



1493 Sixth Line

Traffic Impact Study

Innovative SHS

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Executive Summary

GHD Limited has prepared the following Traffic Impact Study (TIS) in support of the proposed mixed-use rental development located at 1493 Sixth Line in the Town of Oakville.

This updated report addresses comments received from the Town's review of the first submission, dated January 2026.

This study evaluates the anticipated traffic generated by the development and its associated impacts on the surrounding transportation network, including adjacent intersections and site access points. The analysis focuses on the weekday a.m. and p.m. peak hours, consistent with standard municipal practice. Future traffic conditions have been assessed for the planning horizons of 2028 and 2033. The assessment identifies anticipated operational impacts and informs recommendations for any required transportation improvements or mitigation strategies.

Based on the approved Terms of Reference, the following intersections were included in the study area:

Existing

- Upper Middle Road and Sixth Line
- Sixth Line and Elm Road
- Sixth Line and Miller Road
- Sixth Line and McCraney St

Future

- Sixth Line and the proposed site access

A site plan prepared for the subject site consists of a six-storey residential building containing 190 affordable housing rental apartment units, a 285 m² daycare facility, and 175 m² of office space.

Access to the proposed development is planned through a full-movement driveway on Sixth Line generally located in on the north side of the subject site.

Based on ITE Trip Generation rates, the subject site is expected to generate a total of 100 two-way vehicle trips during the a.m. peak hour consisting of 36 inbound and 64 outbound trips. During the p.m. peak hour, it is expected to generate 106 new two-way vehicle trips consisting of 56 inbound and 50 outbound trips.

Under existing traffic conditions, all intersections are operating at acceptable v/c ratios and levels of service during the a.m. peak and p.m. peak hours with the exception of the following critical movement:

- Sixth Line and McCraney St
 - The overall intersection with a v/c ratio of 0.89 LOS C during the a.m. peak hour
 - The westbound shared through/right-turn movement with a v/c ratio of 0.96 LOS E during the a.m. peak hour

Under the 2028 future background conditions, with the addition of corridor growth and background development traffic, all intersections are reported to operate at acceptable v/c ratios and levels of service during the a.m. peak and p.m. peak hours with the exception of the following critical movement:

- Sixth Line and McCraney St
 - The overall intersection with a v/c ratio of 0.95 LOS D during the a.m. peak hour
 - The westbound shared through/right-turn movement with a v/c ratio of 1.00 LOS F during the a.m. peak hour

Under the 2028 future total conditions, with the addition of site traffic from the proposed development, all intersections are reported to continue to operate with acceptable v/c ratios and levels of service during the a.m. peak and p.m. peak hours with the exception of the following critical movement:

- Sixth Line and McCraney St
 - The overall intersection with a v/c ratio of 0.98 LOS D during the a.m. peak hour
 - The westbound shared through/right-turn movement with a v/c ratio of 1.02 LOS F during the a.m. peak hour
 - The southbound left-turn movement with a v/c ratio of 0.96 LOS D during the a.m. peak hour

Under the 2033 future background conditions, with the addition of corridor growth and background development traffic, all intersections are expected to operate at acceptable v/c ratios and levels of service during the a.m. peak and p.m. peak hours with the exception of the following critical movement:

- Sixth Line and McCraney St
 - The overall intersection with a v/c ratio of 1.02 LOS D during the a.m. peak hour
 - The westbound shared through/right-turn movement with a v/c ratio of 1.07 LOS F during the a.m. peak hour
 - The southbound left-turn movement with a v/c ratio of 0.99 LOS D during the a.m. peak hour

Under the 2033 future total conditions, with the addition of site traffic from the proposed development, all intersections are reported to continue to operate with acceptable v/c ratios and levels of service during the a.m. peak and p.m. peak hours with the exception of the following critical movement:

- Sixth Line and McCraney St
 - The overall intersection with a v/c ratio of 1.04 LOS D during the a.m. peak hour
 - The westbound shared through/right-turn movement with a v/c ratio of 1.08 LOS F during the a.m. peak hour
 - The southbound left-turn movement with a v/c ratio of 1.02 LOS E during the a.m. peak hour

While the overall intersection of Sixth Line and McCraney Street as well as its southbound left-turn movement are reported to operate at critical levels during the a.m. peak hour beginning under future background conditions in 2033, GHD optimized the signal timings for the intersection. Based on the optimized signal timings, which includes and increased cycle length and the addition of a southbound left-turn phase, the intersection is expected to operate adequately under both 2033 future background and future total conditions.

The subject site is required to provide a minimum of 205 parking spaces (including 2 barrier free spaces) and 30 bicycle parking spaces.

The subject site provides a total of 103 parking spaces (71 resident spaces, 19 residential visitors, and 13 spaces for the daycare and office use). Of the total parking supply, 6 spaces are barrier free. The site also includes 34 bicycle parking spaces, and 1 loading space. All Zoning By-law requirements are satisfied with the exception of vehicular parking spaces for the affordable housing land use. A Parking Justification Letter has been prepared by LEA Consulting to justify the proposed parking reduction currently being sought.

GHD assessed the site circulation for an emergency vehicle, a waste collection vehicle, an MSU truck, and a passenger vehicle and confirmed no issues with on-site circulation.

The traffic study confirms that, despite some critical v/c ratios observed for some movements during the p.m. peak period, the proposed development can be accommodated within the existing road network without significant adverse impacts on overall traffic operations, intersection capacity, or safety for the majority of movements and users.

We trust that this satisfies your requirements, but do not hesitate to contact the undersigned if you have any questions.

Sincerely,

GHD



Rafael Andrenacci, B.Eng

Transportation Planner



William Maria, P. Eng.

Transportation Planning Lead

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1. Introduction

1.1 Retainer and Objective

GHD Limited was retained to prepare a Traffic Impact Study for a residential development located on lands municipally known as 1493 Sixth Line in the Town of Oakville.

This updated report addresses comments received from the Town's review of the first submission, dated January 2026.

The site location is illustrated in **Figure 1**.

The purpose of this study is to:

- Establish baseline traffic conditions for the study area in 2025 and determine future background operating conditions for future planning horizons in 2028 and 2033
- Estimate the site trips generated by the proposed development and distribute the traffic to the adjacent road network.
- Determine future operating traffic conditions during the weekday peak periods for each future planning horizon through intersection capacity analysis.
- Review the proposed parking supply.
- Review the site access and conduct a swept path review of the proposed site plan.



Figure 1 Site Location

1.2 Study Team

The GHD team involved in the preparation of the study are:

- William Maria, P. Eng., Transportation Planning Lead
- Olivia Cabral, Transportation Engineering Co-op
- Rafael Andrenacci, B.Eng., Transportation Planner

2. Site Characteristics

2.1 Study Area

As per the agreed Terms of Reference for the study attached in **Appendix A**, the following intersections were included in the study area:

Existing

- Upper Middle Road and Sixth Line
- Sixth Line and Elm Road
- Sixth Line and Miller Road
- Sixth Line and McCraney St

Future

- Sixth Line and the proposed site access

2.2 Proposed Development Content

A site plan prepared by Patrick Markus Luckie Architect for the subject site is shown in **Figure 2** and provided in **Appendix B**.

The proposed development consists of a 6-storey mixed-use residential building located on Sixth Line, designed to provide 190 affordable rental housing units. The project features a mix of 1, 2, and 3-bedroom independent living units, all of which will remain affordable for at least 25 years. Notably, 30% of these units are designed to be fully accessible, and 35 are designated as "deeply affordable" through a partnership with the Region of Halton. To ensure long-term stability, the developer intends to lease blocks of units to community partner organizations that will manage the housing for their clients.

Beyond residential space, the ground floor will include a 285 m² daycare facility and a 175 m² office space dedicated to a community partner's on-site operations. The site plan incorporates a total of 103 parking spaces (split between underground and surface levels) and preserves 0.18 hectares of natural area at the rear. By combining affordable housing with childcare, the development aims to create a supportive, transit-oriented community that reduces the overall cost of living for residents.

Access to the proposed development is proposed via a single full-moves driveway. In order to accommodate the full-movement operation of the access, the existing median will be reduced in length.

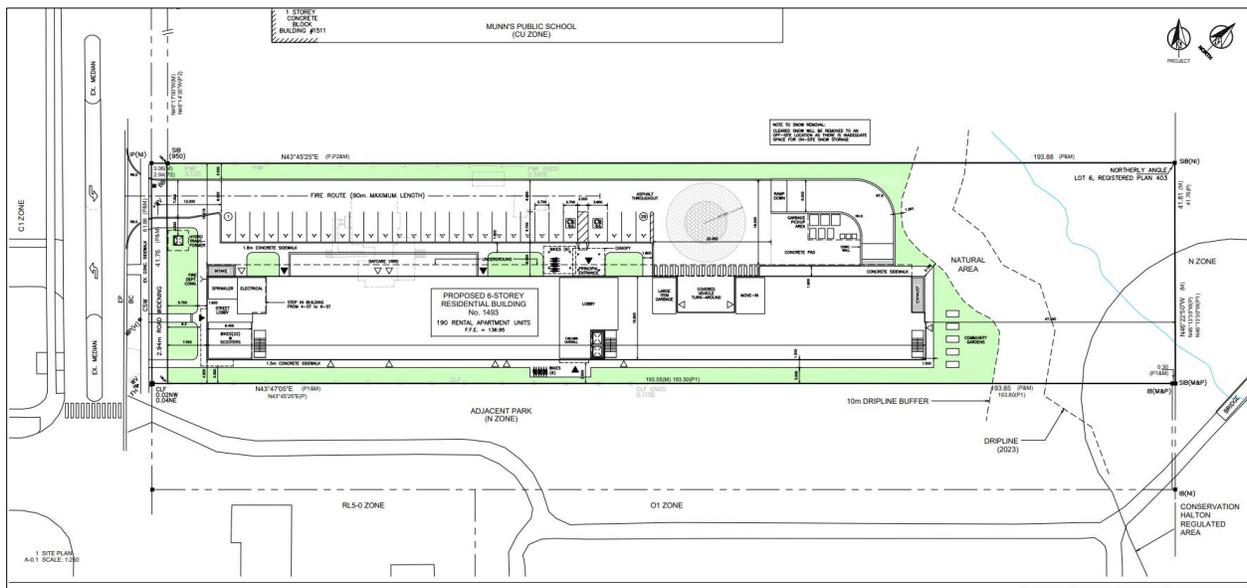


Figure 2 Proposed Site Plan

3. Existing Conditions

3.1 Existing Road Network

Upper Middle Road is an east/west major arterial road under the jurisdiction of Halton Region. Within the study area, it has a four-lane cross-section. Its intersection with Sixth Line is signalized with auxiliary left-turn and right-turn lanes provided in both the eastbound and westbound directions. The speed limit along Upper Middle Road within the study area is 60 km/h.

Sixth Line is a north/south minor arterial road under the jurisdiction of the Town of Oakville. Within the study area, Sixth Line operates with a three-lane cross-section between Upper Middle Road and Elm Road (including a two-way left-turn lane within the centre lane) and a two-lane cross-section north of Upper Middle Road and south of Elm Road. Its intersections with Upper Middle Road and McCraney Street are signalized with auxiliary left-turn lanes provided in the northbound and southbound directions in addition to a northbound right-turn lane provided at the intersection with Upper Middle Road. The intersections with Elm Road and Miller Road are T- minor road stop controlled intersections. The speed limit along Sixth Line north of Upper Middle Road is 50 km/h and reduced to 40 km/h when the school zone sign is flashing (typically during school hours), 40 km/h between Upper Middle Road and Elm Road, and 50 km/h south of Elm Road.

McCraney Street East is an east/west major collector road and **McCraney Street West** is an east/west minor collector road with both in the Town of Oakville's jurisdiction. Within the study area it operates with a two-lane cross-section. The intersection with Sixth Line is signalized with auxiliary left-turn lanes provided in the eastbound and westbound directions. The speed limit along McCraney Street East within the study area is 40 km/h and the assumed speed limit along McCraney Street West is 50 km/h.

Elm Road is an east/west local road under the jurisdiction of the Town of Oakville. Within the study area it operates with a two-lane cross-section. Its intersection with Sixth Line is an unsignalized T-intersection with the stop-control only provided along the minor approach on Elm Road in addition to an auxiliary left-turn lane in the eastbound direction. The assumed speed limit along Elm Road within the study area is 50 km/h.

Miller Road is an east/west local road under the jurisdiction of the Town of Oakville. Within the study area it operates with a two-lane cross-section. Its intersection with Sixth Line is an unsignalized T-intersection with the stop-control only provided along the minor approach on Miller Road. The assumed speed limit along Miller Road within the study area is 50 km/h.

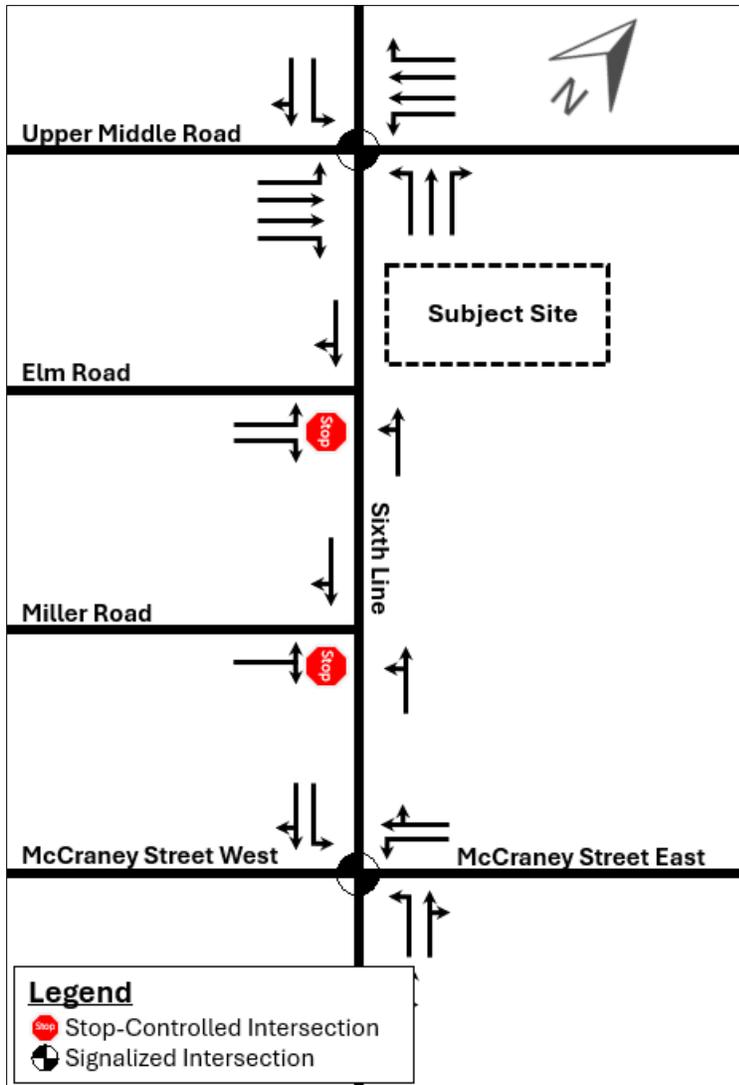


Figure 3 Existing Lane Configuration and Traffic Controls

3.2 Pedestrian and Bicycle Facilities

Sidewalks are provided along both sides of all study area roadways. Pedestrian routes within the study area are illustrated in the figure below, highlighting the existing sidewalks and their connectivity throughout the local road network.

