clear Min Green	Gate Down Ext Green	Gate Down Max Green	Track Clear Yellow	Track Clear Red
1	0	255	5	4.0	1.0	0	0	0	4.0	1.0

2	0	255	5	4.0	1.0	0	0	0	4.0	1.0
3	0	0	5	4.0	1.0	0	0	0	4.0	1.0
4	0	255	5	4.0	1.0	0	0	0	4.0	1.0
5	0	255	5	4.0	1.0	0	0	0	4.0	1.0
6	0	255	5	4.0	1.0	0	0	0	4.0	1.0
7	0	255	5	4.0	1.0	0	0	0	4.0	1.0
8	0	255	5	4.0	1.0	0	0	0	4.0	1.0
9	0	255	5	4.0	1.0	0	0	0	4.0	1.0
10	0	255	5	4.0	1.0	0	0	0	4.0	1.0

Preempt	Min Dwell Time	Extend Preempt Input Time	Max Preempt Call Time	Exit Yellow Time	Exit Red Time	Preempt Active Out	Preempt Active Dwell	Other Priority Preempt	Non-Priority Preempt
1	0	0.0	0	4.0	1.0	On	No	Off	Off
2	0	0.0	0	4.0	1.0	On	No	Off	Off
3	0	0.0	0	4.0	1.0	On	No	Off	Off
4	0	0.0	0	4.0	1.0	On	No	Off	Off
5	0	0.0	0	4.0	1.0	On	No	Off	Off
6	0	0.0	0	4.0	1.0	On	No	Off	Off
7	0	0.0	0	4.0	1.0	On	No	Off	Off
8	0	0.0	0	4.0	1.0	On	No	Off	Off
9	0	0.0	0	4.0	1.0	On	No	Off	Off
10	0	0.0	0	4.0	1.0	On	No	Off	Off

Random Uploads - RR 25@407North Ramp

**Preemptor Preempt Filtering**  
**Enable Preempt Filtering and TSP/SCP**  
**(MM)4-2**

Input	Solid	Pulsing
3	Preemption -3	Preemption -7
4	Preemption -4	Preemption -8
5	Preemption -5	Preemption -9
6	Preemption -6	Preemption -10

Random Uploads - RR 25@407North Ramp

**Time Base Clock/Calendar  
Clock/Calendar Options (MM)5-1**

Enable Action Plan: 0  
 Sync Reference Time: 3:15 AM  
 Sync Reference: Reference Time  
 Day Light Savings: USDLS  
 Time Reset Input Set Time: 3:30:00  
 Standard Time From GMT: -5

Random Uploads - RR 25@407North Ramp

**Time Base Action Plan  
Action Plan (MM)5-2**

Plan	Pattern	Veh Det Plan	Flash	Red Rest	Controller Seq	Timing Plan	System Override	Detector Log	Veh Det Diag Plan	Ped Det Diag Plan	Dimming Enable
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**Action Plan Phases**

Plan	Phase	Ped Rcl	Walk 2	Vex 2	Veh Rcl	Max Rcl	Max 2	Max 3	CS Inhibit	Omit
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**Action Plan Special  
Functions**

Plan	Function
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**Action Plan  
Auxiliary Functions**

Plan	Function
------	----------

**Logic Statement Control**

Plan	LP	Statement Control
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Random Uploads - RR 25@407North Ramp

**Time Base Day Plan/Schedule**  
**Day Plan (MM)5-3**

Plan	Event	Action Plan	Start Time
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**Schedule (MM)5-4**

Schedule Number	Day Plan Number	Months	Days of Week	Days of Month
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Random Uploads - RR 25@407North Ramp

**Time Base Exceptions**  
**Exception Day Program (MM)5-5**

Day	Fixed/Float	Month	Day of Week/Month	Week of Month/Year	Day Plan
1	FLOAT	0	0	0	0
2	FLOAT	0	0	0	0
3	FLOAT	0	0	0	0
4	FLOAT	0	0	0	0
5	FLOAT	0	0	0	0
6	FLOAT	0	0	0	0
7	FLOAT	0	0	0	0
8	FLOAT	0	0	0	0
9	FLOAT	0	0	0	0
10	FLOAT	0	0	0	0
11	FLOAT	0	0	0	0
12	FLOAT	0	0	0	0
13	FLOAT	0	0	0	0
14	FLOAT	0	0	0	0
15	FLOAT	0	0	0	0
16	FLOAT	0	0	0	0
17	FLOAT	0	0	0	0
18	FLOAT	0	0	0	0
19	FLOAT	0	0	0	0
20	FLOAT	0	0	0	0
21	FLOAT	0	0	0	0
22	FLOAT	0	0	0	0
23	FLOAT	0	0	0	0
24	FLOAT	0	0	0	0
25	FLOAT	0	0	0	0
26	FLOAT	0	0	0	0
27	FLOAT	0	0	0	0
28	FLOAT	0	0	0	0
29	FLOAT	0	0	0	0
30	FLOAT	0	0	0	0
31	FLOAT	0	0	0	0
32	FLOAT	0	0	0	0
33	FLOAT	0	0	0	0
34	FLOAT	0	0	0	0
35	FLOAT	0	0	0	0
36	FLOAT	0	0	0	0

Random Uploads - RR 25@407North Ramp

**Detectors**

**Detectors Page 1**

**Vehicle Detectors Setup (MM)6-1**

Vehicle Plan	Detector Number	Called	Type
1	1	2	S
1	2	2	S
1	3	6	S
1	4	4	S
1	5	5	S
1	6	6	S
1	7	8	S
1	8	8	S
1	9	8	S
1	10	6	S

**Vehicle Detector Setup (MM)6-2 continued**

Detector Number	ECPI	TS2 Detector	Detector Description
1	S-STANDARD	Yes	
2	S-STANDARD	Yes	
3	S-STANDARD	Yes	
4	S-STANDARD	Yes	
5	S-STANDARD	Yes	
6	S-STANDARD	Yes	
7	S-STANDARD	Yes	
8	S-STANDARD	Yes	
9	S-STANDARD	Yes	
10	S-STANDARD	Yes	
11	S-STANDARD	Yes	
12	S-STANDARD	Yes	
13	S-STANDARD	Yes	
14	S-STANDARD	Yes	
15	S-STANDARD	Yes	
16	S-STANDARD	Yes	
17	S-STANDARD	Yes	
18	S-STANDARD	Yes	
19	S-STANDARD	Yes	
20	S-STANDARD	Yes	
21	S-STANDARD	Yes	
22	S-STANDARD	Yes	
23	S-STANDARD	Yes	
24	S-STANDARD	Yes	
25	S-STANDARD	Yes	
26	S-STANDARD	Yes	
27	S-STANDARD	Yes	
28	S-STANDARD	Yes	
29	S-STANDARD	Yes	
30	S-STANDARD	Yes	
31	S-STANDARD	Yes	
32	S-STANDARD	Yes	
33	S-STANDARD	Yes	
34	S-STANDARD	Yes	
35	S-STANDARD	Yes	
36	S-STANDARD	Yes	
37	S-STANDARD	Yes	
38	S-STANDARD	Yes	
39	S-STANDARD	Yes	
40	S-STANDARD	Yes	
41	S-STANDARD	Yes	
42	S-STANDARD	Yes	
43	S-STANDARD	Yes	
44	S-STANDARD	Yes	
45	S-STANDARD	Yes	
46	S-STANDARD	Yes	
47	S-STANDARD	Yes	
48	S-STANDARD	Yes	
49	S-STANDARD	Yes	
50	S-STANDARD	Yes	
51	S-STANDARD	Yes	
52	S-STANDARD	Yes	
53	S-STANDARD	Yes	
54	S-STANDARD	Yes	
55	S-STANDARD	Yes	
56	S-STANDARD	Yes	
57	S-STANDARD	Yes	
58	S-STANDARD	Yes	
59	S-STANDARD	Yes	
60	S-STANDARD	Yes	
61	S-STANDARD	Yes	

62	S-STANDARD	Yes	
63	S-STANDARD	Yes	
64	S-STANDARD	Yes	

Vehicle Detector Setup (MM)6-2 continued

Detector Number	Vehicle Plan	Assigned Phase	Switch Phase	Extend Time/Passage Time	Delay Time	Queue Limit/Disconnect Time	Added Option	Call Option	NTCIP Occupancy	NTCIP Volume	ECPI Log
1	1	2	0	0.0	0.0	0	No	Yes	No	No	No
1	2	0	0	0.0	0.0	0	No	Yes	No	No	No
1	3	0	0	0.0	0.0	0	No	Yes	No	No	No
1	4	0	0	0.0	0.0	0	No	Yes	No	No	No
2	1	2	0	0.0	0.0	0	No	Yes	No	No	No
3	1	6	0	0.0	0.0	0	No	Yes	No	No	No
3	2	0	0	0.0	0.0	0	No	Yes	No	No	No
3	3	0	0	0.0	0.0	0	No	Yes	No	No	No
3	4	0	0	0.0	0.0	0	No	Yes	No	No	No
4	1	4	0	0.0	0.0	0	No	Yes	No	No	No
5	1	5	0	0.0	0.0	0	No	Yes	No	No	No
6	1	6	0	0.0	0.0	0	No	Yes	No	No	No
7	1	8	0	0.0	10.0	0	No	Yes	No	No	No
8	1	8	0	0.0	0.0	0	No	Yes	No	No	No
9	1	8	0	0.0	0.0	0	No	Yes	No	No	No
10	1	6	0	0.0	0.0	0	No	Yes	No	No	No
10	2	0	0	0.0	0.0	0	No	Yes	No	No	No
10	3	0	0	0.0	0.0	0	No	Yes	No	No	No
10	4	0	0	0.0	0.0	0	No	Yes	No	No	No
11	1	11	0	0.0	0.0	0	No	Yes	No	No	No
12	1	12	0	0.0	0.0	0	No	Yes	No	No	No
13	1	13	0	0.0	0.0	0	No	Yes	No	No	No
14	1	14	0	0.0	0.0	0	No	Yes	No	No	No
15	1	15	0	0.0	0.0	0	No	Yes	No	No	No
16	1	16	0	0.0	0.0	0	No	Yes	No	No	No
17	1	0	0	0.0	0.0	0	No	Yes	No	No	No
18	1	0	0	0.0	0.0	0	No	Yes	No	No	No
19	1	0	0	0.0	0.0	0	No	Yes	No	No	No
20	1	0	0	0.0	0.0	0	No	Yes	No	No	No
21	1	0	0	0.0	0.0	0	No	Yes	No	No	No
22	1	0	0	0.0	0.0	0	No	Yes	No	No	No
23	1	0	0	0.0	0.0	0	No	Yes	No	No	No
24	1	0	0	0.0	0.0	0	No	Yes	No	No	No
25	1	0	0	0.0	0.0	0	No	Yes	No	No	No
26	1	0	0	0.0	0.0	0	No	Yes	No	No	No
27	1	0	0	0.0	0.0	0	No	Yes	No	No	No
28	1	0	0	0.0	0.0	0	No	Yes	No	No	No
29	1	0	0	0.0	0.0	0	No	Yes	No	No	No
30	1	0	0	0.0	0.0	0	No	Yes	No	No	No
31	1	0	0	0.0	0.0	0	No	Yes	No	No	No
32	1	0	0	0.0	0.0	0	No	Yes	No	No	No
33	1	0	0	0.0	0.0	0	No	Yes	No	No	No
34	1	0	0	0.0	0.0	0	No	Yes	No	No	No
35	1	0	0	0.0	0.0	0	No	Yes	No	No	No
36	1	0	0	0.0	0.0	0	No	Yes	No	No	No
37	1	0	0	0.0	0.0	0	No	Yes	No	No	No
38	1	0	0	0.0	0.0	0	No	Yes	No	No	No
39	1	0	0	0.0	0.0	0	No	Yes	No	No	No
40	1	0	0	0.0	0.0	0	No	Yes	No	No	No
41	1	0	0	0.0	0.0	0	No	Yes	No	No	No
42	1	0	0	0.0	0.0	0	No	Yes	No	No	No
43	1	0	0	0.0	0.0	0	No	Yes	No	No	No
44	1	0	0	0.0	0.0	0	No	Yes	No	No	No
45	1	0	0	0.0	0.0	0	No	Yes	No	No	No
46	1	0	0	0.0	0.0	0	No	Yes	No	No	No

47	1	0	0	0.0	0.0	0	No	Yes	No	No	No
48	1	0	0	0.0	0.0	0	No	Yes	No	No	No
49	1	0	0	0.0	0.0	0	No	Yes	No	No	No
50	1	0	0	0.0	0.0	0	No	Yes	No	No	No
51	1	0	0	0.0	0.0	0	No	Yes	No	No	No
52	1	0	0	0.0	0.0	0	No	Yes	No	No	No
53	1	0	0	0.0	0.0	0	No	Yes	No	No	No
54	1	0	0	0.0	0.0	0	No	Yes	No	No	No
55	1	0	0	0.0	0.0	0	No	Yes	No	No	No
56	1	0	0	0.0	0.0	0	No	Yes	No	No	No
57	1	0	0	0.0	0.0	0	No	Yes	No	No	No
58	1	0	0	0.0	0.0	0	No	Yes	No	No	No
59	1	0	0	0.0	0.0	0	No	Yes	No	No	No
60	1	0	0	0.0	0.0	0	No	Yes	No	No	No
61	1	0	0	0.0	0.0	0	No	Yes	No	No	No
62	1	0	0	0.0	0.0	0	No	Yes	No	No	No
63	1	0	0	0.0	0.0	0	No	Yes	No	No	No
64	1	0	0	0.0	0.0	0	No	Yes	No	No	No

Ped Detector Options (MM)6-3

Phase Ped Detector (NTCIP)

Local Ped Detector	Number
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16

Local System Detector

Local System Detector	Number
-----------------------	--------



Random Uploads - RR 25@407North Ramp

**Detectors**

**Detectors Page 2**

**Log - Speed Detector Setup (MM)6-5**

NTCIP Log Period: 0 ECPI Log Period: TBAP Length Unit: Inch

Speed Detector	Local Detector	One/Two Detector	Vehicle Length	Trap Length	Enable Log
1	0	1	0	0	No
2	0	1	0	0	No
3	0	1	0	0	No
4	0	1	0	0	No
5	0	1	0	0	No
6	0	1	0	0	No
7	0	1	0	0	No
8	0	1	0	0	No
9	0	1	0	0	No
10	0	1	0	0	No
11	0	1	0	0	No
12	0	1	0	0	No
13	0	1	0	0	No
14	0	1	0	0	No
15	0	1	0	0	No
16	0	1	0	0	No

**Vehicle Detector Diagnostics (MM)6-6**

Plan	Detector	Counts	Act	Pres	Multiplier	Failed Time	Failed Call Delay
1	1	0	0	0	1	255	0
1	2	0	0	0	1	255	0
1	3	0	0	0	1	255	0
1	4	0	0	0	1	255	0
1	5	0	0	0	1	255	0
1	6	0	0	0	1	255	0
1	7	0	0	0	1	255	0
1	8	0	0	0	1	255	0
1	9	0	0	0	1	255	0
1	10	0	0	0	1	255	0
1	11	0	0	0	1	255	0
1	12	0	0	0	1	255	0
1	13	0	0	0	1	255	0
1	14	0	0	0	1	255	0
1	15	0	0	0	1	255	0
1	16	0	0	0	1	255	0
1	17	0	0	0	1	255	0
1	18	0	0	0	1	255	0
1	19	0	0	0	1	255	0
1	20	0	0	0	1	255	0
1	21	0	0	0	1	255	0
1	22	0	0	0	1	255	0
1	23	0	0	0	1	255	0
1	24	0	0	0	1	255	0
1	25	0	0	0	1	255	0
1	26	0	0	0	1	255	0
1	27	0	0	0	1	255	0
1	28	0	0	0	1	255	0
1	29	0	0	0	1	255	0

1	30	0	0	0	1	255	0
1	31	0	0	0	1	255	0
1	32	0	0	0	1	255	0
1	33	0	0	0	1	255	0
1	34	0	0	0	1	255	0
1	35	0	0	0	1	255	0
1	36	0	0	0	1	255	0
1	37	0	0	0	1	255	0
1	38	0	0	0	1	255	0
1	39	0	0	0	1	255	0
1	40	0	0	0	1	255	0
1	41	0	0	0	1	255	0
1	42	0	0	0	1	255	0
1	43	0	0	0	1	255	0
1	44	0	0	0	1	255	0
1	45	0	0	0	1	255	0
1	46	0	0	0	1	255	0
1	47	0	0	0	1	255	0
1	48	0	0	0	1	255	0
1	49	0	0	0	1	255	0
1	50	0	0	0	1	255	0
1	51	0	0	0	1	255	0
1	52	0	0	0	1	255	0
1	53	0	0	0	1	255	0
1	54	0	0	0	1	255	0
1	55	0	0	0	1	255	0
1	56	0	0	0	1	255	0
1	57	0	0	0	1	255	0
1	58	0	0	0	1	255	0
1	59	0	0	0	1	255	0
1	60	0	0	0	1	255	0
1	61	0	0	0	1	255	0
1	62	0	0	0	1	255	0
1	63	0	0	0	1	255	0
1	64	0	0	0	1	255	0

**Pedestrian Detector Diagnostics (MM)6-7**

Plan	Detector	Counts	Act	Pres	Multiplier
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## **Appendix E: Synchro Analysis Worksheets**



Queues

1: Bronte Rd & Bronte Carpool Lot/HWY 407 WB Off-ramp

Existing PM

	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBT
Lane Configurations		↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	40	0	95	5	40	35	1015	1605
Future Volume (vph)	40	0	95	5	40	35	1015	1605
Lane Group Flow (vph)	0	78	51	53	42	36	1057	1729
Turn Type	Perm	NA	Perm	NA	Perm	pm+pt	NA	NA
Protected Phases		4		8		5	2	6
Permitted Phases	4		8		8		2	
Detector Phase	4	4	8	8	8	5	2	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	20.0	20.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	9.0	26.0	26.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0	29.0	95.0	66.0
Total Split (%)	24.6%	24.6%	24.6%	24.6%	24.6%	23.0%	75.4%	52.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	4.0	6.0	6.0
Lead/Lag						Lead		Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	None	Min	Min
v/c Ratio		0.36	0.32	0.37	0.19	0.14	0.39	0.48
Control Delay		19.2	42.9	45.1	7.5	4.0	4.4	8.2
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		19.2	42.9	45.1	7.5	4.0	4.4	8.2
Queue Length 50th (m)		2.9	9.4	9.8	0.0	1.2	29.6	57.7
Queue Length 95th (m)		16.1	21.6	22.5	6.2	3.8	47.8	82.5
Internal Link Dist (m)		43.9		67.3			215.2	148.4
Turn Bay Length (m)								
Base Capacity (vph)		461	390	354	449	607	3278	3503
Starvation Cap Reductn		0	0	0	0	0	0	0
Spillback Cap Reductn		0	0	0	0	0	0	0
Storage Cap Reductn		0	0	0	0	0	0	0
Reduced v/c Ratio		0.17	0.13	0.15	0.09	0.06	0.32	0.49

Intersection Summary

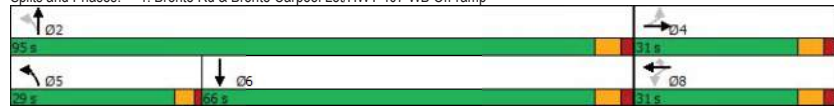
Cycle Length: 126

Actuated Cycle Length: 86.3

Natural Cycle: 50

Control Type: Actuated-Uncoordinated

Spits and Phases: 1: Bronte Rd & Bronte Carpool Lot/HWY 407 WB Off-ramp



EXAM

HCM Signalized Intersection Capacity Analysis

1: Bronte Rd & Bronte Carpool Lot/HWY 407 WB Off-ramp

Existing PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔	↔	↔	↔			↔	↔
Traffic Volume (vph)	40	0	35	95	5	40	35	1015	0	0	1605	55
Future Volume (vph)	40	0	35	95	5	40	35	1015	0	0	1605	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.6	3.7	3.6	3.7	3.7	3.7	3.7	3.7	3.6	3.6	3.7	3.6
Total Lost time (s)		6.0		6.0	6.0	6.0	4.0	6.0			6.0	
Lane Util. Factor		1.00		0.95	0.95	1.00	1.00	0.95			0.91	
Frbp, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00			1.00	
Frt		0.94		1.00	1.00	0.85	1.00	1.00			1.00	
Fit Protected		0.97		0.95	0.96	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		1715		1562	1462	1372	1738	3411			4929	
Fit Permitted		0.80		0.80	0.78	1.00	0.10	1.00			1.00	
Satd. Flow (perm)		1411		1319	1197	1372	185	3411			4929	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	42	0	36	99	5	42	36	1057	0	0	1672	57
RTOR Reduction (vph)	0	55	0	0	0	38	0	0	0	0	2	0
Lane Group Flow (vph)	0	23	0	51	53	4	36	1057	0	0	1727	0
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	5%	11%	100%	19%	5%	7%	0%	0%	6%	0%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA			NA	
Protected Phases		4		8		5	2				6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		8.7		8.7	8.7	8.7	68.8	68.8			61.2	
Effective Green, g (s)		8.7		8.7	8.7	8.7	68.8	68.8			61.2	
Actuated g/C Ratio		0.10		0.10	0.10	0.10	0.77	0.77			0.68	
Clearance Time (s)		6.0		6.0	6.0	6.0	4.0	6.0			6.0	
Vehicle Extension (s)		3.0		4.0	4.0	4.0	2.5	7.0			7.0	
Lane Grp Cap (vph)		137		128	116	133	204	2622			3370	
v/s Ratio Prot							0.01	c0.31			c0.35	
v/s Ratio Perm		0.02		0.04	c0.04	0.00	0.13					
v/c Ratio		0.17		0.40	0.46	0.03	0.18	0.40			0.51	
Uniform Delay, d1		37.1		37.9	38.2	36.6	3.6	3.5			6.9	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2		0.6		2.8	3.9	0.1	0.3	0.4			0.4	
Delay (s)		37.7		40.7	42.0	36.7	3.9	3.8			7.3	
Level of Service		D		D	D	D	A	A			A	
Approach Delay (s)		37.7		40.0			3.8				7.3	
Approach LOS		D		D			A				A	

Intersection Summary

HCM 2000 Control Delay: 8.4

HCM 2000 Volume to Capacity ratio: 0.51

Actuated Cycle Length (s): 89.5

Intersection Capacity Utilization: 53.3%

Analysis Period (min): 15

ICU Level of Service: A

Sum of lost time (s): 16.0

ICU Level of Service: A

Sum of lost time (s): 16.0

ICU Level of Service: A

Sum of lost time (s): 16.0

ICU Level of Service: A

Sum of lost time (s): 16.0

ICU Level of Service: A

Sum of lost time (s): 16.0

ICU Level of Service: A

Sum of lost time (s): 16.0

ICU Level of Service: A

Sum of lost time (s): 16.0

ICU Level of Service: A

Sum of lost time (s): 16.0

ICU Level of Service: A

Sum of lost time (s): 16.0

ICU Level of Service: A

Sum of lost time (s): 16.0

EXAM

Queues

2: Bronte Rd & HWY 407 EB Off-ramp

Existing PM

Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	150	145	930	1645
Future Volume (vph)	150	145	930	1645
Lane Group Flow (vph)	155	149	959	1696
Turn Type	Prot	Prot	NA	NA
Protected Phases	1	1	2	2
Permitted Phases				
Detector Phase	1	1	2	2
Switch Phase				
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	9.0	9.0	26.0	26.0
Total Split (s)	39.0	39.0	61.0	61.0
Total Split (%)	39.0%	39.0%	61.0%	61.0%
Yellow Time (s)	3.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?				
Recall Mode	None	None	Min	Min
v/c Ratio	0.28	0.51	0.28	0.71
Control Delay	29.1	32.3	5.1	10.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	29.1	32.3	5.1	10.0
Queue Length 50th (m)	11.0	19.0	17.0	69.5
Queue Length 95th (m)	19.1	36.5	29.3	122.5
Internal Link Dist (m)	92.1		37.8	134.8
Turn Bay Length (m)				
Base Capacity (vph)	1416	719	3452	2379
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.11	0.21	0.28	0.71

Intersection Summary

Cycle Length: 100  
 Actuated Cycle Length: 79  
 Natural Cycle: 55  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Bronte Rd & HWY 407 EB Off-ramp



HCM Signalized Intersection Capacity Analysis

2: Bronte Rd & HWY 407 EB Off-ramp

Existing PM

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	150	145	0	930	1645	0
Future Volume (vph)	150	145	0	930	1645	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.6	3.7	3.7	3.6
Total Lost time (s)	4.0	4.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Fit Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3190	1601		4948	3411	
Fit Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3190	1601		4948	3411	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	155	149	0	959	1696	0
RTOR Reduction (vph)	0	13	0	0	0	0
Lane Group Flow (vph)	155	136	0	959	1696	0
Confl. Bikes (#/hr)						1
Heavy Vehicles (%)	11%	2%	0%	6%	7%	0%
Turn Type	Prot	Prot		NA	NA	
Protected Phases	1	1		2	2	
Permitted Phases						
Actuated Green, G (s)	13.8	13.8		55.1	55.1	
Effective Green, g (s)	13.8	13.8		55.1	55.1	
Actuated g/C Ratio	0.17	0.17		0.70	0.70	
Clearance Time (s)	4.0	4.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		7.0	7.0	
Lane Grp Cap (vph)	557	280		3455	2382	
v/s Ratio Prot	0.05	c0.08		0.19	c0.50	
v/s Ratio Perm						
v/c Ratio	0.28	0.48		0.28	0.71	
Uniform Delay, d1	28.2	29.3		4.5	7.1	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	2.8		0.2	1.7	
Delay (s)	28.8	32.1		4.6	8.8	
Level of Service	C	C		A	A	
Approach Delay (s)	30.4			4.6	8.8	
Approach LOS	C			A	A	

Intersection Summary

HCM 2000 Control Delay: 9.7, HCM 2000 Level of Service: A  
 HCM 2000 Volume to Capacity ratio: 0.67  
 Actuated Cycle Length (s): 78.9, Sum of lost time (s): 10.0  
 Intersection Capacity Utilization: 62.8%, ICU Level of Service: B  
 Analysis Period (min): 15

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
3: Bronte Rd

Existing PM

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T		T	T
Traffic Volume (veh/h)	0	0	1160	0	0	1790
Future Volume (Veh/h)	0	0	1160	0	0	1790
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	0	1196	0	0	1845
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (m)	245					
pX, platoon unblocked	0.83	0.83			0.83	
vC, conflicting volume	1811	598			1196	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1575	122			839	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	86	762			672	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>NB 2</b>	<b>SB 1</b>	<b>SB 2</b>	<b>SB 3</b>
Volume Total	0	797	399	369	738	738
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
sSH	1700	1700	1700	672	1700	1700
Volume to Capacity	0.00	0.47	0.23	0.00	0.43	0.43
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0	0.0		0.0		
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			37.9%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
4: Bronte Rd & Old Bronte Rd

Existing PM

Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	W		T	T	T	T	
Traffic Volume (veh/h)	5	0	1160	0	0	1790	
Future Volume (Veh/h)	5	0	1160	0	0	1790	
Sign Control	Stop		Free			Free	
Grade	0%		0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	
Hourly flow rate (vph)	5	0	1184	0	0	1827	
<b>Pedestrians</b>							
Lane Width (m)							
Walking Speed (m/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None			None			
Median storage (veh)							
Upstream signal (m)	148						
pX, platoon unblocked	0.83	0.83			0.83		
vC, conflicting volume	2098	592			1184		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	1918	113			822		
tC, single (s)	8.1	6.9			4.1		
tC, 2 stage (s)							
tF (s)	4.2	3.3			2.2		
p0 queue free %	79	100			100		
cM capacity (veh/h)	24	772			680		
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>NB 2</b>	<b>NB 3</b>	<b>SB 1</b>	<b>SB 2</b>	<b>SB 3</b>
Volume Total	5	592	592	0	0	914	914
Volume Left	5	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	0
sSH	24	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.21	0.35	0.35	0.00	0.00	0.54	0.54
Queue Length 95th (m)	5.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	193.3	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	F						
Approach Delay (s)	193.3	0.0			0.0		
Approach LOS	F						
<b>Intersection Summary</b>							
Average Delay			0.3				
Intersection Capacity Utilization			59.5%	ICU Level of Service	B		
Analysis Period (min)			15				

Queues

5: Bronte Rd & William Halton Pkwy

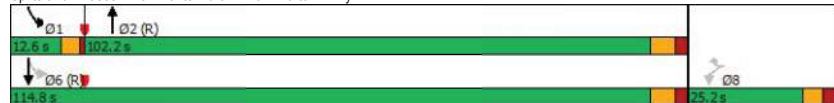
Existing PM

	↙	↖	↑	↘	↓
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↔↔	↔	↕	↔↔	↕↕
Traffic Volume (vph)	5	130	1030	300	1495
Future Volume (vph)	5	130	1030	300	1495
Lane Group Flow (vph)	5	135	1104	313	1557
Turn Type	Perm	Perm	NA	pm+pt	NA
Protected Phases			2	1	6
Permitted Phases	8	8		6	
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	20.0	7.0	20.0
Minimum Split (s)	15.8	15.8	40.4	11.0	26.4
Total Split (s)	25.2	25.2	102.2	12.6	114.8
Total Split (%)	18.0%	18.0%	73.0%	9.0%	82.0%
Yellow Time (s)	3.3	3.3	4.2	3.0	4.2
All-Red Time (s)	2.5	2.5	2.2	1.0	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	6.4	4.0	6.4
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Recall Mode	None	None	C-Min	None	C-Min
v/c Ratio	0.02	0.55	0.50	0.57	0.55
Control Delay	59.4	18.4	23.2	7.9	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	59.4	18.4	23.2	7.9	4.3
Queue Length 50th (m)	0.7	0.0	112.8	11.7	54.7
Queue Length 95th (m)	3.0	20.9	187.2	31.2	75.1
Internal Link Dist (m)	45.6		415.0		124.5
Turn Bay Length (m)				50.0	
Base Capacity (vph)	479	337	2390	549	2831
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.01	0.40	0.46	0.57	0.55

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 100.8 (72%), Referenced to phase 2:NBT and 6:SBTL, Start of Green  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated

Splits and Phases: 5: Bronte Rd & William Halton Pkwy



EXAM

HCM Signalized Intersection Capacity Analysis

5: Bronte Rd & William Halton Pkwy

Existing PM

	↙	↖	↑	↘	↓	
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↔	↕	↔	↔↔	↕↕
Traffic Volume (vph)	5	130	1030	30	300	1495
Future Volume (vph)	5	130	1030	30	300	1495
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.7	3.6	3.5	3.7
Total Lost time (s)	5.8	5.8	6.4		4.0	6.4
Lane Util. Factor	0.97	1.00	0.95		1.00	0.95
Frt	1.00	0.85	1.00		1.00	1.00
Fit Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3463	1597	3466		1767	3380
Fit Permitted	0.95	1.00	1.00		0.20	1.00
Satd. Flow (perm)	3463	1597	3466		371	3380
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	5	135	1073	31	312	1557
RTOR Reduction (vph)	0	125	2	0	0	0
Lane Group Flow (vph)	5	10	1102	0	313	1557
Heavy Vehicles (%)	0%	0%	5%	0%	1%	8%
Turn Type	Perm	Perm	NA		pm+pt	NA
Protected Phases			2		1	6
Permitted Phases	8	8			6	
Actuated Green, G (s)	10.5	10.5	89.9		117.3	117.3
Effective Green, g (s)	10.5	10.5	89.9		117.3	117.3
Actuated g/C Ratio	0.08	0.08	0.64		0.84	0.84
Clearance Time (s)	5.8	5.8	6.4		4.0	6.4
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	259	119	2225		544	2831
v/s Ratio Prot			0.32		0.10	c0.46
v/s Ratio Perm	0.00	c0.01			c0.39	
v/c Ratio	0.02	0.09	0.50		0.58	0.55
Uniform Delay, d1	60.0	60.3	13.1		7.0	3.4
Progression Factor	1.00	1.00	1.61		1.00	1.00
Incremental Delay, d2	0.0	0.3	0.6		1.5	0.8
Delay (s)	60.0	60.6	21.8		8.4	4.2
Level of Service	E	E	C		A	A
Approach Delay (s)	60.6		21.8			4.9
Approach LOS	E		C			A

Intersection Summary

HCM 2000 Control Delay: 13.4, HCM 2000 Level of Service: B  
 HCM 2000 Volume to Capacity ratio: 0.55  
 Actuated Cycle Length (s): 140.0, Sum of lost time (s): 16.2  
 Intersection Capacity Utilization: 67.9%, ICU Level of Service: C  
 Analysis Period (min): 15  
 c Critical Lane Group

EXAM

Queues

6: Bronte Rd & Dundas St W

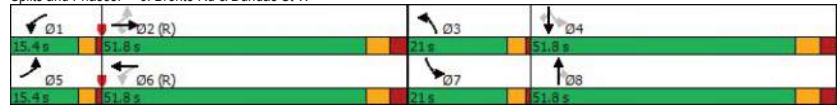
Existing PM

	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔↔	↔	↔	↔↔↔	↔	↔↔	↔	↔	↔↔	↔
Traffic Volume (vph)	235	1195	295	140	615	155	635	210	275	1065	160
Future Volume (vph)	235	1195	295	140	615	155	635	210	275	1065	160
Lane Group Flow (vph)	242	1232	304	144	830	160	655	216	284	1098	165
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6	3	8		7	4	
Permitted Phases	2		2	6				8	4		4
Detector Phase	5	2	2	1	6	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	10.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	11.0	49.0	49.0	11.0	49.0	14.0	51.0	51.0	11.0	51.0	51.0
Total Split (s)	15.4	51.8	51.8	15.4	51.8	21.0	51.8	51.8	21.0	51.8	51.8
Total Split (%)	11.0%	37.0%	37.0%	11.0%	37.0%	15.0%	37.0%	37.0%	15.0%	37.0%	37.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	3.0	3.0	1.0	3.0	1.0	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	7.0	4.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?											
Recall Mode	None	C-Min	C-Min	None	C-Min	None	None	None	None	None	None
v/c Ratio	0.87	0.76	0.45	0.83	0.54	0.55	0.59	0.36	0.78	0.92	0.28
Control Delay	64.7	53.7	17.4	65.5	37.7	79.4	31.9	6.4	45.1	66.0	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.7	53.7	17.4	65.5	37.7	79.4	31.9	6.4	45.1	66.0	19.8
Queue Length 50th (m)	57.5	139.6	31.1	25.3	67.6	17.6	85.1	21.7	65.3	179.7	15.8
Queue Length 95th (m)	#117.0	156.1	68.3	#63.9	82.2	35.8	97.0	7.2	#87.8	#222.3	36.0
Internal Link Dist (m)		215.2		110.9		356.6		415.0			
Turn Bay Length (m)	100.0		80.0	125.0	170.0		85.0	175.0		85.0	
Base Capacity (vph)	277	1617	674	175	1542	400	1107	602	370	1194	589
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.76	0.45	0.82	0.54	0.40	0.59	0.36	0.77	0.92	0.28

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 49 (35%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green  
 Natural Cycle: 125  
 Control Type: Actuated-Coordinated  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Spits and Phases: 6: Bronte Rd & Dundas St W



EXAM

Synchro 11 Report  
Page 9

HCM Signalized Intersection Capacity Analysis

6: Bronte Rd & Dundas St W

Existing PM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔↔	↔	↔	↔↔↔	↔	↔↔	↔	↔	↔	↔↔	↔
Traffic Volume (vph)	235	1195	295	140	615	190	155	635	210	275	1065	160
Future Volume (vph)	235	1195	295	140	615	190	155	635	210	275	1065	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.6	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	4.0	7.0	7.0	4.0	7.0		4.0	7.0	7.0	4.0	7.0	7.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.97	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flob, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Fit Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1668	5043	1509	1513	4692		3298	3411	1405	1716	3380	1439
Fit Permitted	0.24	1.00	1.00	0.10	1.00		0.95	1.00	1.00	0.25	1.00	1.00
Satd. Flow (perm)	414	5043	1509	154	4692		3298	3411	1405	443	3380	1439
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	242	1232	304	144	634	196	160	655	216	284	1098	165
RTOR Reduction (vph)	0	0	190	0	40	0	0	146	0	0	81	0
Lane Group Flow (vph)	242	1232	114	144	790	0	160	655	70	284	1098	84
Confl. Peds. (#/hr)			5	5					3	3		
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	7%	4%	4%	18%	9%	4%	5%	7%	12%	4%	8%	11%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6					8	4		4
Actuated Green, G (s)	56.3	44.9	44.9	55.9	44.7		12.4	45.5	45.5	65.9	49.5	49.5
Effective Green, g (s)	56.3	44.9	44.9	55.9	44.7		12.4	45.5	45.5	65.9	49.5	49.5
Actuated g/C Ratio	0.40	0.32	0.32	0.40	0.32		0.09	0.32	0.32	0.47	0.35	0.35
Clearance Time (s)	4.0	7.0	7.0	4.0	7.0		4.0	7.0	7.0	4.0	7.0	7.0
Vehicle Extension (s)	3.0	6.0	6.0	3.0	6.0		3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	268	1617	483	170	1498		292	1108	456	357	1195	508
v/s Ratio Prot	c0.07	0.24		0.07	0.17		0.05	0.19		c0.09	c0.32	
v/s Ratio Perm	c0.29		0.08	0.27					0.05	0.28		0.06
v/c Ratio	0.90	0.76	0.24	0.85	0.53		0.55	0.59	0.15	0.80	0.92	0.17
Uniform Delay, d1	33.3	42.7	34.9	31.7	39.0		61.1	39.5	33.6	25.7	43.3	31.1
Progression Factor	1.44	1.19	2.92	1.00	1.00		1.19	0.74	1.13	1.41	1.27	1.93
Incremental Delay, d2	25.9	2.7	0.9	30.3	1.3		1.9	1.2	0.3	10.0	10.2	0.3
Delay (s)	73.9	53.4	102.8	61.9	40.3		74.9	30.5	38.1	46.1	65.4	60.3
Level of Service	E	D	F	E	D		E	C	D	D	E	E
Approach Delay (s)		64.6			43.5			39.0			61.3	
Approach LOS		E			D			D			E	

Intersection Summary	
HCM 2000 Control Delay	54.9 HCM 2000 Level of Service D
HCM 2000 Volume to Capacity ratio	0.92
Actuated Cycle Length (s)	140.0 Sum of lost time (s) 22.0
Intersection Capacity Utilization	98.9% ICU Level of Service F
Analysis Period (min)	15
c Critical Lane Group	

EXAM

Synchro 11 Report  
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Queues

7: Bronte Rd & Highvalley Rd/Pine Glen Rd

Existing PM

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↖	↗	↖	↖	↗	↖
Traffic Volume (vph)	15	15	140	15	30	985	95	50	1440	10
Future Volume (vph)	15	15	140	15	30	985	95	50	1440	10
Lane Group Flow (vph)	16	69	147	16	32	1037	100	53	1516	11
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8		4	1	6		5	2	
Permitted Phases	8		4		6		6	2		2
Detector Phase	8	8	4	4	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	6.0	15.0	15.0	6.0	15.0	15.0
Minimum Split (s)	39.4	39.4	39.1	39.1	10.0	32.7	10.0	32.7	32.7	32.7
Total Split (s)	54.6	54.6	54.6	54.6	12.6	72.8	12.6	72.8	72.8	72.8
Total Split (%)	39.0%	39.0%	39.0%	39.0%	9.0%	52.0%	9.0%	52.0%	52.0%	52.0%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.0	3.7	3.0	3.7	3.7	3.7
All-Red Time (s)	3.7	3.7	3.4	3.4	1.0	2.0	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.4	5.4	5.1	5.1	2.0	3.7	2.0	3.7	3.7	3.7
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.06	0.20	0.64	0.05	0.13	0.44	0.09	0.18	0.63	0.01
Control Delay	44.5	17.0	64.5	43.9	6.2	11.7	2.2	9.1	22.7	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.5	17.0	64.5	43.9	6.2	11.7	2.2	9.1	22.7	0.2
Queue Length 50th (m)	3.9	3.9	40.1	3.9	1.9	68.1	0.0	4.8	127.2	0.0
Queue Length 95th (m)	10.1	16.5	60.0	10.0	5.8	104.2	7.6	m6.7	m141.0	m0.0
Internal Link Dist (m)		145.4		105.4		203.1			356.6	
Turn Bay Length (m)	25.0		40.0		100.0		90.0	90.0		30.0
Base Capacity (vph)	490	623	447	640	281	2375	1096	313	2418	1109
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.11	0.33	0.03	0.11	0.44	0.09	0.17	0.63	0.01

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 105 (75%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green  
 Natural Cycle: 95  
 Control Type: Actuated-Coordinated  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Bronte Rd & Highvalley Rd/Pine Glen Rd



EXAM

HCM Signalized Intersection Capacity Analysis

7: Bronte Rd & Highvalley Rd/Pine Glen Rd

Existing PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↖	↗	↖
Traffic Volume (vph)	15	15	50	140	15	0	30	985	95	50	1440	10
Future Volume (vph)	15	15	50	140	15	0	30	985	95	50	1440	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.6	3.5	3.7	3.6	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	5.4	5.4		5.1	5.1		2.0	3.7	3.7	2.0	3.7	3.7
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.97	1.00	1.00	0.96
Fllb, ped/bikes	0.99	1.00		0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.88		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Fit Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1776	1676		1690	1812		1733	3444	1545	1302	3411	1537
Fit Permitted	0.75	1.00		0.71	1.00		0.12	1.00	1.00	0.23	1.00	1.00
Satd. Flow (perm)	1396	1676		1267	1812		220	3444	1545	311	3411	1537
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	16	16	53	147	16	0	32	1037	100	53	1516	11
RTOR Reduction (vph)	0	43	0	0	0	0	0	0	32	0	0	3
Lane Group Flow (vph)	16	26	0	147	16	0	32	1037	68	53	1516	8
Confl. Peds. (#/hr)	4		5	5		4	7		5	5		7
Confl. Bikes (#/hr)							1					
Heavy Vehicles (%)	0%	0%	0%	5%	6%	14%	3%	6%	0%	37%	7%	0%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6		6	2		2
Actuated Green, G (s)	23.3	23.3		23.6	23.6		97.7	93.7	93.7	101.5	95.6	95.6
Effective Green, g (s)	25.3	25.3		25.6	25.6		101.7	95.7	95.7	105.5	97.6	97.6
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.73	0.68	0.68	0.75	0.70	0.70
Clearance Time (s)	7.4	7.4		7.1	7.1		4.0	5.7	5.7	4.0	5.7	5.7
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	252	302		231	331		224	2354	1056	290	2377	1071
v/s Ratio Prot		0.02			0.01		0.01	0.30		c0.01	c0.44	
v/s Ratio Perm	0.01			c0.12			0.10		0.04	0.13		0.00
v/c Ratio	0.06	0.08		0.64	0.05		0.14	0.44	0.06	0.18	0.64	0.01
Uniform Delay, d1	47.5	47.7		52.9	47.2		8.5	10.0	7.3	5.7	11.6	6.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.64	1.72	1.00
Incremental Delay, d2	0.2	0.3		7.8	0.1		0.3	0.6	0.1	0.2	0.8	0.0
Delay (s)	47.8	48.0		60.7	47.3		8.8	10.6	7.5	9.5	20.7	6.5
Level of Service	D	D		E	D		A	B	A	A	C	A
Approach Delay (s)		47.9			59.3			10.3			20.2	
Approach LOS		D			E			B			C	

Intersection Summary

HCM 2000 Control Delay: 19.3, HCM 2000 Level of Service: B  
 HCM 2000 Volume to Capacity ratio: 0.62  
 Actuated Cycle Length (s): 140.0, Sum of lost time (s): 11.1  
 Intersection Capacity Utilization: 65.1%, ICU Level of Service: C  
 Analysis Period (min): 15  
 c Critical Lane Group

EXAM



Queues

10: Valleyridge Dr & Dundas St W

Existing PM

	→	↖	←	↗	↘
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↖	↑↑↑	↖	↘
Traffic Volume (vph)	1655	40	890	75	70
Future Volume (vph)	1655	40	890	75	70
Lane Group Flow (vph)	1907	44	978	82	77
Turn Type	NA	pm+pt	NA	Perm	Perm
Protected Phases	2	1	6		
Permitted Phases		6		8	8
Detector Phase	2	1	6	8	8
Switch Phase					
Minimum Initial (s)	20.0	7.0	20.0	10.0	10.0
Minimum Split (s)	37.7	11.0	37.7	16.7	16.7
Total Split (s)	40.6	11.2	51.8	18.2	18.2
Total Split (%)	58.0%	16.0%	74.0%	26.0%	26.0%
Yellow Time (s)	3.7	3.0	3.7	3.7	3.7
All-Red Time (s)	3.0	1.0	3.0	3.0	3.0
Lost Time Adjust (s)	3.0	0.0	3.0	0.0	0.0
Total Lost Time (s)	9.7	4.0	9.7	6.7	6.7
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?					
Recall Mode	C-Min	None	C-Min	None	None
v/c Ratio	0.64	0.16	0.30	0.32	0.26
Control Delay	14.3	5.5	8.2	30.2	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	5.5	8.2	30.2	9.7
Queue Length 50th (m)	78.2	3.5	61.2	10.3	0.0
Queue Length 95th (m)	102.9	m6.7	71.3	22.0	10.6
Internal Link Dist (m)	169.8		215.2	84.7	
Turn Bay Length (m)		35.0		25.0	
Base Capacity (vph)	3002	274	3308	290	326
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.64	0.16	0.30	0.28	0.24

Intersection Summary

Cycle Length: 70  
 Actuated Cycle Length: 70  
 Offset: 18.2 (26%), Referenced to phase 2:EBT and 6:WBTL, Start of Green  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Valleyridge Dr & Dundas St W



EXAM

HCM Signalized Intersection Capacity Analysis

10: Valleyridge Dr & Dundas St W

Existing PM

	→	↖	↗	←	↘	↙
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↖	↑↑↑	↖	↘
Traffic Volume (vph)	1655	80	40	890	75	70
Future Volume (vph)	1655	80	40	890	75	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.6	3.5	3.7	3.5	3.7
Total Lost time (s)	9.7		4.0	9.7	6.7	6.7
Lane Util. Factor	0.91		1.00	0.91	1.00	1.00
Frbp, ped/bikes	1.00		1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Fit Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4998		1668	4768	1767	1593
Fit Permitted	1.00		0.09	1.00	0.95	1.00
Satd. Flow (perm)	4998		159	4768	1767	1593
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1819	88	44	978	82	77
RTOR Reduction (vph)	6	0	0	0	0	68
Lane Group Flow (vph)	1901	0	44	978	82	9
Confl. Peds. (#/hr)		5	5			1
Heavy Vehicles (%)	4%	6%	7%	10%	1%	1%
Turn Type	NA		pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases			6		8	8
Actuated Green, G (s)	40.1		48.3	48.3	8.3	8.3
Effective Green, g (s)	37.1		48.3	45.3	8.3	8.3
Actuated g/C Ratio	0.53		0.69	0.65	0.12	0.12
Clearance Time (s)	6.7		4.0	6.7	6.7	6.7
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2648		200	3085	209	188
v/s Ratio Prot	c0.38		0.01	c0.21		
v/s Ratio Perm			0.14		c0.05	0.01
v/c Ratio	0.72		0.22	0.32	0.39	0.05
Uniform Delay, d1	12.5		5.5	5.5	28.5	27.3
Progression Factor	1.00		1.28	1.44	1.00	1.00
Incremental Delay, d2	1.7		0.5	0.2	1.2	0.1
Delay (s)	14.2		7.5	8.1	29.7	27.5
Level of Service	B		A	A	C	C
Approach Delay (s)	14.2			8.1	28.6	
Approach LOS	B			A	C	

Intersection Summary

HCM 2000 Control Delay: 12.9 HCM 2000 Level of Service: B  
 HCM 2000 Volume to Capacity ratio: 0.64  
 Actuated Cycle Length (s): 70.0 Sum of lost time (s): 20.4  
 Intersection Capacity Utilization: 55.8% ICU Level of Service: B  
 Analysis Period (min): 15  
 c Critical Lane Group

EXAM

HCM Unsignalized Intersection Capacity Analysis  
15: Old Bronte Rd & William Halton Pkwy

Existing PM

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑↑↑	↑↑↑		↑
Traffic Volume (veh/h)	325	5	0	135	0	5
Future Volume (Veh/h)	325	5	0	135	0	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	365	6	0	152	0	6
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	69					
pX, platoon unblocked						
vC, conflicting volume			371		419	186
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			371		419	186
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			1199		568	831
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	243	128	51	51	51	6
Volume Left	0	0	0	0	0	0
Volume Right	0	6	0	0	0	6
sSH	1700	1700	1700	1700	1700	831
Volume to Capacity	0.14	0.08	0.03	0.03	0.03	0.01
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.2
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.4
Lane LOS						A
Approach Delay (s)	0.0		0.0			9.4
Approach LOS						A
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			19.1%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
16: Old Bronte Rd & Dundas St W

Existing PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑				↑			↑
Traffic Volume (veh/h)	0	1605	75	0	940	5	0	0	60	0	0	5
Future Volume (Veh/h)	0	1605	75	0	940	5	0	0	60	0	0	5
Sign Control		Free			Free			Stop				Stop
Grade		0%			0%			0%				0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	1689	79	0	989	5	0	0	63	0	0	5
Pedestrians									5			
Lane Width (m)									3.7			
Walking Speed (m/s)									1.2			
Percent Blockage									0			
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)		135										
pX, platoon unblocked				0.78			0.78	0.78	0.78	0.78	0.78	0.78
vC, conflicting volume	994			1773			2068	2728	608	1618	2764	332
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	994			1015			1393	2235	0	817	2282	332
tC, single (s)	4.1			4.1			7.5	6.5	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	92	100	100	99
cM capacity (veh/h)	704			538			80	34	837	196	31	669
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1				
Volume Total	676	676	417	396	396	203	63	5				
Volume Left	0	0	0	0	0	0	0	0				
Volume Right	0	0	79	0	0	5	63	5				
sSH	1700	1700	1700	1700	1700	1700	837	669				
Volume to Capacity	0.40	0.40	0.25	0.23	0.23	0.12	0.08	0.01				
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.2				
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	9.6	10.4				
Lane LOS							A	B				
Approach Delay (s)	0.0			0.0			9.6	10.4				
Approach LOS							A	B				
Intersection Summary												
Average Delay				0.2								
Intersection Capacity Utilization			43.1%		ICU Level of Service				A			
Analysis Period (min)			15									

Queues

1: Bronte Rd & Bronte Carpool Lot/HWY 407 WB Off-ramp

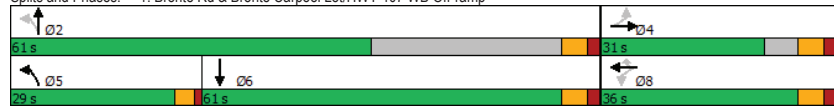
Bronte  
Existing AM

	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBT
Lane Configurations		↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	35	0	185	0	115	25	1535	880
Future Volume (vph)	35	0	185	0	115	25	1535	880
Lane Group Flow (vph)	0	63	97	98	121	26	1616	963
Turn Type	Perm	NA	Perm	NA	Perm	pm+pt	NA	NA
Protected Phases		4		8		5	2	6
Permitted Phases	4		8		8		2	
Detector Phase	4	4	8	8	8	5	2	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	20.0	20.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	9.0	26.0	26.0
Total Split (s)	31.0	31.0	36.0	36.0	36.0	29.0	61.0	61.0
Total Split (%)	24.6%	24.6%	28.6%	28.6%	28.6%	23.0%	48.4%	48.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	4.0	6.0	6.0
Lead/Lag						Lead		Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	None	Min	Min
v/c Ratio		0.25	0.50	0.51	0.40	0.07	0.67	0.30
Control Delay		11.3	39.8	40.0	20.4	4.3	9.3	7.7
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		11.3	39.8	40.0	20.4	4.3	9.3	7.7
Queue Length 50th (m)		0.3	15.0	15.1	8.5	1.0	64.0	17.5
Queue Length 95th (m)		10.4	30.6	30.8	23.2	3.6	107.0	41.6
Internal Link Dist (m)		43.9		67.3			215.2	148.4
Turn Bay Length (m)								
Base Capacity (vph)		526	478	478	654	678	3473	3513
Starvation Cap Reductn		0	0	0	0	0	0	0
Spillback Cap Reductn		0	0	0	0	0	0	0
Storage Cap Reductn		0	0	0	0	0	0	0
Reduced v/c Ratio		0.12	0.20	0.21	0.19	0.04	0.47	0.27

Intersection Summary

Cycle Length: 126  
Actuated Cycle Length: 78.2  
Natural Cycle: 50  
Control Type: Actuated-Uncoordinated

Spills and Phases: 1: Bronte Rd & Bronte Carpool Lot/HWY 407 WB Off-ramp



HCM Signalized Intersection Capacity Analysis

1: Bronte Rd & Bronte Carpool Lot/HWY 407 WB Off-ramp

Bronte  
Existing AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔	↔	↔	↔			↔	↔
Traffic Volume (vph)	35	0	25	185	0	115	25	1535	0	0	880	35
Future Volume (vph)	35	0	25	185	0	115	25	1535	0	0	880	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.6	3.7	3.6	3.7	3.7	3.7	3.7	3.7	3.6	3.6	3.7	3.6
Total Lost time (s)		6.0		6.0	6.0	6.0	4.0	6.0			6.0	
Lane Util. Factor		1.00		0.95	0.95	1.00	1.00	0.95			0.91	
Frbp, ped/bikes		0.99		1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00			1.00	
Frt		0.94		1.00	1.00	0.85	1.00	1.00			0.99	
Fit Protected		0.97		0.95	0.95	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		1620		1648	1648	1601	1587	3476			4972	
Fit Permitted		0.76		0.72	0.72	1.00	0.26	1.00			1.00	
Satd. Flow (perm)		1269		1242	1242	1601	428	3476			4972	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	37	0	26	195	0	121	26	1616	0	0	926	37
RTOR Reduction (vph)	0	52	0	0	0	52	0	0	0	0	2	0
Lane Group Flow (vph)	0	11	0	97	98	69	26	1616	0	0	961	0
Confl. Peds. (#/hr)				1	1							
Heavy Vehicles (%)		2%	0%	17%	5%	50%	2%	15%	5%	0%	0%	5%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA			NA	
Protected Phases		4		8	8	5	2				6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		12.2		12.2	12.2	12.2	56.4	56.4			50.1	
Effective Green, g (s)		12.2		12.2	12.2	12.2	56.4	56.4			50.1	
Actuated g/C Ratio		0.15		0.15	0.15	0.15	0.70	0.70			0.62	
Clearance Time (s)		6.0		6.0	6.0	6.0	4.0	6.0			6.0	
Vehicle Extension (s)		3.0		4.0	4.0	4.0	2.5	7.0			7.0	
Lane Grp Cap (vph)		192		187	187	242	332	2432			3090	
v/s Ratio Prot							0.00	0.46			0.19	
v/s Ratio Perm		0.01		0.08	0.08	0.04	0.05					
v/c Ratio		0.06		0.52	0.52	0.29	0.08	0.66			0.31	
Uniform Delay, d1		29.3		31.5	31.5	30.3	3.9	6.8			7.2	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2		0.1		3.2	3.4	0.9	0.1	1.3			0.2	
Delay (s)		29.4		34.7	34.9	31.2	4.0	8.1			7.4	
Level of Service		C		C	C	C	A	A			A	
Approach Delay (s)		29.4				33.4		8.0			7.4	
Approach LOS		C				C		A			A	

Intersection Summary

HCM 2000 Control Delay: 10.9  
HCM 2000 Level of Service: B  
HCM 2000 Volume to Capacity ratio: 0.68  
Actuated Cycle Length (s): 80.6  
Sum of lost time (s): 16.0  
Intersection Capacity Utilization: 68.7%  
ICU Level of Service: C  
Analysis Period (min): 15

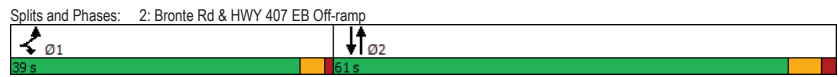
c Critical Lane Group

Queues  
2: Bronte Rd & HWY 407 EB Off-ramp

Bronte  
Existing AM

	EBL	EBR	NBT	SBT
Lane Configurations	↔↔	↔	↑↑↑	↑↑
Traffic Volume (vph)	105	45	1625	1030
Future Volume (vph)	105	45	1625	1030
Lane Group Flow (vph)	111	47	1711	1084
Turn Type	Prot	Prot	NA	NA
Protected Phases	1	1	2	2
Permitted Phases				
Detector Phase	1	1	2	2
Switch Phase				
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	9.0	9.0	26.0	26.0
Total Split (s)	39.0	39.0	61.0	61.0
Total Split (%)	39.0%	39.0%	61.0%	61.0%
Yellow Time (s)	3.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?				
Recall Mode	None	None	Min	Min
v/c Ratio	0.27	0.20	0.43	0.40
Control Delay	30.9	11.7	4.0	4.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	30.9	11.7	4.0	4.1
Queue Length 50th (m)	7.7	0.0	29.3	25.6
Queue Length 95th (m)	15.0	8.9	41.2	38.8
Internal Link Dist (m)	92.1		37.8	134.8
Turn Bay Length (m)				
Base Capacity (vph)	1479	720	3954	2725
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.08	0.07	0.43	0.40

**Intersection Summary**  
 Cycle Length: 100  
 Actuated Cycle Length: 75.5  
 Natural Cycle: 40  
 Control Type: Actuated-Uncoordinated



HCM Signalized Intersection Capacity Analysis  
2: Bronte Rd & HWY 407 EB Off-ramp

Bronte  
Existing AM

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔↔	↔		↑↑↑	↑↑	
Traffic Volume (vph)	105	45	0	1625	1030	0
Future Volume (vph)	105	45	0	1625	1030	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.6	3.7	3.7	3.6
Total Lost time (s)	4.0	4.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		0.91	0.95	
Frt	1.00	0.85		1.00	1.00	
Fit Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3190	1498		5043	3476	
Fit Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3190	1498		5043	3476	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	111	47	0	1711	1084	0
RTOR Reduction (vph)	0	42	0	0	0	0
Lane Group Flow (vph)	111	5	0	1711	1084	0
Heavy Vehicles (%)	11%	9%	0%	4%	5%	0%
Turn Type	Prot	Prot		NA	NA	
Protected Phases	1	1		2	2	
Permitted Phases						
Actuated Green, G (s)	8.3	8.3		58.0	58.0	
Effective Green, g (s)	8.3	8.3		58.0	58.0	
Actuated g/C Ratio	0.11	0.11		0.76	0.76	
Clearance Time (s)	4.0	4.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		7.0	7.0	
Lane Grp Cap (vph)	347	162		3833	2642	
v/s Ratio Prot	c0.03	0.00		c0.34	0.31	
v/s Ratio Perm						
v/c Ratio	0.32	0.03		0.45	0.41	
Uniform Delay, d1	31.4	30.4		3.3	3.2	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.1	0.2		0.3	0.4	
Delay (s)	32.5	30.6		3.6	3.6	
Level of Service	C	C		A	A	
Approach Delay (s)	31.9			3.6	3.6	
Approach LOS	C			A	A	

**Intersection Summary**  
 HCM 2000 Control Delay: 5.1  
 HCM 2000 Volume to Capacity ratio: 0.43  
 Actuated Cycle Length (s): 76.3  
 Intersection Capacity Utilization: 43.9%  
 Analysis Period (min): 15  
 HCM 2000 Level of Service: A  
 Sum of lost time (s): 10.0  
 ICU Level of Service: A  
 Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
3: Bronte Rd

Bronte  
Existing AM

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↕			↕
Traffic Volume (veh/h)	0	0	1790	0	0	1075
Future Volume (Veh/h)	0	0	1790	0	0	1075
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	1925	0	0	1156
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (m)			245			
pX, platoon unblocked	0.64	0.64			0.64	
vC, conflicting volume	2311	964			1926	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1931	0			1333	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	38	702			337	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>NB 2</b>	<b>SB 1</b>	<b>SB 2</b>	<b>SB 3</b>
Volume Total	0	1283	642	231	462	462
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
sSH	1700	1700	1700	337	1700	1700
Volume to Capacity	0.00	0.75	0.38	0.00	0.27	0.27
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0	0.0		0.0		
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			52.8%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
4: Bronte Rd & Old Bronte Rd

Bronte  
Existing AM

Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	↔		↕	↕	↕	↕	
Traffic Volume (veh/h)	5	0	1790	5	0	1075	
Future Volume (Veh/h)	5	0	1790	5	0	1075	
Sign Control	Stop		Free			Free	
Grade	0%		0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	
Hourly flow rate (vph)	5	0	1925	5	0	1156	
Pedestrians							
Lane Width (m)							
Walking Speed (m/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None		None		
Median storage (veh)							
Upstream signal (m)			148				
pX, platoon unblocked	0.65	0.65			0.65		
vC, conflicting volume	2503	962			1930		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	2235	0			1354		
tC, single (s)	6.8	6.9			4.1		
tC, 2 stage (s)							
tF (s)	3.5	3.3			2.2		
p0 queue free %	79	100			100		
cM capacity (veh/h)	24	709			335		
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>NB 2</b>	<b>NB 3</b>	<b>SB 1</b>	<b>SB 2</b>	<b>SB 3</b>
Volume Total	5	962	962	5	0	578	578
Volume Left	5	0	0	0	0	0	0
Volume Right	0	0	0	5	0	0	0
sSH	24	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.21	0.57	0.57	0.00	0.00	0.34	0.34
Queue Length 95th (m)	5.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	190.5	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	F						
Approach Delay (s)	190.5	0.0			0.0		
Approach LOS	F						
<b>Intersection Summary</b>							
Average Delay			0.3				
Intersection Capacity Utilization			59.5%		ICU Level of Service		B
Analysis Period (min)			15				

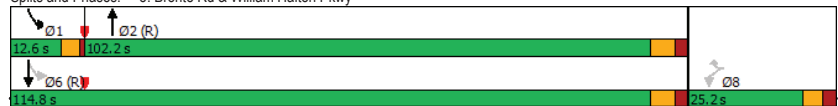
Queues  
5: Bronte Rd & William Halton Pkwy

Bronte  
Existing AM

	↙	↖	↑	↘	↓
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↔↔	↔	↕↕	↔	↕↕
Traffic Volume (vph)	55	325	1470	115	965
Future Volume (vph)	55	325	1470	115	965
Lane Group Flow (vph)	60	353	1603	125	1049
Turn Type	Perm	Perm	NA	pm+pt	NA
Protected Phases			2	1	6
Permitted Phases	8	8			6
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	20.0	7.0	20.0
Minimum Split (s)	15.8	15.8	40.4	11.0	26.4
Total Split (s)	25.2	25.2	102.2	12.6	114.8
Total Split (%)	18.0%	18.0%	73.0%	9.0%	82.0%
Yellow Time (s)	3.3	3.3	4.2	3.0	4.2
All-Red Time (s)	2.5	2.5	2.2	1.0	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	6.4	4.0	6.4
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Recall Mode	None	None	C-Min	None	C-Min
v/c Ratio	0.08	0.78	0.76	0.65	0.44
Control Delay	45.9	44.9	27.8	29.7	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	45.9	44.9	27.8	29.7	10.1
Queue Length 50th (m)	7.0	61.4	225.3	11.0	69.3
Queue Length 95th (m)	15.3	#142.8	m257.1	26.8	54.3
Internal Link Dist (m)	45.6		415.0		124.5
Turn Bay Length (m)				50.0	
Base Capacity (vph)	766	450	2379	198	2666
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.78	0.67	0.63	0.39

**Intersection Summary**  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Bronte Rd & William Halton Pkwy



HCM Signalized Intersection Capacity Analysis  
5: Bronte Rd & William Halton Pkwy

Bronte  
Existing AM

	↙	↖	↑	↘	↓	
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↔	↕↕		↔	↕↕
Traffic Volume (vph)	55	325	1470	5	115	965
Future Volume (vph)	55	325	1470	5	115	965
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.7	3.6	3.5	3.7
Total Lost time (s)	5.8	5.8	6.4		4.0	6.4
Lane Util. Factor	0.97	1.00	0.95		1.00	0.95
Frbp, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Fit Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3463	1566	3475		1750	3444
Fit Permitted	0.95	1.00	1.00		0.07	1.00
Satd. Flow (perm)	3463	1566	3475		136	3444
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	353	1598	5	125	1049
RTOR Reduction (vph)	0	104	0	0	0	0
Lane Group Flow (vph)	60	249	1603	0	125	1049
Confl. Peds. (#/hr)				1	1	
Heavy Vehicles (%)	0%	2%	5%	0%	2%	6%
Turn Type	Perm	Perm	NA		pm+pt	NA
Protected Phases			2		1	6
Permitted Phases	8	8			6	
Actuated Green, G (s)	31.0	31.0	84.4		96.8	96.8
Effective Green, g (s)	31.0	31.0	84.4		96.8	96.8
Actuated g/C Ratio	0.22	0.22	0.60		0.69	0.69
Clearance Time (s)	5.8	5.8	6.4		4.0	6.4
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	766	346	2094		190	2381
v/s Ratio Prot			c0.46		c0.04	0.30
v/s Ratio Perm	0.02	c0.16			0.41	
v/c Ratio	0.08	0.72	0.77		0.66	0.44
Uniform Delay, d1	43.2	50.5	20.5		20.9	9.6
Progression Factor	1.00	1.00	1.31		1.00	1.00
Incremental Delay, d2	0.0	7.2	0.9		8.0	0.6
Delay (s)	43.2	57.7	27.9		28.9	10.2
Level of Service	D	E	C		C	B
Approach Delay (s)	55.6		27.9			12.2
Approach LOS	E		C			B

**Intersection Summary**  
 HCM 2000 Control Delay: 25.7  
 HCM 2000 Level of Service: C  
 HCM 2000 Volume to Capacity ratio: 0.75  
 Actuated Cycle Length (s): 140.0  
 Sum of lost time (s): 16.2  
 Intersection Capacity Utilization: 71.1%  
 ICU Level of Service: C  
 Analysis Period (min): 15  
 c Critical Lane Group

Queues  
6: Bronte Rd & Dundas St W

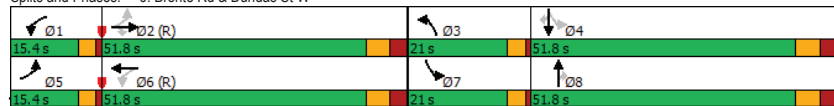
Bronte  
Existing AM

	↖	→	↗	↙	←	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘
Traffic Volume (vph)	215	860	235	150	1215	365	1030	115	215	615	190
Future Volume (vph)	215	860	235	150	1215	365	1030	115	215	615	190
Lane Group Flow (vph)	229	915	250	160	1538	388	1096	122	229	654	202
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6	3	8		7	4	
Permitted Phases	2		2	6				8	4		4
Detector Phase	5	2	2	1	6	3	8	8	7	4	4
Switch Phase											
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	10.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	11.0	49.0	49.0	11.0	49.0	14.0	51.0	51.0	11.0	51.0	51.0
Total Split (s)	15.4	51.8	51.8	15.4	51.8	21.0	51.8	51.8	21.0	51.8	51.8
Total Split (%)	11.0%	37.0%	37.0%	11.0%	37.0%	15.0%	37.0%	37.0%	15.0%	37.0%	37.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	3.0	3.0	1.0	3.0	1.0	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	-2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	1.5	7.0	7.0	4.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?											
Recall Mode	None	C-Min	C-Min	None	C-Min	None	None	None	None	None	None
v/c Ratio	0.99	0.55	0.38	0.61	0.94	0.92	0.96	0.22	0.86	0.58	0.33
Control Delay	101.6	32.7	11.1	34.0	57.9	74.9	79.2	28.5	63.8	55.3	22.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	101.6	32.7	11.1	34.0	57.9	74.9	79.2	28.5	63.8	55.3	22.2
Queue Length 50th (m)	57.1	53.8	18.4	27.8	157.5	58.5	179.5	16.4	54.9	101.6	22.3
Queue Length 95th (m)	#109.8	68.6	32.2	43.6	#189.1	#89.5	#220.8	m40.4	#93.7	106.2	35.6
Internal Link Dist (m)		215.2			110.9		356.6		415.0		
Turn Bay Length (m)	100.0		80.0	125.0		170.0		85.0	175.0		85.0
Base Capacity (vph)	231	1662	658	268	1630	420	1136	548	273	1123	620
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.55	0.38	0.60	0.94	0.92	0.96	0.22	0.84	0.58	0.33

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green  
 Natural Cycle: 125  
 Control Type: Actuated-Coordinated  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Bronte Rd & Dundas St W



HCM Signalized Intersection Capacity Analysis  
6: Bronte Rd & Dundas St W

Bronte  
Existing AM

	↖	→	↗	↙	←	↖	↑	↗	↘	↓	↙	
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘	↖ ↗ ↘
Traffic Volume (vph)	215	860	235	150	1215	230	365	1030	115	215	615	190
Future Volume (vph)	215	860	235	150	1215	230	365	1030	115	215	615	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.6	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	1.5	7.0	7.0	4.0	7.0		4.0	7.0	7.0	4.0	7.0	7.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Fit Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1767	5142	1514	1732	5035		3463	3510	1498	1785	3510	1566
Fit Permitted	0.08	1.00	1.00	0.20	1.00		0.95	1.00	1.00	0.09	1.00	1.00
Satd. Flow (perm)	156	5142	1514	374	5035		3463	3510	1498	168	3510	1566
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	229	915	250	160	1293	245	388	1096	122	229	654	202
RTOR Reduction (vph)	0	0	169	0	20	0	0	0	64	0	0	119
Lane Group Flow (vph)	229	915	81	160	1518	0	388	1096	58	229	654	83
Confl. Peds. (#/hr)			11	11					3	3		
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	1%	2%	3%	3%	2%	0%	0%	4%	5%	0%	4%	2%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6					8	4		4
Actuated Green, G (s)	56.7	45.3	45.3	55.7	44.8		17.0	45.3	45.3	61.3	44.8	44.8
Effective Green, g (s)	61.7	45.3	45.3	55.7	44.8		17.0	45.3	45.3	61.3	44.8	44.8
Actuated g/C Ratio	0.44	0.32	0.32	0.40	0.32		0.12	0.32	0.32	0.44	0.32	0.32
Clearance Time (s)	4.0	7.0	7.0	4.0	7.0		4.0	7.0	7.0	4.0	7.0	7.0
Vehicle Extension (s)	3.0	6.0	6.0	3.0	6.0		3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	228	1663	489	254	1611		420	1135	484	264	1123	501
v/s Ratio Prot	c0.10	0.18		0.05	c0.30		c0.11	c0.31		0.10	0.19	
v/s Ratio Perm	0.34		0.05	0.20					0.04	0.28		0.05
v/c Ratio	1.00	0.55	0.17	0.63	0.94		0.92	0.97	0.12	0.87	0.58	0.17
Uniform Delay, d1	41.9	39.0	33.8	29.0	46.3		60.9	46.6	33.3	39.5	39.8	34.2
Progression Factor	1.36	0.80	2.38	1.00	1.00		0.84	1.37	2.68	1.03	1.33	2.89
Incremental Delay, d2	58.3	1.2	0.7	4.8	12.4		21.3	16.0	0.2	23.4	1.1	0.3
Delay (s)	115.1	32.5	81.3	33.8	58.7		72.4	79.9	89.5	64.2	53.9	99.1
Level of Service	F	C	F	C	E		E	E	F	E	D	F
Approach Delay (s)		54.8			56.4			78.8			64.5	
Approach LOS		D			E			E			E	

Intersection Summary

HCM 2000 Control Delay: 63.8  
 HCM 2000 Level of Service: E  
 HCM 2000 Volume to Capacity ratio: 0.97  
 Actuated Cycle Length (s): 140.0  
 Sum of lost time (s): 22.0  
 Intersection Capacity Utilization: 102.8%  
 ICU Level of Service: G  
 Analysis Period (min): 15  
 c Critical Lane Group

Queues  
7: Bronte Rd & Highvalley Rd/Pine Glen Rd

Bronte  
Existing AM

	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	5	10	100	15	60	1505	95	50	940	10
Future Volume (vph)	5	10	100	15	60	1505	95	50	940	10
Lane Group Flow (vph)	5	44	109	16	65	1636	103	54	1022	11
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	8		4		1		6		5	
Permitted Phases	8		4		1		6		5	
Detector Phase	8		4		1		6		5	
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	6.0	15.0	15.0	6.0	15.0	15.0
Minimum Split (s)	39.4	39.4	39.1	39.1	10.0	32.7	32.7	10.0	32.7	32.7
Total Split (s)	51.8	51.8	51.8	51.8	15.4	72.8	72.8	15.4	72.8	72.8
Total Split (%)	37.0%	37.0%	37.0%	37.0%	11.0%	52.0%	52.0%	11.0%	52.0%	52.0%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	3.7	3.7	3.4	3.4	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.4	5.4	5.1	5.1	2.0	3.7	3.7	2.0	3.7	3.7
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.02	0.16	0.55	0.06	0.15	0.65	0.09	0.23	0.40	0.01
Control Delay	47.6	21.8	65.0	48.6	4.3	12.7	2.9	4.9	5.8	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.6	21.8	65.0	48.6	4.3	12.7	2.9	4.9	5.8	0.2
Queue Length 50th (m)	1.3	2.8	29.9	4.1	3.3	122.5	2.2	0.6	5.8	0.0
Queue Length 95th (m)	5.3	13.7	47.8	10.6	8.3	180.6	9.6	m3.1	123.2	m0.0
Internal Link Dist (m)	145.4		105.4		203.1		356.6			
Turn Bay Length (m)	25.0		40.0		100.0		90.0		30.0	
Base Capacity (vph)	462	578	443	610	469	2528	1159	295	2524	1128
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.08	0.25	0.03	0.14	0.65	0.09	0.18	0.40	0.01

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 130.2 (93%), Referenced to phase 2:SBTL and 6:NBT, Start of Green  
 Natural Cycle: 95  
 Control Type: Actuated-Coordinated  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Bronte Rd & Highvalley Rd/Pine Glen Rd



HCM Signalized Intersection Capacity Analysis  
7: Bronte Rd & Highvalley Rd/Pine Glen Rd

Bronte  
Existing AM

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔		↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	5	10	30	100	15	0	60	1505	95	50	940	10
Future Volume (vph)	5	10	30	100	15	0	60	1505	95	50	940	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.6	3.5	3.7	3.6	3.5	3.7	3.5	3.7	3.5	3.7
Total Lost time (s)	5.4	5.4		5.1	5.1		2.0	3.7	3.7	2.0	3.7	3.7
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.96
Flpb, ped/bikes	0.99	1.00		0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.89		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Fit Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1776	1680		1737	1830		1698	3476	1566	1716	3476	1529
Fit Permitted	0.75	1.00		0.73	1.00		0.24	1.00	1.00	0.10	1.00	1.00
Satd. Flow (perm)	1396	1680		1332	1830		436	3476	1566	187	3476	1529
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	11	33	109	16	0	65	1636	103	54	1022	11
RTOR Reduction (vph)	0	28	0	0	0	0	0	0	21	0	0	3
Lane Group Flow (vph)	5	16	0	109	16	0	65	1636	82	54	1022	8
Confl. Peds. (#/hr)	4		6		6		4		9		9	
Confl. Bikes (#/hr)	1											
Heavy Vehicles (%)	0%	0%	0%	2%	5%	3%	5%	5%	2%	4%	5%	0%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	8				4		1		6		5	
Permitted Phases	8				4		6		6		2	
Actuated Green, G (s)	18.4	18.4		18.7	18.7		104.7	99.1	104.3	98.9	104.3	98.9
Effective Green, g (s)	20.4	20.4		20.7	20.7		108.7	101.1	101.1	108.3	100.9	100.9
Actuated g/C Ratio	0.15	0.15		0.15	0.15		0.78	0.72	0.72	0.77	0.72	0.72
Clearance Time (s)	7.4	7.4		7.1	7.1		4.0	5.7	5.7	4.0	5.7	5.7
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	203	244		196	270		407	2510	1130	225	2505	1101
v/s Ratio Prot	0.01				0.01		c0.01		c0.47		c0.01	
v/s Ratio Perm	0.00				c0.08		0.12		0.05		0.17	
v/c Ratio	0.02	0.06		0.56	0.06		0.16	0.65	0.07	0.24	0.41	0.01
Uniform Delay, d1	51.3	51.6		55.4	51.3		4.3	10.2	5.7	8.2	7.7	5.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.83	0.63	1.00
Incremental Delay, d2	0.1	0.2		5.7	0.2		0.2	1.3	0.1	0.5	0.4	0.0
Delay (s)	51.4	51.8		61.1	51.5		4.5	11.5	5.8	7.3	5.3	5.5
Level of Service	D	D		E	D		A	B	A	A	A	A
Approach Delay (s)	51.8				59.9		11.0		5.4		5.4	
Approach LOS	D				E		B		A		A	

Intersection Summary

HCM 2000 Control Delay: 11.6 HCM 2000 Level of Service: B  
 HCM 2000 Volume to Capacity ratio: 0.61  
 Actuated Cycle Length (s): 140.0 Sum of lost time (s): 11.1  
 Intersection Capacity Utilization: 71.5% ICU Level of Service: C  
 Analysis Period (min): 15  
 c Critical Lane Group



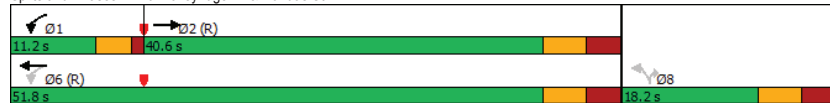
Queues  
10: Valleyridge Dr & Dundas St W

Bronte  
Existing AM

	→	↖	←	↙	↗
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↖	↑↑↑	↖	↗
Traffic Volume (vph)	1265	45	1725	40	45
Future Volume (vph)	1265	45	1725	40	45
Lane Group Flow (vph)	1439	49	1896	44	49
Turn Type	NA	pm+pt	NA	Perm	Perm
Protected Phases	2	1	6		
Permitted Phases		6		8	8
Detector Phase	2	1	6	8	8
Switch Phase					
Minimum Initial (s)	20.0	7.0	20.0	10.0	10.0
Minimum Split (s)	37.7	11.0	37.7	16.7	16.7
Total Split (s)	40.6	11.2	51.8	18.2	18.2
Total Split (%)	58.0%	16.0%	74.0%	26.0%	26.0%
Yellow Time (s)	3.7	3.0	3.7	3.7	3.7
All-Red Time (s)	3.0	1.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	4.0	6.7	6.7	6.7
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?					
Recall Mode	C-Min	None	C-Min	None	None
v/c Ratio	0.44	0.14	0.50	0.17	0.18
Control Delay	9.6	4.0	8.1	28.3	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	9.6	4.0	8.1	28.3	10.6
Queue Length 50th (m)	45.9	3.9	122.2	5.4	0.0
Queue Length 95th (m)	58.3	m3.8	m107.3	14.1	8.8
Internal Link Dist (m)	169.8		215.2	84.7	
Turn Bay Length (m)		35.0		25.0	
Base Capacity (vph)	3268	348	3804	292	309
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.44	0.14	0.50	0.15	0.16

**Intersection Summary**  
 Cycle Length: 70  
 Actuated Cycle Length: 70  
 Offset: 9.8 (14%), Referenced to phase 2:EBT and 6:WBTL, Start of Green  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Valleyridge Dr & Dundas St W



HCM Signalized Intersection Capacity Analysis  
10: Valleyridge Dr & Dundas St W

Bronte  
Existing AM

	→	↖	←	↙	↗	
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↖	↑↑↑	↖	↗
Traffic Volume (vph)	1265	45	45	1725	40	45
Future Volume (vph)	1265	45	45	1725	40	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.6	3.5	3.7	3.5	3.7
Total Lost time (s)	6.7		4.0	6.7	6.7	6.7
Lane Util. Factor	0.91		1.00	0.91	1.00	1.00
Frbp, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Fit Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5115		1785	5193	1780	1633
Fit Permitted	1.00		0.14	1.00	0.95	1.00
Satd. Flow (perm)	5115		255	5193	1780	1633
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1390	49	49	1896	44	49
RTOR Reduction (vph)	4	0	0	0	0	43
Lane Group Flow (vph)	1435	0	49	1896	44	6
Confl. Peds. (#/hr)		5	5		1	
Heavy Vehicles (%)	2%	0%	0%	1%	0%	0%
Turn Type	NA		pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases			6		8	8
Actuated Green, G (s)	40.4		48.6	48.6	8.0	8.0
Effective Green, g (s)	40.4		48.6	48.6	8.0	8.0
Actuated g/C Ratio	0.58		0.69	0.69	0.11	0.11
Clearance Time (s)	6.7		4.0	6.7	6.7	6.7
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2952		268	3605	203	186
v/s Ratio Prot	0.28		0.01	c0.37		
v/s Ratio Perm			0.12		c0.02	0.00
v/c Ratio	0.49		0.18	0.53	0.22	0.03
Uniform Delay, d1	8.7		4.1	5.2	28.2	27.6
Progression Factor	1.00		1.12	1.50	1.00	1.00
Incremental Delay, d2	0.6		0.2	0.3	0.5	0.1
Delay (s)	9.3		4.8	8.0	28.7	27.6
Level of Service	A		A	A	C	C
Approach Delay (s)	9.3			7.9	28.1	
Approach LOS	A			A	C	

**Intersection Summary**  
 HCM 2000 Control Delay: 9.0  
 HCM 2000 Volume to Capacity ratio: 0.52  
 Actuated Cycle Length (s): 70.0  
 Intersection Capacity Utilization: 54.5%  
 Analysis Period (min): 15  
 HCM 2000 Level of Service: A  
 Sum of lost time (s): 17.4  
 ICU Level of Service: A  
 Critical Lane Group: c

HCM Unsignalized Intersection Capacity Analysis  
15: Old Bronte Rd & William Halton Pkwy

Bronte  
Existing AM

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑↑		↑
Traffic Volume (veh/h)	115	5	0	380	0	15
Future Volume (Veh/h)	115	5	0	380	0	15
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	134	6	0	442	0	17
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	69					
pX, platoon unblocked						
vC, conflicting volume			140		284	70
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			140		284	70
tC, single (s)			4.1		6.8	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.4
p0 queue free %			100		100	98
cM capacity (veh/h)			1456		688	966
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	89	51	147	147	147	17
Volume Left	0	0	0	0	0	0
Volume Right	0	6	0	0	0	17
sSH	1700	1700	1700	1700	1700	966
Volume to Capacity	0.05	0.03	0.09	0.09	0.09	0.02
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	8.8
Lane LOS						A
Approach Delay (s)	0.0		0.0			8.8
Approach LOS						A
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			13.3%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
16: Old Bronte Rd & Dundas St W

Bronte  
Existing AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑				↑			↑
Traffic Volume (veh/h)	0	1130	60	0	1590	15	0	0	75	0	0	5
Future Volume (Veh/h)	0	1130	60	0	1590	15	0	0	75	0	0	5
Sign Control		Free			Free			Stop				Stop
Grade		0%			0%			0%				0%
Peak Hour Factor		0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)		0	1165	62	0	1639	15	0	0	77	0	5
Pedestrians												9
Lane Width (m)												3.7
Walking Speed (m/s)												1.2
Percent Blockage												1
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)		135										
pX, platoon unblocked				0.86		0.86	0.86	0.86	0.86	0.86	0.86	0.86
vC, conflicting volume		1654		1236		1756	2859	428	2112	2882	554	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol		1654		695		1301	2587	0	1716	2614	554	
tC, single (s)		4.1		4.1		7.5	6.5	6.9	7.5	6.5	6.9	
tC, 2 stage (s)												
tF (s)		2.2		2.2		3.5	4.0	3.3	3.5	4.0	3.3	
p0 queue free %		100		100		100	100	92	100	100	99	
cM capacity (veh/h)		395		775		101	22	929	46	21	481	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1				
Volume Total	466	466	295	656	656	343	77	5				
Volume Left	0	0	0	0	0	0	0	0				
Volume Right	0	0	62	0	0	15	77	5				
sSH	1700	1700	1700	1700	1700	1700	929	481				
Volume to Capacity	0.27	0.27	0.17	0.39	0.39	0.20	0.08	0.01				
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.3				
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	9.2	12.6				
Lane LOS							A	B				
Approach Delay (s)	0.0			0.0			9.2	12.6				
Approach LOS							A	B				
Intersection Summary												
Average Delay				0.3								
Intersection Capacity Utilization				41.1%		ICU Level of Service			A			
Analysis Period (min)				15								

Queues

1: Bronte Rd & Bronte Carpool Lot/HWY 407 WB Off-ramp

Palermo Village  
Future Background AM Peak Hour

	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBT
Lane Configurations		↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	40	0	135	5	40	35	1010	1620
Future Volume (vph)	40	0	135	5	40	35	1010	1620
Lane Group Flow (vph)	0	78	73	73	42	36	1052	1745
Turn Type	Perm	NA	Perm	NA	Perm	pm+pt	NA	NA
Protected Phases		4		8		5	2	6
Permitted Phases	4		8		8		2	
Detector Phase	4	4	8	8	8	5	2	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	20.0	20.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	9.0	26.0	26.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0	29.0	95.0	66.0
Total Split (%)	24.6%	24.6%	24.6%	24.6%	24.6%	23.0%	75.4%	52.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	4.0	6.0	6.0
Lead/Lag						Lead		Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	None	Min	Min
v/c Ratio		0.33	0.41	0.45	0.17	0.17	0.47	0.56
Control Delay		17.9	44.4	46.4	6.9	5.2	5.9	10.2
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		17.9	44.4	46.4	6.9	5.2	5.9	10.2
Queue Length 50th (m)		2.9	13.7	13.8	0.0	1.4	42.4	76.8
Queue Length 95th (m)		16.1	28.5	28.7	6.0	4.5	72.5	113.6
Internal Link Dist (m)		43.9		67.3			215.2	148.4
Turn Bay Length (m)								
Base Capacity (vph)		437	364	335	431	556	2723	3103
Starvation Cap Reductn		0	0	0	0	0	0	0
Spillback Cap Reductn		0	0	0	0	0	0	0
Storage Cap Reductn		0	0	0	0	0	0	0
Reduced v/c Ratio		0.18	0.20	0.22	0.10	0.06	0.39	0.56