Cycling infrastructure within the study area includes a multi-use path along Upper Middle Road, a bike lane on Sixth Line south of McCraney Street and on McCraney Street East, and a bike route on Sixth Line north of McCraney Street and on McCraney Street West.

A park walkway/woodland trail is provided along the site's southern and eastern frontage and throughout the Oakville Park and provides an active transportation connection from Upper Middle Road between Sixth Line.

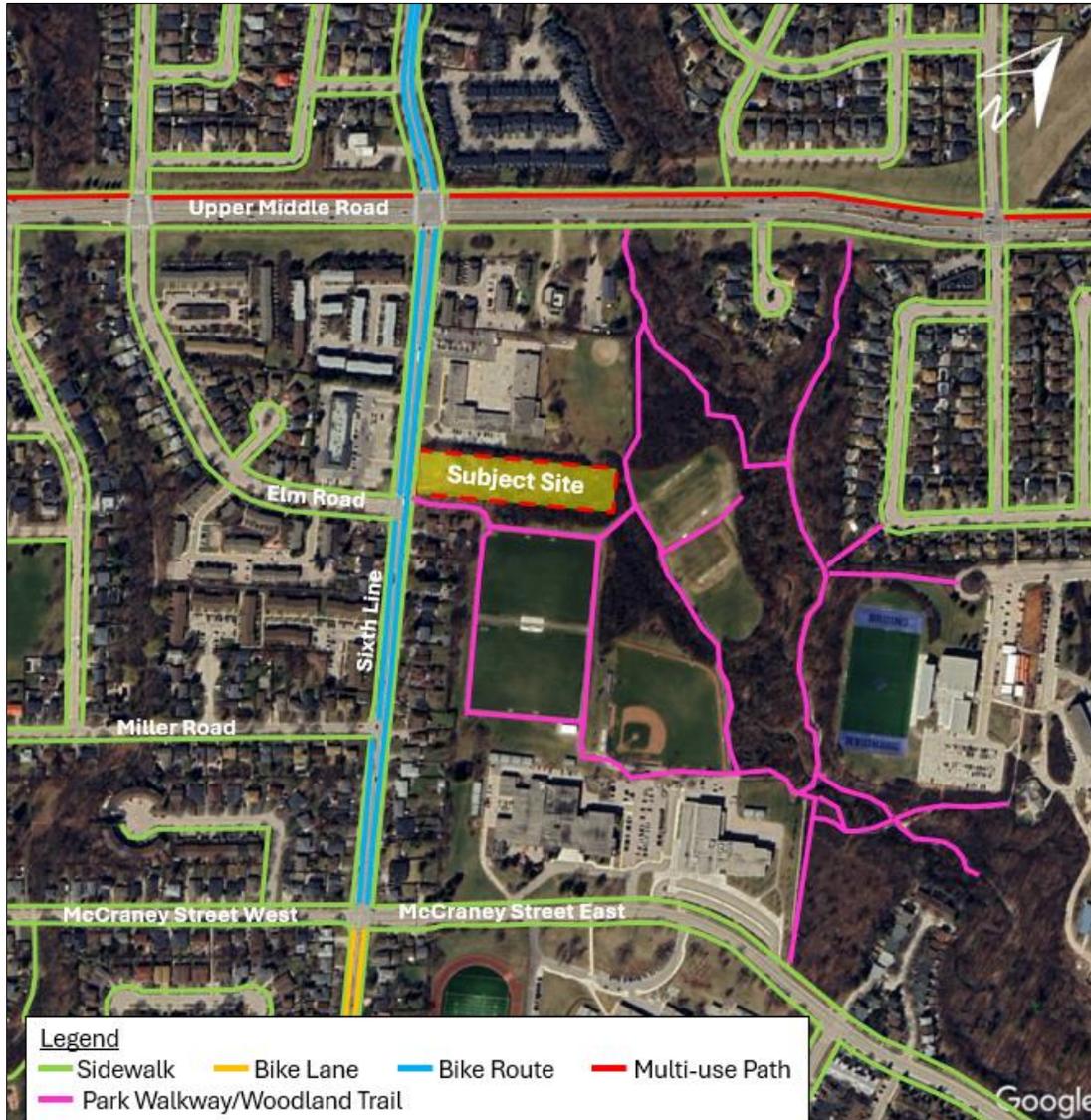


Figure 4 Existing Active Transportation Facilities

3.3 Transit Services

Oakville Transit operates bus routes within the study area along the following routes:

Route 6 (**Upper Middle**) generally operates in the east/west direction along Upper Middle Road East and West between the Bronte GO Station to the west and the intersection of Laird and Ridgeway to the east. The route operates with a 25-minute headway during the commuter peak periods. The nearest transit stop is located at the intersection of Upper Middle Road and Sixth Line.

Route 19 (**River Oaks**) generally operates through a series of roadways within residential subdivisions, including in the north/south direction on Sixth Line between Upper Middle Road and McCraney Street East. The nearest transit stop is located at the intersection of Sixth Line and Elm Road.

The transit routes and stops are summarized in the figure below.



Figure 5 Existing Transit Routes and Transit Stops

3.4 Existing Traffic Data

GHD contracted Spectrum Traffic to conduct updated turning movement counts at all existing study intersections in June 2025. The baseline 2025 traffic volumes for the a.m. and p.m. peak hours are summarized in **Figure 6** below with the full turning movement counts provided in **Appendix C**.

Due to the collection of the traffic count data occurring after some of the schools adjacent to the intersection of Sixth Line and McCraney Street may have completed their school year, Town staff requested GHD to compare the turning movement counts to the turning movement counts from the background developments. GHD reviewed the traffic counts collected in September 2024 from the TIS prepared for 1295 Sixth Line at the intersection of Sixth Line and McCraney Street and confirmed that the two counts contained individual turning movements in which the updated counts were higher than the September 2024 counts while other movements had higher volumes in the September 2024 count compared to the updated turning movement count.

In order to provide a conservative assessment of the operation of the intersection, GHD grew the 2024 counts to establish them as 2025 volumes then selected the highest individual movements between the two counts and balanced them between all study intersections with the exception of the intersection of

Upper Middle Road and Sixth Line. When considering the number of accesses located between Elm Road and Upper Middle Road along Sixth Line would likely add and subtract volumes along Sixth Line, balancing the volumes north of Elm Road may overestimate or underestimate the typical volumes.

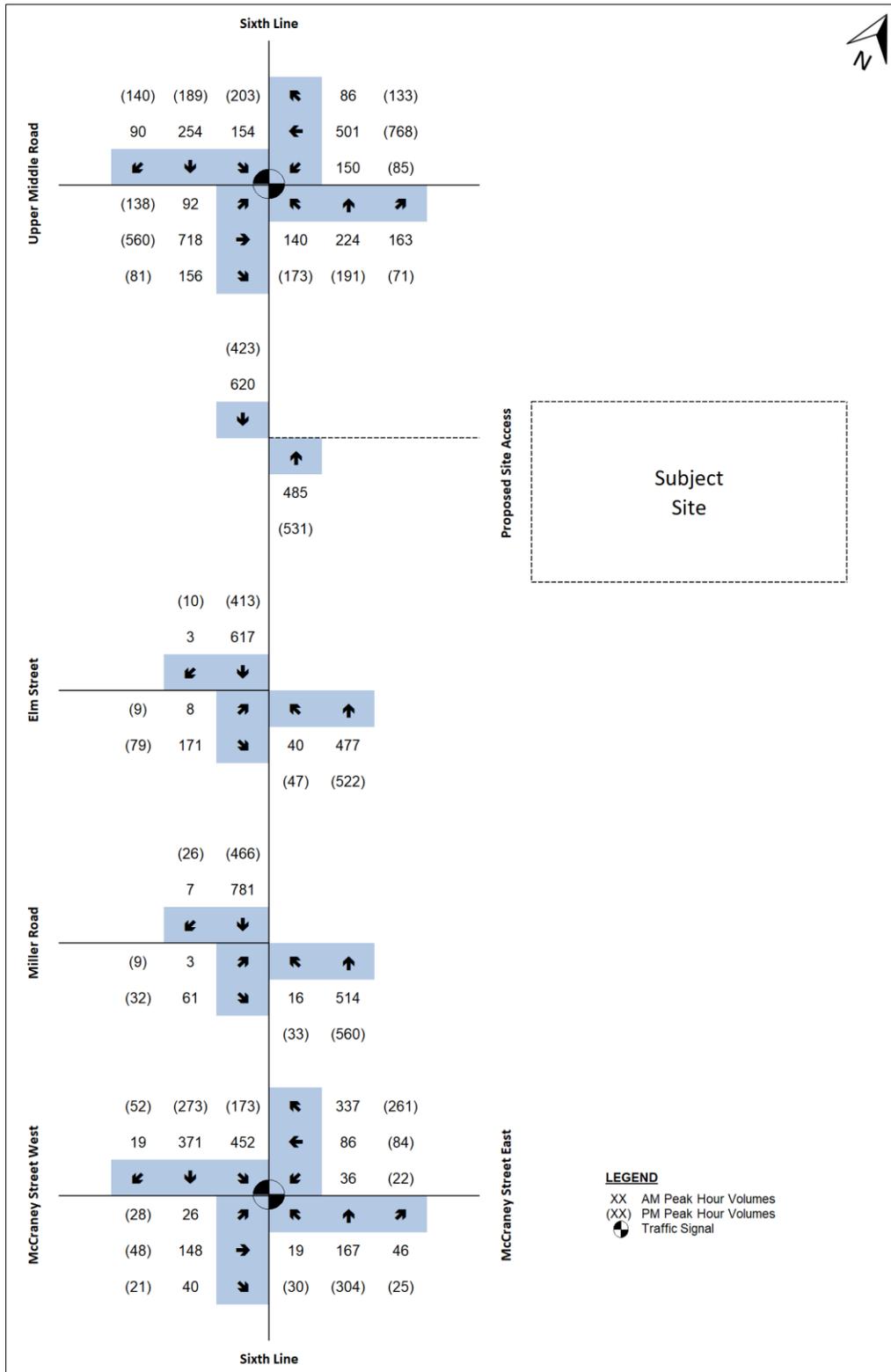


Figure 6 Baseline 2025 Traffic Volumes

4. Future Conditions

4.1 Study Horizon Year

Future horizon years of 2028 and 2033 were selected to assess long-term traffic conditions, representing the anticipated year of full build-out and a period of 5 years post build-out. These horizon years are consistent with Halton Region's Guidelines for Traffic Impact Studies and were confirmed through the approved Terms of Reference.

4.2 Corridor Growth

GHD reviewed the growth assumptions applied to the background developments included in this study and confirms that the use of a 2.0% per annum growth rate for regional roads and a 1.0% per annum growth rate for municipal roads is consistent with the rates adopted in nearby studies. The growth rates were also confirmed with the Town through the approved Terms of Reference.

4.3 Background Development Traffic

GHD reviewed the Town's development application portal to identify for background developments located in proximity to the subject site that would generate additional traffic along the study area roadways. The following background developments have been included and confirmed through the Terms of Reference with Town of Oakville staff:

- 1105 McCraney Street East
- 1295 Sixth Line

The locations of the background developments are shown in **Figure 7** below.



Figure 7 Location of Background Developments

The estimated site trips generated by the proposed background developments were extracted from their respective Traffic Impact Studies and are summarized in **Table 1** below with detailed excerpts from the background studies attached in **Appendix D**. It has been assumed that all background developments are built-out and fully occupied prior to the 2028 horizon year.

Table 1 Background Development Traffic

Background Development	Parameter	Peak Hour Trips					
		Weekday AM			Weekday PM		
		In	Out	Total	In	Out	Total
1105 McCraney Street East	Retirement residence with 132 Assisted Living Units, 25 Care Units, 62 Senior apartment units	5	16	21	21	14	35
1295 Sixth Line	70 residential units	21	17	38	25	31	56

The total background development traffic volumes are illustrated in **Figure 8**.