Intersection Summary

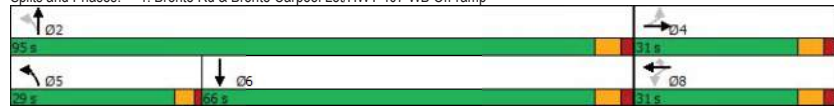
Cycle Length: 126

Actuated Cycle Length: 89.6

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Spits and Phases: 1: Bronte Rd & Bronte Carpool Lot/HWY 407 WB Off-ramp



HCM Signalized Intersection Capacity Analysis

1: Bronte Rd & Bronte Carpool Lot/HWY 407 WB Off-ramp

Palermo Village  
Future Background AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔	↔	↔	↔			↔	↔
Traffic Volume (vph)	40	0	35	135	5	40	35	1010	0	0	1620	55
Future Volume (vph)	40	0	35	135	5	40	35	1010	0	0	1620	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.6	3.7	3.6	3.7	3.7	3.7	3.7	3.7	3.6	3.6	3.7	3.6
Total Lost time (s)		6.0		6.0	6.0	6.0	4.0	6.0			6.0	
Lane Util. Factor		1.00		0.95	0.95	1.00	1.00	0.80			0.80	
Frbp, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00			1.00	
Frt		0.94		1.00	1.00	0.85	1.00	1.00			1.00	
Fit Protected		0.97		0.95	0.96	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		1715		1562	1489	1372	1738	2873			4333	
Fit Permitted		0.79		0.78	0.76	1.00	0.07	1.00			1.00	
Satd. Flow (perm)		1392		1289	1188	1372	128	2873			4333	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	42	0	36	141	5	42	36	1052	0	0	1688	57
RTOR Reduction (vph)	0	54	0	0	0	37	0	0	0	0	2	0
Lane Group Flow (vph)	0	24	0	73	73	5	36	1052	0	0	1743	0
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	5%	11%	100%	19%	5%	7%	0%	0%	6%	0%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA			NA	
Protected Phases		4		8	8	5	2				6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		10.4		10.4	10.4	10.4	70.3	70.3			62.7	
Effective Green, g (s)		10.4		10.4	10.4	10.4	70.3	70.3			62.7	
Actuated g/C Ratio		0.11		0.11	0.11	0.11	0.76	0.76			0.68	
Clearance Time (s)		6.0		6.0	6.0	6.0	4.0	6.0			6.0	
Vehicle Extension (s)		3.0		4.0	4.0	4.0	2.5	7.0			7.0	
Lane Grp Cap (vph)		156		144	133	153	159	2178			2930	
v/s Ratio Prot							0.01	c0.37			c0.40	
v/s Ratio Perm		0.02		0.06	c0.06	0.00	0.16					
v/c Ratio		0.15		0.51	0.55	0.03	0.23	0.48			0.60	
Uniform Delay, d1		37.2		38.7	38.9	36.7	5.0	4.3			8.1	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2		0.5		3.8	5.7	0.1	0.5	0.6			0.7	
Delay (s)		37.6		42.5	44.6	36.8	5.6	4.9			8.8	
Level of Service		D		D	D	D	A	A			A	
Approach Delay (s)		37.6			42.1			4.9			8.8	
Approach LOS		D			D			A			A	

Intersection Summary

HCM 2000 Control Delay: 10.2

HCM 2000 Volume to Capacity ratio: 0.59

Actuated Cycle Length (s): 92.7

Intersection Capacity Utilization: 53.6%

Analysis Period (min): 15

c Critical Lane Group

Queues  
2: Bronte Rd & HWY 407 EB Off-ramp

Palermo Village  
Future Background AM Peak Hour

Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	150	280	925	1700
Future Volume (vph)	150	280	925	1700
Lane Group Flow (vph)	155	289	954	1753
Turn Type	Prot	Prot	NA	NA
Protected Phases	1	1	2	2
Permitted Phases				
Detector Phase	1	1	2	2
Switch Phase				
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	9.0	9.0	26.0	26.0
Total Split (s)	39.0	39.0	61.0	61.0
Total Split (%)	39.0%	39.0%	61.0%	61.0%
Yellow Time (s)	3.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?				
Recall Mode	None	None	Min	Min
v/c Ratio	0.19	0.69	0.35	0.64
Control Delay	25.4	37.0	8.9	12.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	25.4	37.0	8.9	12.5
Queue Length 50th (m)	11.0	43.8	28.9	70.0
Queue Length 95th (m)	18.4	70.3	52.2	121.6
Internal Link Dist (m)	92.1		751.4	134.8
Turn Bay Length (m)				
Base Capacity (vph)	1281	651	2745	2719
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.12	0.44	0.35	0.64

Intersection Summary

Cycle Length: 100  
Actuated Cycle Length: 87.6  
Natural Cycle: 40  
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Bronte Rd & HWY 407 EB Off-ramp



HCM Signalized Intersection Capacity Analysis  
2: Bronte Rd & HWY 407 EB Off-ramp

Palermo Village  
Future Background AM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	150	280	0	925	1700	0
Future Volume (vph)	150	280	0	925	1700	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.6	3.7	3.7	3.6
Total Lost time (s)	4.0	4.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		*0.80	*0.80	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3190	1601		4350	4309	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3190	1601		4350	4309	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	155	289	0	954	1753	0
RTOR Reduction (vph)	0	10	0	0	0	0
Lane Group Flow (vph)	155	279	0	954	1753	0
Confl. Bikes (#/hr)						1
Heavy Vehicles (%)	11%	2%	0%	6%	7%	0%
Turn Type	Prot	Prot		NA	NA	
Protected Phases	1	1		2	2	
Permitted Phases						
Actuated Green, G (s)	22.3	22.3		55.3	55.3	
Effective Green, g (s)	22.3	22.3		55.3	55.3	
Actuated g/C Ratio	0.25	0.25		0.63	0.63	
Clearance Time (s)	4.0	4.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		7.0	7.0	
Lane Grp Cap (vph)	812	407		2746	2720	
v/s Ratio Prot	0.05	c0.17		0.22	c0.41	
v/s Ratio Perm						
v/c Ratio	0.19	0.68		0.35	0.64	
Uniform Delay, d1	25.6	29.5		7.6	10.0	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	6.0		0.3	1.0	
Delay (s)	25.8	35.5		7.9	11.1	
Level of Service	C	D		A	B	
Approach Delay (s)	32.1			7.9	11.1	
Approach LOS	C			A	B	

Intersection Summary

HCM 2000 Control Delay: 13.1, HCM 2000 Level of Service: B  
 HCM 2000 Volume to Capacity ratio: 0.66  
 Actuated Cycle Length (s): 87.6, Sum of lost time (s): 10.0  
 Intersection Capacity Utilization: 58.5%, ICU Level of Service: B  
 Analysis Period (min): 15  
 Critical Lane Group

Queues  
4: Bronte Rd & Proposed N-S Link

Palermo Village  
Future Background AM Peak Hour

	↙	↑	↘	↙	↓	
Lane Group	WBL	NBT	NBR	SBL	SBT	Ø4
Lane Configurations	↘	↑↑↑	↘	↘	↑↑↑	
Traffic Volume (vph)	135	1210	130	40	1940	
Future Volume (vph)	135	1210	130	40	1940	
Lane Group Flow (vph)	179	1235	133	41	1980	
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	7	6	7	5	2	4
Permitted Phases	4		6	2		
Detector Phase	7	6	7	5	2	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	34.0	11.0	11.0	34.0	34.0
Total Split (s)	47.0	80.0	47.0	13.0	93.0	47.0
Total Split (%)	33.6%	57.1%	33.6%	9.3%	66.4%	34%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	
Lead/Lag		Lag		Lead		
Lead-Lag Optimize?		Yes		Yes		
Recall Mode	None	C-Min	None	C-Min	None	None
v/c Ratio	0.72	0.42	0.09	0.14	0.62	
Control Delay	92.7	22.2	0.1	7.4	10.7	
Queue Delay	0.0	0.3	0.0	0.0	0.0	
Total Delay	92.7	22.5	0.1	7.4	10.7	
Queue Length 50th (m)	51.3	87.8	0.0	2.8	102.7	
Queue Length 95th (m)	76.8	98.6	0.2	8.1	156.2	
Internal Link Dist (m)	54.9	124.5			751.4	
Turn Bay Length (m)	15.0		30.0	30.0		
Base Capacity (vph)	372	2939	1552	299	3196	
Starvation Cap Reductn	0	968	0	0	0	
Spillback Cap Reductn	0	0	0	0	45	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.48	0.63	0.09	0.14	0.63	

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 116 (83%), Referenced to phase 2:SBTL and 6:NBT, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated

Spits and Phases: 4: Bronte Rd & Proposed N-S Link



HCM Signalized Intersection Capacity Analysis  
4: Bronte Rd & Proposed N-S Link

Palermo Village  
Future Background AM Peak Hour

	↙	↘	↑	↘	↙	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘		↑↑↑	↘	↘	↑↑↑
Traffic Volume (vph)	135	40	1210	130	40	1940
Future Volume (vph)	135	40	1210	130	40	1940
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.6	3.7	3.5	3.5	3.7
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00		*0.80	1.00	1.00	*0.80
Frt	0.97		1.00	0.85	1.00	1.00
Fit Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1188		4391	1597	1785	4309
Fit Permitted	0.96		1.00	1.00	0.14	1.00
Satd. Flow (perm)	1188		4391	1597	271	4309
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	138	41	1235	133	41	1980
RTOR Reduction (vph)	9	0	0	18	0	0
Lane Group Flow (vph)	170	0	1235	115	41	1980
Heavy Vehicles (%)	66%	0%	5%	0%	0%	7%
Turn Type	pm+pt		NA	pm+ov	pm+pt	NA
Protected Phases	7		6	7	5	2
Permitted Phases	4			6	2	
Actuated Green, G (s)	26.1		90.6	116.7	101.9	101.9
Effective Green, g (s)	28.1		92.6	120.7	103.9	103.9
Actuated g/C Ratio	0.20		0.66	0.86	0.74	0.74
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	238		2904	1422	280	3197
v/s Ratio Prot	c0.14		0.28	0.02	0.01	c0.46
v/s Ratio Perm				0.06	0.10	
v/c Ratio	0.72		0.43	0.08	0.15	0.62
Uniform Delay, d1	52.2		11.2	1.4	6.2	8.6
Progression Factor	1.59		1.77	0.08	1.00	1.00
Incremental Delay, d2	9.7		0.4	0.0	0.2	0.9
Delay (s)	92.8		20.2	0.1	6.5	9.5
Level of Service	F		C	A	A	A
Approach Delay (s)	92.8		18.2			9.5
Approach LOS	F		B			A

Intersection Summary

HCM 2000 Control Delay: 17.0, HCM 2000 Level of Service: B  
 HCM 2000 Volume to Capacity ratio: 0.67  
 Actuated Cycle Length (s): 140.0, Sum of lost time (s): 14.0  
 Intersection Capacity Utilization: 54.1%, ICU Level of Service: A  
 Analysis Period (min): 15

c Critical Lane Group

Queues  
5: Bronte Rd & William Halton Pkwy

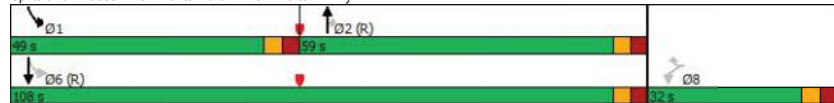
Palermo Village  
Future Background AM Peak Hour

	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↔	↑↑↑	↔	↔↔	↑↑↑
Traffic Volume (vph)	475	150	1190	335	420	1655
Future Volume (vph)	475	150	1190	335	420	1655
Lane Group Flow (vph)	495	156	1240	349	438	1724
Turn Type	Perm	Perm	NA	Perm	pm+pt	NA
Protected Phases			2		1	6
Permitted Phases	8	8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	20.0	20.0	7.0	20.0
Minimum Split (s)	16.0	16.0	40.4	40.4	13.0	26.4
Total Split (s)	32.0	32.0	59.0	59.0	49.0	108.0
Total Split (%)	22.9%	22.9%	42.1%	42.1%	35.0%	77.1%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Recall Mode	None	None	C-Min	C-Min	None	C-Min
v/c Ratio	0.77	0.37	0.60	0.39	0.80	0.53
Control Delay	43.3	26.9	25.5	11.7	30.8	11.4
Queue Delay	0.1	0.0	0.0	0.4	0.8	0.4
Total Delay	43.4	26.9	25.5	12.1	31.6	11.9
Queue Length 50th (m)	79.4	34.6	105.0	45.8	89.7	139.7
Queue Length 95th (m)	98.2	55.2	m144.9	m53.8	81.3	44.6
Internal Link Dist (m)	45.6		412.3			124.5
Turn Bay Length (m)	130.0	90.0		60.0	55.0	
Base Capacity (vph)	698	447	2070	889	650	3236
Starvation Cap Reductn	9	0	0	0	54	885
Spillback Cap Reductn	0	0	0	193	22	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.35	0.60	0.50	0.73	0.73

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Bronte Rd & William Halton Pkwy



HCM Signalized Intersection Capacity Analysis  
5: Bronte Rd & William Halton Pkwy

Palermo Village  
Future Background AM Peak Hour

	↙	↖	↑	↗	↘	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↔	↑↑↑	↔	↔↔	↑↑↑
Traffic Volume (vph)	475	150	1190	335	420	1655
Future Volume (vph)	475	150	1190	335	420	1655
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.7	3.6	3.5	3.7
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	*0.80	1.00	1.00	*0.80
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Fit Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3463	1597	4391	1615	1767	4269
Fit Permitted	0.95	1.00	1.00	1.00	0.10	1.00
Satd. Flow (perm)	3463	1597	4391	1615	191	4269
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	495	156	1240	349	438	1724
RTOR Reduction (vph)	0	127	0	128	0	0
Lane Group Flow (vph)	495	29	1240	221	438	1724
Heavy Vehicles (%)	0%	0%	5%	0%	1%	8%
Turn Type	Perm	Perm	NA	Perm	pm+pt	NA
Protected Phases			2		1	6
Permitted Phases	8	8		2	6	
Actuated Green, G (s)	24.1	24.1	64.0	64.0	103.9	103.9
Effective Green, g (s)	26.1	26.1	66.0	66.0	105.9	105.9
Actuated g/C Ratio	0.19	0.19	0.47	0.47	0.76	0.76
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	645	297	2070	761	548	3229
v/s Ratio Prot			0.28		c0.20	0.40
v/s Ratio Perm	c0.14	0.02		0.14	c0.40	
v/c Ratio	0.77	0.10	0.60	0.29	0.80	0.53
Uniform Delay, d1	54.1	47.2	27.3	22.7	33.3	7.0
Progression Factor	0.65	3.59	0.86	1.36	0.72	1.50
Incremental Delay, d2	5.2	0.1	0.4	0.3	6.5	0.5
Delay (s)	40.5	169.8	24.0	31.0	30.4	10.9
Level of Service	D	F	C	C	C	B
Approach Delay (s)	71.5		25.5			14.9
Approach LOS	E		C			B

Intersection Summary

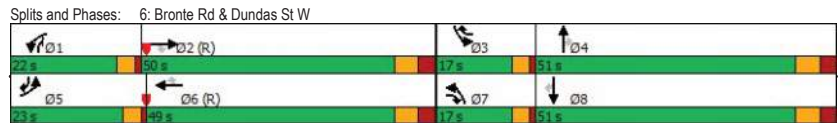
HCM 2000 Control Delay: 27.1, HCM 2000 Level of Service: C  
 HCM 2000 Volume to Capacity ratio: 0.82  
 Actuated Cycle Length (s): 140.0, Sum of lost time (s): 14.0  
 Intersection Capacity Utilization: 69.8%, ICU Level of Service: C  
 Analysis Period (min): 15  
 c Critical Lane Group

Queues  
6: Bronte Rd & Dundas St W

Palermo Village  
Future Background AM Peak Hour

	↖	→	↘	↙	←	↖	↙	↑	↗	↘	↓	↖
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖	↖	↖↖	↖↖↖	↖	↖↖	↖↖↖	↖	↖↖	↖↖↖	↖
Traffic Volume (vph)	470	1540	480	450	1320	210	660	840	490	275	1105	750
Future Volume (vph)	470	1540	480	450	1320	210	660	840	490	275	1105	750
Lane Group Flow (vph)	485	1588	495	464	1361	216	680	866	505	284	1139	773
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	7	1	6	3	7	4	1	3	8	5
Permitted Phases			2		6				4			8
Detector Phase	5	2	7	1	6	3	7	4	1	3	8	5
Switch Phase												
Minimum Initial (s)	7.0	20.0	7.0	7.0	20.0	7.0	7.0	10.0	7.0	7.0	10.0	7.0
Minimum Split (s)	11.0	49.0	11.0	11.0	49.0	11.0	11.0	51.0	11.0	11.0	51.0	11.0
Total Split (s)	23.0	50.0	17.0	22.0	49.0	17.0	17.0	51.0	22.0	17.0	51.0	23.0
Total Split (%)	16.4%	35.7%	12.1%	15.7%	35.0%	12.1%	12.1%	36.4%	15.7%	12.1%	36.4%	16.4%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	3.0	4.0	3.0	3.0	4.0	3.0
All-Red Time (s)	1.0	3.0	1.0	1.0	3.0	1.0	1.0	3.0	1.0	1.0	3.0	1.0
Lost Time Adjust (s)	-2.0	-1.0	-1.0	-2.0	-1.0	-1.0	-2.0	-1.0	-1.0	-2.0	-1.0	-1.0
Total Lost Time (s)	2.0	6.0	3.0	2.0	6.0	3.0	2.0	6.0	3.0	2.0	6.0	3.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Recall Mode	None	C-Min	None	None	C-Min	None	None	None	None	None	None	None
v/c Ratio	1.87	1.14	0.71	1.06	1.05	0.30	1.93	0.64	0.71	0.80	0.84	1.02
Control Delay	432.9	113.9	26.4	131.6	72.5	7.0	453.6	40.0	46.0	82.9	55.5	57.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.5	0.0	0.0
Total Delay	432.9	114.0	26.4	131.6	72.5	7.0	453.6	40.0	46.0	140.4	55.5	57.8
Queue Length 50th (m)	~224.1	~221.9	54.5	~81.4	~172.9	3.7	~158.4	100.2	148.0	45.0	125.2	~109.9
Queue Length 95th (m)	m#281.3	#258.2	m79.4	#118.2	#210.2	m15.7	#195.7	120.2	185.8	#65.3	153.9	#304.6
Internal Link Dist (m)		215.2		79.0			356.6				412.3	
Turn Bay Length (m)	100.0		80.0	125.0			170.0		85.0	175.0		85.0
Base Capacity (vph)	259	1393	695	436	1299	732	353	1385	707	356	1372	760
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	10	0	0	0	0	0	0	3	123	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.87	1.15	0.71	1.06	1.05	0.30	1.93	0.63	0.72	1.22	0.83	1.02

**Intersection Summary**  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 145  
 Control Type: Actuated-Coordinated  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.



HCM Signalized Intersection Capacity Analysis  
6: Bronte Rd & Dundas St W

Palermo Village  
Future Background AM Peak Hour

	↖	→	↘	↙	←	↖	↙	↑	↗	↘	↓	↖
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖	↖	↖↖	↖↖↖	↖	↖↖	↖↖↖	↖	↖↖	↖↖↖	↖
Traffic Volume (vph)	470	1540	480	450	1320	210	660	840	490	275	1105	750
Future Volume (vph)	470	1540	480	450	1320	210	660	840	490	275	1105	750
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.6	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	2.0	6.0	3.0	2.0	6.0	3.0	2.0	6.0	3.0	2.0	6.0	3.0
Satd. Flow (prot)	1668	4433	1515	2935	4230	1553	3298	4309	1411	3330	4269	1439
Fit Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Fit Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1668	4433	1515	2935	4230	1553	3298	4309	1411	3330	4269	1439
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	485	1588	495	464	1361	216	680	866	505	284	1139	773
RTOR Reduction (vph)	0	0	36	0	0	37	0	0	34	0	0	33
Lane Group Flow (vph)	485	1588	459	464	1361	179	680	866	471	284	1139	740
Confl. Peds. (#/hr)			5	5					3	3		
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	7%	4%	4%	18%	9%	4%	5%	7%	12%	4%	8%	11%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	7	1	6	3	7	4	1	3	8	5
Permitted Phases			2		6				4			8
Actuated Green, G (s)	19.8	43.0	56.0	18.8	42.0	55.0	13.0	43.2	62.0	13.0	43.2	63.0
Effective Green, g (s)	21.8	44.0	58.0	20.8	43.0	57.0	15.0	44.2	64.0	15.0	44.2	65.0
Actuated g/C Ratio	0.16	0.31	0.41	0.15	0.31	0.41	0.11	0.32	0.46	0.11	0.32	0.46
Clearance Time (s)	4.0	7.0	4.0	4.0	7.0	4.0	4.0	7.0	4.0	4.0	7.0	4.0
Vehicle Extension (s)	3.0	6.0	3.0	3.0	6.0	3.0	3.0	5.0	3.0	3.0	5.0	3.0
Lane Grp Cap (vph)	259	1393	627	436	1299	632	353	1360	645	356	1347	668
v/s Ratio Prot	c0.29	c0.36	0.07	0.16	0.32	0.03	c0.21	0.20	0.10	0.09	0.27	c0.16
v/s Ratio Perm			0.23			0.09		0.23			0.35	
v/c Ratio	1.87	1.14	0.73	1.06	1.05	0.28	1.93	0.64	0.73	0.80	0.85	1.11
Uniform Delay, d1	59.1	48.0	34.5	59.6	48.5	27.8	62.5	41.0	31.0	61.0	44.7	37.5
Progression Factor	1.13	1.07	0.87	1.43	0.77	0.36	0.83	0.93	1.73	1.13	1.11	0.71
Incremental Delay, d2	400.2	68.0	2.3	55.7	35.4	0.2	424.7	1.0	3.2	9.9	4.7	65.3
Delay (s)	467.1	119.4	32.3	140.7	73.0	10.2	476.4	39.3	56.9	78.6	54.4	92.0
Level of Service	F	F	C	F	E	B	F	D	E	E	D	F
Approach Delay (s)		168.3			81.7		188.5			70.8		
Approach LOS		F			F		F			E		

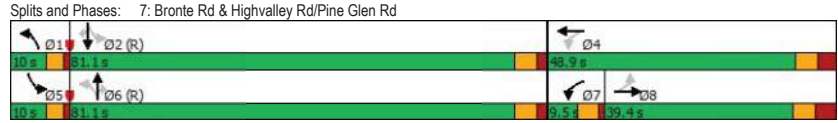
**Intersection Summary**  
 HCM 2000 Control Delay: 128.8  
 HCM 2000 Level of Service: F  
 HCM 2000 Volume to Capacity ratio: 1.35  
 Actuated Cycle Length (s): 140.0  
 Sum of lost time (s): 18.0  
 Intersection Capacity Utilization: 108.4%  
 ICU Level of Service: G  
 Analysis Period (min): 15  
 c Critical Lane Group

Queues  
7: Bronte Rd & Highvalley Rd/Pine Glen Rd

Palermo Village  
Future Background AM Peak Hour

	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	15	15	140	15	30	1975	95	50	1975	10
Future Volume (vph)	15	15	140	15	30	1975	95	50	1975	10
Lane Group Flow (vph)	16	69	147	16	32	2079	100	53	2079	11
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	8	8	7	4	1	6	5	2		
Permitted Phases	8	4			6		6	2		2
Detector Phase	8	8	7	4	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	10.0	10.0	5.0	10.0	6.0	15.0	15.0	6.0	15.0	15.0
Minimum Split (s)	39.4	39.4	9.5	39.1	10.0	32.7	32.7	10.0	32.7	32.7
Total Split (s)	39.4	39.4	9.5	48.9	10.0	81.1	81.1	10.0	81.1	81.1
Total Split (%)	28.1%	28.1%	6.8%	34.9%	7.1%	57.9%	57.9%	7.1%	57.9%	57.9%
Yellow Time (s)	3.7	3.7	3.5	3.7	3.0	3.7	3.0	3.7	3.7	3.7
All-Red Time (s)	3.7	3.7	1.0	3.4	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.4	5.4	2.5	5.1	2.0	3.7	3.7	2.0	3.7	3.7
Lead/Lag	Lag	Lag	Lead		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes							
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.13	0.34	0.70	0.06	0.20	0.66	0.09	0.41	0.65	0.01
Control Delay	60.3	25.7	70.9	49.7	6.6	12.9	1.6	19.8	17.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.3	25.7	70.9	49.7	6.6	12.9	1.6	19.8	17.9	0.0
Queue Length 50th (m)	4.4	4.4	39.2	4.0	1.7	130.4	0.0	3.9	224.4	0.0
Queue Length 95th (m)	12.0	19.6	60.6	10.9	4.3	177.3	6.3	m4.7	m237.3	m0.0
Internal Link Dist (m)		145.4		105.4		203.1			356.6	
Turn Bay Length (m)	25.0		40.0		100.0		90.0	90.0		30.0
Base Capacity (vph)	339	447	211	566	159	3143	1144	128	3212	1171
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.15	0.70	0.03	0.20	0.66	0.09	0.41	0.65	0.01

**Intersection Summary**  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBL, Start of Green  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 m Volume for 95th percentile queue is metered by upstream signal.



HCM Signalized Intersection Capacity Analysis  
7: Bronte Rd & Highvalley Rd/Pine Glen Rd

Palermo Village  
Future Background AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔		↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	15	15	50	140	15	0	30	1975	95	50	1975	10
Future Volume (vph)	15	15	50	140	15	0	30	1975	95	50	1975	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.6	3.5	3.7	3.6	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	5.4	5.4		2.5	5.1		2.0	3.7	3.7	2.0	3.7	3.7
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.80	1.00	1.00	0.80	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.97	1.00	1.00	0.96
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.88		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Fit Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1776	1676		1695	1812		1733	4350	1545	1303	4309	1537
Fit Permitted	0.75	1.00		0.58	1.00		0.04	1.00	1.00	0.04	1.00	1.00
Satd. Flow (perm)	1396	1676		1037	1812		81	4350	1545	56	4309	1537
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	16	16	53	147	16	0	32	2079	100	53	2079	11
RTOR Reduction (vph)	0	49	0	0	0	0	0	0	29	0	0	3
Lane Group Flow (vph)	16	20	0	147	16	0	32	2079	71	53	2079	8
Confl. Peds. (#/hr)	4		5	5		4	7		5	5		7
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	0%	0%	5%	6%	14%	3%	6%	0%	37%	7%	0%
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	8	7		4		1	6		5	2		
Permitted Phases	8			4		6		6	2			2
Actuated Green, G (s)	8.8	8.8		20.1	20.1		100.7	96.9	96.9	105.5	99.3	99.3
Effective Green, g (s)	10.8	10.8		22.1	22.1		104.7	98.9	98.9	109.1	101.3	101.3
Actuated g/C Ratio	0.08	0.08		0.16	0.16		0.75	0.71	0.71	0.78	0.72	0.72
Clearance Time (s)	7.4	7.4		4.5	7.1		4.0	5.7	5.7	4.0	5.7	5.7
Vehicle Extension (s)	5.0	5.0		3.0	5.0		3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	107	129		203	286		129	3072	1091	116	3117	1112
v/s Ratio Prot	0.01			c0.04	0.01		0.01	0.48		c0.03	c0.48	
v/s Ratio Perm	0.01			c0.07			0.18		0.05	0.33		0.01
v/c Ratio	0.15	0.16		0.72	0.06		0.25	0.68	0.06	0.46	0.67	0.01
Uniform Delay, d1	60.3	60.3		55.1	50.1		8.9	11.6	6.3	15.6	10.3	5.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.88	1.71	1.00
Incremental Delay, d2	1.4	1.2		12.1	0.2		1.0	1.2	0.1	1.5	0.6	0.0
Delay (s)	61.7	61.5		67.1	50.3		9.9	12.8	6.4	15.3	18.3	5.4
Level of Service	E	E		E	D		A	B	A	B	B	A
Approach Delay (s)		61.5			65.5			12.4			18.1	
Approach LOS		E			E			B			B	

**Intersection Summary**  
 HCM 2000 Control Delay: 17.9 HCM 2000 Level of Service: B  
 HCM 2000 Volume to Capacity ratio: 0.69  
 Actuated Cycle Length (s): 140.0 Sum of lost time (s): 13.6  
 Intersection Capacity Utilization: 65.1% ICU Level of Service: C  
 Analysis Period (min): 15  
 c Critical Lane Group

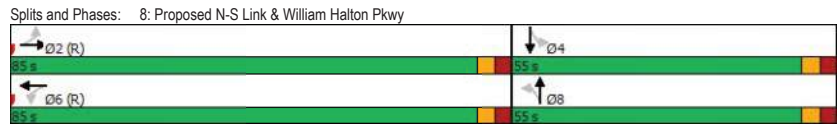


Queues  
8: Proposed N-S Link & William Halton Pkwy

Palermo Village  
Future Background AM Peak Hour

	→	←	↑	↓
Lane Group	EBT	WBT	NBT	SBT
Lane Configurations	↔↔	↔↔	↔	↔
Traffic Volume (vph)	750	625	125	85
Future Volume (vph)	750	625	125	85
Lane Group Flow (vph)	843	702	219	96
Turn Type	NA	NA	NA	NA
Protected Phases	2	6	8	4
Permitted Phases				
Detector Phase	2	6	8	4
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	34.0	34.0	34.0	34.0
Total Split (s)	85.0	85.0	55.0	55.0
Total Split (%)	60.7%	60.7%	39.3%	39.3%
Yellow Time (s)	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Min	C-Min	Max	Min
v/c Ratio	0.74	0.62	0.19	0.08
Control Delay	40.6	42.8	29.7	15.1
Queue Delay	0.1	0.0	0.0	0.0
Total Delay	40.7	42.8	29.7	15.1
Queue Length 50th (m)	127.3	91.7	48.7	21.3
Queue Length 95th (m)	129.8	100.3	73.0	29.2
Internal Link Dist (m)	39.0	253.2	203.2	128.4
Turn Bay Length (m)				
Base Capacity (vph)	2088	2088	1138	1194
Starvation Cap Reductn	318	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.48	0.34	0.19	0.08

**Intersection Summary**  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 m Volume for 95th percentile queue is metered by upstream signal.



HCM Signalized Intersection Capacity Analysis  
8: Proposed N-S Link & William Halton Pkwy

Palermo Village  
Future Background AM Peak Hour

	↔	→	↘	↙	←	↖	↗	↑	↘	↙	↓	↖	↗
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↔↔			↔↔		↔	↔		↔	↔		
Traffic Volume (vph)	0	750	0	0	625	0	0	125	70	0	85	0	
Future Volume (vph)	0	750	0	0	625	0	0	125	70	0	85	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0			4.0			4.0			4.0		
Lane Util. Factor		0.95			0.95			1.00			1.00		
Fr <sub>t</sub>		1.00			1.00			0.95			1.00		
Fit Protected		1.00			1.00			1.00			1.00		
Satd. Flow (prot)		3610			3610			1797			1900		
Fit Permitted		1.00			1.00			1.00			1.00		
Satd. Flow (perm)		3610			3610			1797			1900		
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	
Adj. Flow (vph)	0	843	0	0	702	0	0	140	79	0	96	0	
RTOR Reduction (vph)	0	0	0	0	0	0	0	9	0	0	0	0	
Lane Group Flow (vph)	0	843	0	0	702	0	0	210	0	0	96	0	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Turn Type		NA			NA		Perm	NA		Perm	NA		
Protected Phases		2			6			8			4		
Permitted Phases	2			6			8			4			
Actuated Green, G (s)		42.0			42.0			86.0			86.0		
Effective Green, g (s)		44.0			44.0			88.0			88.0		
Actuated g/C Ratio		0.31			0.31			0.63			0.63		
Clearance Time (s)		6.0			6.0			6.0			6.0		
Vehicle Extension (s)		3.0			3.0			3.0			3.0		
Lane Grp Cap (vph)		1134			1134			1129			1194		
v/s Ratio Prot		c0.23			0.19			c0.12			0.05		
v/s Ratio Perm													
v/c Ratio		0.74			0.62			0.19			0.08		
Uniform Delay, d1		42.9			40.9			10.9			10.2		
Progression Factor		0.87			1.00			2.70			1.29		
Incremental Delay, d2		4.0			2.5			0.3			0.0		
Delay (s)		41.1			43.4			29.9			13.1		
Level of Service		D			D			C			B		
Approach Delay (s)		41.1			43.4			29.9			13.1		
Approach LOS		D			D			C			B		

**Intersection Summary**  
 HCM 2000 Control Delay 39.2 HCM 2000 Level of Service D  
 HCM 2000 Volume to Capacity ratio 0.37  
 Actuated Cycle Length (s) 140.0 Sum of lost time (s) 8.0  
 Intersection Capacity Utilization 38.2% ICU Level of Service A  
 Analysis Period (min) 15  
 c Critical Lane Group

Queues  
9: Dundas St W & Proposed N-S Link

Palermo Village  
Future Background AM Peak Hour

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations	↔	↕↕	↕↕↕	↔	↕
Traffic Volume (vph)	255	2035	1740	175	95
Future Volume (vph)	255	2035	1740	175	95
Lane Group Flow (vph)	268	2142	1979	184	100
Turn Type	pm+pt	NA	NA	Prot	Perm
Protected Phases	5	2	6	4	
Permitted Phases	2				4
Detector Phase	5	2	6	4	4
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.5	34.0	34.5	24.0	24.0
Total Split (s)	34.0	112.0	78.0	28.0	28.0
Total Split (%)	24.3%	80.0%	55.7%	20.0%	20.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	C-Min	C-Min	Max	Max
v/c Ratio	0.75	0.87	0.78	0.42	0.21
Control Delay	55.1	19.2	30.5	40.7	4.3
Queue Delay	0.0	0.4	0.0	0.0	0.0
Total Delay	55.1	19.6	30.5	40.7	4.3
Queue Length 50th (m)	67.1	226.4	167.3	32.6	0.0
Queue Length 95th (m)	m64.8	m177.7	176.8	54.9	6.1
Internal Link Dist (m)		105.2	334.8	152.5	
Turn Bay Length (m)				40.0	
Base Capacity (vph)	436	2730	2669	439	468
Starvation Cap Reductn	0	175	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.61	0.84	0.74	0.42	0.21

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Dundas St W & Proposed N-S Link



HCM Signalized Intersection Capacity Analysis  
9: Dundas St W & Proposed N-S Link

Palermo Village  
Future Background AM Peak Hour

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔	↕↕	↕↕↕	↔	↔	↕
Traffic Volume (vph)	255	2035	1740	140	175	95
Future Volume (vph)	255	2035	1740	140	175	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.91		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Fit Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1805	3539	5036		1805	1615
Fit Permitted	0.05	1.00	1.00		0.95	1.00
Satd. Flow (perm)	102	3539	5036		1805	1615
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	268	2142	1832	147	184	100
RTOR Reduction (vph)	0	0	7	0	0	76
Lane Group Flow (vph)	268	2142	1972	0	184	24
Heavy Vehicles (%)	0%	2%	2%	0%	0%	0%
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	95.9	95.9	68.5		32.1	32.1
Effective Green, g (s)	97.9	97.9	70.5		34.1	34.1
Actuated g/C Ratio	0.70	0.70	0.50		0.24	0.24
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	355	2474	2535		439	393
v/s Ratio Prot	0.13	c0.61	0.39		c0.10	
v/s Ratio Perm	0.40					0.02
v/c Ratio	0.75	0.87	0.78		0.42	0.06
Uniform Delay, d1	42.1	16.0	28.4		44.6	40.7
Progression Factor	1.38	1.14	1.00		0.79	0.36
Incremental Delay, d2	2.8	1.4	2.4		2.9	0.3
Delay (s)	61.0	19.6	30.8		38.3	15.1
Level of Service	E	B	C		D	B
Approach Delay (s)	24.2	30.8			30.1	
Approach LOS		C	C		C	

Intersection Summary

HCM 2000 Control Delay 27.4 HCM 2000 Level of Service C  
 HCM 2000 Volume to Capacity ratio 0.77  
 Actuated Cycle Length (s) 140.0 Sum of lost time (s) 12.0  
 Intersection Capacity Utilization 72.6% ICU Level of Service C  
 Analysis Period (min) 15  
 c Critical Lane Group

Queues  
10: Valleyridge Dr & Dundas St W

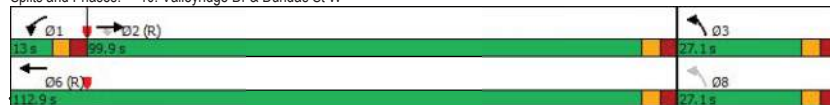
Palermo Village  
Future Background AM Peak Hour

Lane Group	EBT	EBR	WBL	WBT	NBL	Ø8
Lane Configurations	↑↑↑	↑	↑	↑↑↑	↑	↑
Traffic Volume (vph)	2420	80	60	2675	145	
Future Volume (vph)	2420	80	60	2675	145	
Lane Group Flow (vph)	2659	88	66	2940	236	
Turn Type	NA	Perm	Prot	NA	pm+pt	
Protected Phases	2		1	6	3	8
Permitted Phases		2				8
Detector Phase	2	2	1	6	3	
Switch Phase						
Minimum Initial (s)	20.0	20.0	7.0	20.0	5.0	10.0
Minimum Split (s)	37.7	37.7	13.0	37.7	11.5	16.7
Total Split (s)	99.9	99.9	13.0	112.9	27.1	27.1
Total Split (%)	71.4%	71.4%	9.3%	80.6%	19.4%	19%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?						
Recall Mode	C-Min	C-Min	None	C-Min	None	None
v/c Ratio	0.84	0.08	0.59	0.89	0.86	
Control Delay	19.2	2.0	73.6	7.3	81.1	
Queue Delay	0.0	0.0	0.0	45.9	0.0	
Total Delay	19.2	2.0	73.6	53.2	81.1	
Queue Length 50th (m)	234.5	0.8	19.6	61.1	63.0	
Queue Length 95th (m)	263.2	6.2	m18.4	m49.1	#105.5	
Internal Link Dist (m)	169.8			215.2	84.7	
Turn Bay Length (m)		90.0	45.0		25.0	
Base Capacity (vph)	3160	1074	112	3307	295	
Starvation Cap Reductn	0	0	0	644	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.84	0.08	0.59	1.10	0.80	

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Valleyridge Dr & Dundas St W



FBAM

HCM Signalized Intersection Capacity Analysis  
10: Valleyridge Dr & Dundas St W

Palermo Village  
Future Background AM Peak Hour

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑	↑↑↑	↑	↑
Traffic Volume (vph)	2420	80	60	2675	145	70
Future Volume (vph)	2420	80	60	2675	145	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.6	3.5	3.7	3.5	3.7
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	*0.80	1.00	1.00	*0.80	1.00	
Frbp, ped/bikes	1.00	0.97	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.96	
Fit Protected	1.00	1.00	0.95	1.00	0.97	
Satd. Flow (prot)	4433	1476	1668	4192	1713	
Fit Permitted	1.00	1.00	0.95	1.00	0.97	
Satd. Flow (perm)	4433	1476	1668	4192	1713	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	2659	88	66	2940	159	77
RTOR Reduction (vph)	0	23	0	0	13	0
Lane Group Flow (vph)	2659	65	66	2940	223	0
Confl. Peds. (#/hr)		5	5			1
Heavy Vehicles (%)	4%	6%	7%	10%	1%	1%
Turn Type	NA	Perm	Prot	NA	pm+pt	
Protected Phases	2		1	6	3	
Permitted Phases		2				8
Actuated Green, G (s)	96.4	96.4	6.1	108.5	19.5	
Effective Green, g (s)	98.4	98.4	8.1	110.5	21.5	
Actuated g/C Ratio	0.70	0.70	0.06	0.79	0.15	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	3115	1037	96	3308	263	
v/s Ratio Prot	0.60		0.04	c0.70	c0.13	
v/s Ratio Perm		0.04				
v/c Ratio	0.85	0.06	0.69	0.89	0.85	
Uniform Delay, d1	15.5	6.5	64.7	10.4	57.7	
Progression Factor	1.00	1.00	1.12	0.60	1.00	
Incremental Delay, d2	3.2	0.1	1.9	0.4	21.7	
Delay (s)	18.7	6.6	74.6	6.7	79.4	
Level of Service	B	A	E	A	E	
Approach Delay (s)	18.3			8.2	79.4	
Approach LOS	B			A	E	

Intersection Summary

HCM 2000 Control Delay: 15.6, HCM 2000 Level of Service: B  
 HCM 2000 Volume to Capacity ratio: 0.92  
 Actuated Cycle Length (s): 140.0, Sum of lost time (s): 14.0  
 Intersection Capacity Utilization: 70.7%, ICU Level of Service: C  
 Analysis Period (min): 15  
 c Critical Lane Group

FBAM

HCM Unsignalized Intersection Capacity Analysis  
 14: Old Bronte Road/Old Bronte Rd & Proposed E-W Link

Palermo Village  
 Future Background AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↖			↕
Traffic Volume (veh/h)	0	0	40	0	0	45
Future Volume (Veh/h)	0	0	40	0	0	45
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	44	0	0	50
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	94	44			44	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	94	44			44	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	911	1032			1577	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	0	44	50			
Volume Left	0	0	0			
Volume Right	0	0	0			
eSH	1700	1700	1700			
Volume to Capacity	0.00	0.03	0.03			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			6.7%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 15: Old Bronte Rd & William Halton Pkwy

Palermo Village  
 Future Background AM Peak Hour

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕	↗		↖	↖	↖
Traffic Volume (veh/h)	710	45	0	625	0	40
Future Volume (Veh/h)	710	45	0	625	0	40
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	798	51	0	702	0	45
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	69			63		
pX, platoon unblocked					0.85	
vC, conflicting volume			849		1058	424
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			849		451	424
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	92
cM capacity (veh/h)			798		461	584
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	532	317	140	281	281	45
Volume Left	0	0	0	0	0	0
Volume Right	0	51	0	0	0	45
eSH	1700	1700	798	1700	1700	584
Volume to Capacity	0.31	0.19	0.00	0.17	0.17	0.08
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	2.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	11.7
Lane LOS						B
Approach Delay (s)	0.0		0.0			11.7
Approach LOS						B
Intersection Summary						
Average Delay				0.3		
Intersection Capacity Utilization				31.1%		ICU Level of Service
Analysis Period (min)				15		A

HCM Unsignalized Intersection Capacity Analysis  
16: Old Bronte Road & Dundas St W

Palermo Village  
Future Background AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑				↑			↑
Traffic Volume (veh/h)	0	2230	75	0	1810	25	0	0	60	0	0	180
Future Volume (Veh/h)	0	2230	75	0	1810	25	0	0	60	0	0	180
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	2347	79	0	1905	26	0	0	63	0	0	189
Pedestrians	5											
Lane Width (m)	3.6											
Walking Speed (m/s)	1.2											
Percent Blockage	0											
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)	103			129								
pX, platoon unblocked	0.68			0.70			0.83	0.83	0.70	0.83	0.83	0.68
vC, conflicting volume	1931			2431			3216	4322	827	2763	4349	648
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	732			1537			511	1841	0	0	1873	0
tC, single (s)	4.1			4.1			7.5	6.5	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	92	100	100	75
cM capacity (veh/h)	601			305			277	63	747	782	60	744
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1				
Volume Total	939	939	548	762	762	407	63	189				
Volume Left	0	0	0	0	0	0	0	0				
Volume Right	0	0	79	0	0	26	63	189				
eSH	1700	1700	1700	1700	1700	1700	747	744				
Volume to Capacity	0.55	0.55	0.32	0.45	0.45	0.24	0.08	0.25				
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0	2.2	8.1				
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	10.3	11.5				
Lane LOS							B	B				
Approach Delay (s)	0.0			0.0			10.3	11.5				
Approach LOS							B	B				
Intersection Summary												
Average Delay	0.6											
Intersection Capacity Utilization	55.2%			ICU Level of Service			B					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis  
17: Proposed N-S Link & Proposed E-W Link

Palermo Village  
Future Background AM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↑	↑	
Traffic Volume (veh/h)	0	0	0	245	175	0
Future Volume (Veh/h)	0	0	0	245	175	0
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	272	194	0
Pedestrians	0					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (m)			176		227	
pX, platoon unblocked						
vC, conflicting volume	466	194	194			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	466	194	194			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	559	853	1391			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	272	194			
Volume Left	0	0	0			
Volume Right	0	0	0			
eSH	1700	1700	1700			
Volume to Capacity	0.00	0.16	0.11			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	16.2%			ICU Level of Service		
Analysis Period (min)	15			A		

Queues

1: Bronte Rd & Bronte Carpool Lot/HWY 407 WB Off-ramp

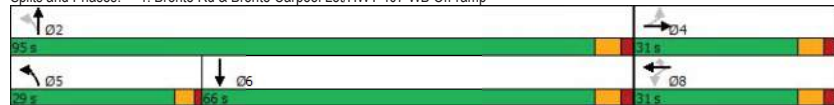
Palermo Village  
Future Background PM Peak Hour

	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBT
Lane Configurations		↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	35	0	285	0	115	25	1725	1045
Future Volume (vph)	35	0	285	0	115	25	1725	1045
Lane Group Flow (vph)	0	63	150	150	121	26	1816	1137
Turn Type	Perm	NA	Perm	NA	Perm	pm+pt	NA	NA
Protected Phases		4		8		5	2	6
Permitted Phases	4		8		8		2	
Detector Phase	4	4	8	8	8	5	2	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	20.0	20.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	9.0	26.0	26.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0	29.0	95.0	66.0
Total Split (%)	24.6%	24.6%	24.6%	24.6%	24.6%	23.0%	75.4%	52.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	4.0	6.0	6.0
Lead/Lag						Lead		Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	None	Min	Min
v/c Ratio		0.28	0.70	0.70	0.39	0.09	0.84	0.38
Control Delay		14.3	65.0	65.0	26.9	5.2	16.7	9.2
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		14.3	65.0	65.0	26.9	5.2	16.7	9.2
Queue Length 50th (m)		0.4	37.5	37.5	13.2	1.4	172.1	49.9
Queue Length 95th (m)		13.2	62.5	62.5	31.6	4.3	260.8	69.7
Internal Link Dist (m)		43.9		67.3			215.2	148.4
Turn Bay Length (m)								
Base Capacity (vph)		281	281	281	390	495	2225	3006
Starvation Cap Reductn		0	0	0	0	0	0	0
Spillback Cap Reductn		0	0	0	0	0	0	0
Storage Cap Reductn		0	0	0	0	0	0	0
Reduced v/c Ratio		0.22	0.53	0.53	0.31	0.05	0.82	0.38

Intersection Summary

Cycle Length: 126  
Actuated Cycle Length: 117.8  
Natural Cycle: 75  
Control Type: Actuated-Uncoordinated

Spits and Phases: 1: Bronte Rd & Bronte Carpool Lot/HWY 407 WB Off-ramp



HCM Signalized Intersection Capacity Analysis

1: Bronte Rd & Bronte Carpool Lot/HWY 407 WB Off-ramp

Palermo Village  
Future Background PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔	↔	↔	↔			↔	↔
Traffic Volume (vph)	35	0	25	285	0	115	25	1725	0	0	1045	35
Future Volume (vph)	35	0	25	285	0	115	25	1725	0	0	1045	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.6	3.7	3.6	3.7	3.7	3.7	3.7	3.7	3.6	3.6	3.7	3.6
Total Lost time (s)		6.0		6.0	6.0	6.0	4.0	6.0			6.0	
Lane Util. Factor		1.00		0.95	0.95	1.00	1.00	0.80			0.80	
Frbp, ped/bikes		0.99		1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00			1.00	
Frt		0.94		1.00	1.00	0.85	1.00	1.00			1.00	
Fit Protected		0.97		0.95	0.95	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		1620		1649	1649	1601	1587	2927			4374	
Fit Permitted		0.66		0.76	0.76	1.00	0.17	1.00			1.00	
Satd. Flow (perm)		1093		1319	1319	1601	290	2927			4374	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	37	0	26	300	0	121	26	1816	0	0	1100	37
RTOR Reduction (vph)	0	51	0	0	0	51	0	0	0	0	2	0
Lane Group Flow (vph)	0	12	0	150	150	70	26	1816	0	0	1135	0
Confl. Peds. (#/hr)				1	1							
Heavy Vehicles (%)		2%	0%	17%	5%	50%	2%	15%	5%	0%	0%	5%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA			NA	
Protected Phases		4		8	8	5	2				6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		19.2		19.2	19.2	88.3	88.3				81.0	
Effective Green, g (s)		19.2		19.2	19.2	88.3	88.3				81.0	
Actuated g/C Ratio		0.16		0.16	0.16	0.74	0.74				0.68	
Clearance Time (s)		6.0		6.0	6.0	4.0	6.0				6.0	
Vehicle Extension (s)		3.0		4.0	4.0	4.0	2.5	7.0			7.0	
Lane Grp Cap (vph)		175		211	211	257	250	2162			2964	
v/s Ratio Prot							0.00	0.62			0.26	
v/s Ratio Perm		0.01		0.11	0.11	0.04	0.07					
v/c Ratio		0.07		0.71	0.71	0.27	0.10	0.84			0.38	
Uniform Delay, d1		42.6		47.5	47.5	44.0	4.8	10.7			8.4	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2		0.2		11.5	11.5	0.8	0.1	3.7			0.3	
Delay (s)		42.7		59.0	59.0	44.8	4.9	14.5			8.7	
Level of Service		D		E	E	D	A	B			A	
Approach Delay (s)		42.7			54.9			14.3			8.7	
Approach LOS		D			D			B			A	

Intersection Summary

HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	119.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		

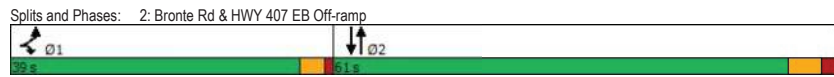
c Critical Lane Group

Queues  
2: Bronte Rd & HWY 407 EB Off-ramp

Palermo Village  
Future Background PM Peak Hour

	↖	↘	↕	↗
Lane Group	EBL	EBR	NBT	SBT
Lane Configurations	↖↗	↖	↕↕↕	↕↕↕
Traffic Volume (vph)	105	85	1815	1295
Future Volume (vph)	105	85	1815	1295
Lane Group Flow (vph)	111	89	1911	1363
Turn Type	Prot	Prot	NA	NA
Protected Phases	1	1	2	2
Permitted Phases				
Detector Phase	1	1	2	2
Switch Phase				
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	9.0	9.0	26.0	26.0
Total Split (s)	39.0	39.0	61.0	61.0
Total Split (%)	39.0%	39.0%	61.0%	61.0%
Yellow Time (s)	3.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?				
Recall Mode	None	None	Min	Min
v/c Ratio	0.26	0.38	0.58	0.42
Control Delay	30.7	23.0	5.9	4.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	30.7	23.0	5.9	4.6
Queue Length 50th (m)	7.7	6.8	43.2	25.4
Queue Length 95th (m)	14.7	19.6	69.0	41.1
Internal Link Dist (m)	92.1		751.4	134.8
Turn Bay Length (m)				
Base Capacity (vph)	1428	692	3270	3239
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.08	0.13	0.58	0.42

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 78.5	
Natural Cycle: 40	
Control Type: Actuated-Uncoordinated	



HCM Signalized Intersection Capacity Analysis  
2: Bronte Rd & HWY 407 EB Off-ramp

Palermo Village  
Future Background PM Peak Hour

	↖	↘	↖	↕	↗	↙
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↗	↖		↕↕↕	↕↕↕	
Traffic Volume (vph)	105	85	0	1815	1295	0
Future Volume (vph)	105	85	0	1815	1295	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.6	3.7	3.7	3.6
Total Lost time (s)	4.0	4.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		*0.80	*0.80	
Frt	1.00	0.85		1.00	1.00	
Fit Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3190	1498		4433	4391	
Fit Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3190	1498		4433	4391	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	111	89	0	1911	1363	0
RTOR Reduction (vph)	0	34	0	0	0	0
Lane Group Flow (vph)	111	55	0	1911	1363	0
Heavy Vehicles (%)	11%	9%	0%	4%	5%	0%
Turn Type	Prot	Prot		NA	NA	
Protected Phases	1	1		2	2	
Permitted Phases						
Actuated Green, G (s)	10.5	10.5		57.9	57.9	
Effective Green, g (s)	10.5	10.5		57.9	57.9	
Actuated g/C Ratio	0.13	0.13		0.74	0.74	
Clearance Time (s)	4.0	4.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		7.0	7.0	
Lane Grp Cap (vph)	427	200		3273	3242	
v/s Ratio Perm	0.03	c0.04		c0.43	0.31	
v/s Ratio Perm						
v/c Ratio	0.26	0.28		0.58	0.42	
Uniform Delay, d1	30.5	30.5		4.7	3.9	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	1.6		0.6	0.3	
Delay (s)	31.1	32.1		5.3	4.2	
Level of Service	C	C		A	A	
Approach Delay (s)	31.6			5.3	4.2	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	78.4	Sum of lost time (s)	10.0
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Queues  
4: Bronte Rd & Proposed N-S Link

Palermo Village  
Future Background PM Peak Hour

	↙	↑	↘	↙	↓	
Lane Group	WBL	NBT	NBR	SBL	SBT	Ø4
Lane Configurations	↘	↑↑↑	↘	↘	↑↑↑	
Traffic Volume (vph)	195	2015	195	60	1320	
Future Volume (vph)	195	2015	195	60	1320	
Lane Group Flow (vph)	280	2167	210	65	1419	
Turn Type	pm+pt	NA	Perm	Prot	NA	
Protected Phases	7	6		5	2	4
Permitted Phases	4		6			
Detector Phase	7	6	6	5	2	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	34.0	34.0	11.0	34.0	34.0
Total Split (s)	39.0	86.0	86.0	15.0	101.0	39.0
Total Split (%)	27.9%	61.4%	61.4%	10.7%	72.1%	28%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	
Lead/Lag		Lag	Lag	Lead		
Lead-Lag Optimize?		Yes	Yes	Yes		
Recall Mode	None	C-Min	C-Min	None	C-Min	None
v/c Ratio	0.76	0.76	0.20	0.45	0.44	
Control Delay	28.4	13.4	6.0	71.4	7.9	
Queue Delay	0.0	0.2	0.0	0.0	0.0	
Total Delay	28.4	13.6	6.0	71.4	7.9	
Queue Length 50th (m)	62.3	89.4	10.1	18.3	59.4	
Queue Length 95th (m)	0.0	78.2	15.8	34.9	82.8	
Internal Link Dist (m)	54.9	124.5			751.4	
Turn Bay Length (m)	15.0		30.0	30.0		
Base Capacity (vph)	455	2852	1061	151	3255	
Starvation Cap Reductn	0	151	0	0	0	
Spillback Cap Reductn	0	0	0	0	70	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.62	0.80	0.20	0.43	0.45	

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 125 (89%), Referenced to phase 2:SBT and 6:NBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Bronte Rd & Proposed N-S Link



HCM Signalized Intersection Capacity Analysis  
4: Bronte Rd & Proposed N-S Link

Palermo Village  
Future Background PM Peak Hour

	↙	↘	↑	↘	↙	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘		↑↑↑	↘	↘	↑↑↑
Traffic Volume (vph)	195	65	2015	195	60	1320
Future Volume (vph)	195	65	2015	195	60	1320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.6	3.7	3.5	3.5	3.7
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00		*0.80	1.00	1.00	*0.80
Frt	0.97		1.00	0.85	1.00	1.00
Fit Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	1789		4391	1597	1785	4391
Fit Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	1789		4391	1597	1785	4391
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	210	70	2167	210	65	1419
RTOR Reduction (vph)	9	0	0	25	0	0
Lane Group Flow (vph)	271	0	2167	185	65	1419
Heavy Vehicles (%)	0%	0%	5%	0%	0%	5%
Turn Type	pm+pt		NA	Perm	Prot	NA
Protected Phases	7		6		5	2
Permitted Phases	4			6		
Actuated Green, G (s)	26.2		87.8	87.8	8.0	101.8
Effective Green, g (s)	28.2		89.8	89.8	10.0	103.8
Actuated g/C Ratio	0.20		0.64	0.64	0.07	0.74
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	360		2816	1024	127	3255
v/s Ratio Prot	c0.15		c0.49		c0.04	0.32
v/s Ratio Perm				0.12		
v/c Ratio	0.75		0.77	0.18	0.51	0.44
Uniform Delay, d1	52.6		17.8	10.2	62.6	6.9
Progression Factor	0.34		0.65	0.73	1.00	1.00
Incremental Delay, d2	7.3		1.0	0.2	3.5	0.4
Delay (s)	25.0		12.5	7.6	66.1	7.3
Level of Service	C		B	A	E	A
Approach Delay (s)	25.0		12.1			9.9
Approach LOS	C		B			A

Intersection Summary

HCM 2000 Control Delay: 12.2 HCM 2000 Level of Service: B  
 HCM 2000 Volume to Capacity ratio: 0.76  
 Actuated Cycle Length (s): 140.0 Sum of lost time (s): 14.0  
 Intersection Capacity Utilization: 67.9% ICU Level of Service: C  
 Analysis Period (min): 15  
 c Critical Lane Group



Queues  
5: Bronte Rd & William Halton Pkwy

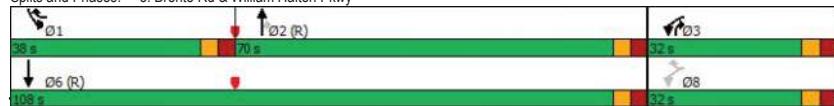
Palermo Village  
Future Background PM Peak Hour

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lane Configurations	↔↔	↔	↑↑↑	↔	↔	↑↑↑	
Traffic Volume (vph)	600	450	1760	60	370	1145	
Future Volume (vph)	600	450	1760	60	370	1145	
Lane Group Flow (vph)	652	489	1913	65	402	1245	
Turn Type	pm+pt	pm+ov	NA	pm+ov	Prot	NA	
Protected Phases	3	1	2	3	1	6	8
Permitted Phases	8	8		2			
Detector Phase	3	1	2	3	1	6	
Switch Phase							
Minimum Initial (s)	5.0	7.0	20.0	5.0	7.0	20.0	10.0
Minimum Split (s)	12.0	14.0	40.4	12.0	14.0	26.4	16.0
Total Split (s)	32.0	38.0	70.0	32.0	38.0	108.0	32.0
Total Split (%)	22.9%	27.1%	50.0%	22.9%	27.1%	77.1%	23%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag		Lead	Lag		Lead		
Lead-Lag Optimize?							
Recall Mode	None	None	C-Min	None	None	C-Min	None
v/c Ratio	0.94	0.66	0.92	0.06	0.95	0.39	
Control Delay	82.9	25.1	46.3	8.9	77.9	6.0	
Queue Delay	2.6	0.4	0.0	0.0	6.5	0.1	
Total Delay	85.5	25.6	46.3	8.9	84.5	6.1	
Queue Length 50th (m)	67.5	47.4	247.4	6.0	117.3	20.7	
Queue Length 95th (m)	#138.9	80.3	m234.0	m7.6	#176.4	28.5	
Internal Link Dist (m)	45.6		412.3			124.5	
Turn Bay Length (m)	130.0	90.0		60.0	55.0		
Base Capacity (vph)	694	741	2072	1093	425	3231	
Starvation Cap Reductn	15	47	0	0	16	651	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.96	0.70	0.92	0.06	0.98	0.48	

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Bronte Rd & William Halton Pkwy



FBPM

HCM Signalized Intersection Capacity Analysis  
5: Bronte Rd & William Halton Pkwy

Palermo Village  
Future Background PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↔	↑↑↑	↔	↔	↑↑↑
Traffic Volume (vph)	600	450	1760	60	370	1145
Future Volume (vph)	600	450	1760	60	370	1145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.7	3.6	3.5	3.7
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	*0.80	1.00	1.00	*0.80
Frbp, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Fit Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3463	1566	4391	1600	1750	4350
Fit Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3463	1566	4391	1600	1750	4350
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	652	489	1913	65	402	1245
RTOR Reduction (vph)	0	2	0	18	0	0
Lane Group Flow (vph)	652	487	1913	47	402	1245
Confl. Peds. (#/hr)				1	1	
Heavy Vehicles (%)	0%	2%	5%	0%	2%	6%
Turn Type	pm+pt	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	3	1	2	3	1	6
Permitted Phases	8	8		2		
Actuated Green, G (s)	26.1	58.0	64.0	90.1	31.9	101.9
Effective Green, g (s)	28.1	62.0	66.0	94.1	33.9	103.9
Actuated g/C Ratio	0.20	0.44	0.47	0.67	0.24	0.74
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	695	738	2070	1121	423	3228
v/s Ratio Prot	c0.19	0.16	c0.44	0.01	c0.23	0.29
v/s Ratio Perm		0.15		0.02		
v/c Ratio	0.94	0.66	0.92	0.04	0.95	0.39
Uniform Delay, d1	55.1	30.7	34.7	7.7	52.2	6.5
Progression Factor	1.14	0.73	1.24	4.17	0.89	0.87
Incremental Delay, d2	18.6	1.9	3.1	0.0	29.4	0.3
Delay (s)	81.6	24.2	46.3	32.3	76.1	6.0
Level of Service	F	C	D	C	E	A
Approach Delay (s)	57.0		45.8		23.1	
Approach LOS	E		D		C	

Intersection Summary

HCM 2000 Control Delay: 40.6  
 HCM 2000 Level of Service: D  
 HCM 2000 Volume to Capacity ratio: 0.95  
 Actuated Cycle Length (s): 140.0  
 Sum of lost time (s): 14.0  
 Intersection Capacity Utilization: 81.6%  
 ICU Level of Service: D  
 Analysis Period (min): 15  
 c Critical Lane Group

FBPM

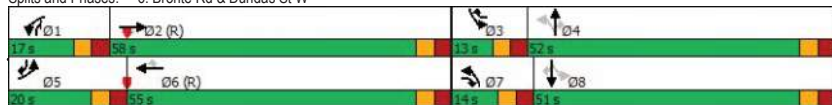
Queues Palermo Village  
**6: Bronte Rd & Dundas St W** Future Background PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔↔	↔	↔↔	↔↔↔	↔	↔↔	↔↔↔	↔	↔↔	↔↔↔	↔↔
Traffic Volume (vph)	360	2050	780	525	1765	270	515	1185	480	215	875	660
Future Volume (vph)	360	2050	780	525	1765	270	515	1185	480	215	875	660
Lane Group Flow (vph)	383	2181	830	559	1878	287	548	1261	511	229	931	702
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2	7	1	6	3	7	4	1	3	8	5
Permitted Phases			2				6	4		4	8	8
Detector Phase	5	2	7	1	6	3	7	4	1	3	8	5
Switch Phase												
Minimum Initial (s)	7.0	20.0	7.0	7.0	20.0	7.0	7.0	10.0	7.0	7.0	10.0	7.0
Minimum Split (s)	13.0	49.0	13.0	13.0	49.0	13.0	13.0	51.0	13.0	13.0	51.0	13.0
Total Split (s)	20.0	58.0	14.0	17.0	55.0	13.0	14.0	52.0	17.0	13.0	51.0	20.0
Total Split (%)	14.3%	41.4%	10.0%	12.1%	39.3%	9.3%	10.0%	37.1%	12.1%	9.3%	36.4%	14.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize?												
Recall Mode	None	C-Min	None	None	C-Min	None	None	None	None	None	None	None
v/c Ratio	1.85	1.25	1.27	1.73	1.14	0.45	1.34	0.84	0.82	0.70	0.63	1.06
Control Delay	421.8	153.0	155.9	366.9	119.3	37.5	191.3	49.2	52.8	47.3	43.1	73.6
Queue Delay	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.4	63.6	0.0	0.0
Total Delay	421.8	153.9	155.9	366.9	119.3	37.5	191.3	49.2	53.2	110.8	43.1	73.6
Queue Length 50th (m)	~175.0	~329.1	~261.0	~124.5	~307.7	m87.5	#117.2	181.5	#188.1	m32.7	m94.4	m#213.0
Queue Length 95th (m)	m#177.4	m#335.7	m#264.5	m#150.3	#307.7	m87.5	#117.2	181.5	#188.1	m32.7	m94.4	m#213.0
Internal Link Dist (m)		215.2		79.0			356.6			412.3		
Turn Bay Length (m)	100.0		80.0	125.0		170.0		85.0	175.0		85.0	
Base Capacity (vph)	207	1743	651	323	1646	638	409	1519	623	325	1488	663
Starvation Cap Reductn	0	0	2	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	396	0	0	0	0	0	0	10	148	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.85	1.62	1.28	1.73	1.14	0.45	1.34	0.83	0.83	1.29	0.63	1.06

**Intersection Summary**

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Bronte Rd & Dundas St W



HCM Signalized Intersection Capacity Analysis Palermo Village  
**6: Bronte Rd & Dundas St W** Future Background PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	↔	↔	↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔	↔↔	↔↔	↔↔
Lane Configurations	↔	↔↔↔	↔	↔↔	↔↔↔	↔	↔↔	↔↔↔	↔	↔↔	↔↔↔	↔↔
Traffic Volume (vph)	360	2050	780	525	1765	270	515	1185	480	215	875	660
Future Volume (vph)	360	2050	780	525	1765	270	515	1185	480	215	875	660
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.6	3.5	3.7	3.5	3.7	3.5	3.7
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Satd. Flow (prot)	1.00	*0.80	1.00	0.97	*0.80	1.00	0.97	*0.80	1.00	0.97	*0.80	1.00
Frpb, ped/bikes	1.00	1.00	0.87	1.00	1.00	0.86	1.00	1.00	0.88	1.00	1.00	0.89
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Fit Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1767	4520	1342	3362	4520	1397	3454	4433	1341	3461	4433	1390
Fit Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.13	1.00	1.00	0.09	1.00	1.00
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	383	2181	830	559	1878	287	548	1261	511	229	931	702
RTOR Reduction (vph)	0	0	38	0	0	40	0	0	40	0	0	39
Lane Group Flow (vph)	383	2181	792	559	1878	247	548	1261	472	229	931	664
Confl. Peds. (#/hr)	150		150	150		150	150		150	150		150
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	1%	2%	3%	3%	2%	0%	0%	4%	5%	0%	4%	2%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2	7	1	6	3	7	4	1	3	8	5
Permitted Phases			2				6	4		4	8	8
Actuated Green, G (s)	14.5	52.0	60.0	11.5	49.0	56.0	53.5	45.5	57.0	51.5	44.5	59.0
Effective Green, g (s)	16.5	54.0	64.0	13.5	51.0	60.0	57.5	47.5	61.0	55.5	46.5	63.0
Actuated g/C Ratio	0.12	0.39	0.46	0.10	0.36	0.43	0.41	0.34	0.44	0.40	0.33	0.45
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	6.0	3.0	3.0	6.0	3.0	3.0	5.0	3.0	3.0	5.0	3.0
Lane Grp Cap (vph)	208	1743	651	324	1646	638	412	1504	622	326	1472	665
v/s Ratio Prot	c0.22	c0.48	c0.09	0.17	0.42	0.02	0.09	0.28	0.07	0.05	0.21	0.12
v/s Ratio Perm			0.50			0.15	c0.45		0.28	0.23		0.36
v/c Ratio	1.84	1.25	1.22	1.73	1.14	0.39	1.33	0.84	0.76	0.70	0.63	1.00
Uniform Delay, d1	61.8	43.0	38.0	63.2	44.5	27.4	33.6	42.7	33.3	32.3	39.5	38.4
Progression Factor	1.05	1.06	0.97	0.73	1.30	1.86	1.12	1.06	1.59	1.41	1.04	0.72
Incremental Delay, d2	383.2	114.3	101.2	334.5	68.6	0.2	159.4	3.2	3.5	5.6	1.0	30.9
Delay (s)	448.0	159.9	138.1	380.7	126.3	51.3	197.0	48.3	56.5	51.0	42.3	58.7
Level of Service	F	F	F	F	F	D	F	D	E	D	D	E
Approach Delay (s)		187.1			170.6		85.3		49.5			
Approach LOS		F			F		F		D			

**Intersection Summary**

HCM 2000 Control Delay	134.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	119.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Queues  
7: Bronte Rd & Highvalley Rd/Pine Glen Rd

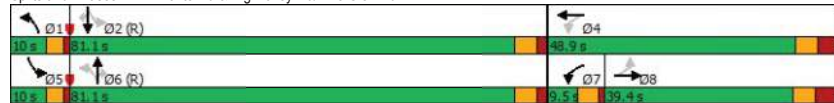
Palermo Village  
Future Background PM Peak Hour

	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	5	10	90	95	60	2175	95	50	2120	10
Future Volume (vph)	5	10	90	95	60	2175	95	50	2120	10
Lane Group Flow (vph)	5	44	98	103	65	2364	103	54	2304	11
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	8	8	7	4	1	6	5	2		
Permitted Phases	8		4		6		6	2		2
Detector Phase	8	8	7	4	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	10.0	10.0	5.0	10.0	6.0	15.0	15.0	6.0	15.0	15.0
Minimum Split (s)	39.4	39.4	9.5	39.1	10.0	32.7	32.7	10.0	32.7	32.7
Total Split (s)	39.4	39.4	9.5	48.9	10.0	81.1	81.1	10.0	81.1	81.1
Total Split (%)	28.1%	28.1%	6.8%	34.9%	7.1%	57.9%	57.9%	7.1%	57.9%	57.9%
Yellow Time (s)	3.7	3.7	3.5	3.7	3.0	3.7	3.0	3.7	3.7	3.7
All-Red Time (s)	3.7	3.7	1.0	3.4	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.4	5.4	2.5	5.1	2.0	3.7	3.7	2.0	3.7	3.7
Lead/Lag	Lag	Lag	Lead		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes							
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.04	0.25	0.45	0.39	0.39	0.74	0.09	0.34	0.72	0.01
Control Delay	59.0	28.5	58.1	57.8	20.6	14.1	1.5	12.7	17.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.0	28.5	58.1	57.8	20.6	14.1	1.5	12.7	17.9	0.0
Queue Length 50th (m)	1.4	3.0	25.3	27.2	3.5	166.2	0.2	3.5	229.7	0.0
Queue Length 95th (m)	6.0	15.5	43.0	45.7	17.9	207.4	6.1	m3.7	m189.2	m0.0
Internal Link Dist (m)		145.4		105.4		203.1			356.6	
Turn Bay Length (m)	25.0		40.0		100.0		90.0	90.0		30.0
Base Capacity (vph)	313	432	217	572	167	3206	1170	158	3182	1135
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.10	0.45	0.18	0.39	0.74	0.09	0.34	0.72	0.01

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBLT, Start of Green  
 Natural Cycle: 135  
 Control Type: Actuated-Coordinated  
 m Volume for 95th percentile queue is metered by upstream signal.

Spits and Phases: 7: Bronte Rd & Highvalley Rd/Pine Glen Rd



HCM Signalized Intersection Capacity Analysis  
7: Bronte Rd & Highvalley Rd/Pine Glen Rd

Palermo Village  
Future Background PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔		↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	5	10	30	90	95	0	60	2175	95	50	2120	10
Future Volume (vph)	5	10	30	90	95	0	60	2175	95	50	2120	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.6	3.5	3.7	3.6	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	5.4	5.4		2.5	5.1		2.0	3.7	3.7	2.0	3.7	3.7
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	*0.80	1.00	1.00	*0.80	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.89		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Fit Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1777	1680		1743	1830		1700	4391	1566	1716	4391	1529
Fit Permitted	0.69	1.00		0.59	1.00		0.04	1.00	1.00	0.04	1.00	1.00
Satd. Flow (perm)	1291	1680		1083	1830		72	4391	1566	73	4391	1529
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	11	33	98	103	0	65	2364	103	54	2304	11
RTOR Reduction (vph)	0	31	0	0	0	0	0	0	29	0	0	3
Lane Group Flow (vph)	5	13	0	98	103	0	65	2364	74	54	2304	8
Confl. Peds. (#/hr)	4		6	6		4	9					9
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	0%	0%	2%	5%	3%	5%	5%	2%	4%	5%	0%
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	8			7	4		1	6		5	2	
Permitted Phases	8			4			6		6	2		2
Actuated Green, G (s)	8.4	8.4		19.8	19.8		104.2	97.9	97.9	102.6	97.1	97.1
Effective Green, g (s)	10.4	10.4		21.8	21.8		108.2	99.9	99.9	106.6	99.1	99.1
Actuated g/C Ratio	0.07	0.07		0.16	0.16		0.77	0.71	0.71	0.76	0.71	0.71
Clearance Time (s)	7.4	7.4		4.5	7.1		4.0	5.7	5.7	4.0	5.7	5.7
Vehicle Extension (s)	5.0	5.0		3.0	5.0		3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	95	124		209	284		152	3133	1117	143	3108	1082
v/s Ratio Prot	0.01			c0.03	0.06		c0.03	c0.54		0.02	0.52	
v/s Ratio Perm	0.00			c0.04			0.31		0.05	0.27		0.01
v/c Ratio	0.05	0.11		0.47	0.36		0.43	0.75	0.07	0.38	0.74	0.01
Uniform Delay, d1	60.2	60.5		52.9	52.9		17.7	12.4	6.0	15.9	12.6	6.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.01	1.39	1.00
Incremental Delay, d2	0.5	0.8		1.7	1.6		1.9	1.7	0.1	0.2	0.1	0.0
Delay (s)	60.7	61.3		54.6	54.5		19.7	14.2	6.1	16.2	17.7	6.0
Level of Service	E	E		D	D		B	B	A	B	B	A
Approach Delay (s)		61.2			54.5			14.0				17.6
Approach LOS		E			D			B				B

Intersection Summary

HCM 2000 Control Delay: 17.7, HCM 2000 Level of Service: B  
 HCM 2000 Volume to Capacity ratio: 0.70  
 Actuated Cycle Length (s): 140.0, Sum of lost time (s): 13.6  
 Intersection Capacity Utilization: 71.0%, ICU Level of Service: C  
 Analysis Period (min): 15  
 c Critical Lane Group

Queues  
8: Proposed N-S Link & William Halton Pkwy

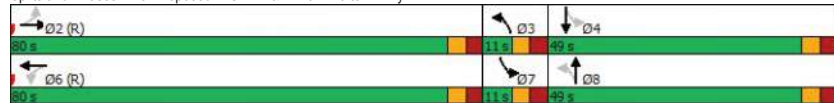
Palermo Village  
Future Background PM Peak Hour

Lane Group	EBT	WBT	NBT	SBT	Ø3	Ø7
Lane Configurations	↔↔	↔↔	↔	↔		
Traffic Volume (vph)	380	1050	245	95		
Future Volume (vph)	380	1050	245	95		
Lane Group Flow (vph)	442	1221	332	110		
Turn Type	NA	NA	NA	NA		
Protected Phases	2	6	8	4	3	7
Permitted Phases						
Detector Phase	2	6	8	4		
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	34.0	34.0	34.0	34.0	11.0	11.0
Total Split (s)	80.0	80.0	49.0	49.0	11.0	11.0
Total Split (%)	57.1%	57.1%	35.0%	35.0%	8%	8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0		
Total Lost Time (s)	4.0	4.0	4.0	4.0		
Lead/Lag			Lag	Lag	Lead	Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes
Recall Mode	C-Min	C-Min	Min	Min	None	None
v/c Ratio	0.18	0.48	0.77	0.25		
Control Delay	1.6	10.3	53.9	39.5		
Queue Delay	0.0	0.1	0.0	0.0		
Total Delay	1.6	10.3	53.9	39.5		
Queue Length 50th (m)	4.1	74.6	74.3	23.1		
Queue Length 95th (m)	m4.9	102.8	m55.0	37.4		
Internal Link Dist (m)	39.0	253.2	203.2	128.4		
Turn Bay Length (m)						
Base Capacity (vph)	2521	2546	596	610		
Starvation Cap Reductn	0	0	0	0		
Spillback Cap Reductn	0	217	0	0		
Storage Cap Reductn	0	0	0	0		
Reduced v/c Ratio	0.18	0.52	0.56	0.18		

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Proposed N-S Link & William Halton Pkwy



FBPM

Synchro 11 Report  
Page 13

HCM Signalized Intersection Capacity Analysis  
8: Proposed N-S Link & William Halton Pkwy

Palermo Village  
Future Background PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↔	↔		↔	↔	
Traffic Volume (vph)	0	380	0	0	1050	0	0	245	40	0	95	0
Future Volume (vph)	0	380	0	0	1050	0	0	245	40	0	95	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Fr <sub>t</sub>		1.00			1.00			0.98			1.00	
Fit Protected		1.00			1.00			1.00			1.00	
Satd. Flow (prot)		3539			3574			1844			1900	
Fit Permitted		1.00			1.00			1.00			1.00	
Satd. Flow (perm)		3539			3574			1844			1900	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	442	0	0	1221	0	0	285	47	0	110	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	442	0	0	1221	0	0	327	0	0	110	0
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	0%	6%	0%	0%	0%
Turn Type		NA			NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases		2			6		8			4		
Actuated Green, G (s)		97.7			97.7			30.3			30.3	
Effective Green, g (s)		99.7			99.7			32.3			32.3	
Actuated g/C Ratio		0.71			0.71			0.23			0.23	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2520			2545			425			438	
v/s Ratio Prot		0.12			0.34			0.18			0.06	
v/s Ratio Perm												
v/c Ratio		0.18			0.48			0.77			0.25	
Uniform Delay, d1		6.6			8.8			50.4			44.0	
Progression Factor		0.20			1.00			0.98			0.90	
Incremental Delay, d2		0.1			0.7			4.0			0.3	
Delay (s)		1.4			9.5			53.3			39.8	
Level of Service		A			A			D			D	
Approach Delay (s)		1.4			9.5			53.3			39.8	
Approach LOS		A			A			D			D	

Intersection Summary

HCM 2000 Control Delay: 16.3, HCM 2000 Level of Service: B  
 HCM 2000 Volume to Capacity ratio: 0.57  
 Actuated Cycle Length (s): 140.0, Sum of lost time (s): 12.0  
 Intersection Capacity Utilization: 51.0%, ICU Level of Service: A  
 Analysis Period (min): 15

c Critical Lane Group

FBPM

Synchro 11 Report  
Page 14

Queues  
9: Dundas St W & Proposed N-S Link

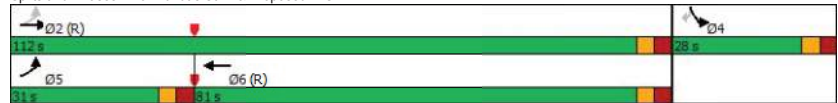
Palermo Village  
Future Background PM Peak Hour

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations	↔	↕↕	↕↕↕	↔	↕↕
Traffic Volume (vph)	315	2445	2270	205	130
Future Volume (vph)	315	2445	2270	205	130
Lane Group Flow (vph)	325	2521	2577	211	134
Turn Type	pm+pt	NA	NA	Prot	Perm
Protected Phases	5	2	6	4	
Permitted Phases	2				4
Detector Phase	5	2	6	4	4
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.5	34.0	34.0	24.0	24.0
Total Split (s)	31.0	112.0	81.0	28.0	28.0
Total Split (%)	22.1%	80.0%	57.9%	20.0%	20.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	6.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	C-Min	C-Min	Min	Min
v/c Ratio	0.92	0.90	0.89	0.76	0.37
Control Delay	40.4	23.3	30.9	78.7	18.3
Queue Delay	0.0	46.2	0.0	0.0	0.0
Total Delay	40.4	69.5	30.9	78.7	18.3
Queue Length 50th (m)	63.2	382.6	243.7	61.2	10.1
Queue Length 95th (m)	m55.5	m320.2	269.0	89.8	23.0
Internal Link Dist (m)		105.2	334.8	152.5	
Turn Bay Length (m)				40.0	
Base Capacity (vph)	376	2788	2910	309	387
Starvation Cap Reductn	0	921	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.86	1.35	0.89	0.68	0.35

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 59 (42%), Referenced to phase 2:EBTL and 6:WBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Dundas St W & Proposed N-S Link



HCM Signalized Intersection Capacity Analysis  
9: Dundas St W & Proposed N-S Link

Palermo Village  
Future Background PM Peak Hour

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔	↕↕	↕↕↕		↔	↕↕
Traffic Volume (vph)	315	2445	2270	230	205	130
Future Volume (vph)	315	2445	2270	230	205	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.91		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Fit Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1805	3539	5024		1805	1615
Fit Permitted	0.05	1.00	1.00		0.95	1.00
Satd. Flow (perm)	90	3539	5024		1805	1615
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	325	2521	2340	237	211	134
RTOR Reduction (vph)	0	0	8	0	0	113
Lane Group Flow (vph)	325	2521	2569	0	211	21
Heavy Vehicles (%)	0%	2%	2%	0%	0%	0%
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	108.3	108.3	78.9		19.7	19.7
Effective Green, g (s)	108.3	110.3	80.9		21.7	21.7
Actuated g/C Ratio	0.77	0.79	0.58		0.15	0.15
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	356	2788	2903		279	250
v/s Ratio Prot	0.15	c0.71	0.51		c0.12	
v/s Ratio Perm	0.56					0.01
v/c Ratio	0.91	0.90	0.88		0.76	0.08
Uniform Delay, d1	48.6	11.0	25.5		56.6	50.6
Progression Factor	0.83	1.90	1.00		1.09	1.94
Incremental Delay, d2	3.7	0.5	4.4		11.1	0.1
Delay (s)	44.0	21.4	29.9		72.7	98.6
Level of Service	D	C	C		E	F
Approach Delay (s)		23.9	29.9		82.7	
Approach LOS		C	C		F	

Intersection Summary

HCM 2000 Control Delay 30.1 HCM 2000 Level of Service C  
 HCM 2000 Volume to Capacity ratio 0.92  
 Actuated Cycle Length (s) 140.0 Sum of lost time (s) 14.0  
 Intersection Capacity Utilization 89.5% ICU Level of Service E  
 Analysis Period (min) 15  
 c Critical Lane Group

Queues  
10: Valleyridge Dr & Dundas St W

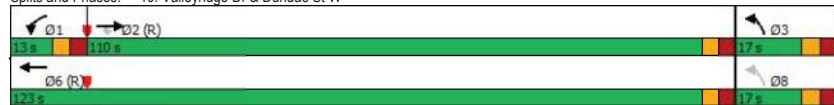
Palermo Village  
Future Background PM Peak Hour

Lane Group	EBT	EBR	WBL	WBT	NBL	Ø8
Lane Configurations	↑↑↑	↑	↑	↑↑↑	↑	↑
Traffic Volume (vph)	3150	45	60	2880	120	
Future Volume (vph)	3150	45	60	2880	120	
Lane Group Flow (vph)	3462	49	66	3165	181	
Turn Type	NA	Perm	Prot	NA	pm+pt	
Protected Phases	2		1	6	3	8
Permitted Phases		2				8
Detector Phase	2	2	1	6	3	
Switch Phase						
Minimum Initial (s)	20.0	20.0	7.0	20.0	5.0	10.0
Minimum Split (s)	37.7	37.7	13.0	37.7	11.0	16.7
Total Split (s)	110.0	110.0	13.0	123.0	17.0	17.0
Total Split (%)	78.6%	78.6%	9.3%	87.9%	12.1%	12%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?						
Recall Mode	C-Min	C-Min	None	C-Min	None	None
v/c Ratio	0.99	0.04	0.58	0.82	1.05	
Control Delay	28.7	1.4	76.4	4.9	138.8	
Queue Delay	1.8	0.0	0.0	18.9	0.0	
Total Delay	30.5	1.4	76.4	23.7	138.8	
Queue Length 50th (m)	~404.1	0.3	20.1	43.9	~54.4	
Queue Length 95th (m)	#465.2	3.4	m18.2	m38.2	#105.3	
Internal Link Dist (m)	169.8			215.2	84.7	
Turn Bay Length (m)		90.0	45.0		25.0	
Base Capacity (vph)	3506	1223	114	3880	172	
Starvation Cap Reductn	0	0	0	819	0	
Spillback Cap Reductn	34	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	1.00	0.04	0.58	1.03	1.05	

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 130  
 Control Type: Actuated-Coordinated  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Valleyridge Dr & Dundas St W