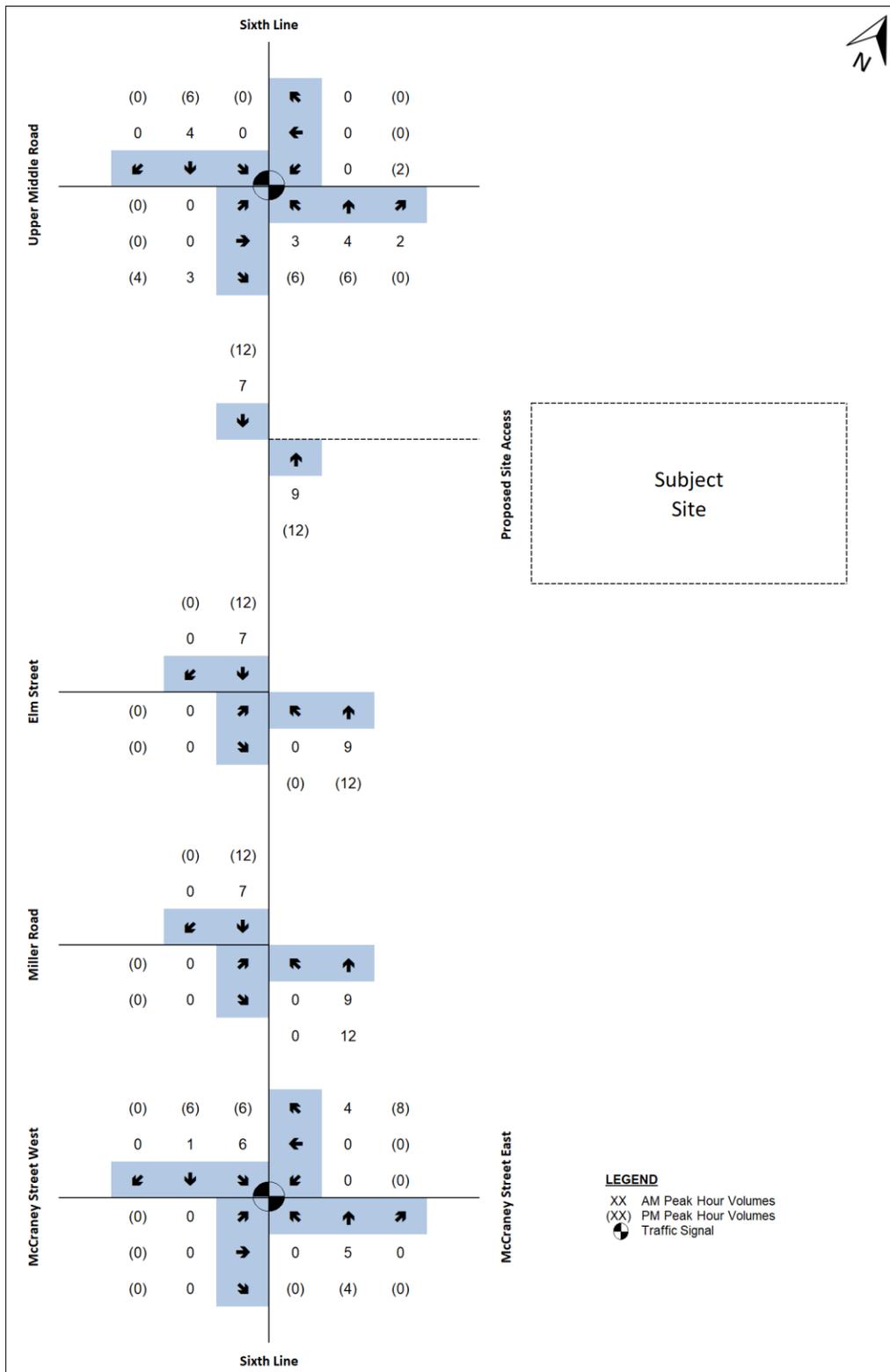


Figure 8 Total Background Development Traffic

4.4 Future Background Traffic Volumes

The background traffic volumes for the 2028 and 2031 horizon year were derived by applying the 2% per annum growth rate for regional roads and the 1% per annum growth rate for municipal roads to the study area roads and the corresponding total background development traffic. The resulting 2028 and 2033 future background traffic volumes are summarized in in **Figure 9** and **Figure 10**, respectively.

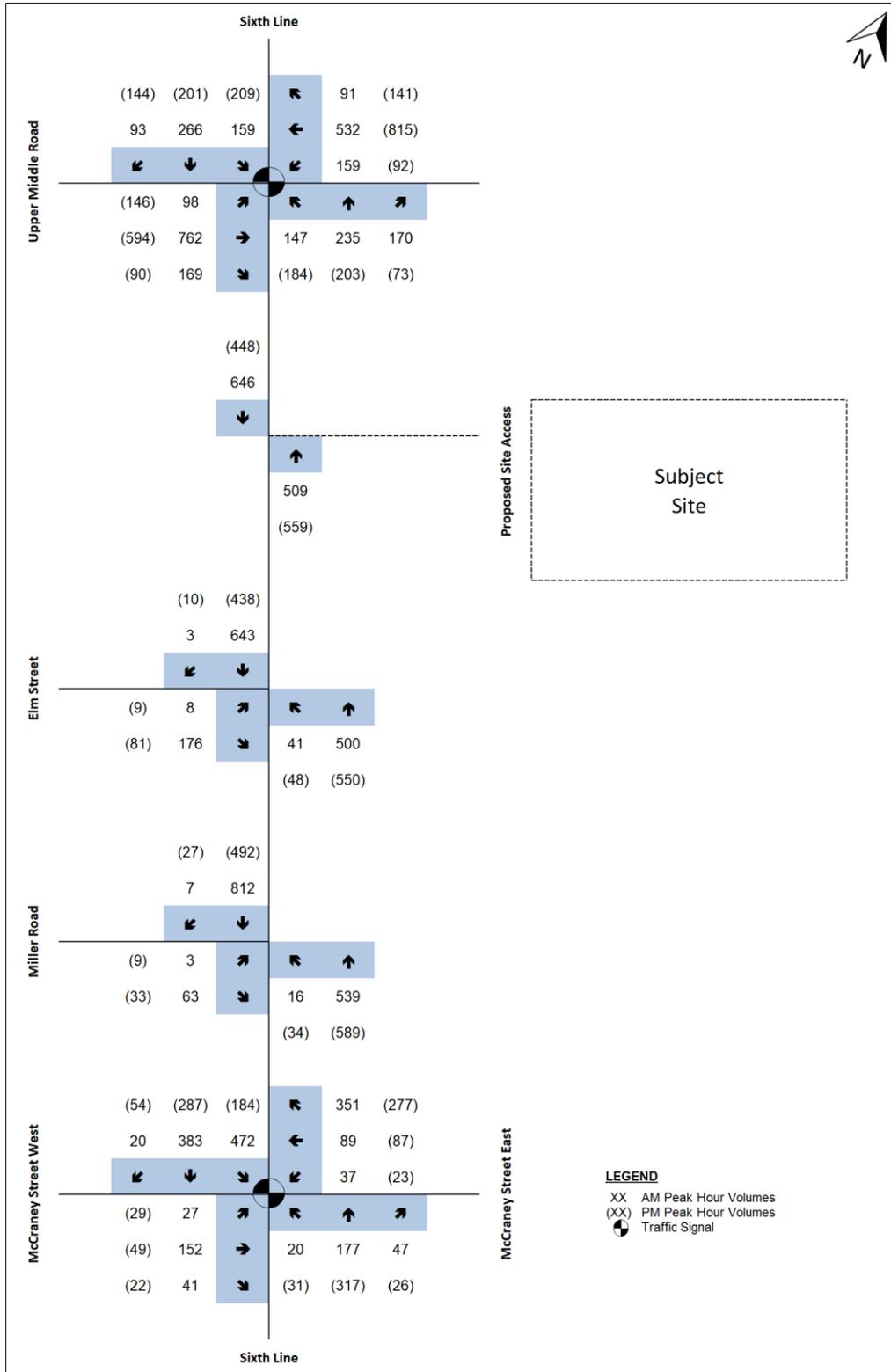


Figure 9 2028 Future Background Traffic Volumes

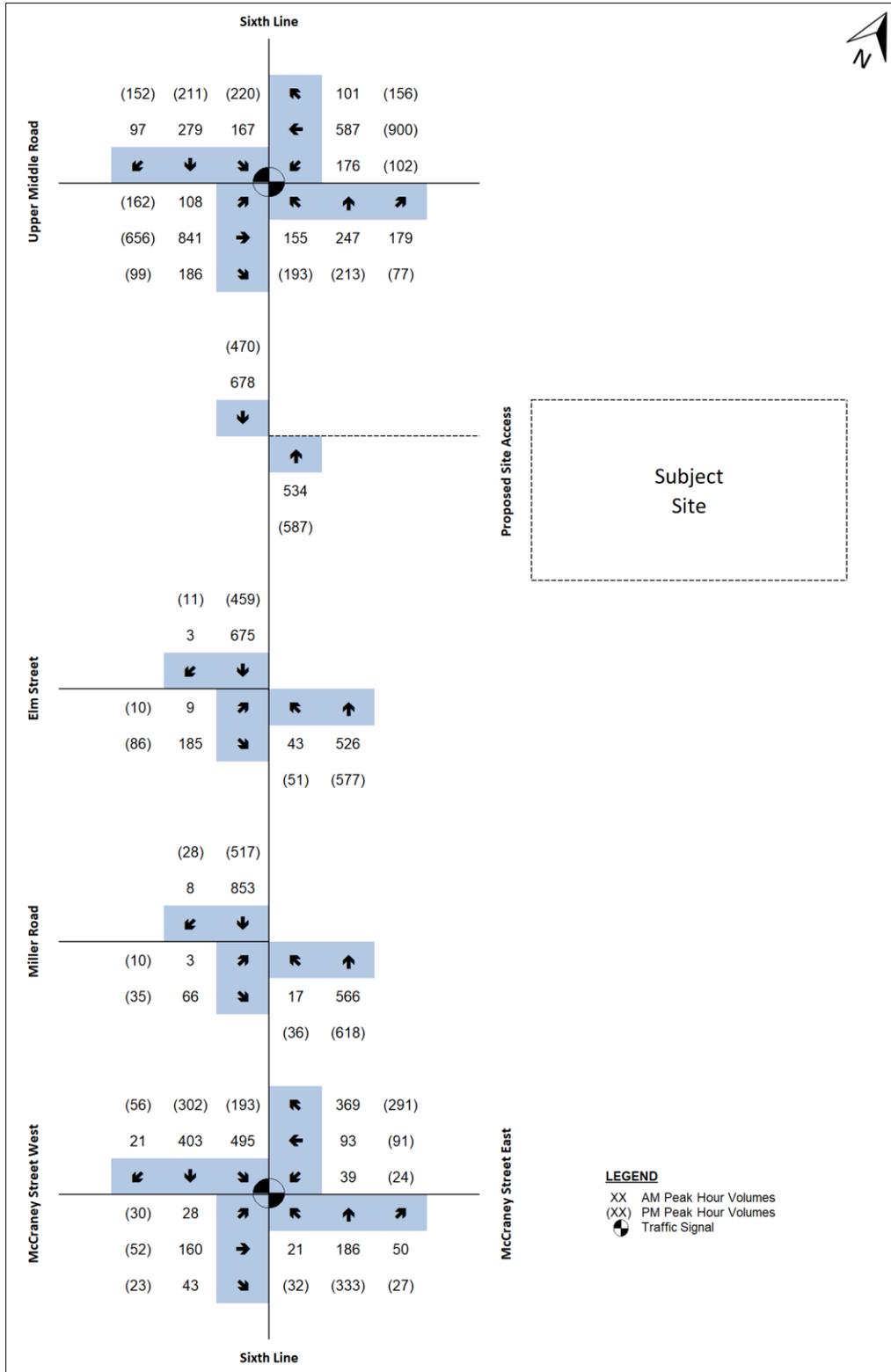


Figure 10 2033 Future Background Traffic Volumes

5. Site Generated Traffic

5.1 Site Trip Generation

The proposed development comprises a total of 190 affordable housing rental apartments, a 3,067 ft² daycare facility and 1,883 ft² of office space. Trip generation estimates for the weekday a.m. and p.m. peak hours were developed using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition, and associated Trip Generation Handbook, 3rd Edition. Land Use Code (LUC) 221 – Multifamily Housing (Mid-Rise) was selected for the residential component. Despite LUC 223 – Affordable Housing generally best aligning with the nature of the residential development, which encompasses all multifamily housing where the rents are below market rate and house at least one employed member of the family, a low number of data points collected by ITE may not provide an accurate representation of traffic generated by the subject. As a result, GHD used the next-best land use code, which applies to all multi-family housing developments with a minimum of 4 storeys and up to 10 storeys in height and provides a more conservative assessment as residents are less likely to own a vehicle.

LUC 565 – Daycare Center, encompasses any facility that provides care for children of pre-school age. This land use category was selected as the developer is classifying a section of the development as a daycare center. Applying LUC 565 ensures a conservative and representative estimate of site traffic generation based on the total proposed gross floor area (GFA) of daycare uses.

LUC 565 – Office, encompasses any facility that provides care for children of pre-school age. This land use category was selected as this space is the proposed office space for Home Suite Home which is a Registered Charity in Canada that provides assistance for those experience poverty. Applying this land use code ensures a conservative and representative estimate of site traffic generation based on the total proposed gross floor area (GFA) of the office uses.

LUC 712 – Small Office Building, encompasses any facility that contains an office with less than or equal to 10,000 ft² of GFA. This land use was selected as the 1,883 ft² of GFA will be used as office space by one of the affordable housing agencies.

The resulting trip estimates reflect an anticipated inbound and outbound vehicle volumes during peak commuter periods and were used as a basis for evaluating the developments impact on the surrounding transportation network.

GHD reviewed the methodology for selecting between fitted curve equations and average trip rates in accordance with Section 4.4 of the Trip Generation Handbook (3rd Edition). The trip generation for the residential component was calculated using the fitted curve equation associated with LUC 221, as the unit count for each phase falls within the data extremes and the data set contains 20 or more valid data points for both the a.m. and p.m. peak hours.

The trip generation for the daycare and office components were only based on the average rate equation as LUC 565 only provides trip rates based on an average and does not have a fitted curve equation associated to it. In addition, the data is located within the cluster of data points with a GFA of 3,067 ft² and 1,883 ft², respectively.

GHD also reviewed the 2022 TTS data to derive the existing mode split for inbound trips towards home and outbound trips departing from home during each peak hour. The data was based on zones located near the subject site that contained residential uses and with similar characteristics (TTS zones 4029, 4030, 4036, 4037). The existing non-auto modal split is summarized in the table below and includes the existing 5% modal split already assumed to be included in the ITE trip rates.

The outbound direction during the morning peak reported a 19% non-auto mode split and a 17% non-auto mode split for the inbound direction during the afternoon peak. GHD did not apply a modal split reduction for the inbound towards home during the morning peak and outbound from home during the afternoon movements due to the relatively low sample size of respondents. The modal split reduction was only applied to residential uses with no reduction applied to the daycare or office trips.