HCM Signalized Intersection Capacity Analysis  
10: Valleyridge Dr & Dundas St W

Palermo Village  
Future Background PM Peak Hour

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑	↑↑↑	↑	↑
Traffic Volume (vph)	3150	45	60	2880	120	45
Future Volume (vph)	3150	45	60	2880	120	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.6	3.5	3.7	3.5	3.7
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	*0.80	1.00	1.00	*0.80	1.00	
Frbp, ped/bikes	1.00	0.97	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.96	
Flt Protected	1.00	1.00	0.95	1.00	0.96	
Satd. Flow (prot)	4520	1565	1785	4565	1747	
Flt Permitted	1.00	1.00	0.95	1.00	0.96	
Satd. Flow (perm)	4520	1565	1785	4565	1747	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	3462	49	66	3165	132	49
RTOR Reduction (vph)	0	10	0	0	10	0
Lane Group Flow (vph)	3462	39	66	3165	171	0
Confl. Peds. (#/hr)		5	5			1
Heavy Vehicles (%)	2%	0%	0%	1%	0%	0%
Turn Type	NA	Perm	Prot	NA	pm+pt	
Protected Phases	2		1	6	3	
Permitted Phases		2				8
Actuated Green, G (s)	105.4	105.4	5.6	117.0	11.0	
Effective Green, g (s)	107.4	107.4	7.6	119.0	13.0	
Actuated g/C Ratio	0.77	0.77	0.05	0.85	0.09	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	3467	1200	96	3880	162	
v/s Ratio Prot	c0.77		0.04	c0.69	c0.10	
v/s Ratio Perm		0.02				
v/c Ratio	1.00	0.03	0.69	0.82	1.06	
Uniform Delay, d1	16.2	3.9	65.0	5.1	63.5	
Progression Factor	1.00	1.00	1.16	0.87	1.00	
Incremental Delay, d2	15.0	0.1	1.9	0.2	86.3	
Delay (s)	31.2	3.9	77.4	4.6	149.8	
Level of Service	C	A	E	A	F	
Approach Delay (s)	30.8			6.1	149.8	
Approach LOS	C			A	F	

Intersection Summary

HCM 2000 Control Delay: 22.4, HCM 2000 Level of Service: C  
 HCM 2000 Volume to Capacity ratio: 1.02  
 Actuated Cycle Length (s): 140.0, Sum of lost time (s): 14.0  
 Intersection Capacity Utilization: 76.9%, ICU Level of Service: D  
 Analysis Period (min): 15  
 c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
 14: Old Bronte Road/Old Bronte Rd & Proposed E-W Link

Palermo Village  
 Future Background PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↘			↖
Traffic Volume (veh/h)	0	0	45	0	0	90
Future Volume (Veh/h)	0	0	45	0	0	90
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	47	0	0	95
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	142	47			47	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	142	47			47	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	856	1028			1573	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	0	47	95			
Volume Left	0	0	0			
Volume Right	0	0	0			
eSH	1700	1700	1700			
Volume to Capacity	0.00	0.03	0.06			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			8.1%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 15: Old Bronte Rd & William Halton Pkwy

Palermo Village  
 Future Background PM Peak Hour

Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↖	↗		↖	↗	↖	
Traffic Volume (veh/h)	335	90	0	1050	0	45	
Future Volume (Veh/h)	335	90	0	1050	0	45	
Sign Control	Free			Free	Stop		
Grade	0%			0%	0%		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	
Hourly flow rate (vph)	390	105	0	1221	0	52	
Pedestrians							
Lane Width (m)							
Walking Speed (m/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None			None			
Median storage (veh)							
Upstream signal (m)	69			63			
pX, platoon unblocked					0.87		
vC, conflicting volume			495		850	248	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol			495		287	248	
tC, single (s)			4.1		6.8	7.0	
tC, 2 stage (s)							
tF (s)			2.2		3.5	3.4	
p0 queue free %			100		100	93	
cM capacity (veh/h)			1079		594	741	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	
Volume Total	260	235	244	488	488	52	
Volume Left	0	0	0	0	0	0	
Volume Right	0	105	0	0	0	52	
eSH	1700	1700	1079	1700	1700	741	
Volume to Capacity	0.15	0.14	0.00	0.29	0.29	0.07	
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	1.8	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.2	
Lane LOS						B	
Approach Delay (s)	0.0		0.0			10.2	
Approach LOS						B	
Intersection Summary							
Average Delay				0.3			
Intersection Capacity Utilization				30.3%		ICU Level of Service	A
Analysis Period (min)				15			

HCM Unsignalized Intersection Capacity Analysis  
16: Old Bronte Road & Dundas St W

Palermo Village  
Future Background PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑				↑			↑
Traffic Volume (veh/h)	0	2685	60	0	2350	50	0	0	75	0	0	205
Future Volume (Veh/h)	0	2685	60	0	2350	50	0	0	75	0	0	205
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	2768	62	0	2423	52	0	0	77	0	0	211
Pedestrians									9			
Lane Width (m)									3.6			
Walking Speed (m/s)									1.2			
Percent Blockage									1			
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)		103			129							
pX, platoon unblocked	0.55			0.60			0.75	0.75	0.60	0.75	0.75	0.55
vC, conflicting volume	2475			2839			3827	5283	963	3449	5288	834
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	838			1750			45	1984	0	0	1990	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	88	100	100	65
cM capacity (veh/h)	445			218			462	46	654	678	46	603
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1				
Volume Total	1107	1107	616	969	969	537	77	211				
Volume Left	0	0	0	0	0	0	0	0				
Volume Right	0	0	62	0	0	52	77	211				
eSH	1700	1700	1700	1700	1700	1700	654	603				
Volume to Capacity	0.65	0.65	0.36	0.57	0.57	0.32	0.12	0.35				
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0	3.2	12.5				
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	11.2	14.1				
Lane LOS							B	B				
Approach Delay (s)	0.0			0.0			11.2	14.1				
Approach LOS							B	B				
Intersection Summary												
Average Delay				0.7								
Intersection Capacity Utilization				65.9%			ICU Level of Service		C			
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis  
17: Proposed N-S Link & Proposed E-W Link

Palermo Village  
Future Background PM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑	↑	↑
Traffic Volume (veh/h)	0	0	0	315	205	0
Future Volume (Veh/h)	0	0	0	315	205	0
Sign Control		Stop		Free	Free	
Grade		0%		0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	332	216	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)				176	227	
pX, platoon unblocked	0.97	0.97	0.97			
vC, conflicting volume	548	216	216			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	516	173	173			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	506	847	1370			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	332	216			
Volume Left	0	0	0			
Volume Right	0	0	0			
eSH	1700	1700	1700			
Volume to Capacity	0.00	0.20	0.13			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS		A				
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS		A				
Intersection Summary						
Average Delay				0.0		
Intersection Capacity Utilization				19.9%		ICU Level of Service
Analysis Period (min)				15		A



Queues

1: Bronte Rd & Bronte Carpool Lot/HWY 407 WB Off-ramp

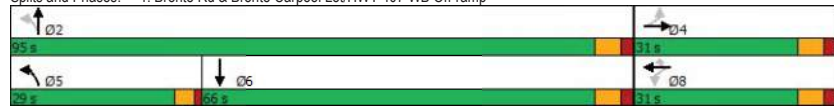
Palermo Village  
Future Total AM Peak Hour

	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBT
Lane Configurations		↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	40	0	145	5	40	35	1070	1665
Future Volume (vph)	40	0	145	5	40	35	1070	1665
Lane Group Flow (vph)	0	78	79	77	42	36	1115	1791
Turn Type	Perm	NA	Perm	NA	Perm	pm+pt	NA	NA
Protected Phases		4		8		5	2	6
Permitted Phases	4		8		8		2	
Detector Phase	4	4	8	8	8	5	2	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	20.0	20.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	9.0	26.0	26.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0	29.0	95.0	66.0
Total Split (%)	24.6%	24.6%	24.6%	24.6%	24.6%	23.0%	75.4%	52.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	4.0	6.0	6.0
Lead/Lag						Lead		Lag
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	None	Min	Min
v/c Ratio		0.32	0.46	0.48	0.17	0.19	0.53	0.62
Control Delay		17.3	45.8	47.8	6.9	5.8	6.9	11.2
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		17.3	45.8	47.8	6.9	5.8	6.9	11.2
Queue Length 50th (m)		2.9	14.9	14.6	0.0	1.4	47.6	81.3
Queue Length 95th (m)		16.0	30.2	30.1	5.9	4.6	81.1	119.2
Internal Link Dist (m)		43.9		67.3			215.2	148.4
Turn Bay Length (m)								
Base Capacity (vph)		417	341	314	413	522	2702	2908
Starvation Cap Reductn		0	0	0	0	0	0	0
Spillback Cap Reductn		0	0	0	0	0	0	0
Storage Cap Reductn		0	0	0	0	0	0	0
Reduced v/c Ratio		0.19	0.23	0.25	0.10	0.07	0.41	0.62

Intersection Summary

Cycle Length: 126  
Actuated Cycle Length: 93.4  
Natural Cycle: 60  
Control Type: Actuated-Uncoordinated

Spits and Phases: 1: Bronte Rd & Bronte Carpool Lot/HWY 407 WB Off-ramp



HCM Signalized Intersection Capacity Analysis

1: Bronte Rd & Bronte Carpool Lot/HWY 407 WB Off-ramp

Palermo Village  
Future Total AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔	↔	↔	↔			↔	↔
Traffic Volume (vph)	40	0	35	145	5	40	35	1070	0	0	1665	55
Future Volume (vph)	40	0	35	145	5	40	35	1070	0	0	1665	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.6	3.7	3.6	3.7	3.7	3.7	3.7	3.7	3.6	3.6	3.7	3.6
Total Lost time (s)		6.0		6.0	6.0	6.0	4.0	6.0			6.0	
Lane Util. Factor		1.00		0.95	0.95	1.00	1.00	0.80			0.80	
Frbp, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00			1.00	
Frt		0.94		1.00	1.00	0.85	1.00	1.00			1.00	
Fit Protected		0.97		0.95	0.96	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		1715		1562	1493	1372	1738	2873			4334	
Fit Permitted		0.79		0.77	0.75	1.00	0.06	1.00			1.00	
Satd. Flow (perm)		1388		1268	1169	1372	114	2873			4334	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	42	0	36	151	5	42	36	1115	0	0	1734	57
RTOR Reduction (vph)	0	53	0	0	0	36	0	0	0	0	2	0
Lane Group Flow (vph)	0	25	0	79	77	6	36	1115	0	0	1789	0
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)		0%	0%	5%	11%	100%	19%	5%	7%	0%	0%	6%
Turn Type		Perm		NA	Perm	NA	Perm	pm+pt	NA			NA
Protected Phases		4			8		5	2				6
Permitted Phases		4			8		8	2				
Actuated Green, G (s)		12.8		12.8	12.8	12.8	70.3	70.3				62.7
Effective Green, g (s)		12.8		12.8	12.8	12.8	70.3	70.3				62.7
Actuated g/C Ratio		0.13		0.13	0.13	0.13	0.74	0.74				0.66
Clearance Time (s)		6.0		6.0	6.0	6.0	4.0	6.0				6.0
Vehicle Extension (s)		3.0		4.0	4.0	4.0	2.5	7.0				7.0
Lane Grp Cap (vph)		186		170	157	184	145	2123				2857
v/s Ratio Prot							0.01	c0.39				c0.41
v/s Ratio Perm		0.02		0.06	c0.07	0.00	0.17					
v/c Ratio		0.14		0.46	0.49	0.03	0.25	0.53				0.63
Uniform Delay, d1		36.3		38.0	38.1	35.8	6.2	5.3				9.4
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00				1.00
Incremental Delay, d2		0.3		2.7	3.3	0.1	0.7	0.7				0.9
Delay (s)		36.6		40.7	41.4	35.9	6.9	6.0				10.3
Level of Service		D		D	D	D	A	A				B
Approach Delay (s)		36.6			39.9			6.0				10.3
Approach LOS		D			D			A				B

Intersection Summary

HCM 2000 Control Delay: 11.2  
HCM 2000 Level of Service: B  
HCM 2000 Volume to Capacity ratio: 0.61  
Actuated Cycle Length (s): 95.1  
Sum of lost time (s): 16.0  
Intersection Capacity Utilization: 54.4%  
ICU Level of Service: A  
Analysis Period (min): 15

c Critical Lane Group

Queues  
2: Bronte Rd & HWY 407 EB Off-ramp

Palermo Village  
Future Total AM Peak Hour

Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	150	330	985	1755
Future Volume (vph)	150	330	985	1755
Lane Group Flow (vph)	155	340	1015	1809
Turn Type	Prot	Prot	NA	NA
Protected Phases	1	1	2	2
Permitted Phases				
Detector Phase	1	1	2	2
Switch Phase				
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	9.0	9.0	26.0	26.0
Total Split (s)	39.0	39.0	61.0	61.0
Total Split (%)	39.0%	39.0%	61.0%	61.0%
Yellow Time (s)	3.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?				
Recall Mode	None	None	Min	Min
v/c Ratio	0.17	0.74	0.38	0.69
Control Delay	24.4	39.0	10.4	14.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	24.4	39.0	10.4	14.8
Queue Length 50th (m)	11.0	54.5	36.7	86.6
Queue Length 95th (m)	18.3	84.8	59.6	135.7
Internal Link Dist (m)	92.1		656.0	134.8
Turn Bay Length (m)				
Base Capacity (vph)	1236	628	2649	2624
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.13	0.54	0.38	0.69

Intersection Summary

Cycle Length: 100  
Actuated Cycle Length: 90.8  
Natural Cycle: 60  
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Bronte Rd & HWY 407 EB Off-ramp



HCM Signalized Intersection Capacity Analysis  
2: Bronte Rd & HWY 407 EB Off-ramp

Palermo Village  
Future Total AM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	150	330	0	985	1755	0
Future Volume (vph)	150	330	0	985	1755	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.6	3.7	3.7	3.6
Total Lost time (s)	4.0	4.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		*0.80	*0.80	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3190	1601		4350	4309	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3190	1601		4350	4309	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	155	340	0	1015	1809	0
RTOR Reduction (vph)	0	9	0	0	0	0
Lane Group Flow (vph)	155	331	0	1015	1809	0
Confl. Bikes (#/hr)						1
Heavy Vehicles (%)	11%	2%	0%	6%	7%	0%
Turn Type	Prot	Prot		NA	NA	
Protected Phases	1	1		2	2	
Permitted Phases						
Actuated Green, G (s)	25.4	25.4		55.3	55.3	
Effective Green, g (s)	25.4	25.4		55.3	55.3	
Actuated g/C Ratio	0.28	0.28		0.61	0.61	
Clearance Time (s)	4.0	4.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		7.0	7.0	
Lane Grp Cap (vph)	893	448		2652	2627	
v/s Ratio Prot	0.05	c0.21		0.23	c0.42	
v/s Ratio Perm						
v/c Ratio	0.17	0.74		0.38	0.69	
Uniform Delay, d1	24.7	29.6		9.0	11.9	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	7.6		0.3	1.3	
Delay (s)	24.9	37.3		9.3	13.3	
Level of Service	C	D		A	B	
Approach Delay (s)	33.4			9.3	13.3	
Approach LOS	C			A	B	

Intersection Summary

HCM 2000 Control Delay 15.1 HCM 2000 Level of Service B  
 HCM 2000 Volume to Capacity ratio 0.70  
 Actuated Cycle Length (s) 90.7 Sum of lost time (s) 10.0  
 Intersection Capacity Utilization 62.7% ICU Level of Service B  
 Analysis Period (min) 15

c Critical Lane Group

Queues  
3: Bronte Rd & Street C

Palermo Village  
Future Total AM Peak Hour

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations	↖	↗	↖	↑↑↑	↑↑↑
Traffic Volume (vph)	15	80	50	1290	2055
Future Volume (vph)	15	80	50	1290	2055
Lane Group Flow (vph)	15	82	52	1330	2150
Turn Type	Prot	Perm	Prot	NA	NA
Protected Phases	8		1	6	2
Permitted Phases	8				
Detector Phase	8	8	1	6	2
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0
Total Split (s)	25.0	25.0	13.0	115.0	102.0
Total Split (%)	17.9%	17.9%	9.3%	82.1%	72.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Min	C-Min
v/c Ratio	0.13	0.45	0.36	0.35	0.63
Control Delay	62.8	20.0	59.4	1.4	8.5
Queue Delay	0.0	0.1	0.0	0.1	12.3
Total Delay	62.8	20.1	59.4	1.4	20.8
Queue Length 50th (m)	4.2	0.0	15.4	26.3	102.5
Queue Length 95th (m)	11.6	16.8	31.3	7.4	149.6
Internal Link Dist (m)	53.6			72.4	656.0
Turn Bay Length (m)	15.0				
Base Capacity (vph)	270	311	149	3814	3405
Starvation Cap Reductn	0	0	0	889	0
Spillback Cap Reductn	0	23	0	0	1271
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.06	0.28	0.35	0.45	1.01

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated

Splits and Phases: 3: Bronte Rd & Street C



HCM Signalized Intersection Capacity Analysis  
3: Bronte Rd & Street C

Palermo Village  
Future Total AM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑↑↑	↑↑↑	
Traffic Volume (vph)	15	80	50	1290	2055	30
Future Volume (vph)	15	80	50	1290	2055	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.6	3.6	3.6	3.7	3.7	3.6
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	*0.80	*0.80	
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	1.00	
Fit Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1805	1615	1805	4350	4343	
Fit Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1805	1615	1805	4350	4343	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	15	82	52	1330	2119	31
RTOR Reduction (vph)	0	77	0	0	1	0
Lane Group Flow (vph)	15	5	52	1330	2149	0
Confl. Bikes (#/hr)						1
Heavy Vehicles (%)	0%	0%	0%	6%	6%	0%
Turn Type	Prot	Perm	Prot	NA	NA	
Protected Phases	8		1	6	2	
Permitted Phases	8					
Actuated Green, G (s)	7.2	7.2	8.2	120.8	106.6	
Effective Green, g (s)	9.2	9.2	10.2	122.8	108.6	
Actuated g/C Ratio	0.07	0.07	0.07	0.88	0.78	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	118	106	131	3815	3368	
v/s Ratio Prot	c0.01		0.03	c0.31	c0.49	
v/s Ratio Perm		0.00				
v/c Ratio	0.13	0.05	0.40	0.35	0.64	
Uniform Delay, d1	61.6	61.3	62.0	1.5	7.0	
Progression Factor	1.00	1.00	0.89	0.70	1.00	
Incremental Delay, d2	0.5	0.2	1.8	0.2	0.9	
Delay (s)	62.1	61.5	56.7	1.3	7.9	
Level of Service	E	E	E	A	A	
Approach Delay (s)	61.6			3.4	7.9	
Approach LOS	E			A	A	

Intersection Summary

HCM 2000 Control Delay	7.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

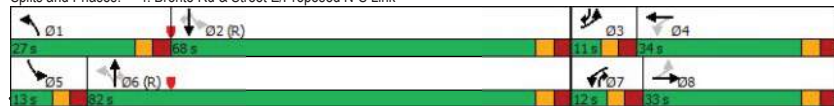
Queues  
4: Bronte Rd & Street E/Proposed N-S Link

Palermo Village  
Future Total AM Peak Hour

	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	70	25	50	70	450	1245	15	100	1860	180
Future Volume (vph)	70	25	50	70	450	1245	15	100	1860	180
Lane Group Flow (vph)	71	169	51	97	459	1270	15	102	1898	184
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	3	8	7	4	1	6	7	5	2	3
Permitted Phases	8		4		6		6	2		2
Detector Phase	3	8	7	4	1	6	7	5	2	3
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	11.0	34.0	11.0	34.0	11.0	11.0	34.0	11.0
Total Split (s)	11.0	33.0	12.0	34.0	27.0	82.0	12.0	13.0	68.0	11.0
Total Split (%)	7.9%	23.6%	8.6%	24.3%	19.3%	58.6%	8.6%	9.3%	48.6%	7.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	None	C-Min	None
v/c Ratio	0.37	0.55	0.54	0.51	0.82	0.43	0.01	0.38	0.96	0.21
Control Delay	54.0	20.4	63.9	50.5	73.0	4.0	0.0	16.1	45.4	7.8
Queue Delay	0.0	0.2	3.2	0.0	0.0	0.1	0.0	0.0	42.8	0.5
Total Delay	54.0	20.6	67.2	50.5	73.0	4.2	0.0	16.1	88.2	8.4
Queue Length 50th (m)	17.9	7.1	6.9	12.3	128.3	16.5	0.0	10.0	240.6	20.1
Queue Length 95th (m)	31.7	30.0	21.7	32.1	m#172.3	20.5	m0.0	m8.8	#265.2	11.6
Internal Link Dist (m)		53.2		54.9		124.5			72.4	
Turn Bay Length (m)	15.0		15.0		30.0		30.0	30.0		30.0
Base Capacity (vph)	192	457	94	400	559	2933	1221	272	1969	861
Starvation Cap Reductn	0	0	0	0	0	554	0	0	266	385
Spillback Cap Reductn	0	42	11	0	0	0	0	0	63	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.41	0.61	0.24	0.82	0.53	0.01	0.38	1.11	0.39

**Intersection Summary**  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBLT, Start of Green  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Bronte Rd & Street E/Proposed N-S Link



FTAM Palermo Village 7:28 pm 08-24-2021 Future Total AM Peak Hour  
BA Group - LF

HCM Signalized Intersection Capacity Analysis  
4: Bronte Rd & Street E/Proposed N-S Link

Palermo Village  
Future Total AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	70	25	140	50	70	25	450	1245	15	100	1860	180
Future Volume (vph)	70	25	140	50	70	25	450	1245	15	100	1860	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.6	3.6	3.6	3.7	3.6	3.6	3.6	3.7	3.5	3.5	3.7	3.6
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.80	1.00	1.00	0.80	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.87		1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Fit Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	1659		1099	1824		1805	4391	1597	1785	4309	1585
Fit Permitted	0.54	1.00		0.27	1.00		0.06	1.00	1.00	0.17	1.00	1.00
Satd. Flow (perm)	1033	1659		318	1824		114	4391	1597	323	4309	1585
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	71	26	143	51	71	26	459	1270	15	102	1898	184
RTOR Reduction (vph)	0	127	0	0	11	0	0	0	4	0	0	59
Lane Group Flow (vph)	71	42	0	51	86	0	459	1270	11	102	1898	125
Conf. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	0%	66%	0%	0%	0%	5%	0%	0%	7%	0%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	3	8		7	4		1	6	7	5	2	3
Permitted Phases	8			4			6		6	2		2
Actuated Green, G (s)	18.3	13.3		17.9	13.1		103.9	90.3	95.1	68.4	60.8	65.8
Effective Green, g (s)	22.3	15.3		21.9	15.1		105.9	92.3	99.1	72.4	62.8	69.8
Actuated g/C Ratio	0.16	0.11		0.16	0.11		0.76	0.66	0.71	0.52	0.45	0.50
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	203	181		87	196		558	2894	1176	267	1932	835
v/s Ratio Prot	0.02	0.03		c0.03	0.05		c0.23	0.29	0.00	0.03	c0.44	0.01
v/s Ratio Perm	0.04			c0.06			0.39		0.01	0.17		0.07
v/c Ratio	0.35	0.23		0.59	0.44		0.82	0.44	0.01	0.38	0.98	0.15
Uniform Delay, d1	51.5	57.0		52.5	58.5		40.6	11.4	6.0	17.3	38.1	19.0
Progression Factor	1.00	1.00		0.88	0.80		1.76	0.33	1.00	1.25	0.92	1.16
Incremental Delay, d2	1.0	0.7		9.6	1.6		6.2	0.3	0.0	0.7	14.5	0.1
Delay (s)	52.6	57.6		55.6	48.5		77.5	4.1	6.0	22.4	49.5	22.1
Level of Service	D	E		E	D		E	A	A	C	D	C
Approach Delay (s)	56.1			51.0			23.4			45.9		
Approach LOS	E			D			C			D		

**Intersection Summary**  
 HCM 2000 Control Delay: 37.5  
 HCM 2000 Level of Service: D  
 HCM 2000 Volume to Capacity ratio: 0.86  
 Actuated Cycle Length (s): 140.0  
 Sum of lost time (s): 16.0  
 Intersection Capacity Utilization: 88.3%  
 ICU Level of Service: E  
 Analysis Period (min): 15  
 c Critical Lane Group

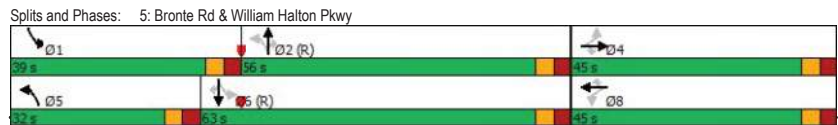
FTAM Palermo Village 7:28 pm 08-24-2021 Future Total AM Peak Hour  
BA Group - LF

Queues  
5: Bronte Rd & William Halton Pkwy

Palermo Village  
Future Total AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔	↔	↔	↔↔	↔	↔	↔↔	↔	↔	↔↔	↔
Traffic Volume (vph)	80	385	210	175	350	155	285	1470	245	380	1570	95
Future Volume (vph)	80	385	210	175	350	155	285	1470	245	380	1570	95
Lane Group Flow (vph)	83	401	219	182	365	161	297	1531	255	396	1635	99
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	10.0	10.0	10.0	5.0	20.0	20.0	7.0	20.0	20.0
Minimum Split (s)	40.0	40.0	40.0	16.0	16.0	16.0	11.0	40.4	40.4	13.0	26.4	26.4
Total Split (s)	45.0	45.0	45.0	45.0	45.0	45.0	32.0	56.0	56.0	39.0	63.0	63.0
Total Split (%)	32.1%	32.1%	32.1%	32.1%	32.1%	32.1%	22.9%	40.0%	40.0%	27.9%	45.0%	45.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes			Yes		Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min	C-Min
v/c Ratio	0.39	0.41	0.37	0.94	0.38	0.29	0.82	0.84	0.34	0.86	0.81	0.12
Control Delay	41.7	37.0	10.9	96.6	36.4	23.3	72.3	31.5	5.8	70.5	25.8	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	56.5	0.6	0.0
Total Delay	41.7	37.0	10.9	96.6	36.4	23.3	72.3	31.5	6.4	127.1	26.4	8.4
Queue Length 50th (m)	20.2	51.6	15.2	56.3	58.0	28.8	77.1	187.8	8.2	110.0	70.3	3.8
Queue Length 95th (m)	37.1	67.6	28.0	#99.9	72.1	48.6	108.4	#218.6	15.9	m118.0	m80.5	m5.1
Internal Link Dist (m)		55.0			45.6			181.0			124.5	
Turn Bay Length (m)	45.0		60.0	130.0		90.0	85.0		60.0	55.0		60.0
Base Capacity (vph)	231	1057	627	211	1057	581	415	1827	753	492	2031	805
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	57	134	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	229	215	18	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.38	0.35	0.86	0.35	0.28	0.72	0.84	0.49	1.43	0.86	0.12

**Intersection Summary**  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 105  
 Control Type: Actuated-Coordinated  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.



HCM Signalized Intersection Capacity Analysis  
5: Bronte Rd & William Halton Pkwy

Palermo Village  
Future Total AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔	↔	↔	↔↔	↔	↔	↔↔	↔	↔	↔↔	↔
Traffic Volume (vph)	80	385	210	175	350	155	285	1470	245	380	1570	95
Future Volume (vph)	80	385	210	175	350	155	285	1470	245	380	1570	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.6	3.6	3.6	3.5	3.6	3.5	3.6	3.7	3.6	3.5	3.7	3.6
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	*0.80	1.00	1.00	*0.80	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Fit Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	3610	1615	1785	3610	1597	1805	4391	1615	1767	4269	1615
Fit Permitted	0.42	1.00	1.00	0.38	1.00	1.00	0.07	1.00	1.00	0.06	1.00	1.00
Satd. Flow (perm)	793	3610	1615	722	3610	1597	130	4391	1615	119	4269	1615
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	83	401	219	182	365	161	297	1531	255	396	1635	99
RTOR Reduction (vph)	0	0	160	0	0	118	0	0	81	0	0	37
Lane Group Flow (vph)	83	401	59	182	365	43	297	1531	174	396	1635	62
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	5%	0%	1%	8%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	35.6	35.6	35.6	35.6	35.6	35.6	78.1	56.3	56.3	92.4	64.6	64.6
Effective Green, g (s)	37.6	37.6	37.6	37.6	37.6	37.6	82.1	58.3	58.3	94.4	66.6	66.6
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.27	0.27	0.59	0.42	0.42	0.67	0.48	0.48
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	212	969	433	193	969	428	360	1828	672	458	2030	768
v/s Ratio Prot		0.11			0.10		0.14	0.35		c0.20	0.38	
v/s Ratio Perm	0.10		0.04	c0.25		0.03	0.34		0.11	c0.38		0.04
v/c Ratio	0.39	0.41	0.14	0.94	0.38	0.10	0.82	0.84	0.26	0.86	0.81	0.08
Uniform Delay, d1	41.8	42.1	38.9	50.2	41.7	38.5	41.0	36.6	26.7	42.5	31.2	20.0
Progression Factor	0.88	0.86	1.99	0.93	0.86	4.16	1.40	0.71	0.35	1.57	0.73	0.94
Incremental Delay, d2	1.2	0.3	0.1	47.5	0.2	0.1	12.3	4.1	0.8	7.3	1.5	0.1
Delay (s)	38.0	36.4	77.3	94.3	36.1	160.1	69.6	30.0	10.1	73.9	24.1	18.8
Level of Service	D	D	E	F	D	F	E	C	B	E	C	B
Approach Delay (s)		49.4			79.2		33.2			33.2		
Approach LOS		D			E		C			C		

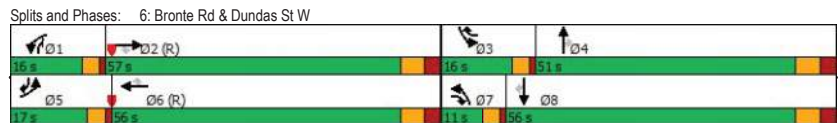
**Intersection Summary**  
 HCM 2000 Control Delay: 41.0  
 HCM 2000 Level of Service: D  
 HCM 2000 Volume to Capacity ratio: 0.90  
 Actuated Cycle Length (s): 140.0  
 Sum of lost time (s): 12.0  
 Intersection Capacity Utilization: 83.1%  
 ICU Level of Service: E  
 Analysis Period (min): 15  
 c Critical Lane Group

Queues  
6: Bronte Rd & Dundas St W

Palermo Village  
Future Total AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔↔	↔	↔↔	↔↔↔	↔	↔↔	↔↔↔	↔	↔↔	↔↔↔	↔
Traffic Volume (vph)	130	1655	335	310	1190	520	170	1430	360	340	1450	190
Future Volume (vph)	130	1655	335	310	1190	520	170	1430	360	340	1450	190
Lane Group Flow (vph)	134	1706	345	320	1227	536	175	1474	371	351	1495	196
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	7	1	6	3	7	4	1	3	8	5
Permitted Phases			2		6				4			8
Detector Phase	5	2	7	1	6	3	7	4	1	3	8	5
Switch Phase												
Minimum Initial (s)	7.0	20.0	7.0	7.0	20.0	7.0	7.0	10.0	7.0	7.0	10.0	7.0
Minimum Split (s)	11.0	49.0	11.0	11.0	49.0	11.0	11.0	51.0	11.0	11.0	51.0	11.0
Total Split (s)	17.0	57.0	11.0	16.0	56.0	16.0	11.0	51.0	16.0	16.0	56.0	17.0
Total Split (%)	12.1%	40.7%	7.9%	11.4%	40.0%	11.4%	7.9%	36.4%	11.4%	11.4%	40.0%	12.1%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	3.0	4.0	3.0	3.0	4.0	3.0
All-Red Time (s)	1.0	3.0	1.0	1.0	3.0	1.0	1.0	3.0	1.0	1.0	3.0	1.0
Lost Time Adjust (s)	-2.0	-1.0	-1.0	-2.0	-1.0	-1.0	-2.0	-1.0	-1.0	-2.0	-1.0	-1.0
Total Lost Time (s)	2.0	6.0	3.0	2.0	6.0	3.0	2.0	6.0	3.0	2.0	6.0	3.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Recall Mode	None	C-Min	None	None	C-Min	None	None	None	None	None	None	None
v/c Ratio	0.77	1.06	0.48	1.09	0.81	0.67	0.83	1.06	0.56	1.05	0.98	0.26
Control Delay	91.1	68.2	10.7	145.7	35.2	14.7	75.7	91.4	40.0	107.2	60.5	18.0
Queue Delay	0.0	17.8	0.0	0.0	0.0	0.2	0.0	0.0	0.0	17.7	0.0	0.0
Total Delay	91.1	86.1	10.7	145.7	35.2	14.8	75.7	91.4	40.1	124.8	60.5	18.0
Queue Length 50th (m)	41.4	-221.4	16.5	-55.4	59.9	32.0	26.4	-202.4	97.7	-56.6	190.1	37.6
Queue Length 95th (m)	m45.8	m#247.4	m21.9	#88.1	99.1	40.3	#46.2	#239.2	135.8	#89.2	#225.8	64.1
Internal Link Dist (m)		215.2		79.0			356.6				207.3	
Turn Bay Length (m)	100.0		80.0	125.0			170.0		85.0	175.0		85.0
Base Capacity (vph)	178	1614	722	293	1523	801	212	1385	667	333	1524	750
Starvation Cap Reductn	0	0	0	0	0	22	0	0	0	0	0	0
Spillback Cap Reductn	0	112	0	0	0	0	0	0	5	39	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	1.14	0.48	1.09	0.81	0.69	0.83	1.06	0.56	1.19	0.98	0.26

**Intersection Summary**  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 135  
 Control Type: Actuated-Coordinated  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.



HCM Signalized Intersection Capacity Analysis  
6: Bronte Rd & Dundas St W

Palermo Village  
Future Total AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔↔	↔	↔↔	↔↔↔	↔	↔↔	↔↔↔	↔	↔↔	↔↔↔	↔
Traffic Volume (vph)	130	1655	335	310	1190	520	170	1430	360	340	1450	190
Future Volume (vph)	130	1655	335	310	1190	520	170	1430	360	340	1450	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.6	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	2.0	6.0	3.0	2.0	6.0	3.0	2.0	6.0	3.0	2.0	6.0	3.0
Lane Util. Factor	1.00	*0.80	1.00	0.97	*0.80	1.00	0.97	*0.80	1.00	0.97	*0.80	1.00
Frbp, ped/bikes	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Fllb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.85	1.00	0.85	1.00	0.85
Fit Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1668	4433	1513	2935	4230	1553	3298	4309	1410	3330	4269	1439
Fit Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1668	4433	1513	2935	4230	1553	3298	4309	1410	3330	4269	1439
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	134	1706	345	320	1227	536	175	1474	371	351	1495	196
RTOR Reduction (vph)	0	0	54	0	0	34	0	0	55	0	0	34
Lane Group Flow (vph)	134	1706	291	320	1227	502	175	1474	316	351	1495	162
Confl. Peds. (#/hr)			5	5					3	3		
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	7%	4%	4%	18%	9%	4%	5%	7%	12%	4%	8%	11%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	7	1	6	3	7	4	1	3	8	5
Permitted Phases			2		6				4			8
Actuated Green, G (s)	12.6	50.0	57.0	12.0	49.4	61.4	7.0	44.0	56.0	12.0	49.0	61.6
Effective Green, g (s)	14.6	51.0	59.0	14.0	50.4	63.4	9.0	45.0	58.0	14.0	50.0	63.6
Actuated g/C Ratio	0.10	0.36	0.42	0.10	0.36	0.45	0.06	0.32	0.41	0.10	0.36	0.45
Clearance Time (s)	4.0	7.0	4.0	4.0	7.0	4.0	4.0	7.0	4.0	4.0	7.0	4.0
Vehicle Extension (s)	3.0	6.0	3.0	3.0	6.0	3.0	3.0	5.0	3.0	3.0	5.0	3.0
Lane Grp Cap (vph)	173	1614	637	293	1522	703	212	1385	584	333	1524	653
v/s Ratio Prot	0.08	c0.38	0.03	c0.11	0.29	0.07	0.05	c0.34	0.05	c0.11	0.35	0.02
v/s Ratio Perm			0.17			0.26			0.17			0.09
v/c Ratio	0.77	1.06	0.46	1.09	0.81	0.71	0.83	1.06	0.54	1.05	0.98	0.25
Uniform Delay, d1	61.1	44.5	29.0	63.0	40.4	31.0	64.7	47.5	31.0	63.0	44.5	23.5
Progression Factor	1.29	0.82	0.53	1.31	0.77	0.47	0.81	1.15	1.86	0.75	0.97	1.26
Incremental Delay, d2	8.6	32.4	0.2	73.7	3.7	2.7	17.2	40.3	0.8	60.8	17.2	0.2
Delay (s)	87.5	68.9	15.6	156.2	34.9	17.2	69.7	94.8	58.4	108.4	60.4	29.9
Level of Service	F	E	B	F	C	B	E	F	E	F	E	C
Approach Delay (s)		61.6			49.0			85.9			65.7	
Approach LOS		E			D			F			E	

**Intersection Summary**  
 HCM 2000 Control Delay: 65.3  
 HCM 2000 Level of Service: E  
 HCM 2000 Volume to Capacity ratio: 1.07  
 Actuated Cycle Length (s): 140.0  
 Sum of lost time (s): 18.0  
 Intersection Capacity Utilization: 98.7%  
 ICU Level of Service: F  
 Analysis Period (min): 15  
 c Critical Lane Group

Queues  
7: Bronte Rd & Highvalley Rd/Pine Glen Rd

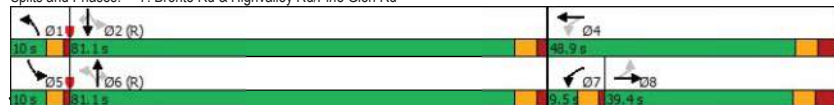
Palermo Village  
Future Total AM Peak Hour

	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	15	15	140	15	30	1940	95	50	2035	10
Future Volume (vph)	15	15	140	15	30	1940	95	50	2035	10
Lane Group Flow (vph)	16	116	147	16	32	2042	100	53	2142	11
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8	7	4	1	6		5	2	
Permitted Phases	8		4		6		6	2		2
Detector Phase	8	8	7	4	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	10.0	10.0	5.0	10.0	6.0	15.0	15.0	6.0	15.0	15.0
Minimum Split (s)	39.4	39.4	9.5	39.1	10.0	32.7	32.7	10.0	32.7	32.7
Total Split (s)	39.4	39.4	9.5	48.9	10.0	81.1	81.1	10.0	81.1	81.1
Total Split (%)	28.1%	28.1%	6.8%	34.9%	7.1%	57.9%	57.9%	7.1%	57.9%	57.9%
Yellow Time (s)	3.7	3.7	3.5	3.7	3.0	3.7	3.7	3.0	3.7	3.7
All-Red Time (s)	3.7	3.7	1.0	3.4	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.4	5.4	2.5	5.1	2.0	3.7	3.7	2.0	3.7	3.7
Lead/Lag	Lag	Lag	Lead		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes							
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.12	0.47	0.72	0.05	0.21	0.67	0.09	0.41	0.69	0.01
Control Delay	59.1	21.0	72.4	48.7	7.4	14.2	1.7	19.3	24.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.1	21.0	72.4	48.7	7.4	14.2	1.7	19.3	24.2	0.0
Queue Length 50th (m)	4.4	4.4	39.2	4.0	1.7	126.0	0.0	3.6	251.8	0.0
Queue Length 95th (m)	11.8	23.4	#64.5	10.8	4.7	178.9	6.6	m5.6	m261.2	m0.0
Internal Link Dist (m)		145.4		105.4		203.1			356.6	
Turn Bay Length (m)	25.0		40.0		100.0		90.0	90.0		30.0
Base Capacity (vph)	339	475	203	566	154	3028	1106	128	3097	1133
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.24	0.72	0.03	0.21	0.67	0.09	0.41	0.69	0.01

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBL, Start of Green  
 Natural Cycle: 125  
 Control Type: Actuated-Coordinated  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Spits and Phases: 7: Bronte Rd & Highvalley Rd/Pine Glen Rd



HCM Signalized Intersection Capacity Analysis  
7: Bronte Rd & Highvalley Rd/Pine Glen Rd

Palermo Village  
Future Total AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔		↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	15	15	95	140	15	0	30	1940	95	50	2035	10
Future Volume (vph)	15	15	95	140	15	0	30	1940	95	50	2035	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.6	3.5	3.7	3.6	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	5.4	5.4		2.5	5.1		2.0	3.7	3.7	2.0	3.7	3.7
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	*0.80	1.00	1.00	*0.80	1.00
Frbp, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00	0.97	1.00	1.00	0.96
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.87		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Fit Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1776	1646		1696	1812		1733	4350	1545	1303	4309	1537
Fit Permitted	0.75	1.00		0.44	1.00		0.04	1.00	1.00	0.04	1.00	1.00
Satd. Flow (perm)	1396	1646		777	1812		75	4350	1545	57	4309	1537
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	16	16	100	147	16	0	32	2042	100	53	2142	11
RTOR Reduction (vph)	0	91	0	0	0	0	0	0	31	0	0	3
Lane Group Flow (vph)	16	26	0	147	16	0	32	2042	69	53	2142	8
Confl. Peds. (#/hr)	4		5	5		4	7		5	5		7
Confl. Bikes (#/hr)							1					
Heavy Vehicles (%)	0%	0%	0%	5%	6%	14%	3%	6%	0%	37%	7%	0%
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8		7	4		1	6		5	2	
Permitted Phases	8			4			6		6	2		2
Actuated Green, G (s)	11.3	11.3		22.3	22.3		98.5	94.7	94.7	103.3	97.1	97.1
Effective Green, g (s)	13.3	13.3		24.3	24.3		102.5	96.7	96.7	106.9	99.1	99.1
Actuated g/C Ratio	0.10	0.10		0.17	0.17		0.73	0.69	0.69	0.76	0.71	0.71
Clearance Time (s)	7.4	7.4		4.5	7.1		4.0	5.7	5.7	4.0	5.7	5.7
Vehicle Extension (s)	5.0	5.0		3.0	5.0		3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	132	156		188	314		123	3004	1067	116	3050	1087
v/s Ratio Prot		0.02		c0.05	0.01		0.01	0.47		c0.03	c0.50	
v/s Ratio Perm	0.01			c0.09			0.18		0.04	0.32		0.01
v/c Ratio	0.12	0.16		0.78	0.05		0.26	0.68	0.06	0.46	0.70	0.01
Uniform Delay, d1	58.0	58.2		54.0	48.2		10.8	12.6	7.0	15.8	11.9	6.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.95	1.99	1.00
Incremental Delay, d2	0.9	1.0		18.8	0.1		1.1	1.3	0.1	1.2	0.6	0.0
Delay (s)	58.9	59.3		72.8	48.4		12.0	13.9	7.1	16.1	24.3	6.0
Level of Service	E	E		E	D		B	B	A	B	C	A
Approach Delay (s)		59.2			70.4			13.5			24.0	
Approach LOS		E			E			B			C	

Intersection Summary

HCM 2000 Control Delay: 21.7 HCM 2000 Level of Service: C  
 HCM 2000 Volume to Capacity ratio: 0.73  
 Actuated Cycle Length (s): 140.0 Sum of lost time (s): 13.6  
 Intersection Capacity Utilization: 65.1% ICU Level of Service: C  
 Analysis Period (min): 15  
 c Critical Lane Group

Queues  
8: Proposed N-S Link & William Halton Pkwy

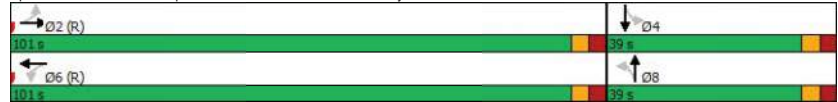
Palermo Village  
Future Total AM Peak Hour

	→	↖	←	↗	↑	↘	↓
Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↔↔	↔↔	↔	↔	↔	↔
Traffic Volume (vph)	890	10	625	10	90	75	75
Future Volume (vph)	890	10	625	10	90	75	75
Lane Group Flow (vph)	1000	0	713	11	270	84	84
Turn Type	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases	2		6		8		4
Permitted Phases		6		8		4	
Detector Phase	2	6	6	8	8	4	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	34.0	34.0	34.0	34.0	34.0	34.0	34.0
Total Split (s)	101.0	101.0	101.0	39.0	39.0	39.0	39.0
Total Split (%)	72.1%	72.1%	72.1%	27.9%	27.9%	27.9%	27.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0	4.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Min	C-Min	C-Min	Max	Max	Min	Min
v/c Ratio	0.72		0.56	0.01	0.27	0.15	0.08
Control Delay	52.2		34.8	36.1	32.8	19.5	17.6
Queue Delay	0.2		0.0	0.0	0.0	0.0	0.0
Total Delay	52.4		34.8	36.1	32.8	19.5	17.6
Queue Length 50th (m)	151.9		85.1	2.3	56.2	15.1	14.4
Queue Length 95th (m)	159.2		89.3	m4.7	88.6	32.0	28.6
Internal Link Dist (m)	39.0		253.2		203.2		128.4
Turn Bay Length (m)				40.0		20.0	
Base Capacity (vph)	2501		2263	741	982	570	1056
Starvation Cap Reductn	564		0	0	0	0	0
Spillback Cap Reductn	0		0	0	0	0	0
Storage Cap Reductn	0		0	0	0	0	0
Reduced v/c Ratio	0.52		0.32	0.01	0.27	0.15	0.08

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Proposed N-S Link & William Halton Pkwy



HCM Signalized Intersection Capacity Analysis  
 8: Proposed N-S Link & William Halton Pkwy

Palermo Village  
 Future Total AM Peak Hour

	↖	→	↘	↖	←	↗	↖	↑	↗	↘	↓	↖
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↔	↔		↔	↔	
Traffic Volume (vph)	0	890	0	10	625	0	10	90	150	75	75	0
Future Volume (vph)	0	890	0	10	625	0	10	90	150	75	75	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		1.00	1.00	
Fr		1.00			1.00		1.00	0.91		1.00	1.00	
Fit Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3610			3607		1805	1722		1805	1900	
Fit Permitted		1.00			0.91		0.70	1.00		0.54	1.00	
Satd. Flow (perm)		3610			3268		1335	1722		1026	1900	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	1000	0	11	702	0	11	101	169	84	84	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	25	0	0	0	0
Lane Group Flow (vph)	0	1000	0	0	713	0	11	245	0	84	84	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type		NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases		2			6			8			4	
Actuated Green, G (s)		52.2			52.2		75.8	75.8		75.8	75.8	
Effective Green, g (s)		54.2			54.2		77.8	77.8		77.8	77.8	
Actuated g/C Ratio		0.39			0.39		0.56	0.56		0.56	0.56	
Clearance Time (s)		6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		1397			1265		741	956		570	1055	
v/s Ratio Prot		c0.28					c0.14				0.04	
v/s Ratio Perm					0.22		0.01			0.08		
v/c Ratio		0.72			0.56		0.01	0.26		0.15	0.08	
Uniform Delay, d1		36.4			33.6		13.9	16.1		15.0	14.5	
Progression Factor		1.38			1.00		2.06	2.27		1.08	1.05	
Incremental Delay, d2		2.9			1.8		0.0	0.6		0.1	0.0	
Delay (s)		53.1			35.5		28.7	37.1		16.3	15.1	
Level of Service		D			D		C	D		B	B	
Approach Delay (s)		53.1			35.5		36.8			15.7		
Approach LOS		D			D		D			B		

Intersection Summary

HCM 2000 Control Delay: 42.2, HCM 2000 Level of Service: D  
 HCM 2000 Volume to Capacity ratio: 0.44  
 Actuated Cycle Length (s): 140.0, Sum of lost time (s): 8.0  
 Intersection Capacity Utilization: 52.7%, ICU Level of Service: A  
 Analysis Period (min): 15

c Critical Lane Group



Queues  
9: Dundas St W & Proposed N-S Link

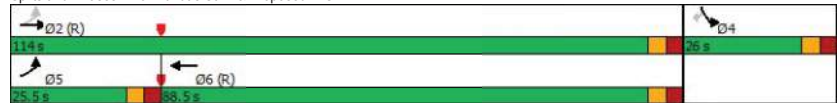
Palermo Village  
Future Total AM Peak Hour

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations	↔	↕↕	↕↕↕	↔	↕
Traffic Volume (vph)	195	2145	1960	150	15
Future Volume (vph)	195	2145	1960	150	15
Lane Group Flow (vph)	205	2258	2126	158	16
Turn Type	pm+pt	NA	NA	Prot	Perm
Protected Phases	5	2	6	4	
Permitted Phases	2			4	
Detector Phase	5	2	6	4	4
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	34.0	34.0	24.0	24.0
Total Split (s)	25.5	114.0	88.5	26.0	26.0
Total Split (%)	18.2%	81.4%	63.2%	18.6%	18.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	C-Min	C-Min	Max	Max
v/c Ratio	0.72	0.81	0.66	0.56	0.06
Control Delay	57.0	11.7	18.1	51.9	12.1
Queue Delay	0.0	0.6	0.0	0.0	0.0
Total Delay	57.0	12.3	18.1	51.9	12.1
Queue Length 50th (m)	49.0	249.9	138.2	44.2	0.2
Queue Length 95th (m)	m49.6	m202.0	163.9	45.6	4.0
Internal Link Dist (m)		105.2	334.8	152.5	
Turn Bay Length (m)				40.0	
Base Capacity (vph)	333	2780	3202	283	267
Starvation Cap Reductn	0	210	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.62	0.88	0.66	0.56	0.06

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Dundas St W & Proposed N-S Link



HCM Signalized Intersection Capacity Analysis  
 9: Dundas St W & Proposed N-S Link

Palermo Village  
 Future Total AM Peak Hour

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔	↕↕	↕↕↕		↔	↕
Traffic Volume (vph)	195	2145	1960	60	150	15
Future Volume (vph)	195	2145	1960	60	150	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.91		1.00	1.00
Frt	1.00	1.00	1.00		1.00	0.85
Fit Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1805	3539	5066		1805	1615
Fit Permitted	0.05	1.00	1.00		0.95	1.00
Satd. Flow (perm)	90	3539	5066		1805	1615
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	205	2258	2063	63	158	16
RTOR Reduction (vph)	0	0	2	0	0	13
Lane Group Flow (vph)	205	2258	2124	0	158	3
Heavy Vehicles (%)	0%	2%	2%	0%	0%	0%
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2				4	
Actuated Green, G (s)	108.0	108.0	86.4		20.0	20.0
Effective Green, g (s)	110.0	110.0	88.4		22.0	22.0
Actuated g/C Ratio	0.79	0.79	0.63		0.16	0.16
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	286	2780	3198		283	253
v/s Ratio Prot	0.09	c0.64	0.42		c0.09	
v/s Ratio Perm	0.47					0.00
v/c Ratio	0.72	0.81	0.66		0.56	0.01
Uniform Delay, d1	40.2	8.9	16.4		54.5	49.8
Progression Factor	1.50	1.15	1.00		0.80	0.57
Incremental Delay, d2	3.0	1.0	1.1		7.7	0.1
Delay (s)	63.3	11.2	17.5		51.3	28.2
Level of Service	E	B	B		D	C
Approach Delay (s)		15.6	17.5		49.2	
Approach LOS		B	B		D	

Intersection Summary

HCM 2000 Control Delay 17.6 HCM 2000 Level of Service B  
 HCM 2000 Volume to Capacity ratio 0.79  
 Actuated Cycle Length (s) 140.0 Sum of lost time (s) 12.0  
 Intersection Capacity Utilization 74.3% ICU Level of Service D  
 Analysis Period (min) 15

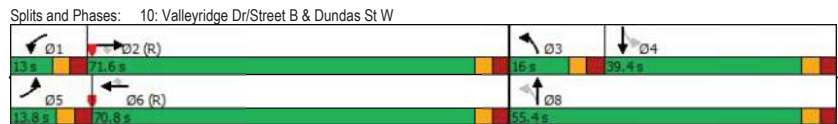
c Critical Lane Group

Queues  
10: Valleyridge Dr/Street B & Dundas St W

Palermo Village  
Future Total AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↔	↔↔↔	↔	↔	↔↔↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	80	1870	80	55	1470	25	195	160	175	390
Future Volume (vph)	80	1870	80	55	1470	25	195	160	175	390
Lane Group Flow (vph)	88	2055	88	60	1615	27	214	253	192	473
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	NA
Protected Phases	5	2		1	6		3	8		4
Permitted Phases			2			6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	4	4
Switch Phase										
Minimum Initial (s)	5.0	20.0	20.0	7.0	20.0	20.0	5.0	10.0	5.0	5.0
Minimum Split (s)	11.5	37.7	37.7	13.0	37.7	37.7	11.5	16.7	37.0	37.0
Total Split (s)	13.8	71.6	71.6	13.0	70.8	70.8	16.0	55.4	39.4	39.4
Total Split (%)	9.9%	51.1%	51.1%	9.3%	50.6%	50.6%	11.4%	39.6%	28.1%	28.1%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	0.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None
v/c Ratio	0.70	0.95	0.12	0.56	0.83	0.03	0.96	0.37	0.66	0.99
Control Delay	91.3	44.5	1.8	98.2	18.6	0.0	86.3	31.4	59.6	91.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.3	44.5	1.8	98.2	18.6	0.0	86.3	31.4	59.6	91.1
Queue Length 50th (m)	25.5	235.6	0.0	18.6	50.5	0.0	-50.9	49.9	50.6	137.4
Queue Length 95th (m)	#51.9	#282.1	5.0	m25.1	55.0	m0.0	#104.9	74.5	80.1	#212.1
Internal Link Dist (m)		169.8			215.2			84.7		122.4
Turn Bay Length (m)	60.0		90.0	45.0		35.0	25.0		45.0	
Base Capacity (vph)	126	2173	763	107	2000	831	224	692	289	476
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.95	0.12	0.56	0.81	0.03	0.96	0.37	0.66	0.99

**Intersection Summary**  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green  
 Natural Cycle: 140  
 Control Type: Actuated-Coordinated  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.



HCM Signalized Intersection Capacity Analysis  
10: Valleyridge Dr/Street B & Dundas St W

Palermo Village  
Future Total AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔↔	↔	↔	↔↔↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	80	1870	80	55	1470	25	195	160	70	175	390	40
Future Volume (vph)	80	1870	80	55	1470	25	195	160	70	175	390	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.6	3.7	3.6	3.5	3.7	3.6	3.5	3.6	3.7	3.6	3.6	3.6
Total Lost time (s)	4.0	4.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	*0.80	1.00	1.00	*0.80	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flob, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	1.00	0.95	1.00	0.99
Fit Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4433	1476	1668	4192	1615	1767	1801		1803	1873	
Fit Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.10	1.00		0.60	1.00	
Satd. Flow (perm)	1805	4433	1476	1668	4192	1615	189	1801		1143	1873	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	88	2055	88	60	1615	27	214	176	77	192	429	44
RTOR Reduction (vph)	0	0	47	0	0	14	0	11	0	0	3	0
Lane Group Flow (vph)	88	2055	41	60	1615	13	214	242	0	192	470	0
Confl. Peds. (#/hr)			5	5					1	1		
Heavy Vehicles (%)	0%	4%	6%	7%	10%	0%	1%	0%	1%	0%	0%	0%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases	5	2		1	6		3	8		4	4	
Permitted Phases			2			6	8			4		
Actuated Green, G (s)	7.8	65.4	65.4	5.6	63.2	63.2	51.0	51.0		33.4	33.4	
Effective Green, g (s)	9.8	67.4	65.4	7.6	65.2	65.2	53.0	53.0		35.4	35.4	
Actuated g/C Ratio	0.07	0.48	0.47	0.05	0.47	0.47	0.38	0.38		0.25	0.25	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	126	2134	689	90	1952	752	224	681		289	473	
v/s Ratio Prot	c0.05	c0.46		0.04	0.39		c0.09	0.13			0.25	
v/s Ratio Perm			0.03			0.01	c0.27				0.17	
v/c Ratio	0.70	0.96	0.06	0.67	0.83	0.02	0.96	0.36		0.66	0.99	
Uniform Delay, d1	63.7	35.1	20.4	65.0	32.5	20.1	39.1	31.2		47.0	52.2	
Progression Factor	1.00	1.00	1.00	1.31	0.48	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	15.6	12.5	0.2	12.4	3.0	0.0	47.2	0.3		5.7	39.5	
Delay (s)	79.2	47.6	20.6	97.5	18.6	20.2	86.3	31.6		52.6	91.7	
Level of Service	E	D	C	F	B	C	F	C		D	F	
Approach Delay (s)	47.8			21.4			56.6			80.4		
Approach LOS	D			C			E			F		

**Intersection Summary**  
 HCM 2000 Control Delay: 44.0 HCM 2000 Level of Service: D  
 HCM 2000 Volume to Capacity ratio: 0.97  
 Actuated Cycle Length (s): 140.0 Sum of lost time (s): 16.0  
 Intersection Capacity Utilization: 89.1% ICU Level of Service: E  
 Analysis Period (min): 15  
 c Critical Lane Group

Queues  
11: Street B & William Halton Pkwy

Palermo Village  
Future Total AM Peak Hour

	→	↖	←	↑	↓
Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Configurations	↔↔		↔↔	↔	↔
Traffic Volume (vph)	335	155	575	75	185
Future Volume (vph)	335	155	575	75	185
Lane Group Flow (vph)	372	0	811	200	206
Turn Type	NA	Perm	NA	NA	NA
Protected Phases	2		6	8	4
Permitted Phases		6			
Detector Phase	2	6	6	8	4
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0
Total Split (s)	95.0	95.0	95.0	45.0	45.0
Total Split (%)	67.9%	67.9%	67.9%	32.1%	32.1%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0		-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	Max	Max
v/c Ratio	0.25		0.77	0.21	0.20
Control Delay	26.9		57.9	14.8	19.4
Queue Delay	0.0		0.0	0.0	0.0
Total Delay	26.9		57.9	14.8	19.4
Queue Length 50th (m)	37.4		122.0	21.3	30.2
Queue Length 95th (m)	41.5		139.1	44.1	55.4
Internal Link Dist (m)	186.5		159.7	190.7	130.3
Turn Bay Length (m)					
Base Capacity (vph)	2346		1693	963	1020
Starvation Cap Reductn	0		0	0	0
Spillback Cap Reductn	0		0	0	0
Storage Cap Reductn	0		0	0	0
Reduced v/c Ratio	0.16		0.48	0.21	0.20

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green  
 Natural Cycle: 50  
 Control Type: Actuated-Coordinated

Splits and Phases: 11: Street B & William Halton Pkwy



HCM Signalized Intersection Capacity Analysis  
 11: Street B & William Halton Pkwy

Palermo Village  
 Future Total AM Peak Hour

	↖	→	↘	↖	←	↘	↖	↑	↘	↘	↓	↘
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Volume (vph)	0	335	0	155	575	0	0	75	105	0	185	0
Future Volume (vph)	0	335	0	155	575	0	0	75	105	0	185	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		1.00			1.00			0.92			1.00	
Fit Protected		1.00			0.99			1.00			1.00	
Satd. Flow (prot)		3610			3572			1750			1900	
Fit Permitted		1.00			0.72			1.00			1.00	
Satd. Flow (perm)		3610			2606			1750			1900	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	372	0	172	639	0	0	83	117	0	206	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	24	0	0	0	0
Lane Group Flow (vph)	0	372	0	0	811	0	0	176	0	0	206	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type		NA		Perm	NA			NA			NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		54.8			54.8			73.2			73.2	
Effective Green, g (s)		56.8			56.8			75.2			75.2	
Actuated g/C Ratio		0.41			0.41			0.54			0.54	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1464			1057			940			1020	
v/s Ratio Prot		0.10						0.10			c0.11	
v/s Ratio Perm					c0.31							
v/c Ratio		0.25			0.77			0.19			0.20	
Uniform Delay, d1		27.6			35.9			16.7			16.8	
Progression Factor		1.00			1.51			1.00			1.00	
Incremental Delay, d2		0.4			5.0			0.4			0.4	
Delay (s)		28.0			59.1			17.1			17.3	
Level of Service		C			E			B			B	
Approach Delay (s)		28.0			59.1			17.1			17.3	
Approach LOS		C			E			B			B	

Intersection Summary

HCM 2000 Control Delay: 41.1, HCM 2000 Level of Service: D  
 HCM 2000 Volume to Capacity ratio: 0.45  
 Actuated Cycle Length (s): 140.0, Sum of lost time (s): 8.0  
 Intersection Capacity Utilization: 50.0%, ICU Level of Service: A  
 Analysis Period (min): 15

c Critical Lane Group

Queues  
13: Bronte Rd & Street F/Transit Terminal Access

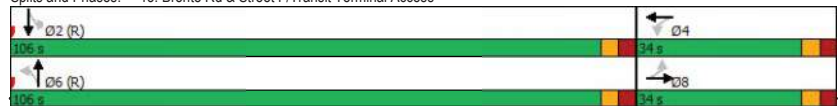
Palermo Village  
Future Total AM Peak Hour

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↔		↔	↔	↔	↔	↔
Traffic Volume (vph)	10	0	20	0	70	1980	10	1925
Future Volume (vph)	10	0	20	0	70	1980	10	1925
Lane Group Flow (vph)	0	50	0	33	78	2222	11	2161
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		8		4		6		2
Permitted Phases	8		4		6		2	
Detector Phase	8	8	4	4	6	6	2	2
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0
Total Split (s)	34.0	34.0	34.0	34.0	106.0	106.0	106.0	106.0
Total Split (%)	24.3%	24.3%	24.3%	24.3%	75.7%	75.7%	75.7%	75.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)		-2.0		-2.0		-2.0		-2.0
Total Lost Time (s)		4.0		4.0		4.0		4.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min
v/c Ratio		0.37		0.28	0.91	0.55	0.14	0.53
Control Delay		44.8		35.0	76.4	9.5	3.1	0.9
Queue Delay		0.0		0.0	0.0	0.4	0.0	0.1
Total Delay		44.8		35.0	76.4	9.8	3.1	1.0
Queue Length 50th (m)		7.6		2.8	17.4	157.6	0.1	5.7
Queue Length 95th (m)		21.0		13.9	m#26.3	m153.1	m0.2	11.5
Internal Link Dist (m)		58.3		38.0		207.3		181.0
Turn Bay Length (m)					15.0		15.0	
Base Capacity (vph)		359		299	86	4066	78	4062
Starvation Cap Reductn		0		0	0	1066	0	734
Spillback Cap Reductn		0		0	0	130	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.14		0.11	0.91	0.74	0.14	0.65

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBT, Start of Green  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: Bronte Rd & Street F/Transit Terminal Access



FTAM Palermo Village 7:28 pm 08-24-2021 Future Total AM Peak Hour  
 BA Group - LF

Synchro 11 Report  
 Page 23

HCM Signalized Intersection Capacity Analysis  
13: Bronte Rd & Street F/Transit Terminal Access

Palermo Village  
Future Total AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	↔
Traffic Volume (vph)	10	0	35	20	0	10	70	1980	20	10	1925	20
Future Volume (vph)	10	0	35	20	0	10	70	1980	20	10	1925	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	*0.80		1.00	*0.80	
Fit		0.89			0.95		1.00	1.00		1.00	1.00	
Fit Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1681			1722		1805	4552		1770	4553	
Fit Permitted		0.94			0.74		0.05	1.00		0.05	1.00	
Satd. Flow (perm)		1593			1315		97	4552		88	4553	
Peak-hour factor, PHF	0.90	0.92	0.90	0.92	0.92	0.92	0.90	0.90	0.92	0.92	0.90	0.90
Adj. Flow (vph)	11	0	39	22	0	11	78	2200	22	11	2139	22
RTOR Reduction (vph)	0	22	0	0	22	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	28	0	0	11	0	78	2222	0	11	2161	0
Heavy Vehicles (%)	0%	2%	0%	2%	2%	2%	0%	0%	2%	2%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4		6			6		2
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		7.0			7.0		121.0	121.0		121.0	121.0	
Effective Green, g (s)		9.0			9.0		123.0	123.0		123.0	123.0	
Actuated g/C Ratio		0.06			0.06		0.88	0.88		0.88	0.88	
Clearance Time (s)		6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		102			84		85	3999		77	4000	
v/s Ratio Prot							0.49				0.47	
v/s Ratio Perm		c0.02			0.01		c0.80			0.13		
v/c Ratio		0.28			0.14		0.92	0.56		0.14	0.54	
Uniform Delay, d1		62.4			61.8		5.3	2.0		1.2	2.0	
Progression Factor		1.00			1.00		3.79	4.18		0.25	0.25	
Incremental Delay, d2		1.5			0.7		46.6	0.3		2.7	0.4	
Delay (s)		63.9			62.6		66.8	8.7		3.0	0.8	
Level of Service		E			E		E	A		A	A	
Approach Delay (s)		63.9			62.6		10.6			0.9		
Approach LOS		E			E		B			A		

Intersection Summary

HCM 2000 Control Delay: 6.9, HCM 2000 Level of Service: A  
 HCM 2000 Volume to Capacity ratio: 0.87  
 Actuated Cycle Length (s): 140.0, Sum of lost time (s): 8.0  
 Intersection Capacity Utilization: 57.2%, ICU Level of Service: B  
 Analysis Period (min): 15  
 c Critical Lane Group

FTAM Palermo Village 7:28 pm 08-24-2021 Future Total AM Peak Hour  
 BA Group - LF

Synchro 11 Report  
 Page 24

HCM Unsignalized Intersection Capacity Analysis  
 14: Old Bronte Road/Old Bronte Rd & Proposed E-W Link

Palermo Village  
 Future Total AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↘			↖
Traffic Volume (veh/h)	0	10	55	15	30	150
Future Volume (Veh/h)	0	10	55	15	30	150
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	11	61	17	33	167
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	302	70			78	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	302	70			78	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			98	
cM capacity (veh/h)	678	999			1533	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	11	78	200			
Volume Left	0	0	33			
Volume Right	11	17	0			
eSH	999	1700	1533			
Volume to Capacity	0.01	0.05	0.02			
Queue Length 95th (m)	0.3	0.0	0.5			
Control Delay (s)	8.6	0.0	1.4			
Lane LOS	A		A			
Approach Delay (s)	8.6	0.0	1.4			
Approach LOS	A					
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization			19.6%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 15: Old Bronte Rd & William Halton Pkwy

Palermo Village  
 Future Total AM Peak Hour

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↖	↗	↖	↗	↖	↗
Traffic Volume (veh/h)	845	165	0	635	45	45
Future Volume (Veh/h)	845	165	0	635	45	45
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	949	185	0	713	51	51
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	69			63		
pX, platoon unblocked			0.91		0.91	0.91
vC, conflicting volume			1134		1279	567
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			949		444	326
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		90	92
cM capacity (veh/h)			666		499	615
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	633	501	143	285	285	102
Volume Left	0	0	0	0	0	51
Volume Right	0	185	0	0	0	51
eSH	1700	1700	666	1700	1700	551
Volume to Capacity	0.37	0.29	0.00	0.17	0.17	0.19
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	5.4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	13.0
Lane LOS						B
Approach Delay (s)	0.0		0.0			13.0
Approach LOS						B
Intersection Summary						
Average Delay				0.7		
Intersection Capacity Utilization			40.5%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
16: Old Bronte Road & Dundas St W

Palermo Village  
Future Total AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑				↑			↑
Traffic Volume (veh/h)	0	2280	75	0	1895	80	0	0	60	0	0	125
Future Volume (Veh/h)	0	2280	75	0	1895	80	0	0	60	0	0	125
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	2400	79	0	1995	84	0	0	63	0	0	132
Pedestrians									5			
Lane Width (m)									3.6			
Walking Speed (m/s)									1.2			
Percent Blockage									0			
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)		103			129							
pX, platoon unblocked	0.73			0.65			0.78	0.78	0.65	0.78	0.78	0.73
vC, conflicting volume	2079			2484			3242	4524	844	2900	4521	707
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1184			1390			567	2204	0	131	2201	0
tC, single (s)	4.1			4.1			7.5	6.5	7.0	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	91	100	100	83
cM capacity (veh/h)	436			322			266	35	694	592	35	796
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1				
Volume Total	960	960	559	798	798	483	63	132				
Volume Left	0	0	0	0	0	0	0	0				
Volume Right	0	0	79	0	0	84	63	132				
sSH	1700	1700	1700	1700	1700	1700	694	796				
Volume to Capacity	0.56	0.56	0.33	0.47	0.47	0.28	0.09	0.17				
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0	2.4	4.7				
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	10.7	10.4				
Lane LOS							B	B				
Approach Delay (s)	0.0			0.0			10.7	10.4				
Approach LOS							B	B				
Intersection Summary												
Average Delay			0.4									
Intersection Capacity Utilization			56.1%				ICU Level of Service		B			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
17: Proposed N-S Link & Proposed E-W Link

Palermo Village  
Future Total AM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑		↑	↑	↑
Traffic Volume (veh/h)	15	30	0	210	120	10
Future Volume (Veh/h)	15	30	0	210	120	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	17	33	0	233	133	11
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)				176	227	
pX, platoon unblocked						
vC, conflicting volume	372	138	144			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	372	138	144			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	96	100			
cM capacity (veh/h)	633	915	1451			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	50	233	144			
Volume Left	17	0	0			
Volume Right	33	0	11			
sSH	795	1700	1700			
Volume to Capacity	0.06	0.14	0.08			
Queue Length 95th (m)	1.6	0.0	0.0			
Control Delay (s)	9.8	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.8	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization		21.1%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis  
18: Street D/Street B & Street C

Palermo Village  
Future Total AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	20	0	0	15	0	65	0	0	35	60	45	45
Future Volume (Veh/h)	20	0	0	15	0	65	0	0	35	60	45	45
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	22	0	0	17	0	72	0	0	39	67	50	50
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)	78											
pX, platoon unblocked												
vC, conflicting volume	72	0			189			150	0	153	114	36
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	72	0			189			150	0	153	114	36
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
p0 queue free %	99	99			100			100	96	91	93	95
cM capacity (veh/h)	1541	1636			688			727	1091	775	761	1042
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	22	89	39	167								
Volume Left	22	17	0	67								
Volume Right	0	72	39	50								
eSH	1541	1636	1091	834								
Volume to Capacity	0.01	0.01	0.04	0.20								
Queue Length 95th (m)	0.3	0.3	0.9	6.0								
Control Delay (s)	7.4	1.4	8.4	10.4								
Lane LOS	A	A	A	B								
Approach Delay (s)	7.4	1.4	8.4	10.4								
Approach LOS	A			B								
Intersection Summary												
Average Delay	7.4											
Intersection Capacity Utilization	26.3%			ICU Level of Service			A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis  
19: Street D & Street E

Palermo Village  
Future Total AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	20	190	0	15	645	40	0	0	15	30	70	40
Future Volume (Veh/h)	20	190	0	15	645	40	0	0	15	30	70	40
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	22	211	0	17	717	44	0	0	17	33	78	44
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)	191			77								
pX, platoon unblocked	0.85				0.85			0.85	0.85	0.85	0.85	0.85
vC, conflicting volume	761	211			1111			1050	211	1045	1028	739
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	629	211			1042			970	211	964	944	603
tC, single (s)	4.1	4.1			7.1			6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5			4.0	3.3	3.5	4.0	3.3
p0 queue free %	97	99			100			100	98	83	64	90
cM capacity (veh/h)	817	1372			112			208	834	191	216	426
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	233	778	17	155								
Volume Left	22	17	0	33								
Volume Right	0	44	17	44								
eSH	817	1372	834	243								
Volume to Capacity	0.03	0.01	0.02	0.64								
Queue Length 95th (m)	0.7	0.3	0.5	31.2								
Control Delay (s)	1.2	0.3	9.4	42.7								
Lane LOS	A	A	A	E								
Approach Delay (s)	1.2	0.3	9.4	42.7								
Approach LOS	A			E								
Intersection Summary												
Average Delay	6.2											
Intersection Capacity Utilization	60.7%			ICU Level of Service			B					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis  
20: William Halton Pkwy & Street D

Palermo Village  
Future Total AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Volume (veh/h)	25	480	0	5	680	45	0	0	25	170	0	50
Future Volume (Veh/h)	25	480	0	5	680	45	0	0	25	170	0	50
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.90	0.90	0.92	0.92	0.90	0.90	0.92	0.92	0.92	0.90	0.92	0.90
Hourly flow rate (vph)	28	533	0	5	756	50	0	0	27	189	0	56
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)	184			79								
pX, platoon unblocked	0.92			0.94			0.95			0.95		
vC, conflicting volume	806			533			1033			1405		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	614			370			637			1028		
tC, single (s)	4.1			4.1			7.5			6.5		
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5			4.0		
pD queue free %	97			100			100			100		
cM capacity (veh/h)	897			1112			311			213		
Direction, Lane #												
Volume Total	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Left	28	0	5	0	0	189						
Volume Right	0	0	0	50	27	56						
eSH	897	1700	1112	1700	897	320						
Volume to Capacity	0.03	0.16	0.00	0.25	0.03	0.77						
Queue Length 95th (m)	0.8	0.0	0.1	0.0	0.7	47.9						
Control Delay (s)	1.2	0.0	0.2	0.0	9.1	45.1						
Lane LOS	A	A	A	A	A	E						
Approach Delay (s)	0.6		0.1		9.1		45.1					
Approach LOS					A		E					
Intersection Summary												
Average Delay	7.1											
Intersection Capacity Utilization	57.6%			ICU Level of Service			B					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis  
21: Street G & Street F

Palermo Village  
Future Total AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔			↔			↔			↔		
Traffic Volume (veh/h)	30	0	0	75	0	15	0	5	35	10	0	50
Future Volume (Veh/h)	30	0	0	75	0	15	0	5	35	10	0	50
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Hourly flow rate (vph)	33	0	0	83	0	16	0	5	39	11	0	54
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)	169			82								
pX, platoon unblocked												
vC, conflicting volume	16			0			294			248		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	16			0			294			248		
tC, single (s)	4.1			4.1			7.1			6.5		
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5			4.0		
pD queue free %	98			95			100			96		
cM capacity (veh/h)	1602			1636			595			609		
Direction, Lane #												
Volume Total	EB 1	WB 1	NB 1	SB 1								
Volume Left	33	83	0	11								
Volume Right	0	16	39	54								
eSH	1602	1636	1001	951								
Volume to Capacity	0.02	0.05	0.04	0.07								
Queue Length 95th (m)	0.5	1.3	1.1	1.8								
Control Delay (s)	7.3	6.2	8.8	9.1								
Lane LOS	A	A	A	A								
Approach Delay (s)	7.3		6.2		8.8		9.1					
Approach LOS					A		A					
Intersection Summary												
Average Delay	7.6											
Intersection Capacity Utilization	21.6%			ICU Level of Service			A					
Analysis Period (min)	15											



HCM Unsignalized Intersection Capacity Analysis  
22: Street B & Street C

Palermo Village  
Future Total AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘		↖			↕
Traffic Volume (veh/h)	45	0	5	20	0	5
Future Volume (Veh/h)	45	0	5	20	0	5
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	50	0	6	22	0	6
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (m)			109			
pX, platoon unblocked						
vC, conflicting volume	23	17			28	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	23	17			28	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	100			100	
cM capacity (veh/h)	998	1068			1599	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	50	28	6			
Volume Left	50	0	0			
Volume Right	0	22	0			
cSH	998	1700	1599			
Volume to Capacity	0.05	0.02	0.00			
Queue Length 95th (m)	1.3	0.0	0.0			
Control Delay (s)	8.8	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	8.8	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			5.2			
Intersection Capacity Utilization			13.3%		ICU Level of Service	A
Analysis Period (min)			15			

Queues  
23: Street B & Street E

Palermo Village  
Future Total AM Peak Hour

Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Configurations	↔	↔	↔	↔	↔
Traffic Volume (vph)	110	135	550	25	50
Future Volume (vph)	110	135	550	25	50
Lane Group Flow (vph)	122	0	761	84	56
Turn Type	NA	Perm	NA	NA	NA
Protected Phases	8		4	6	2
Permitted Phases		4			
Detector Phase	8	4	4	6	2
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5
Total Split (s)	75.0	75.0	75.0	25.0	25.0
Total Split (%)	75.0%	75.0%	75.0%	25.0%	25.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5		4.5	4.5	4.5
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	None	C-Min	C-Min
v/c Ratio	0.10		0.72	0.15	0.10
Control Delay	6.5		16.6	15.8	33.4
Queue Delay	0.0		0.0	0.0	0.0
Total Delay	6.5		16.6	15.8	33.4
Queue Length 50th (m)	9.1		95.3	4.2	8.5
Queue Length 95th (m)	8.9		76.6	19.1	22.2
Internal Link Dist (m)	178.5		167.1	130.3	85.2
Turn Bay Length (m)					
Base Capacity (vph)	1364		1234	569	582
Starvation Cap Reductn	0		0	0	0
Spillback Cap Reductn	0		0	0	0
Storage Cap Reductn	0		0	0	0
Reduced v/c Ratio	0.09		0.62	0.15	0.10

Intersection Summary  
Cycle Length: 100  
Actuated Cycle Length: 100  
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBT, Start of Green  
Natural Cycle: 60  
Control Type: Actuated-Coordinated



HCM Signalized Intersection Capacity Analysis  
23: Street B & Street E

Palermo Village  
Future Total AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	0	110	0	135	550	0	0	25	50	0	50	0
Future Volume (vph)	0	110	0	135	550	0	0	25	50	0	50	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.91			1.00	
Flt Protected		1.00			0.99			1.00			1.00	
Satd. Flow (prot)		1900			1881			1729			1900	
Flt Permitted		1.00			0.90			1.00			1.00	
Satd. Flow (perm)		1900			1719			1729			1900	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	122	0	150	611	0	0	28	56	0	56	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	40	0	0	0	0
Lane Group Flow (vph)	0	122	0	0	761	0	0	44	0	0	56	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type		NA		Perm	NA			NA			NA	
Protected Phases		8			4			6			2	
Permitted Phases		8			4			6			2	
Actuated Green, G (s)		61.6			61.6			29.4			29.4	
Effective Green, g (s)		61.6			61.6			29.4			29.4	
Actuated g/C Ratio		0.62			0.62			0.29			0.29	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1170			1058			508			558	
v/s Ratio Prot		0.06						0.03			c0.03	
v/s Ratio Perm					c0.44							
v/c Ratio		0.10			0.72			0.09			0.10	
Uniform Delay, d1		7.9			13.2			25.6			25.7	
Progression Factor		1.00			1.00			1.00			1.01	
Incremental Delay, d2		0.0			2.4			0.3			0.4	
Delay (s)		7.9			15.6			25.9			26.4	
Level of Service		A			B			C			C	
Approach Delay (s)		7.9			15.6			25.9			26.4	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	16.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	55.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Queues  
24: Street B & Street F

Palermo Village  
Future Total AM Peak Hour

Lane Group	WBL	NBT	SBT
Lane Configurations	↔	↔	↔
Traffic Volume (vph)	50	180	340
Future Volume (vph)	50	180	340
Lane Group Flow (vph)	56	233	378
Turn Type	Prot	NA	NA
Protected Phases	4	6	2
Permitted Phases			
Detector Phase	4	6	2
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0
Total Split (s)	34.0	66.0	66.0
Total Split (%)	34.0%	66.0%	66.0%
Yellow Time (s)	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	None	C-Min	C-Min
v/c Ratio	0.29	0.15	0.12
Control Delay	44.5	2.1	2.0
Queue Delay	0.0	0.0	0.0
Total Delay	44.5	2.1	2.0
Queue Length 50th (m)	10.7	6.8	6.1
Queue Length 95th (m)	22.3	14.1	10.9
Internal Link Dist (m)	145.5	111.0	190.7
Turn Bay Length (m)			
Base Capacity (vph)	541	1578	3052
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.10	0.15	0.12

Intersection Summary			
Cycle Length:	100		
Actuated Cycle Length:	100		
Offset:	0 (0%), Referenced to phase 2:SBTL and 6:NBT, Start of Green		
Natural Cycle:	50		
Control Type:	Actuated-Coordinated		



HCM Signalized Intersection Capacity Analysis  
24: Street B & Street F

Palermo Village  
Future Total AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Volume (vph)	50	0	180	30	0	340
Future Volume (vph)	50	0	180	30	0	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0			4.0
Lane Util. Factor	1.00		1.00			0.95
Flt	1.00		0.98			1.00
Flt Protected	0.95		1.00			1.00
Satd. Flow (prot)	1805		1864			3610
Flt Permitted	0.95		1.00			1.00
Satd. Flow (perm)	1805		1864			3610
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	56	0	200	33	0	378
RTOR Reduction (vph)	0	0	3	0	0	0
Lane Group Flow (vph)	56	0	230	0	0	378
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Prot		NA			NA
Protected Phases	4		6			2
Permitted Phases					2	
Actuated Green, G (s)	7.4		80.6			80.6
Effective Green, g (s)	9.4		82.6			82.6
Actuated g/C Ratio	0.09		0.83			0.83
Clearance Time (s)	6.0		6.0			6.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	169		1539			2981
v/s Ratio Prot	c0.03		c0.12			0.10
v/s Ratio Perm						
v/c Ratio	0.33		0.15			0.13
Uniform Delay, d1	42.4		1.7			1.7
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	1.2		0.2			0.1
Delay (s)	43.5		1.9			1.8
Level of Service	D		A			A
Approach Delay (s)	43.5		1.9			1.8
Approach LOS	D		A			A
<b>Intersection Summary</b>						
HCM 2000 Control Delay			5.3			HCM 2000 Level of Service A
HCM 2000 Volume to Capacity ratio			0.17			
Actuated Cycle Length (s)			100.0			Sum of lost time (s) 8.0
Intersection Capacity Utilization			22.1%			ICU Level of Service A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis  
25: Street B & Street G

Palermo Village  
Future Total AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Volume (veh/h)	215	0	210	55	0	390
Future Volume (Veh/h)	215	0	210	55	0	390
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	239	0	233	61	0	433
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (m)			146			135
pX, platoon unblocked	0.93	0.93			0.93	
vC, conflicting volume	480	264			294	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	402	169			202	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	56	100			100	
cM capacity (veh/h)	540	791			1284	
<b>Direction, Lane #</b>						
	WB 1	NB 1	SB 1	SB 2		
Volume Total	239	294	144	289		
Volume Left	239	0	0	0		
Volume Right	0	61	0	0		
sSH	540	1700	1284	1700		
Volume to Capacity	0.44	0.17	0.00	0.17		
Queue Length 95th (m)	18.0	0.0	0.0	0.0		
Control Delay (s)	16.8	0.0	0.0	0.0		
Lane LOS	C					
Approach Delay (s)	16.8	0.0	0.0			
Approach LOS	C					
<b>Intersection Summary</b>						
Average Delay			4.2			
Intersection Capacity Utilization			33.0%			ICU Level of Service A
Analysis Period (min)			15			

Queues

1: Bronte Rd & Bronte Carpool Lot/HWY 407 WB Off-ramp

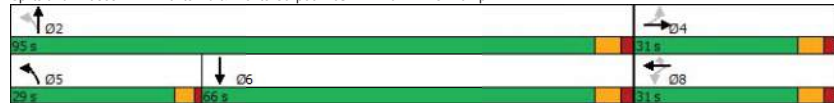
Palermo Village  
Future Total PM Peak Hour

	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBT
Lane Configurations		↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	35	0	355	0	115	25	1775	1105
Future Volume (vph)	35	0	355	0	115	25	1775	1105
Lane Group Flow (vph)	0	63	187	187	121	26	1868	1200
Turn Type	Perm	NA	Perm	NA	Perm	pm+pt	NA	NA
Protected Phases		4		8		5	2	6
Permitted Phases	4		8		8		2	
Detector Phase	4	4	8	8	8	5	2	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	20.0	20.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	9.0	26.0	26.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0	29.0	95.0	66.0
Total Split (%)	24.6%	24.6%	24.6%	24.6%	24.6%	23.0%	75.4%	52.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	4.0	6.0	6.0
Lead/Lag						Lead		Lag
Lead-Lag Optimize?							Min	Min
Recall Mode	None	None	None	None	None	None	Min	Min
v/c Ratio		0.28	0.80	0.80	0.36	0.10	0.88	0.41
Control Delay		14.3	73.6	73.6	25.8	5.7	20.1	10.3
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		14.3	73.6	73.6	25.8	5.7	20.1	10.3
Queue Length 50th (m)		0.4	48.5	48.5	13.2	1.7	218.3	61.0
Queue Length 95th (m)		13.3	#83.4	#83.4	31.6	4.3	282.2	74.9
Internal Link Dist (m)		43.9		67.3			215.2	148.4
Turn Bay Length (m)								
Base Capacity (vph)		249	267	267	375	464	2129	2959
Starvation Cap Reductn		0	0	0	0	0	0	0
Spillback Cap Reductn		0	0	0	0	0	0	0
Storage Cap Reductn		0	0	0	0	0	0	0
Reduced v/c Ratio		0.25	0.70	0.70	0.32	0.06	0.88	0.41

Intersection Summary

Cycle Length: 126  
 Actuated Cycle Length: 122.5  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Spits and Phases: 1: Bronte Rd & Bronte Carpool Lot/HWY 407 WB Off-ramp