Table 2 2022 Transportation Tomorrow Survey Result - Residential

Transportation Mode	Percentage Split			
	AM		PM	
	Inbound	Outbound	Inbound	Outbound
Auto driver	82%	58%	65%	60%
Auto passenger	15%	23%	18%	31%
Transit	0%	9%	14%	0%
Active Transportation	2%	10%	3%	7%
Total	100%	100%	100%	100%
Non-Auto Modal Split	2%	19%	17%	7%
TTS Sample Size	1,771	11,754	8,793	3,821
Including ITE Modal Split	0%*	14%	12%	2%*

*No modal split reduction was used based on the small sample size from the TTS data

GHD has also reviewed the TRANS 2022 Origin-Destination Household Travel Survey (from the Cities of Ottawa and Gatineau) to review modal splits for affordable housing units. The study reviewed daily mode share by trip origin (Downtown Core, Inner Urban, Outer Urban, Suburban, and Rural areas), household income by dwelling type, daily mode share by trip origin (apartment, row/townhouse, semi-detached, and single-detached), as well as daily mode share by household income. The relevant excerpts are provided in **Appendix E** and summarized in **Table 4** for the factors applicable to the study area/subject site and confirm that the existing TTS modal split for the study area provides a conservative estimate for the subject site's modal split.

Table 3 Modal Split - Residential

Mode Share	Suburban	Apartment	\$0 to \$34,999	\$35,000 to \$69,999
Auto Driver	61%	41%	33%	50%
Auto Passenger	18%	10%	12%	13%
Transit	6%	16%	24%	13%
Walk	8%	25%	21%	17%
Bicycle	2%	5%	5%	4%
Other	5%	3%	6%	3%

Table 4 summarizes the estimated trip generation for the subject site.

Table 4 Total Site Trip Generation

Land Use (LUC)	Units/GFA	Parameters	Peak Hour Trip Generation					
			Weekday AM			Weekday PM		
			In	Out	Total	In	Out	Total
LUC 221 – Multifamily Housing (Mid-Rise)	190 units	Trip Ratio	23%	77%	100%	59%	41%	100%
		Gross Trips	17	55	72	44	30	74
		Modal Reduction	0	-8	-8	-5	0	-5
		Primary Trips	17	47	64	39	30	69
LUC 565 – Daycare Center	3,067 ft ² (285 m ²)	Trip Ratio	53%	47%	100%	47%	53%	100%
		Gross Trips	17	16	33	16	17	33
		Primary Trips	17	16	33	16	17	33
Small Office Building (712)	1,883 ft ² (175 m ²)	Trip Ratio	82%	18%	100%	34%	66%	100%
		Gross Trips	2	1	3	1	3	4
		Primary Trips	2	1	3	1	3	4
Total New Primary Trips			36	64	100	56	50	106

Based on the assumed ITE trip generation rates, the proposed development is expected to generate a total of 100 two-way vehicle trips during the a.m. peak hour consisting of 36 inbound and 64 outbound trips. During the p.m. peak hour, it is expected to generate 106 new two-way vehicle trips consisting of 56 inbound and 50 outbound trips.

5.2 Site Traffic Distribution and Assignment

The site-generated traffic was distributed based on a review of existing travel patterns as well as the 2022 Transportation Tomorrow Survey (TTS) data. The residential trip distribution is provided in **Table 5** and daycare centre and office trip distribution in **Table 6**.

Table 5 Site Traffic Distribution - Residential

Peak Period	Direction	North (Sixth Line)	South (Sixth Line)	East (Upper Middle)	West (Upper Middle)	East (McCraney)	West (McCraney)
AM	Inbound	20%	5%	25%	15%	35%	0%
	Outbound	15%	25%	20%	15%	25%	0%
PM	Inbound	20%	10%	20%	15%	35%	0%
	Outbound	20%	30%	25%	20%	5%	0%

Table 6 Site Traffic Distribution – Daycare and Office

Peak Period	Direction	North (Sixth Line)	South (Sixth Line)	East (Upper Middle)	West (Upper Middle)	West (Elm)	West (Miller)	West (McCraney)
AM	Inbound	19%	19%	25%	23%	4%	4%	6%
	Outbound	10%	19%	25%	15%	15%	4%	13%
PM	Inbound	19%	19%	25%	23%	4%	4%	6%
	Outbound	10%	19%	25%	15%	15%	4%	13%

The site generated traffic assignment to the study area road network is provided in **Figure 11** for residential uses, in **Figure 12** for daycare uses, and in **Figure 13** for the office use. The total site trip assignment is provided in **Figure 14**.