HCM Signalized Intersection Capacity Analysis

1: Bronte Rd & Bronte Carpool Lot/HWY 407 WB Off-ramp

Palermo Village  
Future Total PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔	↔	↔	↔			↔	↔
Traffic Volume (vph)	35	0	25	355	0	115	25	1775	0	0	1105	35
Future Volume (vph)	35	0	25	355	0	115	25	1775	0	0	1105	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.6	3.7	3.6	3.7	3.7	3.7	3.7	3.7	3.6	3.6	3.7	3.6
Total Lost time (s)		6.0		6.0	6.0	6.0	4.0	6.0			6.0	
Lane Util. Factor		1.00		0.95	0.95	1.00	1.00	0.80			0.80	
Frbp, ped/bikes		0.99		1.00	1.00	1.00	1.00	1.00			1.00	
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00			1.00	
Frt		0.94		1.00	1.00	0.85	1.00	1.00			1.00	
Fit Protected		0.97		0.95	0.95	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		1620		1649	1649	1601	1587	2927			4375	
Fit Permitted		0.59		0.75	0.75	1.00	0.16	1.00			1.00	
Satd. Flow (perm)		982		1308	1308	1601	263	2927			4375	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	37	0	26	374	0	121	26	1868	0	0	1163	37
RTOR Reduction (vph)	0	50	0	0	0	50	0	0	0	0	1	0
Lane Group Flow (vph)	0	13	0	187	187	71	26	1868	0	0	1199	0
Confl. Peds. (#/hr)				1	1							
Heavy Vehicles (%)		2%	0%	17%	5%	50%	2%	15%	5%	0%	0%	5%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA			NA	
Protected Phases		4		8	8	5	2	2			6	
Permitted Phases	4			8		8	2					
Actuated Green, G (s)		21.8		21.8	21.8	21.8	90.3	90.3			82.9	
Effective Green, g (s)		21.8		21.8	21.8	21.8	90.3	90.3			82.9	
Actuated g/C Ratio		0.18		0.18	0.18	0.18	0.73	0.73			0.67	
Clearance Time (s)		6.0		6.0	6.0	6.0	4.0	6.0			6.0	
Vehicle Extension (s)		3.0		4.0	4.0	4.0	2.5	7.0			7.0	
Lane Grp Cap (vph)		172		229	229	281	227	2129			2922	
v/s Ratio Prot							0.00	0.64			0.27	
v/s Ratio Perm		0.01		0.14	0.14	0.04	0.08					
v/c Ratio		0.07		0.82	0.82	0.25	0.11	0.88			0.41	
Uniform Delay, d1		42.7		49.2	49.2	44.1	5.5	12.7			9.4	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2		0.2		20.6	20.6	0.6	0.2	5.2			0.3	
Delay (s)		42.9		69.8	69.8	44.8	5.7	17.9			9.8	
Level of Service		D		E	E	D	A	B			A	
Approach Delay (s)		42.9		63.7	63.7	17.8		17.8			9.8	
Approach LOS		D		E	E	B		A			A	

Intersection Summary

HCM 2000 Control Delay: 21.8, HCM 2000 Level of Service: C  
 HCM 2000 Volume to Capacity ratio: 0.90  
 Actuated Cycle Length (s): 124.1, Sum of lost time (s): 16.0  
 Intersection Capacity Utilization: 75.4%, ICU Level of Service: D  
 Analysis Period (min): 15  
 Critical Lane Group

Queues  
2: Bronte Rd & HWY 407 EB Off-ramp

Palermo Village  
Future Total PM Peak Hour

Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	105	190	1865	1420
Future Volume (vph)	105	190	1865	1420
Lane Group Flow (vph)	111	200	1963	1495
Turn Type	Prot	Prot	NA	NA
Protected Phases	1	1	2	2
Permitted Phases				
Detector Phase	1	1	2	2
Switch Phase				
Minimum Initial (s)	5.0	5.0	20.0	20.0
Minimum Split (s)	9.0	9.0	26.0	26.0
Total Split (s)	39.0	39.0	61.0	61.0
Total Split (%)	39.0%	39.0%	61.0%	61.0%
Yellow Time (s)	3.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?				
Recall Mode	None	None	Min	Min
v/c Ratio	0.17	0.61	0.66	0.51
Control Delay	26.8	33.7	9.9	8.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.8	33.7	9.9	8.0
Queue Length 50th (m)	7.7	25.8	66.6	43.0
Queue Length 95th (m)	14.3	46.9	113.5	73.7
Internal Link Dist (m)	92.1		656.0	134.8
Turn Bay Length (m)				
Base Capacity (vph)	1367	657	2987	2958
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.08	0.30	0.66	0.51

Intersection Summary

Cycle Length: 100  
Actuated Cycle Length: 81.9  
Natural Cycle: 45  
Control Type: Actuated-Uncoordinated

Splits and Phases: 2: Bronte Rd & HWY 407 EB Off-ramp



HCM Signalized Intersection Capacity Analysis  
2: Bronte Rd & HWY 407 EB Off-ramp

Palermo Village  
Future Total PM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	105	190	0	1865	1420	0
Future Volume (vph)	105	190	0	1865	1420	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.6	3.7	3.7	3.6
Total Lost time (s)	4.0	4.0		6.0	6.0	
Lane Util. Factor	0.97	1.00		*0.80	*0.80	
Frt	1.00	0.85		1.00	1.00	
Fit Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3190	1498		4433	4391	
Fit Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3190	1498		4433	4391	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	111	200	0	1963	1495	0
RTOR Reduction (vph)	0	21	0	0	0	0
Lane Group Flow (vph)	111	179	0	1963	1495	0
Heavy Vehicles (%)	11%	9%	0%	4%	5%	0%
Turn Type	Prot	Prot		NA	NA	
Protected Phases	1	1		2	2	
Permitted Phases						
Actuated Green, G (s)	16.7	16.7		55.2	55.2	
Effective Green, g (s)	16.7	16.7		55.2	55.2	
Actuated g/C Ratio	0.20	0.20		0.67	0.67	
Clearance Time (s)	4.0	4.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		7.0	7.0	
Lane Grp Cap (vph)	650	305		2987	2959	
v/s Ratio Prot	0.03	c0.12		c0.44	0.34	
v/s Ratio Perm						
v/c Ratio	0.17	0.59		0.66	0.51	
Uniform Delay, d1	26.9	29.5		7.8	6.6	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	4.4		1.0	0.5	
Delay (s)	27.2	33.9		8.8	7.1	
Level of Service	C	C		A	A	
Approach Delay (s)	31.5			8.8	7.1	
Approach LOS	C			A	A	

Intersection Summary

HCM 2000 Control Delay: 10.0, HCM 2000 Level of Service: A  
 HCM 2000 Volume to Capacity ratio: 0.64  
 Actuated Cycle Length (s): 81.9, Sum of lost time (s): 10.0  
 Intersection Capacity Utilization: 48.5%, ICU Level of Service: A  
 Analysis Period (min): 15

c Critical Lane Group

Queues  
3: Bronte Rd & Street C

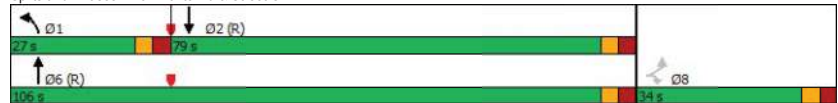
Palermo Village  
Future Total PM Peak Hour

	EBL	EBR	NBL	NBT	SBT
Lane Configurations	↖	↗	↖	↑↑↑	↑↑↑
Traffic Volume (vph)	15	75	120	2115	1530
Future Volume (vph)	15	75	120	2115	1530
Lane Group Flow (vph)	16	81	129	2274	1731
Turn Type	Perm	Perm	Prot	NA	NA
Protected Phases			1	6	2
Permitted Phases	8	8			
Detector Phase	8	8	1	6	2
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	34.0	34.0	11.0	34.0	34.0
Total Split (s)	34.0	34.0	27.0	106.0	79.0
Total Split (%)	24.3%	24.3%	19.3%	75.7%	56.4%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Min	C-Min
v/c Ratio	0.13	0.45	0.58	0.59	0.55
Control Delay	62.9	20.1	47.2	5.4	10.2
Queue Delay	0.0	0.0	0.0	2.1	1.2
Total Delay	62.9	20.1	47.2	7.5	11.4
Queue Length 50th (m)	4.5	0.0	36.4	99.1	84.5
Queue Length 95th (m)	12.2	16.5	m41.1	m41.6	125.7
Internal Link Dist (m)	53.6			72.4	656.0
Turn Bay Length (m)	15.0				
Base Capacity (vph)	386	409	296	3848	3169
Starvation Cap Reductn	0	0	0	1375	0
Spillback Cap Reductn	0	20	0	0	1118
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.04	0.21	0.44	0.92	0.84

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Bronte Rd & Street C



HCM Signalized Intersection Capacity Analysis  
3: Bronte Rd & Street C

Palermo Village  
Future Total PM Peak Hour

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑↑↑	↑↑↑	↖
Traffic Volume (vph)	15	75	120	2115	1530	80
Future Volume (vph)	15	75	120	2115	1530	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.6	3.6	3.6	3.7	3.7	3.6
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	*0.80	*0.80	
Frt	1.00	0.85	1.00	1.00	0.99	
Fit Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1805	1615	1805	4391	4369	
Fit Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1805	1615	1805	4391	4369	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	16	81	129	2274	1645	86
RTOR Reduction (vph)	0	76	0	0	2	0
Lane Group Flow (vph)	16	5	129	2274	1729	0
Heavy Vehicles (%)	0%	0%	0%	5%	5%	0%
Turn Type	Perm	Perm	Prot	NA	NA	
Protected Phases			1	6	2	
Permitted Phases	8	8				
Actuated Green, G (s)	7.3	7.3	15.3	120.7	99.4	
Effective Green, g (s)	9.3	9.3	17.3	122.7	101.4	
Actuated g/C Ratio	0.07	0.07	0.12	0.88	0.72	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	119	107	223	3848	3164	
v/s Ratio Prot			0.07	c0.52	0.40	
v/s Ratio Perm	c0.01	0.00				
v/c Ratio	0.13	0.05	0.58	0.59	0.55	
Uniform Delay, d1	61.6	61.2	57.9	2.2	8.8	
Progression Factor	1.00	1.00	0.75	2.16	1.00	
Incremental Delay, d2	0.5	0.2	1.4	0.3	0.7	
Delay (s)	62.1	61.4	45.1	5.0	9.5	
Level of Service	E	E	D	A	A	
Approach Delay (s)	61.5			7.2	9.5	
Approach LOS	E			A	A	

Intersection Summary

HCM 2000 Control Delay: 9.4 HCM 2000 Level of Service: A  
 HCM 2000 Volume to Capacity ratio: 0.59  
 Actuated Cycle Length (s): 140.0 Sum of lost time (s): 14.0  
 Intersection Capacity Utilization: 52.2% ICU Level of Service: A  
 Analysis Period (min): 15

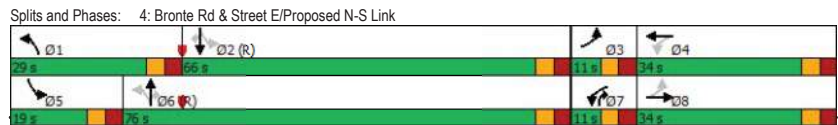
c Critical Lane Group

Queues  
4: Bronte Rd & Street E/Proposed N-S Link

Palermo Village  
Future Total PM Peak Hour

	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	175	65	70	80	240	2025	35	225	1270	110
Future Volume (vph)	175	65	70	80	240	2025	35	225	1270	110
Lane Group Flow (vph)	188	511	75	124	258	2177	38	242	1366	118
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+ov	pm+pt	NA	Perm
Protected Phases	3	8	7	4	1	6	7	5	2	
Permitted Phases	8		4		6		6	2		2
Detector Phase	3	8	7	4	1	6	7	5	2	2
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	34.0	11.0	34.0	11.0	34.0	11.0	34.0	34.0	34.0
Total Split (s)	11.0	34.0	11.0	34.0	29.0	76.0	11.0	19.0	66.0	66.0
Total Split (%)	7.9%	24.3%	7.9%	24.3%	20.7%	54.3%	7.9%	13.6%	47.1%	47.1%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	None	C-Min	C-Min
v/c Ratio	0.57	0.99	0.51	0.31	0.75	0.96	0.04	0.99	0.66	0.14
Control Delay	49.2	69.8	66.3	64.2	56.7	17.8	0.0	90.1	32.9	5.5
Queue Delay	1.5	3.8	0.0	0.0	0.1	13.9	0.0	4.1	1.9	0.0
Total Delay	50.7	73.6	66.3	64.2	56.8	31.7	0.0	94.2	34.8	5.5
Queue Length 50th (m)	43.4	98.0	22.6	34.1	60.6	68.1	0.0	54.8	155.0	5.7
Queue Length 95th (m)	66.2	#175.4	40.0	56.3	m62.8	m68.0	m0.0	#110.9	154.2	13.8
Internal Link Dist (m)		53.2		54.9		124.5			72.4	
Turn Bay Length (m)	15.0		15.0		30.0		30.0	30.0		30.0
Base Capacity (vph)	328	516	146	399	392	2258	975	245	2072	848
Starvation Cap Reductn	0	0	0	0	3	140	0	4	518	0
Spillback Cap Reductn	44	8	0	0	0	12	0	0	177	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	1.01	0.51	0.31	0.66	1.03	0.04	1.00	0.88	0.14

**Intersection Summary**  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBL, Start of Green  
 Natural Cycle: 130  
 Control Type: Actuated-Coordinated  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.



HCM Signalized Intersection Capacity Analysis  
4: Bronte Rd & Street E/Proposed N-S Link

Palermo Village  
Future Total PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	175	65	410	70	80	35	240	2025	35	225	1270	110
Future Volume (vph)	175	65	410	70	80	35	240	2025	35	225	1270	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.6	3.6	3.6	3.7	3.6	3.6	3.6	3.7	3.5	3.5	3.7	3.6
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	*0.80	1.00	1.00	*0.80	1.00
Frt	1.00	0.87		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Fit Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	1654		1825	1813		1805	4391	1597	1785	4391	1615
Fit Permitted	0.58	1.00		0.13	1.00		0.08	1.00	1.00	0.06	1.00	1.00
Satd. Flow (perm)	1110	1654		256	1813		149	4391	1597	114	4391	1615
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	188	70	441	75	86	38	258	2177	38	242	1366	118
RTOR Reduction (vph)	0	162	0	0	11	0	0	0	17	0	0	62
Lane Group Flow (vph)	188	349	0	75	113	0	258	2177	21	242	1366	56
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	5%	0%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	Perm
Protected Phases	3	8		7	4		1	6	7	5	2	
Permitted Phases	8			4			6		6	2		2
Actuated Green, G (s)	33.0	28.0		33.0	28.0		88.9	70.0	75.0	77.1	64.1	64.1
Effective Green, g (s)	37.0	30.0		37.0	30.0		91.0	72.0	79.0	81.1	66.1	66.1
Actuated g/C Ratio	0.26	0.21		0.26	0.21		0.65	0.51	0.56	0.58	0.47	0.47
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	328	354		146	388		344	2258	946	245	2073	762
v/s Ratio Prot	c0.03	c0.21		0.03	0.06		c0.11	c0.50	0.00	c0.11	0.31	
v/s Ratio Perm	0.12			0.11			0.38		0.01	0.47		0.03
v/c Ratio	0.57	0.99		0.51	0.29		0.75	0.96	0.02	0.99	0.66	0.07
Uniform Delay, d1	44.2	54.8		42.0	46.1		35.0	32.8	13.5	46.9	28.3	20.2
Progression Factor	1.00	1.00		1.49	1.51		1.68	0.34	0.00	0.96	1.08	5.56
Incremental Delay, d2	2.4	43.8		2.7	0.4		3.3	5.6	0.0	49.4	1.4	0.2
Delay (s)	46.6	98.5		65.1	69.9		62.1	16.8	0.0	94.2	31.9	112.6
Level of Service	D	F		E	E		E	B	A	F	C	F
Approach Delay (s)		84.6			68.1			21.2			46.2	
Approach LOS		F			E			C			D	

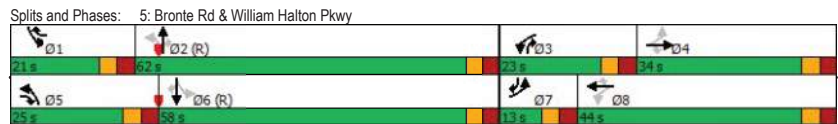
**Intersection Summary**  
 HCM 2000 Control Delay: 40.2 HCM 2000 Level of Service: D  
 HCM 2000 Volume to Capacity ratio: 0.95  
 Actuated Cycle Length (s): 140.0 Sum of lost time (s): 16.0  
 Intersection Capacity Utilization: 97.8% ICU Level of Service: F  
 Analysis Period (min): 15  
 c Critical Lane Group

Queues  
5: Bronte Rd & William Halton Pkwy

Palermo Village  
Future Total PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔	↔	↔	↔↔	↔	↔↔↔	↔	↔	↔	↔↔↔	↔
Traffic Volume (vph)	105	680	185	290	440	475	310	1720	305	250	1435	65
Future Volume (vph)	105	680	185	290	440	475	310	1720	305	250	1435	65
Lane Group Flow (vph)	114	739	201	315	478	516	337	1870	332	272	1560	71
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases	4	4	8	8	2	8	2	2	6	6	6	6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	10.0	7.0	5.0	20.0	5.0	7.0	20.0	5.0
Minimum Split (s)	12.0	34.0	12.0	12.0	16.0	14.0	12.0	40.4	12.0	14.0	26.4	12.0
Total Split (s)	13.0	34.0	25.0	23.0	44.0	21.0	25.0	62.0	23.0	21.0	58.0	13.0
Total Split (%)	9.3%	24.3%	17.9%	16.4%	31.4%	15.0%	17.9%	44.3%	16.4%	15.0%	41.4%	9.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	None	None	C-Min	None
v/c Ratio	0.39	0.96	0.29	1.06	0.46	0.72	1.04	1.03	0.36	1.03	0.93	0.09
Control Delay	33.9	78.7	17.1	98.1	33.9	35.9	86.6	66.9	18.4	112.3	28.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.9	39.7	0.0	20.6	1.3	37.0	3.5	0.0
Total Delay	33.9	78.7	17.1	98.1	34.8	75.6	86.6	87.4	19.7	149.3	32.2	0.1
Queue Length 50th (m)	23.5	114.2	20.0	-84.8	63.7	141.0	-86.3	-245.0	65.0	-70.2	105.0	0.0
Queue Length 95th (m)	39.2	#154.5	41.4	#143.4	59.2	167.1	#150.1	#280.5	96.1	m#117.7	m134.0	m0.0
Internal Link Dist (m)		55.0			45.6			181.0			124.5	
Turn Bay Length (m)	45.0		60.0	130.0		90.0	85.0		60.0	55.0		60.0
Base Capacity (vph)	296	773	705	296	1031	721	325	1819	910	264	1677	833
Starvation Cap Reductn	0	0	0	0	299	236	0	27	0	0	72	0
Spillback Cap Reductn	0	0	0	0	0	1	0	89	372	147	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.96	0.29	1.06	0.65	1.06	1.04	1.08	0.62	2.32	0.97	0.09

Intersection Summary  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 135  
 Control Type: Actuated-Coordinated  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.



HCM Signalized Intersection Capacity Analysis  
5: Bronte Rd & William Halton Pkwy

Palermo Village  
Future Total PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔	↔	↔	↔↔	↔	↔↔↔	↔	↔	↔	↔↔↔	↔
Traffic Volume (vph)	105	680	185	290	440	475	310	1720	305	250	1435	65
Future Volume (vph)	105	680	185	290	440	475	310	1720	305	250	1435	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.6	3.6	3.6	3.5	3.6	3.5	3.6	3.5	3.6	3.7	3.6	3.5
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.80	1.00	1.00	0.80	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Fit Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	3610	1615	1785	3610	1566	1805	4391	1599	1750	4350	1615
Fit Permitted	0.44	1.00	1.00	0.12	1.00	1.00	0.07	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	842	3610	1615	221	3610	1566	131	4391	1599	136	4350	1615
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	739	201	315	478	516	337	1870	332	272	1560	71
RTOR Reduction (vph)	0	0	74	0	0	42	0	32	0	0	39	0
Lane Group Flow (vph)	114	739	127	315	478	475	337	1870	301	272	1560	32
Confl. Peds. (#/hr)												
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	5%	0%	2%	6%	0%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases	4	4	8	8	2	8	2	2	6	6	6	6
Actuated Green, G (s)	35.0	28.0	47.0	51.0	38.0	53.0	75.0	56.0	73.0	67.0	52.0	59.0
Effective Green, g (s)	39.0	30.0	51.0	53.0	40.0	57.0	79.0	58.0	77.0	71.0	54.0	63.0
Actuated g/C Ratio	0.28	0.21	0.36	0.38	0.29	0.41	0.56	0.41	0.55	0.51	0.39	0.45
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	296	773	634	295	1031	682	325	1819	925	264	1677	772
v/s Ratio Prot	0.02	0.20	0.03	c0.14	0.13	0.08	c0.16	0.43	0.04	0.12	0.36	0.00
v/s Ratio Perm	0.08		0.05	c0.26		0.22	c0.43		0.14	0.39		0.02
v/c Ratio	0.39	0.96	0.20	1.07	0.46	0.70	1.04	1.03	0.32	1.03	0.93	0.04
Uniform Delay, d1	38.9	54.3	30.5	42.5	41.2	34.3	46.8	41.0	17.3	45.6	41.2	21.6
Progression Factor	0.99	1.03	1.34	0.84	0.79	1.10	0.71	1.00	1.44	1.53	0.49	0.00
Incremental Delay, d2	0.8	21.8	0.2	65.8	0.3	2.5	55.3	26.8	0.2	53.5	7.7	0.0
Delay (s)	39.5	77.8	41.0	101.4	32.8	40.2	88.6	67.6	25.0	123.5	28.0	0.0
Level of Service	D	E	D	F	C	D	F	E	C	F	C	A
Approach Delay (s)	66.7				52.2			64.8			40.6	
Approach LOS	E				D			E			D	

Intersection Summary  
 HCM 2000 Control Delay: 55.9  
 HCM 2000 Level of Service: E  
 HCM 2000 Volume to Capacity ratio: 1.09  
 Actuated Cycle Length (s): 140.0  
 Sum of lost time (s): 16.0  
 Intersection Capacity Utilization: 95.3%  
 ICU Level of Service: F  
 Analysis Period (min): 15  
 c Critical Lane Group

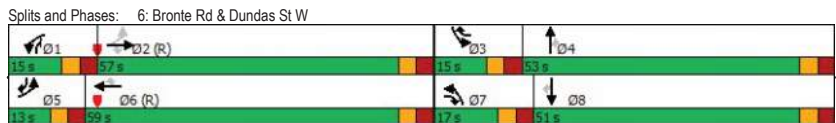


Queues  
6: Bronte Rd & Dundas St W

Palermo Village  
Future Total PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔↔	↔	↔↔	↔↔↔	↔	↔↔↔	↔↔↔	↔	↔↔	↔↔↔	↔
Traffic Volume (vph)	180	1500	380	250	1825	655	300	1625	310	265	1400	245
Future Volume (vph)	180	1500	380	250	1825	655	300	1625	310	265	1400	245
Lane Group Flow (vph)	191	1596	404	266	1941	697	319	1729	330	282	1489	261
Turn Type	pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	7	1	6	3	7	4	1	3	8	5
Permitted Phases	2		2		6		4		4		8	
Detector Phase	5	2	7	1	6	3	7	4	1	3	8	5
Switch Phase												
Minimum Initial (s)	7.0	20.0	7.0	7.0	20.0	7.0	7.0	10.0	7.0	7.0	10.0	7.0
Minimum Split (s)	13.0	49.0	13.0	13.0	49.0	13.0	13.0	51.0	13.0	13.0	51.0	13.0
Total Split (s)	13.0	57.0	17.0	15.0	59.0	15.0	17.0	53.0	15.0	15.0	51.0	13.0
Total Split (%)	9.3%	40.7%	12.1%	10.7%	42.1%	10.7%	12.1%	37.9%	10.7%	10.7%	36.4%	9.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?												
Recall Mode	None	C-Min	None	None	C-Min	None	None	None	None	None	None	None
v/c Ratio	1.15	0.93	0.60	1.01	1.09	1.00	0.99	1.11	0.54	1.04	1.00	0.44
Control Delay	142.2	39.4	10.9	88.0	101.2	78.7	88.6	103.7	37.8	113.9	60.1	21.5
Queue Delay	1.2	10.5	0.0	0.0	3.2	0.4	0.0	0.1	0.2	41.4	0.0	0.0
Total Delay	143.4	50.0	10.9	88.0	104.4	79.1	88.6	103.8	38.0	155.3	60.1	21.5
Queue Length 50th (m)	-50.4	112.0	14.4	-39.7	-272.3	200.1	48.8	-247.3	85.5	-46.9	-153.8	36.5
Queue Length 95th (m)	m#67.1	m#187.3	m#30.1	m#49.2	m#306.9	m#235.7	m#74.5	#283.3	m#120.2	#74.6	#218.5	74.4
Internal Link Dist (m)		215.2		79.0			356.6				207.3	
Turn Bay Length (m)	100.0		80.0	125.0		170.0		85.0	175.0		85.0	
Base Capacity (vph)	166	1711	674	264	1775	697	321	1551	610	272	1488	588
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	11	128	0	0	222	1	0	24	28	181	0	3
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.23	1.01	0.60	1.01	1.25	1.00	0.99	1.13	0.57	1.10	1.00	0.45

Intersection Summary  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green  
 Natural Cycle: 140  
 Control Type: Actuated-Coordinated  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.



HCM Signalized Intersection Capacity Analysis  
6: Bronte Rd & Dundas St W

Palermo Village  
Future Total PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔↔	↔	↔↔	↔↔↔	↔	↔↔↔	↔↔↔	↔	↔↔	↔↔↔	↔
Traffic Volume (vph)	180	1500	380	250	1825	655	300	1625	310	265	1400	245
Future Volume (vph)	180	1500	380	250	1825	655	300	1625	310	265	1400	245
Lane Util. Factor	1.00	*0.80	1.00	0.97	*0.80	1.00	0.97	*0.80	1.00	0.97	*0.80	1.00
Frpb, ped/bikes	1.00	1.00	0.87	1.00	1.00	0.87	1.00	1.00	0.88	1.00	1.00	0.87
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Fit Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1767	4520	1352	3362	4520	1401	3463	4433	1332	3463	4433	1366
Fit Permitted	0.08	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	140	4520	1352	3362	4520	1401	3463	4433	1332	3463	4433	1366
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	191	1596	404	266	1941	697	319	1729	330	282	1489	261
RTOR Reduction (vph)	0	0	37	0	0	37	0	0	40	0	0	42
Lane Group Flow (vph)	191	1596	367	266	1941	660	319	1729	290	282	1489	219
Confl. Peds. (#/hr)	150		150	150		150	150		150	150		150
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	1%	2%	3%	3%	2%	0%	0%	4%	5%	0%	4%	2%
Turn Type	pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	7	1	6	3	7	4	1	3	8	5
Permitted Phases	2		2		6		4		4		8	
Actuated Green, G (s)	58.0	51.0	62.0	9.0	53.0	62.0	11.0	47.0	56.0	9.0	45.0	52.0
Effective Green, g (s)	62.0	53.0	66.0	11.0	55.0	66.0	13.0	49.0	60.0	11.0	47.0	56.0
Actuated g/C Ratio	0.44	0.38	0.47	0.08	0.39	0.47	0.09	0.35	0.43	0.08	0.34	0.40
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	6.0	3.0	3.0	6.0	3.0	3.0	5.0	3.0	3.0	5.0	3.0
Lane Grp Cap (vph)	166	1711	676	264	1775	700	321	1551	608	272	1488	585
v/s Ratio Prot	0.07	0.35	0.05	c0.08	0.43	c0.07	0.09	c0.39	0.04	0.08	0.34	0.02
v/s Ratio Perm	c0.43		0.22		0.40				0.18			0.14
v/c Ratio	1.15	0.93	0.54	1.01	1.09	0.94	0.99	1.11	0.48	1.04	1.00	0.37
Uniform Delay, d1	38.4	41.8	26.3	64.5	42.5	35.2	63.5	45.5	28.7	64.5	46.5	29.6
Progression Factor	1.76	0.80	0.44	0.71	1.39	1.85	0.81	1.11	1.67	0.87	0.83	0.96
Incremental Delay, d2	94.6	5.6	0.4	41.2	47.4	12.9	36.6	57.6	0.3	59.8	21.5	0.3
Delay (s)	162.1	39.1	12.0	87.1	106.6	78.1	87.8	108.3	48.4	115.7	59.9	28.7
Level of Service	F	D	B	F	F	E	F	F	D	F	E	C
Approach Delay (s)		44.8			98.0			97.2			63.6	
Approach LOS		D			F			F			E	

Intersection Summary  
 HCM 2000 Control Delay 78.2 HCM 2000 Level of Service E  
 HCM 2000 Volume to Capacity ratio 1.12  
 Actuated Cycle Length (s) 140.0 Sum of lost time (s) 16.0  
 Intersection Capacity Utilization 104.2% ICU Level of Service G  
 Analysis Period (min) 15  
 c Critical Lane Group

Queues  
7: Bronte Rd & Highvalley Rd/Pine Glen Rd

Palermo Village  
Future Total PM Peak Hour

	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	5	10	80	175	60	2230	95	50	1970	10
Future Volume (vph)	5	10	80	175	60	2230	95	50	1970	10
Lane Group Flow (vph)	5	103	87	190	65	2424	103	54	2141	11
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8	7	4	1	6		5	2	
Permitted Phases	8		4		6		6	2		2
Detector Phase	8	8	7	4	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	10.0	10.0	5.0	10.0	6.0	15.0	15.0	6.0	15.0	15.0
Minimum Split (s)	39.4	39.4	9.5	39.1	10.0	32.7	32.7	10.0	32.7	32.7
Total Split (s)	39.4	39.4	9.5	48.9	10.0	81.1	81.1	10.0	81.1	81.1
Total Split (%)	28.1%	28.1%	6.8%	34.9%	7.1%	57.9%	57.9%	7.1%	57.9%	57.9%
Yellow Time (s)	3.7	3.7	3.5	3.7	3.0	3.7	3.0	3.7	3.7	3.7
All-Red Time (s)	3.7	3.7	1.0	3.4	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.4	5.4	2.5	5.1	2.0	3.7	3.7	2.0	3.7	3.7
Lead/Lag	Lag	Lag	Lead		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes							
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
v/c Ratio	0.04	0.40	0.39	0.58	0.39	0.79	0.09	0.34	0.71	0.01
Control Delay	53.8	17.9	52.0	60.0	21.3	18.3	2.0	14.5	25.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.8	17.9	52.0	60.0	21.3	18.3	2.0	14.5	25.7	0.0
Queue Length 50th (m)	1.4	3.0	21.9	52.0	3.8	185.5	0.2	2.7	246.1	0.0
Queue Length 95th (m)	5.6	20.3	36.5	74.4	18.9	260.2	7.3	m5.0	m262.8	m0.0
Internal Link Dist (m)		145.4		105.4		203.1			356.6	
Turn Bay Length (m)	25.0		40.0		100.0		90.0	90.0		30.0
Base Capacity (vph)	289	466	224	572	166	3056	1120	160	3036	1088
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.22	0.39	0.33	0.39	0.79	0.09	0.34	0.71	0.01

**Intersection Summary**  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBT, Start of Green  
 Natural Cycle: 135  
 Control Type: Actuated-Coordinated  
 m Volume for 95th percentile queue is metered by upstream signal.



HCM Signalized Intersection Capacity Analysis  
7: Bronte Rd & Highvalley Rd/Pine Glen Rd

Palermo Village  
Future Total PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	5	10	85	80	175	0	60	2230	95	50	1970	10
Future Volume (vph)	5	10	85	80	175	0	60	2230	95	50	1970	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.6	3.5	3.7	3.6	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	5.4	5.4	2.5	5.1	2.0	3.7	3.7	2.0	3.7	2.0	3.7	3.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.80	1.00	1.00	0.80	1.00
Frbp, ped/bikes	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.87	1.00	1.00	1.00	1.00	1.00	0.85	1.00	1.00	0.85	1.00
Fit Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1778	1634	1745	1830	1700	4391	1566	1716	4391	1529	1529	1529
Fit Permitted	0.64	1.00	0.51	1.00	0.04	1.00	1.00	0.04	1.00	1.00	0.04	1.00
Satd. Flow (perm)	1194	1634	936	1830	74	4391	1566	75	4391	1529	1529	1529
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	11	92	87	190	0	65	2424	103	54	2141	11
RTOR Reduction (vph)	0	82	0	0	0	0	0	31	0	0	0	3
Lane Group Flow (vph)	5	21	0	87	190	0	65	2424	72	54	2141	8
Confl. Peds. (#/hr)	4		6	6		4	9					9
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	0%	0%	2%	5%	3%	5%	5%	2%	4%	5%	0%
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases		8		7	4		1	6		5	2	
Permitted Phases	8			4			6		6	2		2
Actuated Green, G (s)	13.1	13.1		22.9	22.9		101.0	94.7	94.7	99.6	94.0	94.0
Effective Green, g (s)	15.1	15.1		24.9	24.9		105.0	96.7	96.7	103.6	96.0	96.0
Actuated g/C Ratio	0.11	0.11		0.18	0.18		0.75	0.69	0.69	0.74	0.69	0.69
Clearance Time (s)	7.4	7.4		4.5	7.1		4.0	5.7	5.7	4.0	5.7	5.7
Vehicle Extension (s)	5.0	5.0		3.0	5.0		3.0	5.0	5.0	3.0	5.0	5.0
Lane Grp Cap (vph)	128	176		206	325		151	3032	1081	144	3010	1048
v/s Ratio Prot		0.01		0.02	c0.10		c0.03	c0.55		0.02	0.49	
v/s Ratio Perm	0.00			0.05			0.30		0.05	0.26		0.00
v/c Ratio	0.04	0.12		0.42	0.58		0.43	0.80	0.07	0.38	0.71	0.01
Uniform Delay, d1	56.0	56.4		49.9	52.8		16.4	15.0	7.0	18.9	13.5	6.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.10	1.74	1.00
Incremental Delay, d2	0.3	0.6		1.4	4.1		2.0	2.3	0.1	0.7	0.6	0.0
Delay (s)	56.2	57.1		51.3	56.9		18.4	17.3	7.1	21.3	24.0	7.0
Level of Service	E	E		D	E		B	B	A	C	C	A
Approach Delay (s)		57.0			55.2			16.9			23.9	
Approach LOS		E			E			B			C	

**Intersection Summary**  
 HCM 2000 Control Delay 22.7 HCM 2000 Level of Service C  
 HCM 2000 Volume to Capacity ratio 0.75  
 Actuated Cycle Length (s) 140.0 Sum of lost time (s) 13.6  
 Intersection Capacity Utilization 70.5% ICU Level of Service C  
 Analysis Period (min) 15  
 c Critical Lane Group

Queues  
8: Proposed N-S Link & William Halton Pkwy

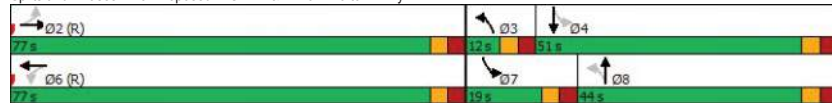
Palermo Village  
Future Total PM Peak Hour

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↔↔	↔↔	↔↔	↔	↔	↔	↔
Traffic Volume (vph)	920	10	1065	140	160	165	115
Future Volume (vph)	920	10	1065	140	160	165	115
Lane Group Flow (vph)	1221	0	1250	163	279	192	134
Turn Type	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases	2		6	3	8	7	4
Permitted Phases		6		8		4	
Detector Phase	2	6	6	3	8	7	4
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	34.0	34.0	34.0	11.0	34.0	11.0	34.0
Total Split (s)	77.0	77.0	77.0	12.0	44.0	19.0	51.0
Total Split (%)	55.0%	55.0%	55.0%	8.6%	31.4%	13.6%	36.4%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead	Lag	Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	
Recall Mode	C-Min	C-Min	C-Min	None	Min	None	Min
v/c Ratio	0.60		0.64	0.37	0.75	0.58	0.31
Control Delay	35.2		23.1	30.6	59.2	41.9	33.1
Queue Delay	9.6		0.5	0.0	0.0	0.0	0.0
Total Delay	44.8		23.6	30.7	59.2	41.9	33.1
Queue Length 50th (m)	184.2		126.2	33.1	72.9	35.4	15.2
Queue Length 95th (m)	m114.1		160.7	m43.3	m92.4	m18.9	m23.6
Internal Link Dist (m)	39.0		253.2		203.2		128.4
Turn Bay Length (m)			40.0		20.0		
Base Capacity (vph)	2032		1945	439	518	334	637
Starvation Cap Reductn	786		0	0	0	0	0
Spillback Cap Reductn	0		300	2	0	0	0
Storage Cap Reductn	0		0	0	0	0	0
Reduced v/c Ratio	0.98		0.76	0.37	0.54	0.57	0.21

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 44 (31%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Proposed N-S Link & William Halton Pkwy



HCM Signalized Intersection Capacity Analysis  
8: Proposed N-S Link & William Halton Pkwy

Palermo Village  
Future Total PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↔	↔		↔	↔	
Traffic Volume (vph)	0	920	130	10	1065	0	140	160	80	165	115	0
Future Volume (vph)	0	920	130	10	1065	0	140	160	80	165	115	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		1.00	1.00	
Fr		0.98			1.00		1.00	0.95		1.00	1.00	
Fit Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3482			3573		1805	1770		1805	1900	
Fit Permitted		1.00			0.94		0.66	1.00		0.21	1.00	
Satd. Flow (perm)		3482			3344		1250	1770		406	1900	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	1070	151	12	1238	0	163	186	93	192	134	0
RTOR Reduction (vph)	0	7	0	0	0	0	0	14	0	0	0	0
Lane Group Flow (vph)	0	1214	0	0	1250	0	163	265	0	192	134	0
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	0%	6%	0%	0%	0%
Turn Type		NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases		2			6		8			4		
Actuated Green, G (s)		79.2			79.2		38.7	26.2		46.9	30.3	
Effective Green, g (s)		81.2			81.2		42.7	28.2		50.8	32.3	
Actuated g/C Ratio		0.58			0.58		0.31	0.20		0.36	0.23	
Clearance Time (s)		6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		2019			1939		438	356		333	438	
v/s Ratio Prot		0.35					0.04	c0.15		c0.08	0.07	
v/s Ratio Perm					c0.37		0.07			0.13		
v/c Ratio		0.60			0.64		0.37	0.74		0.58	0.31	
Uniform Delay, d1		19.0			19.7		37.2	52.5		33.6	44.6	
Progression Factor		1.69			1.00		0.95	0.97		1.27	0.75	
Incremental Delay, d2		0.9			1.7		0.5	7.5		1.1	0.2	
Delay (s)		33.0			21.4		35.6	58.4		43.8	33.8	
Level of Service		C			C		D	E		D	C	
Approach Delay (s)		33.0			21.4		50.0			39.6		
Approach LOS		C			C		D			D		

Intersection Summary

HCM 2000 Control Delay: 31.5, HCM 2000 Level of Service: C  
 HCM 2000 Volume to Capacity ratio: 0.66  
 Actuated Cycle Length (s): 140.0, Sum of lost time (s): 12.0  
 Intersection Capacity Utilization: 68.9%, ICU Level of Service: C  
 Analysis Period (min): 15

c Critical Lane Group

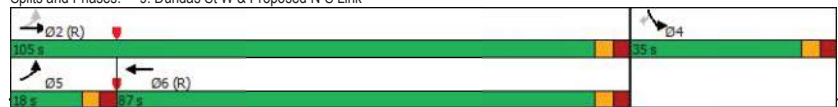
Queues  
9: Dundas St W & Proposed N-S Link

Palermo Village  
Future Total PM Peak Hour

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations	↔	↕↕	↕↕↕	↔	↕
Traffic Volume (vph)	185	1905	2655	330	25
Future Volume (vph)	185	1905	2655	330	25
Lane Group Flow (vph)	191	1964	2861	340	26
Turn Type	pm+pt	NA	NA	Prot	Perm
Protected Phases	5	2	6	4	
Permitted Phases	2			4	
Detector Phase	5	2	6	4	4
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	34.0	34.0	24.0	24.0
Total Split (s)	18.0	105.0	87.0	35.0	35.0
Total Split (%)	12.9%	75.0%	62.1%	25.0%	25.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	C-Min	C-Min	Min	Min
v/c Ratio	0.84	0.76	0.94	0.88	0.07
Control Delay	49.0	22.5	32.8	71.2	13.2
Queue Delay	0.0	47.5	0.5	0.0	0.0
Total Delay	49.0	70.0	33.3	71.2	13.2
Queue Length 50th (m)	32.6	298.6	272.9	83.2	1.0
Queue Length 95th (m)	m42.0	m311.4	299.8	#140.3	m5.5
Internal Link Dist (m)		105.2	334.8	152.5	
Turn Bay Length (m)				40.0	
Base Capacity (vph)	234	2581	3057	399	377
Starvation Cap Reductn	0	846	0	0	0
Spillback Cap Reductn	0	0	36	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.82	1.13	0.95	0.85	0.07

**Intersection Summary**  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 55 (39%), Referenced to phase 2:EBTL and 6:WBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Dundas St W & Proposed N-S Link



FTPM Palermo Village 1:32 pm 10-11-2022 Future Total PM Peak Hour

HCM Signalized Intersection Capacity Analysis  
9: Dundas St W & Proposed N-S Link

Palermo Village  
Future Total PM Peak Hour

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔	↕↕	↕↕↕		↔	↕
Traffic Volume (vph)	185	1905	2655	120	330	25
Future Volume (vph)	185	1905	2655	120	330	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.91		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Fit Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1805	3539	5057		1805	1615
Fit Permitted	0.05	1.00	1.00		0.95	1.00
Satd. Flow (perm)	86	3539	5057		1805	1615
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	191	1964	2737	124	340	26
RTOR Reduction (vph)	0	0	3	0	0	20
Lane Group Flow (vph)	191	1964	2858	0	340	6
Heavy Vehicles (%)	0%	2%	2%	0%	0%	0%
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2				4	
Actuated Green, G (s)	100.1	100.1	82.6		27.9	27.9
Effective Green, g (s)	102.1	102.1	84.6		29.9	29.9
Actuated g/C Ratio	0.73	0.73	0.60		0.21	0.21
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	228	2580	3055		385	344
v/s Ratio Prot	0.08	c0.55	c0.57		c0.19	
v/s Ratio Perm	0.53					0.00
v/c Ratio	0.84	0.76	0.94		0.88	0.02
Uniform Delay, d1	47.9	11.5	25.2		53.4	43.4
Progression Factor	0.87	1.77	1.00		0.89	0.87
Incremental Delay, d2	12.4	1.1	6.9		20.0	0.0
Delay (s)	54.3	21.5	32.1		67.4	37.7
Level of Service	D	C	C		E	D
Approach Delay (s)		24.4	32.1		65.3	
Approach LOS		C	C		E	

**Intersection Summary**  
 HCM 2000 Control Delay 31.3 HCM 2000 Level of Service C  
 HCM 2000 Volume to Capacity ratio 0.91  
 Actuated Cycle Length (s) 140.0 Sum of lost time (s) 12.0  
 Intersection Capacity Utilization 92.5% ICU Level of Service F  
 Analysis Period (min) 15  
 c Critical Lane Group

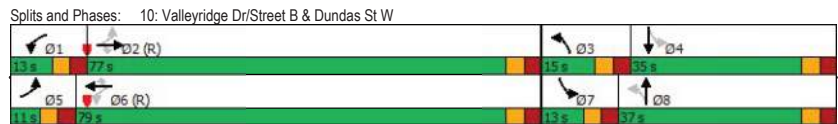
FTPM Palermo Village 1:32 pm 10-11-2022 Future Total PM Peak Hour

Queues  
 10: Valleyridge Dr/Street B & Dundas St W

Palermo Village  
 Future Total PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↔	↔↔↔	↔	↔	↔↔↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	90	1865	45	75	2235	60	180	325	150	345
Future Volume (vph)	90	1865	45	75	2235	60	180	325	150	345
Lane Group Flow (vph)	99	2049	49	82	2456	66	198	406	165	439
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	5	2		1	6		3	8	7	4
Permitted Phases	2		2	6		6	8		4	
Detector Phase	5	2	2	1	6	6	3	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	20.0	20.0	7.0	20.0	20.0	5.0	10.0	5.0	5.0
Minimum Split (s)	11.0	37.7	37.7	13.0	37.7	37.7	11.0	16.7	11.0	24.0
Total Split (s)	11.0	77.0	77.0	13.0	79.0	79.0	15.0	37.0	13.0	35.0
Total Split (%)	7.9%	55.0%	55.0%	9.3%	56.4%	56.4%	10.7%	26.4%	9.3%	25.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	0.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None
v/c Ratio	0.69	0.87	0.06	0.49	1.00	0.07	1.03	0.92	0.97	1.06
Control Delay	46.7	34.5	0.1	39.9	24.1	0.1	109.7	77.8	100.6	111.8
Queue Delay	0.0	0.0	0.0	0.0	27.7	0.0	0.0	0.0	0.0	0.0
Total Delay	46.7	34.5	0.1	39.9	51.8	0.1	109.7	77.8	100.6	111.8
Queue Length 50th (m)	11.6	211.6	0.0	11.2	~63.6	0.0	~44.5	114.9	35.6	~139.0
Queue Length 95th (m)	#38.8	238.7	0.0	m11.8	m59.3	m0.0	#97.3	#177.9	#80.5	#209.0
Internal Link Dist (m)		169.8			215.2			84.7		122.4
Turn Bay Length (m)	60.0		90.0	45.0		35.0	25.0		45.0	
Base Capacity (vph)	144	2356	851	168	2445	919	193	443	170	414
Starvation Cap Reductn	0	0	0	0	170	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.87	0.06	0.49	1.08	0.07	1.03	0.92	0.97	1.06

**Intersection Summary**  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green  
 Natural Cycle: 140  
 Control Type: Actuated-Coordinated  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.



HCM Signalized Intersection Capacity Analysis  
 10: Valleyridge Dr/Street B & Dundas St W

Palermo Village  
 Future Total PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔↔	↔	↔	↔↔↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	90	1865	45	75	2235	60	180	325	45	150	345	55
Future Volume (vph)	90	1865	45	75	2235	60	180	325	45	150	345	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.6	3.7	3.6	3.5	3.7	3.6	3.5	3.6	3.7	3.6	3.6	3.6
Total Lost time (s)	4.0	4.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	*0.80	1.00	1.00	*0.80	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	1.00	0.98	1.00	0.98
Fit Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4520	1565	1785	4565	1615	1785	1866	1805	1857	1805	1857
Fit Permitted	0.05	1.00	1.00	0.05	1.00	1.00	0.12	1.00	0.13	1.00		
Satd. Flow (perm)	104	4520	1565	100	4565	1615	228	1866	245	1857		
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	99	2049	49	82	2456	66	198	357	49	165	379	60
RTOR Reduction (vph)	0	0	24	0	0	31	0	4	0	0	4	0
Lane Group Flow (vph)	99	2049	25	82	2456	35	198	402	0	165	435	0
Confl. Peds. (#/hr)			5	5			1					1
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)	76.0	71.0	71.0	80.0	73.0	73.0	40.0	31.0		36.0	29.0	
Effective Green, g (s)	80.0	73.0	71.0	84.0	75.0	75.0	44.0	33.0		40.0	31.0	
Actuated g/C Ratio	0.57	0.52	0.51	0.60	0.54	0.54	0.31	0.24		0.29	0.22	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	144	2356	793	168	2445	865	193	439		170	411	
v/s Ratio Prot	c0.03	0.45		c0.03	c0.54		c0.08	0.22		0.06	0.23	
v/s Ratio Perm	0.36		0.02	0.26		0.02	c0.24			0.21		
v/c Ratio	0.69	0.87	0.03	0.49	1.00	0.04	1.03	0.92		0.97	1.06	
Uniform Delay, d1	31.5	29.3	17.3	26.6	32.5	15.4	41.5	52.2		44.1	54.5	
Progression Factor	1.00	1.00	1.00	2.05	0.38	0.74	1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.8	4.7	0.1	0.6	10.4	0.0	71.7	23.6		60.1	60.7	
Delay (s)	44.3	34.1	17.4	55.2	22.6	11.4	113.2	75.7		104.1	115.2	
Level of Service	D	C	B	E	C	B	F	E		F	F	
Approach Delay (s)		34.1			23.4			88.0			112.2	
Approach LOS		C			C			F			F	

**Intersection Summary**  
 HCM 2000 Control Delay: 42.7  
 HCM 2000 Level of Service: D  
 HCM 2000 Volume to Capacity ratio: 1.01  
 Actuated Cycle Length (s): 140.0  
 Sum of lost time (s): 16.0  
 Intersection Capacity Utilization: 93.0%  
 ICU Level of Service: F  
 Analysis Period (min): 15  
 c Critical Lane Group

Queues  
11: Street B & William Halton Pkwy

Palermo Village  
Future Total PM Peak Hour

	→	↖	←	↑	↓
Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Configurations	↔	↔	↔	↔	↔
Traffic Volume (vph)	675	145	545	155	195
Future Volume (vph)	675	145	545	155	195
Lane Group Flow (vph)	711	0	727	316	205
Turn Type	NA	Perm	NA	NA	NA
Protected Phases	2		6	8	4
Permitted Phases		6			
Detector Phase	2	6	6	8	4
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0
Total Split (s)	70.0	70.0	70.0	70.0	70.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0		-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	Min	Min
v/c Ratio	0.27		0.43	0.76	0.50
Control Delay	7.5		19.8	54.8	51.4
Queue Delay	0.0		0.0	0.0	0.0
Total Delay	7.5		19.8	54.8	51.4
Queue Length 50th (m)	33.3		84.8	75.1	53.1
Queue Length 95th (m)	54.1		m64.4	100.6	71.9
Internal Link Dist (m)	186.5		159.7	190.7	130.3
Turn Bay Length (m)					
Base Capacity (vph)	2626		1688	861	895
Starvation Cap Reductn	0		0	0	0
Spillback Cap Reductn	0		0	0	0
Storage Cap Reductn	0		0	0	0
Reduced v/c Ratio	0.27		0.43	0.37	0.23

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 70 (50%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green  
 Natural Cycle: 50  
 Control Type: Actuated-Coordinated  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Street B & William Halton Pkwy



HCM Signalized Intersection Capacity Analysis  
11: Street B & William Halton Pkwy

Palermo Village  
Future Total PM Peak Hour

	↖	→	↗	↖	←	↖	↗	↑	↖	↗	↓	↖
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	0	675	0	145	545	0	0	155	145	0	195	0
Future Volume (vph)	0	675	0	145	545	0	0	155	145	0	195	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Fr <sub>t</sub>		1.00			1.00			0.93			1.00	
Fit Protected		1.00			0.99			1.00			1.00	
Satd. Flow (prot)		3610			3572			1776			1900	
Fit Permitted		1.00			0.64			1.00			1.00	
Satd. Flow (perm)		3610			2320			1776			1900	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	711	0	153	574	0	0	163	153	0	205	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	36	0	0	0	0
Lane Group Flow (vph)	0	711	0	0	727	0	0	280	0	0	205	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type		NA		Perm	NA			NA			NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		99.9			99.9			28.1			28.1	
Effective Green, g (s)		101.9			101.9			30.1			30.1	
Actuated g/C Ratio		0.73			0.73			0.22			0.22	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2627			1688			381			408	
v/s Ratio Prot		0.20						c0.16			0.11	
v/s Ratio Perm					c0.31							
v/c Ratio		0.27			0.43			0.73			0.50	
Uniform Delay, d1		6.5			7.6			51.2			48.4	
Progression Factor		1.00			2.22			1.00			1.00	
Incremental Delay, d2		0.3			0.6			7.2			1.0	
Delay (s)		6.7			17.4			58.4			49.3	
Level of Service		A			B			E			D	
Approach Delay (s)		6.7			17.4			58.4			49.3	
Approach LOS		A			B			E			D	

Intersection Summary

HCM 2000 Control Delay 23.5 HCM 2000 Level of Service C  
 HCM 2000 Volume to Capacity ratio 0.50  
 Actuated Cycle Length (s) 140.0 Sum of lost time (s) 8.0  
 Intersection Capacity Utilization 65.0% ICU Level of Service C  
 Analysis Period (min) 15  
 c Critical Lane Group

Queues  
13: Bronte Rd & Street F/Transit Terminal Access

Palermo Village  
Future Total PM Peak Hour

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↔		↔	↔	↔	↔	↔
Traffic Volume (vph)	10	0	20	0	130	2310	10	1865
Future Volume (vph)	10	0	20	0	130	2310	10	1865
Lane Group Flow (vph)	0	37	0	33	137	2454	11	2000
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA
Protected Phases	8	8	4	4	1	6	2	2
Permitted Phases	8	8	4	4	1	6	2	2
Detector Phase	8	8	4	4	1	6	2	2
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	11.0	24.0	24.0	24.0
Total Split (s)	26.0	26.0	26.0	26.0	23.0	114.0	91.0	91.0
Total Split (%)	18.6%	18.6%	18.6%	18.6%	16.4%	81.4%	65.0%	65.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)		-2.0		-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)		4.0		4.0	4.0	4.0	4.0	4.0
Lead/Lag				Lead		Lag	Lag	
Lead-Lag Optimize?				Yes		Yes	Yes	
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	
v/c Ratio		0.28		0.26	0.51	0.59	0.20	0.58
Control Delay		7.4		4.7	36.0	1.9	10.8	10.4
Queue Delay		0.0		0.0	0.0	1.2	0.0	0.1
Total Delay		7.4		4.7	36.0	3.1	10.8	10.5
Queue Length 50th (m)		0.0		0.0	17.2	18.2	1.2	11.4
Queue Length 95th (m)		2.5		0.9	m9.3	m11.9	m0.9	m58.5
Internal Link Dist (m)		58.3		38.0		207.3		181.0
Turn Bay Length (m)					15.0		15.0	
Base Capacity (vph)		253		243	322	4130	56	3475
Starvation Cap Reductn		0		0	0	1342	0	422
Spillback Cap Reductn		0		0	0	803	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.15		0.14	0.43	0.88	0.20	0.66

**Intersection Summary**  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBT, Start of Green  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 m Volume for 95th percentile queue is metered by upstream signal.



HCM Signalized Intersection Capacity Analysis  
13: Bronte Rd & Street F/Transit Terminal Access

Palermo Village  
Future Total PM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	↔
Traffic Volume (vph)	10	0	25	20	0	10	130	2310	20	10	1865	35
Future Volume (vph)	10	0	25	20	0	10	130	2310	20	10	1865	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	*0.80		1.00	*0.80	
Frpb, ped/bikes		0.83			0.92		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		0.94			0.86		1.00	1.00		0.99	1.00	
Frt		0.91			0.95		1.00	1.00		1.00	1.00	
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1319			1364		1805	4537		1747	4514	
Flt Permitted		0.92			0.83		0.05	1.00		0.04	1.00	
Satd. Flow (perm)		1237			1176		99	4537		73	4514	
Peak-hour factor, PHF	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Adj. Flow (vph)	11	0	26	22	0	11	137	2432	22	11	1963	37
RTOR Reduction (vph)	0	35	0	0	31	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	2	0	0	2	0	137	2454	0	11	1999	0
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
Heavy Vehicles (%)	0%	2%	0%	2%	2%	2%	0%	0%	2%	2%	0%	0%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases	8	8		4	4		1	6		2	2	
Permitted Phases	8	8		4	4		6	2		2	2	
Actuated Green, G (s)		4.6			4.6		123.4	123.4		104.6	104.6	
Effective Green, g (s)		6.6			6.6		125.4	125.4		106.6	106.6	
Actuated g/C Ratio		0.05			0.05		0.90	0.90		0.76	0.76	
Clearance Time (s)		6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		58			55		269	4063		55	3437	
v/s Ratio Prot							0.05	c0.54			0.44	
v/s Ratio Perm		c0.00			0.00		0.40			0.15		
v/c Ratio		0.03			0.03		0.51	0.60		0.20	0.58	
Uniform Delay, d1		63.6			63.6		25.0	1.7		4.7	7.2	
Progression Factor		1.00			1.00		1.82	1.07		0.92	1.33	
Incremental Delay, d2		0.2			0.2		0.1	0.1		3.5	0.3	
Delay (s)		63.9			63.8		45.6	1.8		7.9	9.8	
Level of Service		E			E		D	A		A	A	
Approach Delay (s)		63.9			63.8		4.2			9.8		
Approach LOS		E			E		A			A		

**Intersection Summary**  
 HCM 2000 Control Delay: 7.5, HCM 2000 Level of Service: A  
 HCM 2000 Volume to Capacity ratio: 0.59  
 Actuated Cycle Length (s): 140.0, Sum of lost time (s): 12.0  
 Intersection Capacity Utilization: 74.0%, ICU Level of Service: D  
 Analysis Period (min): 15  
 c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis  
 14: Old Bronte Road/Old Bronte Rd & Proposed E-W Link

Palermo Village  
 Future Total PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↖			↕
Traffic Volume (veh/h)	5	5	90	90	135	170
Future Volume (Veh/h)	5	5	90	90	135	170
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	5	5	95	95	142	179
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	606	142			190	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	606	142			190	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	99			90	
cM capacity (veh/h)	417	910			1396	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	10	190	321			
Volume Left	5	0	142			
Volume Right	5	95	0			
eSH	572	1700	1396			
Volume to Capacity	0.02	0.11	0.10			
Queue Length 95th (m)	0.4	0.0	2.7			
Control Delay (s)	11.4	0.0	4.0			
Lane LOS	B		A			
Approach Delay (s)	11.4	0.0	4.0			
Approach LOS	B					
Intersection Summary						
Average Delay			2.7			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 15: Old Bronte Rd & William Halton Pkwy

Palermo Village  
 Future Total PM Peak Hour

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕	↖	↔	↔	↔	↔
Traffic Volume (veh/h)	1000	230	0	1205	0	50
Future Volume (Veh/h)	1000	230	0	1205	0	50
Sign Control	Free		Free	Free	Stop	
Grade	0%		0%	0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	1163	267	0	1401	0	58
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (m)	69			63		
pX, platoon unblocked			0.80		0.89	0.80
vC, conflicting volume			1430		1764	715
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1032		240	135
tC, single (s)			4.1		6.8	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.4
p0 queue free %			100		100	92
cM capacity (veh/h)			543		654	699
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	775	655	280	560	560	58
Volume Left	0	0	0	0	0	0
Volume Right	0	267	0	0	0	58
eSH	1700	1700	543	1700	1700	699
Volume to Capacity	0.46	0.39	0.00	0.33	0.33	0.08
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	2.2
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.6
Lane LOS						B
Approach Delay (s)	0.0		0.0			10.6
Approach LOS						B
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			45.0%		ICU Level of Service	A
Analysis Period (min)			15			



HCM Unsignalized Intersection Capacity Analysis  
16: Old Bronte Road & Dundas St W

Palermo Village  
Future Total PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑				↑			↑
Traffic Volume (veh/h)	0	2015	60	0	2575	110	0	0	75	0	0	160
Future Volume (Veh/h)	0	2015	60	0	2575	110	0	0	75	0	0	160
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	2077	62	0	2655	113	0	0	77	0	0	165
Pedestrians								9				
Lane Width (m)								3.6				
Walking Speed (m/s)								1.2				
Percent Blockage								1				
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)		103			129							
pX, platoon unblocked	0.47			0.67			0.63	0.63	0.67	0.63	0.63	0.47
vC, conflicting volume	2768			2148			3167	4885	732	3481	4860	942
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	788			975			0	1559	0	0	1519	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	89	100	100	68
cM capacity (veh/h)	392			474			434	71	722	578	75	509
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1				
Volume Total	831	831	477	1062	1062	644	77	165				
Volume Left	0	0	0	0	0	0	0	0				
Volume Right	0	0	62	0	0	113	77	165				
sSH	1700	1700	1700	1700	1700	1700	722	509				
Volume to Capacity	0.49	0.49	0.28	0.62	0.62	0.38	0.11	0.32				
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0	2.9	11.2				
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	10.6	15.4				
Lane LOS							B	C				
Approach Delay (s)	0.0			0.0			10.6	15.4				
Approach LOS							B	C				
<b>Intersection Summary</b>												
Average Delay				0.7								
Intersection Capacity Utilization				68.8%			ICU Level of Service		C			
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis  
17: Proposed N-S Link & Proposed E-W Link

Palermo Village  
Future Total PM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↑	↑	
Traffic Volume (veh/h)	140	85	0	210	245	10
Future Volume (Veh/h)	140	85	0	210	245	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	147	89	0	221	258	11
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)				176	227	
pX, platoon unblocked	0.96	0.96	0.96			
vC, conflicting volume	484	264	269			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	443	213	219			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	73	89	100			
cM capacity (veh/h)	553	799	1309			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	236	221	269			
Volume Left	147	0	0			
Volume Right	89	0	11			
sSH	626	1700	1700			
Volume to Capacity	0.38	0.13	0.16			
Queue Length 95th (m)	14.0	0.0	0.0			
Control Delay (s)	14.2	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	14.2	0.0	0.0			
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay				4.6		
Intersection Capacity Utilization				33.1%	ICU Level of Service	A
Analysis Period (min)				15		

HCM Unsignalized Intersection Capacity Analysis  
18: Street D/Street B & Street C

Palermo Village  
Future Total PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	50	0	0	40	15	145	0	0	30	60	40	40
Future Volume (vph)	50	0	0	40	15	145	0	0	30	60	40	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	53	0	0	42	16	153	0	0	32	63	42	42
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	53	211	32	147								
Volume Left (vph)	53	42	0	63								
Volume Right (vph)	0	153	32	42								
Hadj (s)	0.20	-0.40	-0.60	-0.09								
Departure Headway (s)	4.7	4.0	4.0	4.4								
Degree Utilization, x	0.07	0.23	0.04	0.18								
Capacity (veh/h)	722	858	818	763								
Control Delay (s)	8.1	8.2	7.2	8.4								
Approach Delay (s)	8.1	8.2	7.2	8.4								
Approach LOS	A	A	A	A								
<b>Intersection Summary</b>												
Delay	8.2											
Level of Service	A											
Intersection Capacity Utilization	32.2%			ICU Level of Service			A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis  
19: Street D & Street E

Palermo Village  
Future Total PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Traffic Volume (veh/h)	30	610	10	50	305	75	0	0	15	25	60	30
Future Volume (Veh/h)	30	610	10	50	305	75	0	0	15	25	60	30
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	32	642	11	53	321	79	0	0	16	26	63	32
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None		None									
Median storage (veh)												
Upstream signal (m)	191		77									
pX, platoon unblocked	0.88			0.76			0.82	0.82	0.76	0.82	0.82	0.88
vC, conflicting volume	400			653			1242	1218	648	1194	1184	360
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	257			384			866	837	377	808	795	212
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			94			100	100	97	88	74	96
cM capacity (veh/h)	1168			900			161	228	512	223	241	737
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	685	453	16	121								
Volume Left	32	53	0	26								
Volume Right	11	79	16	32								
eSH	1168	900	512	287								
Volume to Capacity	0.03	0.06	0.03	0.42								
Queue Length 95th (m)	0.7	1.5	0.8	15.9								
Control Delay (s)	0.7	1.7	12.3	26.3								
Lane LOS	A	A	B	D								
Approach Delay (s)	0.7	1.7	12.3	26.3								
Approach LOS	B		D									
<b>Intersection Summary</b>												
Average Delay	3.7											
Intersection Capacity Utilization	59.6%			ICU Level of Service			B					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis  
20: William Halton Pkwy & Street D

Palermo Village  
Future Total PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	35	815	0	0	725	90	0	0	25	130	0	60
Future Volume (Veh/h)	35	815	0	0	725	90	0	0	25	130	0	60
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.92	0.92	0.95	0.95	0.92	0.92	0.92	0.95	0.92	0.95
Hourly flow rate (vph)	37	858	0	0	763	95	0	0	27	137	0	63
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)	184			79								
pX, platoon unblocked	0.89			0.94			0.93	0.93	0.94	0.93	0.93	0.89
vC, conflicting volume	858			858			1376	1790	429	1340	1742	429
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	602			713			936	1383	255	897	1332	122
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			100			100	100	96	33	100	92
cM capacity (veh/h)	880			827			182	126	697	205	136	815
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	466	429	382	476	27	200						
Volume Left	37	0	0	0	0	137						
Volume Right	0	0	0	95	27	63						
eSH	880	1700	827	1700	697	268						
Volume to Capacity	0.04	0.25	0.00	0.28	0.04	0.75						
Queue Length 95th (m)	1.1	0.0	0.0	0.0	1.0	43.2						
Control Delay (s)	1.2	0.0	0.0	0.0	10.4	49.6						
Lane LOS	A				B	E						
Approach Delay (s)	0.6		0.0		10.4	49.6						
Approach LOS					B	E						
Intersection Summary												
Average Delay				5.4								
Intersection Capacity Utilization				72.4%			ICU Level of Service			C		
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis  
21: Street G & Street F

Palermo Village  
Future Total PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	85	0	0	140	0	25	0	15	20	15	0	45
Future Volume (Veh/h)	85	0	0	140	0	25	0	15	20	15	0	45
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.95	0.95	0.95	0.95	0.92	0.95	0.92	0.95	0.92	0.92	0.92
Hourly flow rate (vph)	92	0	0	147	0	27	0	16	21	16	0	49
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)	169			82								
pX, platoon unblocked												
vC, conflicting volume	27			0			540	505	0	520	492	14
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	27			0			540	505	0	520	492	14
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	94			91			100	96	98	96	100	95
cM capacity (veh/h)	1587			1636			387	403	1091	395	410	1067
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	92	174	37	65								
Volume Left	92	147	0	16								
Volume Right	0	27	21	49								
eSH	1587	1636	627	752								
Volume to Capacity	0.06	0.09	0.06	0.09								
Queue Length 95th (m)	1.5	2.4	1.5	2.3								
Control Delay (s)	7.4	6.4	11.1	10.2								
Lane LOS	A	A	B	B								
Approach Delay (s)	7.4	6.4	11.1	10.2								
Approach LOS			B	B								
Intersection Summary												
Average Delay				7.8								
Intersection Capacity Utilization				25.5%			ICU Level of Service			A		
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis  
22: Street B & Street C

Palermo Village  
Future Total PM Peak Hour

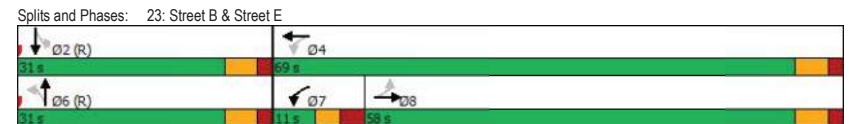
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		R			R
Traffic Volume (veh/h)	55	0	5	50	0	5
Future Volume (Veh/h)	55	0	5	50	0	5
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	58	0	5	53	0	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (m)			109			
pX, platoon unblocked						
vC, conflicting volume	36	32			58	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	36	32			58	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	94	100			100	
cM capacity (veh/h)	981	1048			1559	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	58	58	5			
Volume Left	58	0	0			
Volume Right	0	53	0			
cSH	981	1700	1559			
Volume to Capacity	0.06	0.03	0.00			
Queue Length 95th (m)	1.5	0.0	0.0			
Control Delay (s)	8.9	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	8.9	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			4.3			
Intersection Capacity Utilization			13.4%		ICU Level of Service	A
Analysis Period (min)			15			

Queues  
23: Street B & Street E

Palermo Village  
Future Total PM Peak Hour

Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Configurations	R	R	R	R	R
Traffic Volume (vph)	535	135	140	55	60
Future Volume (vph)	535	135	140	55	60
Lane Group Flow (vph)	563	0	289	163	63
Turn Type	NA	pm+pt	NA	NA	NA
Protected Phases	8	7	4	6	2
Permitted Phases		4			
Detector Phase	8	7	4	6	2
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	11.0	24.0	24.0	24.0
Total Split (s)	58.0	11.0	69.0	31.0	31.0
Total Split (%)	58.0%	11.0%	69.0%	31.0%	31.0%
Yellow Time (s)	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	3.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0		-2.0	-2.0	-2.0
Total Lost Time (s)	4.0		4.0	4.0	4.0
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	None	None	None	C-Min	C-Min
v/c Ratio	0.64		0.89	0.20	0.07
Control Delay	22.4		50.0	11.6	21.6
Queue Delay	0.0		0.0	0.0	0.0
Total Delay	22.4		50.0	11.6	21.6
Queue Length 50th (m)	84.2		51.7	8.4	7.1
Queue Length 95th (m)	75.0		64.8	28.5	20.2
Internal Link Dist (m)	178.5		167.1	130.3	85.2
Turn Bay Length (m)					
Base Capacity (vph)	1071		455	835	861
Starvation Cap Reductn	0		0	0	0
Spillback Cap Reductn	0		0	0	0
Storage Cap Reductn	0		0	0	0
Reduced v/c Ratio	0.53		0.64	0.20	0.07

Intersection Summary  
Cycle Length: 100  
Actuated Cycle Length: 100  
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBT, Start of Green  
Natural Cycle: 60  
Control Type: Actuated-Coordinated



HCM Signalized Intersection Capacity Analysis  
23: Street B & Street E

Palermo Village  
Future Total PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	0	535	0	135	140	0	0	55	100	0	60	0
Future Volume (vph)	0	535	0	135	140	0	0	55	100	0	60	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			1.00			0.91			1.00	
Flt Protected		1.00			0.98			1.00			1.00	
Satd. Flow (prot)		1900			1854			1735			1900	
Flt Permitted		1.00			0.37			1.00			1.00	
Satd. Flow (perm)		1900			700			1735			1900	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	563	0	142	147	0	0	58	105	0	63	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	49	0	0	0	0
Lane Group Flow (vph)	0	563	0	0	289	0	0	114	0	0	63	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type		NA		pm+pt	NA			NA			NA	
Protected Phases		8		7	4			6			2	
Permitted Phases		8		4				6			2	
Actuated Green, G (s)		44.6			44.6			43.4			43.4	
Effective Green, g (s)		46.6			46.6			45.4			45.4	
Actuated g/C Ratio		0.47			0.47			0.45			0.45	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		885			326			787			862	
v/s Ratio Prot		0.30						c0.07			0.03	
v/s Ratio Perm					c0.41							
v/c Ratio		0.64			0.89			0.15			0.07	
Uniform Delay, d1		20.3			24.3			16.0			15.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.5			23.8			0.4			0.2	
Delay (s)		21.8			48.1			16.3			15.6	
Level of Service		C			D			B			B	
Approach Delay (s)		21.8			48.1			16.3			15.6	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Queues  
24: Street B & Street F

Palermo Village  
Future Total PM Peak Hour

Lane Group	WBL	NBT	SBL	SBT
Lane Configurations	↔	↔	↔	↔
Traffic Volume (vph)	45	300	15	325
Future Volume (vph)	45	300	15	325
Lane Group Flow (vph)	47	390	0	358
Turn Type	Prot	NA	Perm	NA
Protected Phases	4	6		2
Permitted Phases			2	
Detector Phase	4	6	2	2
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0
Total Split (s)	24.0	76.0	76.0	76.0
Total Split (%)	24.0%	76.0%	76.0%	76.0%
Yellow Time (s)	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0
Total Lost Time (s)	4.0	4.0		4.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Max	C-Max
v/c Ratio	0.26	0.24		0.12
Control Delay	44.3	2.0		1.7
Queue Delay	0.0	0.0		0.0
Total Delay	44.3	2.0		1.7
Queue Length 50th (m)	9.0	12.0		5.6
Queue Length 95th (m)	19.9	22.6		10.0
Internal Link Dist (m)	145.5	111.0		190.7
Turn Bay Length (m)				
Base Capacity (vph)	361	1639		2980
Starvation Cap Reductn	0	0		0
Spillback Cap Reductn	0	0		0
Storage Cap Reductn	0	0		0
Reduced v/c Ratio	0.13	0.24		0.12

Intersection Summary	
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	0 (0%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
Natural Cycle:	50
Control Type:	Actuated-Coordinated



HCM Signalized Intersection Capacity Analysis  
24: Street B & Street F

Palermo Village  
Future Total PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T		T	T
Traffic Volume (vph)	45	0	300	70	15	325
Future Volume (vph)	45	0	300	70	15	325
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0			4.0
Lane Util. Factor	1.00		1.00			0.95
Flt	1.00		0.97			1.00
Flt Protected	0.95		1.00			1.00
Satd. Flow (prot)	1805		1851			3602
Flt Permitted	0.95		1.00			0.93
Satd. Flow (perm)	1805		1851			3370
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	47	0	316	74	16	342
RTOR Reduction (vph)	0	0	5	0	0	0
Lane Group Flow (vph)	47	0	385	0	0	358
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Prot		NA		Perm	NA
Protected Phases	4		6			2
Permitted Phases					2	
Actuated Green, G (s)	5.6		82.4			82.4
Effective Green, g (s)	7.6		84.4			84.4
Actuated g/C Ratio	0.08		0.84			0.84
Clearance Time (s)	6.0		6.0			6.0
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	137		1562			2844
v/s Ratio Prot	c0.03		c0.21			
v/s Ratio Perm						0.11
v/c Ratio	0.34		0.25			0.13
Uniform Delay, d1	43.8		1.5			1.4
Progression Factor	1.00		1.00			1.00
Incremental Delay, d2	1.5		0.4			0.1
Delay (s)	45.3		1.9			1.5
Level of Service	D		A			A
Approach Delay (s)	45.3		1.9			1.5
Approach LOS	D		A			A
<b>Intersection Summary</b>						
HCM 2000 Control Delay			4.3			HCM 2000 Level of Service A
HCM 2000 Volume to Capacity ratio			0.25			
Actuated Cycle Length (s)			100.0			Sum of lost time (s) 8.0
Intersection Capacity Utilization			30.9%			ICU Level of Service A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis  
25: Street B & Street G

Palermo Village  
Future Total PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T		T	T
Traffic Volume (veh/h)	180	0	370	105	0	370
Future Volume (Veh/h)	180	0	370	105	0	370
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	189	0	389	111	0	389
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (m)			146			135
pX, platoon unblocked	0.78	0.78			0.78	
vC, conflicting volume	639	444			500	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	401	153			223	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	59	100			100	
cM capacity (veh/h)	456	684			1063	
<b>Direction, Lane #</b>						
Volume Total	189	500	130	259		
Volume Left	189	0	0	0		
Volume Right	0	111	0	0		
sSH	456	1700	1063	1700		
Volume to Capacity	0.41	0.29	0.00	0.15		
Queue Length 95th (m)	16.0	0.0	0.0	0.0		
Control Delay (s)	18.4	0.0	0.0	0.0		
Lane LOS	C					
Approach Delay (s)	18.4	0.0	0.0			
Approach LOS	C					
<b>Intersection Summary</b>						
Average Delay			3.2			
Intersection Capacity Utilization			42.5%			ICU Level of Service A
Analysis Period (min)			15			

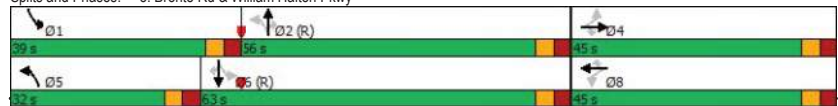
Queues  
5: Bronte Rd & William Halton Pkwy

Palermo Village  
Future Total AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔	↔	↔	↔↔	↔	↔↔	↔↔↔	↔	↔↔	↔↔	↔
Traffic Volume (vph)	80	385	210	175	350	155	285	1470	245	380	1570	95
Future Volume (vph)	80	385	210	175	350	155	285	1470	245	380	1570	95
Lane Group Flow (vph)	83	401	219	182	365	161	297	1531	255	396	1635	99
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		8		8	5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	10.0	10.0	10.0	5.0	20.0	20.0	7.0	20.0	20.0
Minimum Split (s)	40.0	40.0	40.0	16.0	16.0	16.0	11.0	40.4	40.4	13.0	26.4	26.4
Total Split (s)	45.0	45.0	45.0	45.0	45.0	45.0	32.0	56.0	56.0	39.0	63.0	63.0
Total Split (%)	32.1%	32.1%	32.1%	32.1%	32.1%	32.1%	22.9%	40.0%	40.0%	27.9%	45.0%	45.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes			Yes		Yes
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min	C-Min
v/c Ratio	0.39	0.41	0.37	0.94	0.38	0.29	0.64	0.69	0.29	0.66	0.70	0.11
Control Delay	41.2	36.3	10.9	95.5	35.2	22.8	35.8	22.7	6.2	50.7	21.7	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.9	58.6	0.3	0.0
Total Delay	41.2	36.3	10.9	95.5	35.2	22.8	35.8	22.9	7.1	109.3	22.0	8.1
Queue Length 50th (m)	20.3	51.7	16.6	56.3	58.0	28.8	22.5	174.3	15.8	50.8	68.9	3.8
Queue Length 95th (m)	37.4	67.7	28.9	#99.9	72.1	48.6	41.8	193.6	27.0	m55.0	m79.6	m5.1
Internal Link Dist (m)		55.0			45.6			181.0			124.5	
Turn Bay Length (m)	45.0		60.0	130.0		90.0	85.0		60.0	55.0		60.0
Base Capacity (vph)	231	1057	627	211	1057	581	815	2224	886	951	2340	917
Starvation Cap Reductn	0	0	0	0	0	0	0	107	0	0	202	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	383	628	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.38	0.35	0.86	0.35	0.28	0.36	0.72	0.51	1.23	0.76	0.11

**Intersection Summary**  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 95  
 Control Type: Actuated-Coordinated  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Bronte Rd & William Halton Pkwy



HCM Signalized Intersection Capacity Analysis  
5: Bronte Rd & William Halton Pkwy

Palermo Village  
Future Total AM Peak Hour

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔	↔	↔	↔↔	↔	↔↔	↔↔↔	↔	↔↔	↔↔	↔
Traffic Volume (vph)	80	385	210	175	350	155	285	1470	245	380	1570	95
Future Volume (vph)	80	385	210	175	350	155	285	1470	245	380	1570	95
Lane Group Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.6	3.6	3.6	3.5	3.6	3.5	3.6	3.7	3.6	3.5	3.7	3.6
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	*0.80	1.00	0.97	*0.80	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Fit Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	3610	1615	1785	3610	1597	3502	4391	1615	3429	4269	1615
Fit Permitted	0.42	1.00	1.00	0.38	1.00	1.00	0.07	1.00	1.00	0.06	1.00	1.00
Satd. Flow (perm)	793	3610	1615	722	3610	1597	242	4391	1615	223	4269	1615
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	83	401	219	182	365	161	297	1531	255	396	1635	99
RTOR Reduction (vph)	0	0	160	0	0	118	0	0	69	0	0	32
Lane Group Flow (vph)	83	401	59	182	365	43	297	1531	186	396	1635	67
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	5%	0%	1%	8%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		8		8	5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	35.6	35.6	35.6	35.6	35.6	35.6	80.6	68.9	68.9	92.2	74.7	74.7
Effective Green, g (s)	37.6	37.6	37.6	37.6	37.6	37.6	84.6	70.9	70.9	94.4	76.7	76.7
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.27	0.27	0.60	0.51	0.51	0.67	0.55	0.55
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	212	969	433	193	969	428	465	2223	817	596	2338	884
v/s Ratio Prot		0.11			0.10		0.06	0.35		c0.09	c0.38	
v/s Ratio Perm	0.10		0.04	c0.25		0.03	0.32		0.12	0.35		0.04
v/c Ratio	0.39	0.41	0.14	0.94	0.38	0.10	0.64	0.69	0.23	0.66	0.70	0.08
Uniform Delay, d1	41.8	42.1	38.9	50.2	41.7	38.5	27.0	26.2	19.3	35.4	23.2	14.9
Progression Factor	0.87	0.84	2.00	0.91	0.83	4.06	1.17	0.77	0.55	1.64	0.85	1.21
Incremental Delay, d2	1.2	0.3	0.1	47.5	0.2	0.1	2.5	1.5	0.6	1.2	0.7	0.1
Delay (s)	37.5	35.7	78.0	93.1	34.8	156.4	34.2	21.6	11.2	59.3	20.4	18.2
Level of Service	D	D	E	F	C	F	C	C	B	E	C	B
Approach Delay (s)		49.1			77.4		22.1				27.5	
Approach LOS		D			E		C				C	

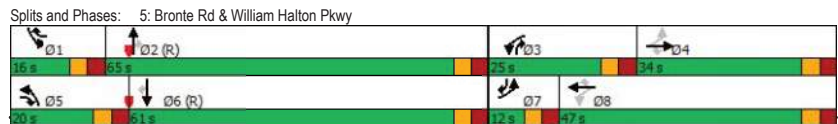
**Intersection Summary**  
 HCM 2000 Control Delay: 34.5 HCM 2000 Level of Service: C  
 HCM 2000 Volume to Capacity ratio: 0.78  
 Actuated Cycle Length (s): 140.0 Sum of lost time (s): 12.0  
 Intersection Capacity Utilization: 72.9% ICU Level of Service: C  
 Analysis Period (min): 15  
 c Critical Lane Group

**Queues** **Palermo Village**  
Future Total PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	105	680	185	290	440	475	310	1720	305	250	1435	65
Future Volume (vph)	105	680	185	290	440	475	310	1720	305	250	1435	65
Lane Group Flow (vph)	114	739	201	315	478	516	337	1870	332	272	1560	71
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases	4	4	4	8	8	8	2	2	2	2	2	2
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	10.0	7.0	5.0	20.0	5.0	7.0	20.0	5.0
Minimum Split (s)	12.0	34.0	12.0	12.0	16.0	14.0	12.0	40.4	12.0	14.0	26.4	12.0
Total Split (s)	12.0	34.0	20.0	25.0	47.0	16.0	20.0	65.0	25.0	16.0	61.0	12.0
Total Split (%)	8.6%	24.3%	14.3%	17.9%	33.6%	11.4%	14.3%	46.4%	17.9%	11.4%	43.6%	8.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Min	None	None	C-Min	None
v/c Ratio	0.38	0.96	0.31	0.98	0.43	0.74	0.84	0.98	0.34	0.93	0.88	0.08
Control Delay	33.9	79.3	19.1	74.7	33.1	38.2	66.0	54.3	17.1	110.9	24.2	0.1
Queue Delay	0.0	0.0	0.0	2.8	0.9	47.8	0.0	19.4	1.4	59.0	1.4	0.0
Total Delay	33.9	79.3	19.1	77.5	34.0	86.1	66.0	73.7	18.5	169.9	25.6	0.1
Queue Length 50th (m)	23.2	115.0	20.7	76.7	64.5	145.6	46.8	234.7	64.0	43.4	100.6	0.0
Queue Length 95th (m)	38.4	#154.5	43.2	#135.4	58.7	170.4	#74.1	#268.2	96.0	m#64.8	m115.8	m0.0
Internal Link Dist (m)		55.0		45.6		181.0		124.5				
Turn Bay Length (m)	45.0		60.0	130.0		90.0	85.0		60.0	55.0		60.0
Base Capacity (vph)	298	773	652	321	1108	700	400	1913	965	291	1771	855
Starvation Cap Reductn	0	0	0	4	357	225	0	78	0	0	85	0
Spillback Cap Reductn	0	0	0	0	0	1	0	127	436	177	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.96	0.31	0.99	0.64	1.09	0.84	1.05	0.63	2.39	0.93	0.08

**Intersection Summary**

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Natural Cycle: 125  
 Control Type: Actuated-Coordinated  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.



**HCM Signalized Intersection Capacity Analysis** **Palermo Village**  
Future Total PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	105	680	185	290	440	475	310	1720	305	250	1435	65
Future Volume (vph)	105	680	185	290	440	475	310	1720	305	250	1435	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.6	3.6	3.6	3.5	3.6	3.5	3.6	3.5	3.6	3.7	3.6	3.5
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	*0.80	1.00	0.97	*0.80	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Fllb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Fit Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	3610	1615	1785	3610	1566	3502	4391	1599	3395	4350	1615
Fit Permitted	0.48	1.00	1.00	0.12	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	910	3610	1615	221	3610	1566	3502	4391	1599	3395	4350	1615
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	739	201	315	478	516	337	1870	332	272	1560	71
RTOR Reduction (vph)	0	0	79	0	0	43	0	29	0	0	38	0
Lane Group Flow (vph)	114	739	122	315	478	474	337	1870	303	272	1560	33
Conf. Peds. (#/hr)									1	1		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	5%	0%	2%	6%	0%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases	4	4	4	8	8	8	2	2	2	2	2	2
Actuated Green, G (s)	34.0	28.0	42.0	53.0	41.0	51.0	14.0	59.0	78.0	10.0	55.0	61.0
Effective Green, g (s)	38.0	30.0	46.0	55.0	43.0	55.0	16.0	61.0	82.0	12.0	57.0	65.0
Actuated g/C Ratio	0.27	0.21	0.33	0.39	0.31	0.39	0.11	0.44	0.59	0.09	0.41	0.46
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	298	773	576	321	1108	659	400	1913	982	291	1771	795
v/s Ratio Prot	0.02	0.20	0.02	c0.15	0.13	0.06	c0.10	c0.43	0.05	0.08	0.36	0.00
v/s Ratio Perm	0.08		0.05	c0.24		0.24			0.14			0.02
v/c Ratio	0.38	0.96	0.21	0.98	0.43	0.72	0.84	0.98	0.31	0.93	0.88	0.04
Uniform Delay, d1	39.7	54.3	33.9	42.7	38.7	36.0	60.8	38.8	14.7	63.6	38.4	20.5
Progression Factor	1.02	1.04	1.33	0.84	0.82	1.10	0.81	1.04	1.59	1.31	0.50	0.00
Incremental Delay, d2	0.8	21.8	0.2	39.6	0.2	3.0	12.6	14.1	0.1	27.4	4.7	0.0
Delay (s)	41.1	78.4	45.2	75.3	32.1	42.6	62.0	54.4	23.5	110.9	23.8	0.0
Level of Service	D	E	D	E	C	D	E	D	C	F	C	A
Approach Delay (s)	68.1				46.6		51.4		35.4			
Approach LOS	E				D		D		D			

**Intersection Summary**

HCM 2000 Control Delay	48.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	88.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			