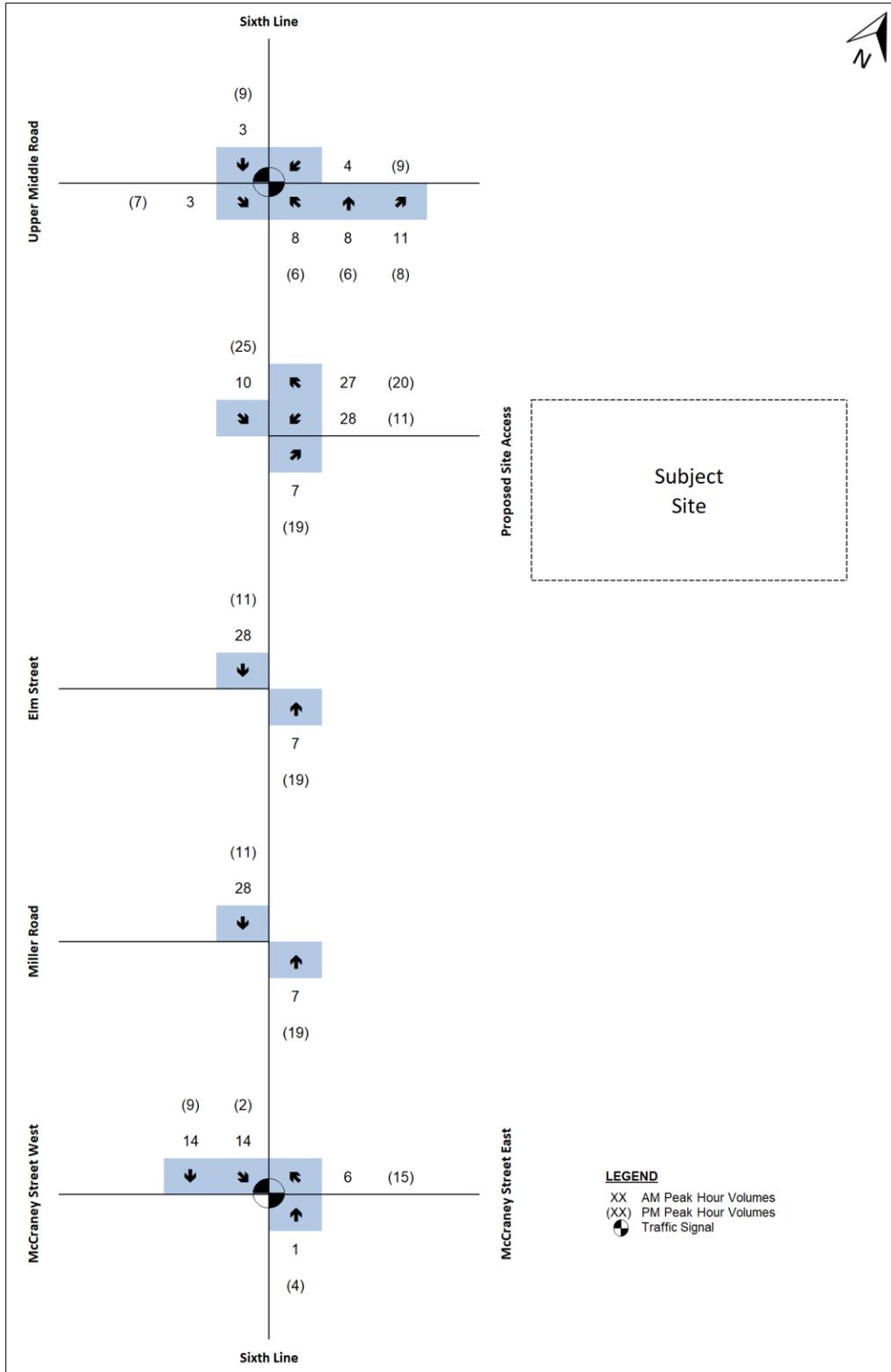


Figure 11 Site Trips – Residential

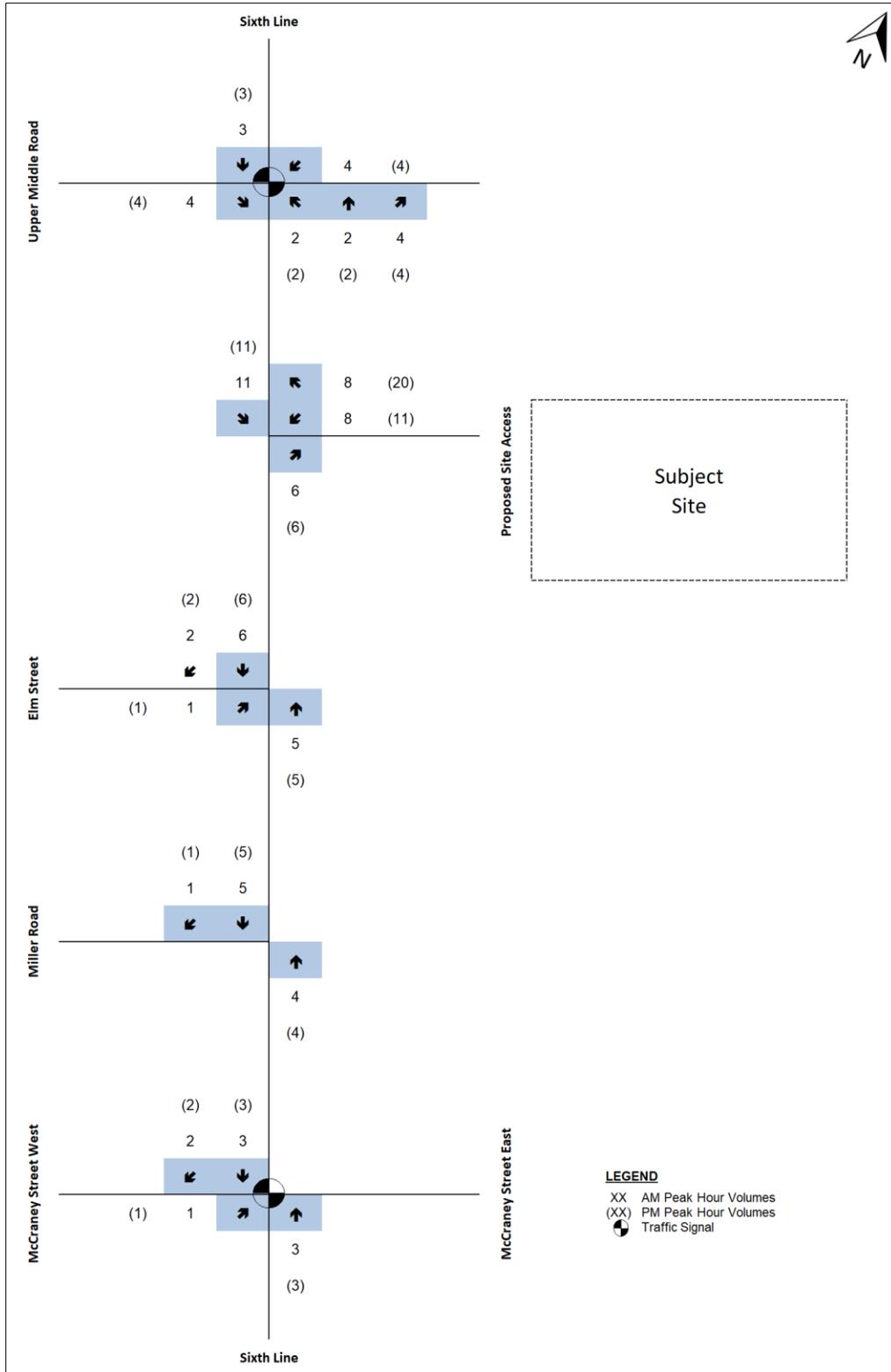


Figure 12 Site Trips – Daycare

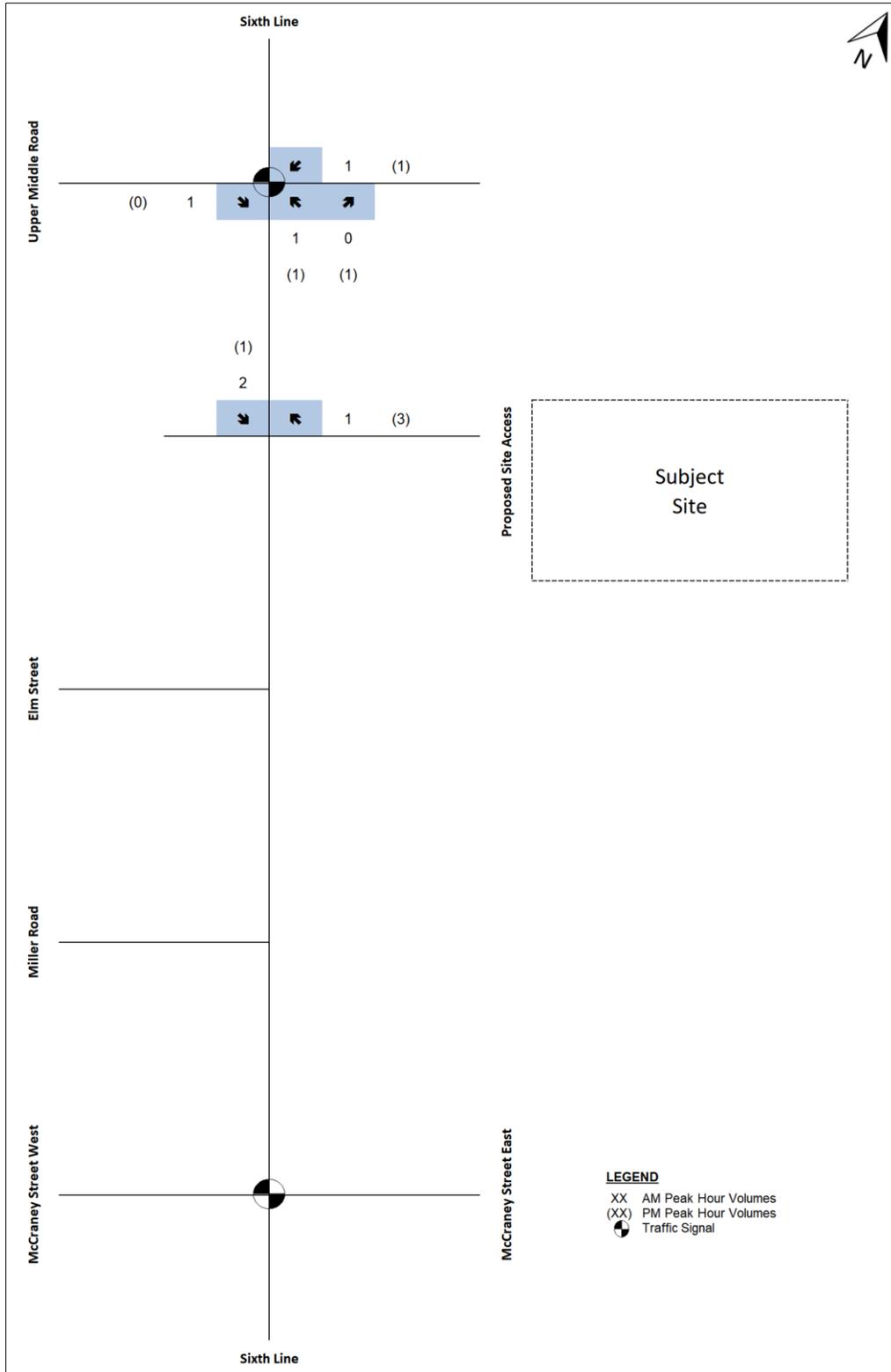


Figure 13 Site Trips – Office

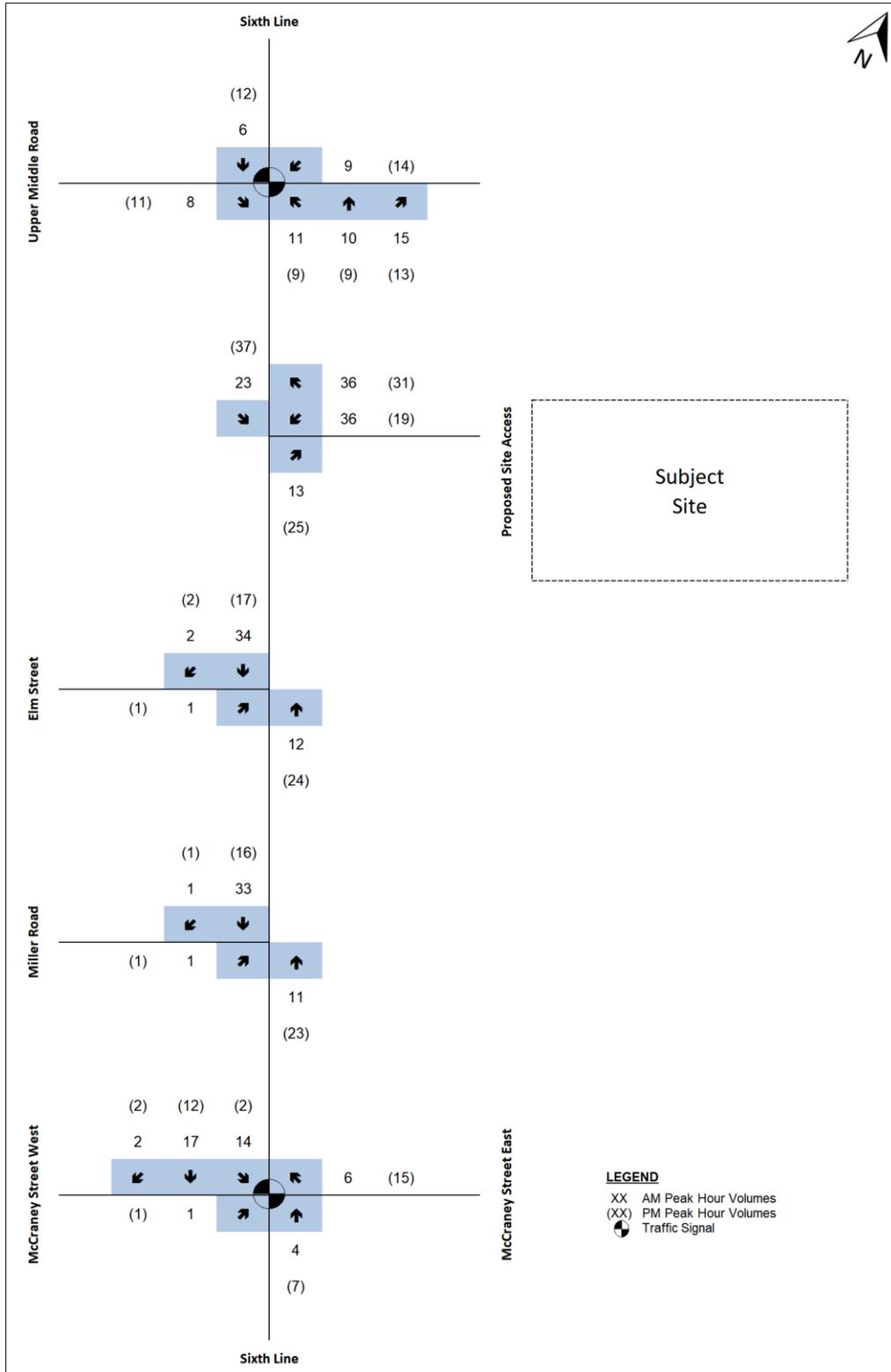


Figure 14 Total Site Trips

6. Future Total Traffic

The future total traffic conditions in the weekday a.m. and p.m. peak hours for the 2028 and 2033 planning horizon were derived by combining the projected future background traffic with the corresponding estimated site generated traffic. The resulting traffic volumes are presented in **Figure 15** and **Figure 16** for the 2028 and 2033 horizon years, respectively.

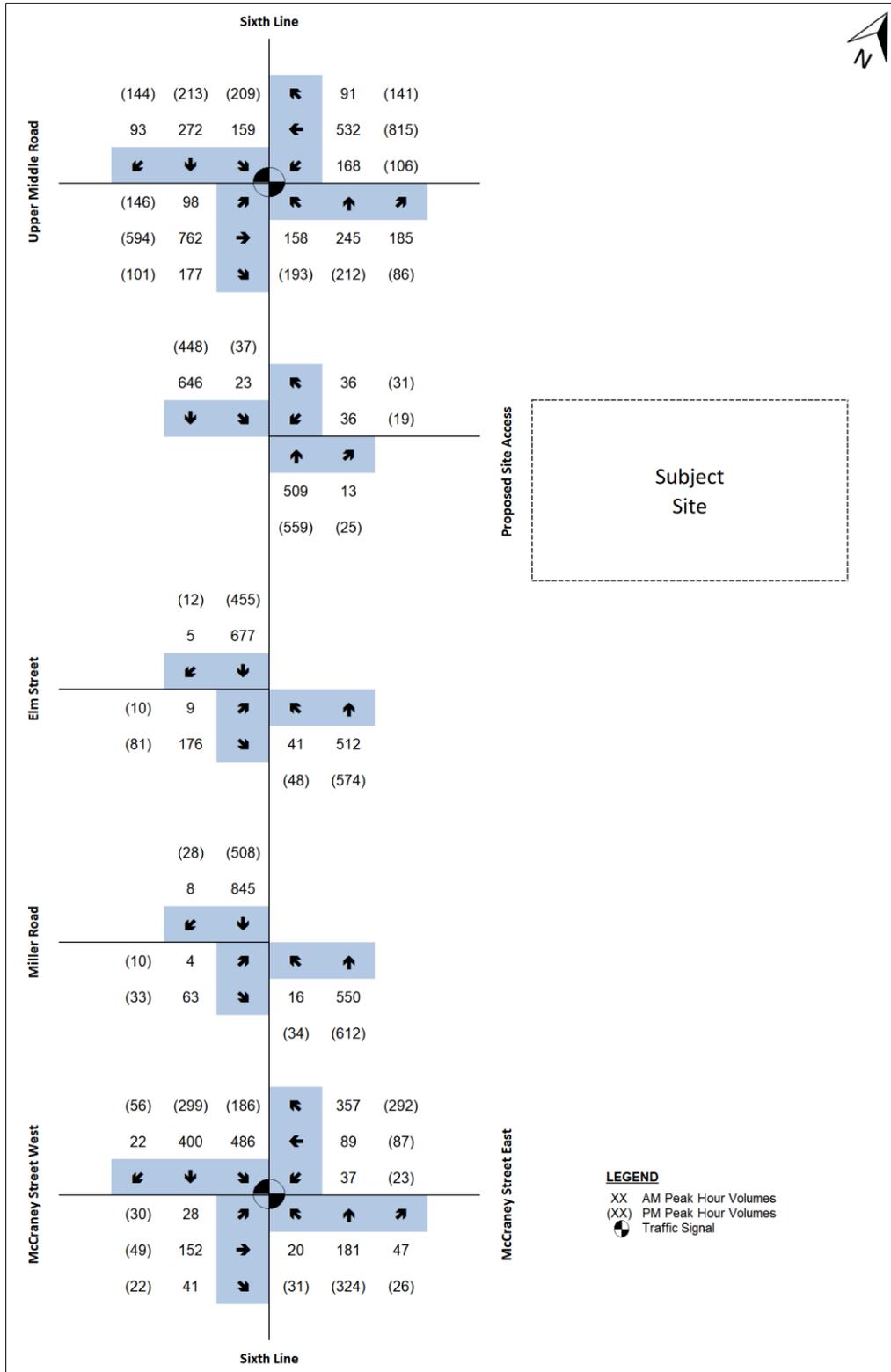


Figure 15 2028 Future Total Traffic Volumes

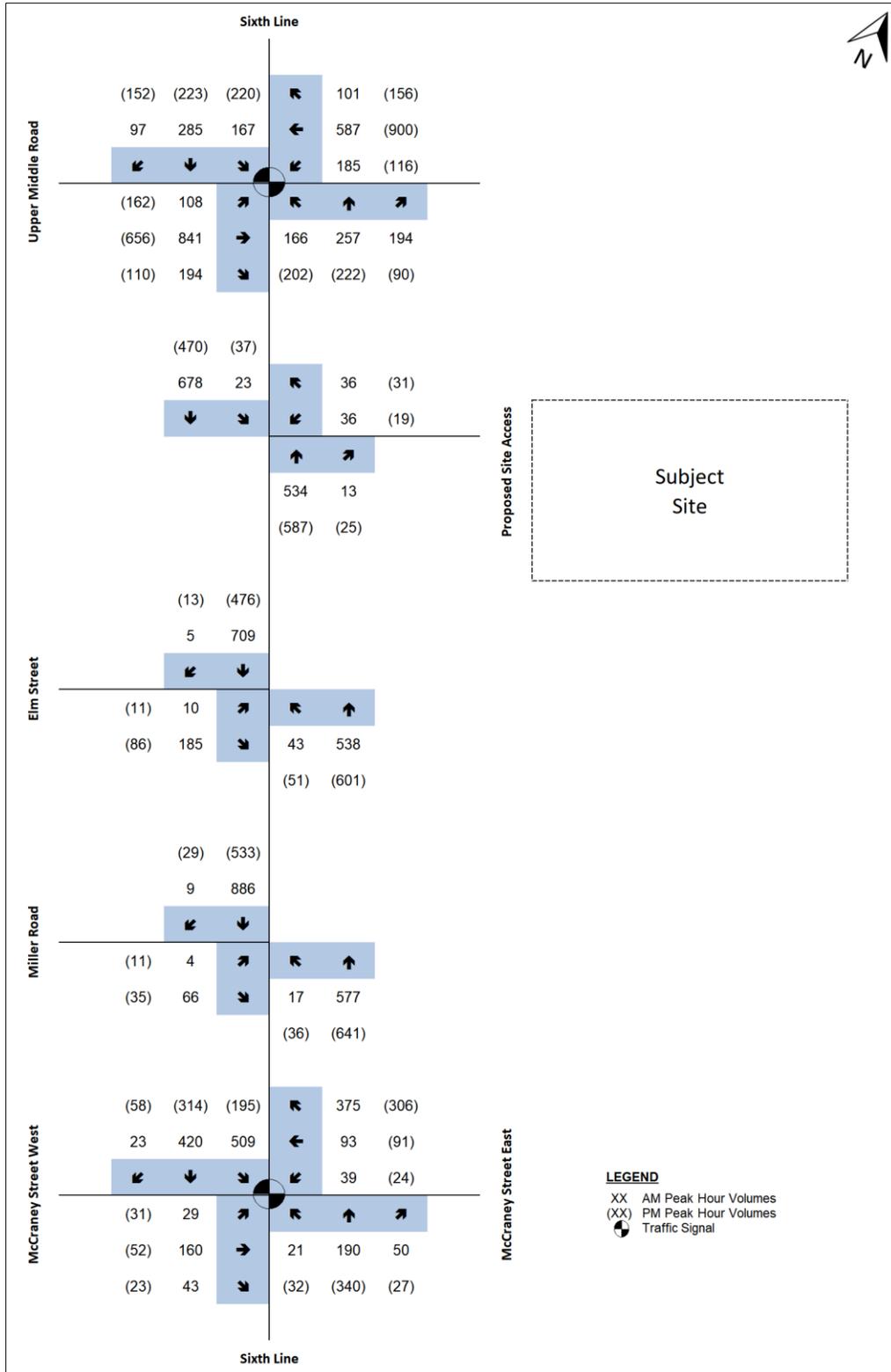


Figure 16 2033 Future Total Traffic Volumes

7. Capacity Analysis

The capacity analysis identifies how well the intersections and driveways are operating. The analysis contained within this report utilized the Highway Capacity Manual (HCM) 2000 procedure within the Synchro Version 11 Software package. The reported intersection volume-to-capacity ratios (v/c) are a measure of the saturation volume for each turning movement, while the levels-of-service (LOS) are a measure of the average delay for each turning movement. Queuing characteristics are reported as the predicted 95th percentile queue for each turning movement. As directed by Town staff, the 95th percentile queues were based on the SimTraffic simulation software using a 15-minute seed time followed by a run time of 60 minutes averaged over 3 simulation runs. Both pedestrian crossing volumes and heavy vehicle proportions are included in the analyses. The peak hour factors from the counts were used to analyze existing and future traffic conditions.

The analysis includes identification of required modifications and improvements (if any) at intersections where the addition of background growth or background growth plus site-generated traffic volumes causes the following:

'Critical' intersections and movements for signalized intersections include:

- Volume/capacity (v/c) ratios for overall intersection operations, through movements, or shared through/turning movements increased to 0.85 or above;
- v/c ratios for exclusive movements increased to 0.95 or above; or
- Queues for an individual movement are projected to exceed available turning lane storage.

'Critical' intersections and movements for an unsignalized intersection include:

- Level of service (LOS), based on average delay per vehicle, on individual movements exceeds LOS "D", or
- The estimated 95th percentile queue length for an individual movement exceeds the available queue storage.

The following tables summarize the HCM capacity results for the study intersections during the weekday a.m. and p.m. peak hours under existing (2025), future background (2028 and 2033) and future total (2028 and 2033) traffic conditions. The detailed calculation sheets are provided in **Appendix F**.

7.1 Sixth Line and Upper Middle Road

Capacity analysis at this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions are summarized in the following table.

Table 7 Capacity Analysis of Sixth Line and Upper Middle Road

Scenario	AM Peak Hour		PM Peak Hour		Storage Length
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que	
Existing 2025	<u>Overall: 0.59 (C) 30</u>		<u>Overall: 0.59 (C) 31</u>		
	EBL = 0.26 (C) 21	EBL = 48 m	EBL = 0.58 (C) 27	EBL = 49 m	EBL = 55 m
	EBT = 0.58 (C) 32	EBT = 88 m	EBT = 0.47 (C) 31	EBT = 66 m	-
	EBR = 0.11 (C) 25	EBR = 60 m	EBR = 0.06 (C) 26	EBR = 32 m	EBR = 55 m
	WBL = 0.61 (C) 26	WBL = 50 m	WBL = 0.28 (C) 23	WBL = 48 m	WBL = 45 m
	WBT = 0.4 (C) 29	WBT = 69 m	WBT = 0.66 (D) 36	WBT = 105 m	-
	WBR = 0.06 (C) 24	WBR = 31 m	WBR = 0.14 (C) 27	WBR = 55 m	WBR = 45 m
	NBL = 0.46 (C) 26	NBL = 37 m	NBL = 0.51 (C) 27	NBL = 39 m	NBL = 25 m
	NBT = 0.39 (C) 33	NBT = 96 m	NBT = 0.32 (C) 32	NBT = 73 m	-
	NBR = 0.13 (C) 29	NBR = 38 m	NBR = 0.05 (C) 28	NBR = 29 m	NBR = 30 m
	SBL = 0.37 (C) 25	SBL = 52 m	SBL = 0.43 (C) 23	SBL = 51 m	SBL = 25 m
SBTR = 0.6 (D) 38	SBTR = 111m	SBTR = 0.54 (C) 35	SBTR = 89 m	-	
Future Background 2028	<u>Overall: 0.64 (C) 32</u>		<u>Overall: 0.63 (C) 32</u>		
	EBL = 0.29 (C) 24	EBL = 59 m	EBL = 0.66 (C) 31	EBL = 49 m	EBL = 55 m
	EBT = 0.69 (D) 38	EBT = 101 m	EBT = 0.5 (C) 32	EBT = 73 m	-
	EBR = 0.15 (C) 29	EBR = 71 m	EBR = 0.06 (C) 26	EBR = 43 m	EBR = 55 m
	WBL = 0.61 (C) 26	WBL = 50 m	WBL = 0.32 (C) 23	WBL = 52 m	WBL = 45 m
	WBT = 0.43 (C) 30	WBT = 77 m	WBT = 0.7 (D) 37	WBT = 101 m	-
	WBR = 0.06 (C) 25	WBR = 39 m	WBR = 0.16 (C) 28	WBR = 61 m	WBR = 45 m
	NBL = 0.49 (C) 26	NBL = 38 m	NBL = 0.56 (C) 29	NBL = 37 m	NBL = 25 m
	NBT = 0.41 (C) 33	NBT = 115 m	NBT = 0.34 (C) 32	NBT = 85 m	-
	NBR = 0.14 (C) 29	NBR = 41 m	NBR = 0.05 (C) 28	NBR = 30 m	NBR = 30 m
	SBL = 0.38 (C) 25	SBL = 52 m	SBL = 0.45 (C) 23	SBL = 51 m	SBL = 25 m
SBTR = 0.63 (D) 39	SBTR = 106 m	SBTR = 0.56 (D) 36	SBTR = 95 m	-	

Scenario	AM Peak Hour		PM Peak Hour		Storage Length
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que	
Future Total 2028	<u>Overall: 0.65 (C) 32</u>		<u>Overall: 0.64 (C) 32</u>		
	EBL = 0.29 (C) 24	EBL = 58 m	EBL = 0.66 (C) 31	EBL = 53 m	EBL = 55 m
	EBT = 0.69 (D) 38	EBT = 101 m	EBT = 0.5 (C) 32	EBT = 75 m	-
	EBR = 0.16 (C) 29	EBR = 70 m	EBR = 0.07 (C) 26	EBR = 46 m	EBR = 55 m
	WBL = 0.64 (C) 27	WBL = 52 m	WBL = 0.37 (C) 24	WBL = 56 m	WBL = 45 m
	WBT = 0.43 (C) 30	WBT = 71 m	WBT = 0.7 (D) 37	WBT = 106 m	-
	WBR = 0.06 (C) 25	WBR = 38 m	WBR = 0.16 (C) 28	WBR = 60 m	WBR = 45 m
	NBL = 0.53 (C) 27	NBL = 38 m	NBL = 0.61 (C) 30	NBL = 40 m	NBL = 25 m
	NBT = 0.42 (C) 33	NBT = 112 m	NBT = 0.36 (C) 32	NBT = 86 m	-
	NBR = 0.17 (C) 29	NBR = 41 m	NBR = 0.06 (C) 28	NBR = 31 m	NBR = 30 m
SBL = 0.39 (C) 25	SBL = 51 m	SBL = 0.46 (C) 23	SBL = 52 m	SBL = 25 m	
SBTR = 0.64 (D) 40	SBTR = 105 m	SBTR = 0.58 (D) 36	SBTR = 101 m	-	
Future Background 2033	<u>Overall: 0.71 (C) 33</u>		<u>Overall: 0.72 (C) 34</u>		
	EBL = 0.33 (C) 24	EBL = 65 m	EBL = 0.82 (D) 48	EBL = 56 m	EBL = 55 m
	EBT = 0.74 (D) 39	EBT = 109 m	EBT = 0.55 (C) 33	EBT = 81 m	-
	EBR = 0.18 (C) 29	EBR = 73 m	EBR = 0.07 (C) 26	EBR = 45 m	EBR = 55 m
	WBL = 0.73 (C) 33	WBL = 54 m	WBL = 0.39 (C) 24	WBL = 53 m	WBL = 45 m
	WBT = 0.47 (C) 30	WBT = 85 m	WBT = 0.78 (D) 40	WBT = 114 m	-
	WBR = 0.07 (C) 24	WBR = 43 m	WBR = 0.19 (C) 28	WBR = 62 m	WBR = 45 m
	NBL = 0.56 (C) 28	NBL = 38 m	NBL = 0.62 (C) 31	NBL = 39 m	NBL = 25 m
	NBT = 0.44 (C) 34	NBT = 134 m	NBT = 0.36 (C) 32	NBT = 93 m	-
	NBR = 0.17 (C) 30	NBR = 41 m	NBR = 0.05 (C) 28	NBR = 33 m	NBR = 30 m
SBL = 0.42 (C) 26	SBL = 52 m	SBL = 0.48 (C) 24	SBL = 52 m	SBL = 25 m	
SBTR = 0.66 (D) 40	SBTR = 109 m	SBTR = 0.59 (D) 36	SBTR = 111 m	-	

Scenario	AM Peak Hour		PM Peak Hour		Storage Length
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que	
Future Total 2033	<u>Overall: 0.73 (C) 34</u>		<u>Overall: 0.74 (C) 34</u>		
	EBL = 0.33 (C) 24	EBL = 68 m	EBL = 0.82 (D) 48	EBL = 59 m	EBL = 55 m
	EBT = 0.74 (D) 39	EBT = 114 m	EBT = 0.55 (C) 33	EBT = 75 m	-
	EBR = 0.19 (C) 29	EBR = 74 m	EBR = 0.07 (C) 26	EBR = 49 m	EBR = 55 m
	WBL = 0.76 (D) 36	WBL = 54 m	WBL = 0.45 (C) 25	WBL = 55 m	WBL = 45 m
	WBT = 0.47 (C) 30	WBT = 83 m	WBT = 0.78 (D) 40	WBT = 130 m	-
	WBR = 0.07 (C) 24	WBR = 44 m	WBR = 0.19 (C) 28	WBR = 60 m	WBR = 45 m
	NBL = 0.61 (C) 30	NBL = 40 m	NBL = 0.66 (C) 33	NBL = 39 m	NBL = 25 m
	NBT = 0.45 (C) 34	NBT = 155 m	NBT = 0.38 (C) 32	NBT = 108 m	-
	NBR = 0.19 (C) 30	NBR = 41 m	NBR = 0.06 (C) 28	NBR = 34 m	NBR = 30 m
SBL = 0.43 (C) 26	SBL = 52 m	SBL = 0.49 (C) 24	SBL = 52 m	SBL = 25 m	
SBTR = 0.67 (D) 41	SBTR = 111 m	SBTR = 0.62 (D) 37	SBTR = 109 m	-	

Under existing traffic conditions, the signalized intersection is operating with an overall v/c of 0.59 LOS C during the a.m. peak hour and an overall v/c of 0.59 LOS C during the p.m. peak hour. The intersection operates without any critical movements during both peak hours.

With the addition of corridor growth and background development traffic for the 2028 future background traffic scenario, the intersection is reported to operate with an overall v/c ratio of 0.64 LOS C during the a.m. peak hour and increases to 0.63 LOS C during the p.m. peak hour. The intersection operates without any critical movements during both peak hours.

With the addition of site generated traffic for the 2028 future total traffic scenario, the intersection reports an increase in the v/c ratio to 0.65 LOS C during the a.m. peak hour and to 0.64 LOS C during the p.m. peak hour. The intersection operates without any critical movements during both peak hours.

With the addition of corridor growth and background development traffic for the 2033 future background traffic scenario, the intersection is reported to operate with an overall v/c ratio of 0.71 LOS C during the a.m. peak hour and increases to 0.72 LOS D during the p.m. peak hour. The intersection operates without any critical movements during both peak hours.

With the addition of site generated traffic for the 2033 future total traffic scenario, the intersection reports an increase in the v/c ratio to 0.73 LOS C during the a.m. peak hour and to 0.74 LOS C during the p.m. peak hour. The intersection operates without any critical movements during both peak hours.

Despite no movements operating with v/c ratios exceeding the critical thresholds, the queuing in the eastbound, westbound, and northbound left-turn and right-turn movements as well as the southbound left-turn movement exceed the available storage length under existing, future background, and future total conditions. At this intersection, any queue that exceeds available storage do so under existing and future background conditions and not as a result of the proposed development.

7.2 Sixth Line and Elm Street

Capacity analysis for this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions are summarized in the following table.

Table 8 Capacity Analysis of Sixth Line and Elm Street

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Existing 2025	EBL = 0.09 (C) 40 EBR = 0.52 (A) 23 NBTL = 0.07 (A) 2 SBTR = 0.44 (A) 0	EBL = 11 m EBR = 29 m NBTL = 30 m SBTR = 5 m	EBL = 0.05 (B) 23 EBR = 0.14 (A) 12 NBTL = 0.05 (A) 1 SBTR = 0.27 (A) 0	EBL = 9 m EBR = 17 m NBTL = 19 m SBTR = 4 m
Future Background 2028	EBL = 0.1 (D) 45 EBR = 0.56 (A) 26 NBTL = 0.07 (A) 2 SBTR = 0.46 (A) 0	EBL = 10 m EBR = 30 m NBTL = 39 m SBTR = 4 m	EBL = 0.05 (B) 24 EBR = 0.15 (A) 12 NBTL = 0.05 (A) 1 SBTR = 0.28 (A) 0	EBL = 8 m EBR = 17 m NBTL = 27 m SBTR = 3 m
Future Total 2028	EBL = 0.12 (D) 50 EBR = 0.59 (A) 29 NBTL = 0.08 (A) 2 SBTR = 0.48 (A) 0	EBL = 10 m EBR = 30 m NBTL = 34 m SBTR = 4 m	EBL = 0.06 (B) 26 EBR = 0.16 (A) 13 NBTL = 0.05 (A) 1 SBTR = 0.3 (A) 0	EBL = 10 m EBR = 17 m NBTL = 26 m SBTR = 2 m
Future Background 2033	EBL = 0.13 (D) 54 EBR = 0.62 (A) 30 NBTL = 0.08 (A) 2 SBTR = 0.48 (A) 0	EBL = 10 m EBR = 35 m NBTL = 47 m SBTR = 8 m	EBL = 0.06 (B) 26 EBR = 0.17 (A) 13 NBTL = 0.05 (A) 1 SBTR = 0.3 (A) 0	EBL = 9 m EBR = 18 m NBTL = 35 m SBTR = 3 m
Future Total 2033	EBL = 0.16 (E) 61 EBR = 0.66 (A) 35 NBTL = 0.08 (A) 2 SBTR = 0.51 (A) 0	EBL = 11 m EBR = 33 m NBTL = 40 m SBTR = 9 m	EBL = 0.07 (B) 28 EBR = 0.17 (A) 13 NBTL = 0.05 (A) 1 SBTR = 0.31 (A) 0	EBL = 10 m EBR = 20 m NBTL = 26 m SBTR = 4 m

Under existing traffic conditions, the stop-controlled intersection is operating at a satisfactory level with the greatest delay occurring in the eastbound left-turn movement during both peak hours with a delay of 40 seconds during the a.m. peak hour and 23 seconds during the p.m. peak hour.

With the addition of corridor growth and background development traffic for the 2028 future background traffic scenario, the intersection is reported to continue to operate at a satisfactory level with the eastbound left-turn movement continuing to report the greatest delay (45 seconds during the a.m. peak hour and 24 seconds during the p.m. peak hour).

With the addition of site generated traffic for the 2028 future total traffic scenario, the intersection is reported to continue to operate at a satisfactory level with all movements reporting minor increases to the

delay, including a maximum increase of 5 seconds reported for the eastbound left-turn during the a.m. peak hour.

The intersection is reported to continue to operate at a satisfactory level under the 2033 horizon year (future background and future total) with the eastbound left-turn continuing to report the greatest delays while each movement reports a marginal increase to the delays under future total traffic scenarios.

No geometric improvements are required for the study intersection as a result of the proposed development.

7.3 Sixth Line and Miller Road

Capacity analysis for this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions are summarized in the following table.

Table 9 Capacity Analysis of Sixth Line and Miller Road

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Existing 2025	EBLR = 0.29 (C) 24 NBTL = 0.03 (A) 1 SBTR = 0.57 (A) 0	EBLR = 19 m NBTL = 21 m SBTR = 0 m	EBLR = 0.12 (C) 16 NBTL = 0.03 (A) 1 SBTR = 0.31 (A) 0	EBLR = 14m NBTL = 21 m SBTR = 3 m
Future Background 2028	EBLR = 0.32 (D) 26 NBTL = 0.03 (A) 1 SBTR = 0.59 (A) 0	EBLR = 18 m NBTL = 22 m SBTR = 0 m	EBLR = 0.13 (C) 17 NBTL = 0.04 (A) 1 SBTR = 0.33 (A) 0	EBLR = 17 m NBTL = 22 m SBTR = 4 m
Future Total 2028	EBLR = 0.35 (D) 28 NBTL = 0.03 (A) 1 SBTR = 0.61 (A) 0	EBLR = 18 m NBTL = 24 m SBTR = 1 m	EBLR = 0.15 (C) 18 NBTL = 0.04 (A) 1 SBTR = 0.34 (A) 0	EBLR = 16 m NBTL = 27 m SBTR = 5 m
Future Background 2033	EBLR = 0.35 (D) 28 NBTL = 0.03 (A) 1 SBTR = 0.62 (A) 0	EBLR = 20 m NBTL = 31 m SBTR = 2 m	EBLR = 0.16 (C) 19 NBTL = 0.04 (A) 1 SBTR = 0.34 (A) 0	EBLR = 15 m NBTL = 22 m SBTR = 2 m
Future Total 2033	EBLR = 0.39 (D) 32 NBTL = 0.03 (A) 1 SBTR = 0.64 (A) 0	EBLR = 18 m NBTL = 23 m SBTR = 11 m	EBLR = 0.17 (C) 20 NBTL = 0.04 (A) 1 SBTR = 0.36 (A) 0	EBLR = 17 m NBTL = 31 m SBTR = 2 m

Under existing traffic conditions, the stop-controlled intersection is operating at a satisfactory level with the greatest delay occurring in the eastbound approach during both peak hours with a delay of 24 seconds during the a.m. peak hour and 16 seconds during the p.m. peak hour.

With the addition of corridor growth and background development traffic for the 2028 future background traffic scenario, the intersection is reported to continue to operate at a satisfactory level with the eastbound approach continuing to report the greatest delay (26 seconds during the a.m. peak hour and 17 seconds during the p.m. peak hour).

With the addition of site generated traffic for the 2028 future total traffic scenario, the intersection is reported to continue to operate at a satisfactory level with the eastbound approach reporting a marginal increase to the delay of up to 2 seconds during both peak hours with no increase in the delay reported for the remaining movements.

The intersection is reported to continue to operate at a satisfactory level under the 2033 horizon year (future background and future total) with the eastbound approach continuing to report the greatest delays while each movement reports a marginal increase to the delays under future total traffic scenarios.

No geometric improvements are required for the study intersection as a result of the proposed development.

7.4 Sixth Line and McCraney Street

Capacity analysis for this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions are summarized in the following table.

Table 10 Capacity Analysis of Sixth Line and McCraney Street

Scenario	AM Peak Hour		PM Peak Hour		Storage Length
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que	
Existing 2025	<u>Overall: 0.89 (C) 34</u>		<u>Overall: 0.46 (C) 21</u>		
	EBL = 0.4 (C) 32	EBL = 21 m	EBL = 0.28 (C) 34	EBL = 19 m	EBL = 15 m
	EBTR = 0.47 (C) 30	EBTR = 66 m	EBTR = 0.17 (C) 32	EBTR = 30 m	-
	WBL = 0.2 (C) 28	WBL = 34 m	WBL = 0.09 (C) 27	WBL = 24 m	WBL = 30 m
	WBTR = 0.96 (E) 70	WBTR = 283 m	WBTR = 0.63 (C) 34	WBTR = 87 m	-
	NBL = 0.07 (B) 20	NBL = 17 m	NBL = 0.07 (B) 15	NBL = 17 m	NBL = 25 m
	NBTR = 0.4 (C) 24	NBTR = 51 m	NBTR = 0.43 (B) 20	NBTR = 63 m	-
	SBL = 0.86 (C) 26	SBL = 76 m	SBL = 0.34 (B) 10	SBL = 32 m	SBL = 40 m
SBTR = 0.47 (B) 13	SBTR = 65 m	SBTR = 0.32 (B) 11	SBTR = 49m	-	
Future Background 2028	<u>Overall: 0.95 (D) 39</u>		<u>Overall: 0.49 (C) 22</u>		
	EBL = 0.41 (C) 33	EBL = 21 m	EBL = 0.33 (C) 35	EBL = 19 m	EBL = 15 m
	EBTR = 0.48 (C) 30	EBTR = 96 m	EBTR = 0.17 (C) 32	EBTR = 33 m	-
	WBL = 0.21 (C) 28	WBL = 40 m	WBL = 0.1 (C) 27	WBL = 24 m	WBL = 30 m
	WBTR = 1.00 (F) 81	WBTR = 228 m	WBTR = 0.67 (D) 36	WBTR = 87 m	-
	NBL = 0.08 (C) 20	NBL = 17 m	NBL = 0.07 (B) 16	NBL = 20 m	NBL = 25 m
	NBTR = 0.42 (C) 25	NBTR = 57 m	NBTR = 0.45 (C) 21	NBTR = 66 m	-
	SBL = 0.92 (D) 35	SBL = 79 m	SBL = 0.37 (B) 10	SBL = 36 m	SBL = 40 m
SBTR = 0.49 (B) 14	SBTR = 63 m	SBTR = 0.34 (B) 11	SBTR = 50 m	-	

Scenario	AM Peak Hour		PM Peak Hour		Storage Length
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que	
Future Total 2028	<u>Overall: 0.98 (D) 42</u> EBL = 0.44 (C) 33 EBTR = 0.48 (C) 30 WBL = 0.21 (C) 28 WBTR = 1.02 (F) 85 NBL = 0.08 (C) 20 NBTR = 0.43 (C) 25 SBL = 0.96 (D) 42 SBTR = 0.51 (B) 14	EBL = 21 m EBTR = 95 m WBL = 39 m WBTR = 210 m NBL = 18 m NBTR = 54 m SBL = 81 m SBTR = 74m	<u>Overall: 0.5 (C) 22</u> EBL = 0.39 (D) 36 EBTR = 0.17 (C) 32 WBL = 0.1 (C) 27 WBTR = 0.69 (D) 37 NBL = 0.08 (B) 16 NBTR = 0.46 (C) 21 SBL = 0.38 (B) 11 SBTR = 0.35 (B) 11	EBL = 19 m EBTR = 41 m WBL = 23 m WBTR = 91 m NBL = 22 m NBTR = 68 m SBL = 36 m SBTR = 50m	EBL = 15 m - WBL = 30 m - NBL = 25 m - SBL = 40 m -
Future Background 2033	<u>Overall: 1.02 (D) 48</u> EBL = 0.44 (C) 33 EBTR = 0.5 (C) 31 WBL = 0.23 (C) 28 WBTR = 1.07 (F) 101 NBL = 0.08 (C) 20 NBTR = 0.45 (C) 25 SBL = 0.99 (D) 50 SBTR = 0.51 (B) 14	EBL = 22 m EBTR = 168 m WBL = 40 m WBTR = 272 m NBL = 13 m NBTR = 63 m SBL = 89 m SBTR = 94 m	<u>Overall: 0.52 (C) 23</u> EBL = 0.39 (D) 36 EBTR = 0.18 (C) 32 WBL = 0.1 (C) 27 WBTR = 0.71 (D) 38 NBL = 0.08 (B) 16 NBTR = 0.48 (C) 21 SBL = 0.4 (B) 11 SBTR = 0.35 (B) 11	EBL = 19 m EBTR = 39 m WBL = 26 m WBTR = 110 m NBL = 20 m NBTR = 69 m SBL = 37 m SBTR = 52m	EBL = 15 m - WBL = 30 m - NBL = 25 m - SBL = 40 m -
Future Total 2033	<u>Overall: 1.04 (D) 52</u> EBL = 0.45 (C) 33 EBTR = 0.5 (C) 31 WBL = 0.23 (C) 28 WBTR = 1.08 (F) 105 NBL = 0.08 (C) 20 NBTR = 0.45 (C) 26 SBL = 1.02 (E) 60 SBTR = 0.54 (B) 14	EBL = 22 m EBTR = 209 m WBL = 39 m WBTR = 306 m NBL = 19 m NBTR = 58 m SBL = 88 m SBTR = 90 m	<u>Overall: 0.54 (C) 23</u> EBL = 0.41 (D) 36 EBTR = 0.18 (C) 32 WBL = 0.1 (C) 27 WBTR = 0.73 (D) 39 NBL = 0.08 (B) 16 NBTR = 0.49 (C) 22 SBL = 0.41 (B) 11 SBTR = 0.37 (B) 11	EBL = 19 m EBTR = 35 m WBL = 27 m WBTR = 98 m NBL = 20 m NBTR = 71 m SBL = 39 m SBTR = 58 m	EBL = 15 m - WBL = 30 m - NBL = 25 m - SBL = 40 m -

Scenario	AM Peak Hour		PM Peak Hour		Storage Length
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que	
Future Background 2033 - Signal Improvements	<u>Overall: 0.96 (D) 42</u>				
	EBL = 0.48 (C) 35	EBL = 21 m			EBL = 15 m
	EBTR = 0.44 (C) 30	EBTR = 87 m			-
	WBL = 0.19 (C) 28	WBL = 37 m			WBL = 30 m
	WBTR = 0.97 (E) 70	WBTR = 188 m	N/A	N/A	-
	NBL = 0.12 (C) 32	NBL = 19 m			NBL = 25 m
	NBTR = 0.68 (D) 44	NBTR = 76 m			-
SBL = 0.96 (D) 45	SBL = 98 m			SBL = 40 m	
SBTR = 0.53 (B) 17	SBTR = 100 m			-	
Future Total 2033 - Signal Improvements	<u>Overall: 0.98 (D) 46</u>				
	EBL = 0.49 (D) 35	EBL = 21 m			EBL = 15 m
	EBTR = 0.44 (C) 30	EBTR = 145 m			-
	WBL = 0.19 (C) 27	WBL = 38 m			WBL = 30 m
	WBTR = 0.97 (E) 71	WBTR = 189 m	N/A	N/A	-
	NBL = 0.13 (C) 33	NBL = 17 m			NBL = 25 m
	NBTR = 0.71 (D) 47	NBTR = 67 m			-
SBL = 0.99 (E) 56	SBL = 94 m			SBL = 40 m	
SBTR = 0.56 (B) 18	SBTR = 98 m			-	

Under existing traffic conditions, the signalized intersection is operating with an overall v/c of 0.89 LOS C during the a.m. peak hour and an overall v/c of 0.46 LOS C during the p.m. peak hour. The intersection operates without any critical movements during the p.m. peak hour while the overall intersection and the westbound shared through/right-turn movement operate at critical levels while remaining below the theoretical capacity levels. The existing operation of the intersection aligns with the typical operation of an intersection located adjacent to a school in which vehicles typically arrive and depart within a 20-minute period prior to the school's start time and results in high peaks of vehicles in a short amount of time.

With the addition of corridor growth and background development traffic for the 2028 future background traffic scenario, the intersection is reported to operate with an overall v/c ratio of 0.95 LOS D during the a.m. peak hour and 0.49 LOS C during the p.m. peak hour. The intersection continues to operate without any critical movements during the p.m. peak hour while the overall intersection and westbound shared through/right-turn movement are reported to operate at critical levels with the westbound shared movement operating at theoretical capacity levels.

With the addition of site generated traffic for the 2028 future total traffic scenario, the intersection reports an increase in the v/c ratio to 0.98 LOS D during the a.m. peak hour and to 0.50 LOS C during the p.m. peak hour. The intersection continues to operate without any critical movements during the p.m. peak hour while the overall intersection and westbound shared through/right-turn movement are reported to continue to operate at critical levels in addition to the southbound left-turn movement.

With the addition of corridor growth and background development traffic for the 2033 future background traffic scenario, the intersection is reported to operate with an overall v/c ratio of 1.02 LOS D during the a.m. peak hour and 0.52 LOS C during the p.m. peak hour. The intersection continues to operate without any critical movements during the p.m. peak hour while the overall intersection, westbound shared through/right-turn movement, and southbound left-turn movement are reported to operate at critical levels with the overall intersection and westbound shared through/right-turn movement operating above capacity.

Critical movements operating over capacity under 2033 future background conditions can be mitigated through signal optimization, including a 10-second increase in cycle length and the addition of a southbound left-turn phase to serve high school-related demand, reducing the overall v/c ratio to 0.96 LOS D.

With the addition of site generated traffic for the 2033 future total traffic scenario, the intersection reports an increase in the v/c ratio to 1.04 LOS D during the a.m. peak hour and to 0.54 LOS C during the p.m. peak hour. The intersection continues to operate without any critical movements during the p.m. peak hour while the overall intersection, westbound shared through/right-turn movement, and southbound left-turn movement are reported to operate at critical levels and above capacity.

With the same signal timing improvements identified under future background conditions, the intersection is reported to operate with an overall v/c ratio of 0.98 LOS D under 2033 future total conditions with all movements reported to operate below capacity despite remaining at critical levels.

Despite no movements operating with v/c ratios exceeding the critical thresholds, the eastbound, westbound, and southbound left-turn movements are reported to operate with queues exceeding the existing storage length under existing, future background, and future total conditions. At this intersection, any queue that exceeds available storage do so under existing and future background conditions and not as a result of the proposed development.

7.5 Sixth Line and the Proposed Site Access

Capacity analysis for this intersection during the weekday a.m. and p.m. peak hours for the future total traffic conditions are summarized in the following table.

Table 11 Capacity Analysis of Sixth Line and the Proposed Site Access

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2028	WBLR = 0.33 (D) 28	WBLR = 19 m	WBLR = 0.17 (C) 19	WBLR = 16 m
	NBTR = 0.33 (A) 0	NBTR = 4 m	NBTR = 0.37 (A) 0	NBTR = 0 m
	SBL = 0.02 (A) 9	SBL = 9 m	SBL = 0.04 (A) 9	SBL = 12 m
	SBT = 0.41 (A) 0	SBT = 7 m	SBT = 0.29 (A) 0	SBT = 14 m
Future Total 2033	WBLR = 0.37 (D) 32	WBLR = 21 m	WBLR = 0.19 (C) 20	WBLR = 17 m
	NBTR = 0.35 (A) 0	NBTR = 2 m	NBTR = 0.39 (A) 0	NBTR = 2 m
	SBL = 0.03 (A) 9	SBL = 8 m	SBL = 0.04 (A) 9	SBL = 11 m
	SBT = 0.43 (A) 0	SBT = 7 m	SBT = 0.3 (A) 0	SBT = 15 m

Under the four future total traffic conditions, proposed full- moves access onto Sixth Line is reported to operate at satisfactory levels with a maximum delay of 32 seconds reported for the outbound movement. The proposed access is also reported to have a marginal impact on the operate of the roadway as the northbound approach on Sixth Line is reported to operate without any delays and a 95th percentile queue length of 7 metres while the southbound approach is reported to operate with a delay of 1 second and a 95th percentile queue length of 21 metres.

In addition, the southbound left-turn movement into the site access is reported to operate with a 95th percentile queue of up to 9 metres during the a.m. peak hour and 12 metres during the p.m. peak hour and is not anticipated to impact the operation of the driveways located north of the subject site.

8. Parking Review

GHD reviewed the Town's current Zoning By-Law parking and loading requirements for the subject site.

8.1 Town of Oakville Zoning By-Law 2014-014

8.1.1 Vehicular Parking

The current Town of Oakville Zoning By-Law 2014-014 minimum parking requirements for are found in Section 5.2.1, Table 5.2.1.

It is noted that the Zoning By-law does not provide a distinct parking requirement for affordable housing developments. Applying a uniform standard across all forms of apartment housing, regardless of tenure, overlooks the well-documented differences in vehicle ownership patterns. Affordable housing residents consistently demonstrate lower car ownership rates due to income factors, transit dependency, and household characteristics, which makes the application of conventional apartment ratios inappropriate in this context.

In the absence of a specific land use code for affordable housing, the "apartment dwelling" category has been applied as the closest comparable use for this assessment. However, given the reduced parking demand expected from affordable housing residents, it is reasonable to conclude that the actual parking demand for the subject site will be significantly lower than the Zoning By-law's prescribed minimums which is reflected in the sites proposed parking supply.

The minimum By-Law requirement for the subject site would be as follows:

- Apartment dwelling
 - A minimum of 1.0 space per dwelling unit where the unit has less than 75.0 square metres net floor area;
 - A minimum of 1.5 space per dwelling unit for all other units
 - As per the additional regulation for minimum parking ratios Table 5.2.1, of the total number of parking spaces required, 0.25 of the parking spaces required per dwelling shall be designated as visitors parking spaces.
- Day care
 - A minimum of 1.0 per 40.0 m² net floor area (up to 5,000.0 m² GFA)
- Office
 - A minimum of 1.0 space per 35.0 m² net floor area

The minimum parking required for the subject site is as follows:

- Apartment dwelling
 - A minimum of 1.0 parking space per dwelling unit less than 75.0 square metres x 185 units = 185 spaces
 - A minimum of 1.5 parking space per dwelling unit greater than 75.0 square metres x 5 units = 8 spaces
 - Of the 193 spaces required, a minimum of 48 spaces are required for visitors
- Day care
 - A minimum of 1.0 space per 40.0 m² net floor area x 285 m² = 7 spaces
- Office
 - A minimum of 1.0 space per 35.0 m² net floor area x 175 m² = 5 spaces

In total, the subject would be required to provide a minimum of 205 spaces under the Town's By-law.

8.1.2 Accessible Parking

The minimum requirement for accessible parking spaces can also be found in the Town of Oakville Zoning By-Law 2014-014, Section 5.3.1, Table 5.3.1. The minimum By-Law requirement for accessible parking is based on the number of parking spaces provided, based only on the visitor and non-residential parking supply, as follows:

- Number of parking spaces provided
 - 3 to 25 spaces: 1 barrier free space
 - 26 to 100 spaces: 4% of the total number of parking spaces in the parking area
 - 101 to 200 spaces: 1 barrier free space, plus 3% of the total number of parking spaces in the parking area
 - 201 to 1,000 spaces: 2 barrier free space, plus 2% of the total number of parking spaces in the parking area
 - 1,001 spaces or greater 11 barrier free space, plus 1% of the total number of parking area

Where the minimum number of accessible parking spaces required is even, an equal number of Type A and Type B accessible parking spaces shall be provided. Where the minimum number of accessible parking spaces is odd, an equal number of Type A and Type B accessible parking spaces shall be provided but the last accessible parking space may be a Type B.

The minimum number of accessible parking spaces required for the subject site is as follow, based on the number of visitor and non-residential parking spaces provided:

- Number of parking spaces provided: 32 spaces
 - 4% of 32 spaces = 2 accessible parking spaces required

In total, 2 barrier-free parking spaces are required under the Town's current By-Law.

8.1.3 Bicycle Parking

Under the Town of Oakville Zoning By-Law 2014-014, the bicycle parking requirements are found in Section 5.4.1, Table 5.4.1. The minimum By-Law requirement for bicycle parking for the subject site is as follows:

- Blended Rates for Lots with Multiple Premises
 - Where multiple premises are located on a lot in any non-residential zone, the greater of 2 or 1.0 space per 1,000.0 m² net floor area, plus the minimum number of bicycle parking spaces for the dwellings
- Apartment dwelling
 - A minimum of 1.0 bicycle parking space per dwelling unit.
 - Of the spaces required, 0.25 spaces per dwelling unit shall be designated as visitor bicycle parking spaces

The minimum parking required for the subject site is as follows:

- Blended Rates for Lots with Multiple Premises
 - the greater of 2 spaces or 1.0 space per 1,000.0 m² net floor area x 448 m² = 1 space, however a minimum of 2 spaces are required.
- Apartment dwelling
 - A minimum of 1.0 bicycle parking space per dwelling unit x 190 units = 190 bicycle parking spaces.
 - Of the spaces required, 0.25 spaces per dwelling unit shall be designated as visitor bicycle parking spaces = 48 spaces for visitors

Section 5.4.1. (b). states that in no circumstance shall the number of minimum bicycle parking spaces be greater than 30 spaces.

As a result, the subject site is required to provide a minimum of 30 bicycle parking spaces.

8.1.4 Loading Spaces

There are no loading space requirements under the Town of Oakville Zoning By-Law 2014-014.

8.2 Proposed Site Parking

The following table summarizes the minimum By-law requirements and the proposed parking/loading supply for the subject site.

Table 12 *Parking Requirements and Provisions*

Type	Unit Count/GFA	By-Law 2014-014 Requirement	Provided
Vehicle Parking	190 rental units, 285 m ² of day care GFA, and 175 m ² of office GFA	193 resident space, including 48 visitor parking spaces 7 daycare space 5 office spaces	71 spaces for residents and 32 spaces shared between the residential visitors, daycare and office uses

Barrier Free Parking	A minimum of 2 barrier free spaces	6 barrier free spaces
Bicycle Parking	A minimum of 30 bicycle parking spaces	34 bicycle parking spaces
Loading Spaces	No loading spaces	1 loading space

The proposed development includes a total of 103 parking spaces, which represents a reduction of 102 spaces relative to the minimum requirement identified in the Town of Oakville Zoning By-law for the subject site.

LEA Consulting Ltd. prepared a Parking Justification Letter in support of the proposed parking reduction being sought, dated March 2026, and included a review of planning policies, TTS auto vehicle ownership data, parking requirements from other municipalities within the province for affordable housing, and proxy surveys. In addition, a series of TDM measures for the subject site in order to assist and encourage residents to seek alternatives single occupant vehicle trips as well as a sharing the parking between the daycare and residential visitor uses due to varying peaks in parking demand between the two uses.

A timeline for implementation of the TDM measures are to be discussed during the Site Plan and Condominium Application stages with the Sustainable Transportation Program Coordinator.

9. Left-Turn Lane Warrant

GHD completed the left-turn lane warrant analysis for the proposed site access on Sixth Line based on the weekday a.m. and p.m. peak hour volumes under the 2028 future total traffic conditions. The analysis confirms that a southbound left-turn lane is warranted during both peak periods. The left-turn lane warrant is provided in **Appendix J**.

10. Site Plan Review

The following site plan review will evaluate the design of the access based on it being located on a road that is functionally classified as a minor arterial road while operating similarly to a collector road.

10.1 Access Width and Radius

The Town of Oakville’s Engineering Design Criteria & Standard Drawings, specifically Section 3.3.4.1, identify the minimum geometric requirements for site access design. For developments of this nature, the standard requires a minimum driveway width of 7.5 metres and curb return radii between 6.0 and 7.5 metres.

The access has been designed with a width of 7.3 metres and 6.0 metre curb radii, with the 7.3 metre width being a shortfall from the Town’s Design Standards.

As confirmed by Town staff, an access deviation may be accepted if vehicle turning diagrams demonstrate that the proposed design can accommodate the intended design vehicle, including the ability

to perform simultaneous ingress and egress for some turning movements. As identified in **Section 13**, the anticipated design vehicles can be accommodated within the proposed site access despite not meeting the Town's minimum requirements with the exception of the waste collection vehicle entering the site from the south, however this is an infrequent maneuver in comparison to the daily inbound and outbound performed by passenger vehicles simultaneously.

The observed right-turn ingress maneuver by the waste collection vehicle involve a brief, low-speed encroachment into the outbound driveway lane. This condition is operationally acceptable and commonly anticipated for large service vehicles at private driveways. The maneuver occurs under low-volume conditions and does not result in safety conflicts or operational deficiency. Designing the driveway to eliminate all potential encroachment by infrequent service vehicles would be disproportionate and is not standard municipal practice.

10.2 Clear Throat Distance

The Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads (Section 8.9.10, Table 8.9.3) outlines recommended minimum clear throat distances based on roadway classification and land use type. The following outlines the recommended clear throat lengths for driveways located along arterial roads based on the various uses proposed for the site:

- Apartments
 - <100 units: 15 metres
 - 100-200 units: 25 metres
- Office
 - <5,000 m²: 15 metres
- Daycare
 - No applicable guideline

For developments of this nature located along an arterial, it is recommended that a minimum of 25 metres of clear throat length be provided for the proposed driveway. The site access has been designed to provide approximately 12 metres of clear throat distance, a shortfall of 13 metres from TAC's minimum guideline.

Although Sixth Line is classified as a minor arterial, its low operating speed and modest traffic volumes result in operational conditions that closely resemble those of a collector road. In this context, the following outlines the recommended clear throat lengths for driveways located along collector roads based on the various uses proposed for the site:

- Apartments
 - <100 units: 8 metres
 - 100-200 units: 15 metres
- Office
 - <5,000 m²: 8 metres
- Daycare
 - No applicable guideline

For developments of this nature located along a collector, it is recommended that a minimum of 15 metres of clear throat length be provided for the proposed driveway based on the provision of 190 dwelling units. However, as the proposed development will provide 190 affordable rental housing units

with a proposed parking supply of less than half of the By-law requirement (0.47 spaces per unit), the subject site will operate with similar characteristics of a development with less than “<100 unit”. As a result, it is more appropriate to apply the suggested clear throat length of “<100 units”. With the recommended clear throat length of 8 metres for both the apartment and office components, the provision of 12 metres of clear throat lengths will be sufficient for the proposed development.

10.3 Access Offset

The TAC Guidelines also provide guidance on the offset between accesses on opposite sides of the road in Section 8.9.9

Section 8.9.9 provides guidance on the spacing and alignment of driveways on opposite sides of the road. TAC explicitly states: “When the roadway has a moderate to high volume, and the driveway volumes are moderate to high, such as an undivided arterial or a high volume collector serving a busy commercial land use, the examination of the relative location of opposite driveways constitutes good design practice. The key traffic movements in the analysis are the accommodation of left turns into the opposite developments, and the inter-development traffic flow.” It is also defined through TAC that a high-volume driveway includes driveways generating more than 100 trips during the peak hour.

Although the site access is anticipated to generate a total of 99 two-way vehicle trips during the a.m. peak hour and 105 new two-way vehicle trips during the p.m. peak hour, the opposing site access to 1500 Sixth Line generates a total of 2 two-way trips during the a.m. peak hour and 26 two-way trips during the p.m. peak hour, confirming that it is a low volume driveway, not meeting TAC’s threshold for a high volume driveway. The traffic data for the opposing driveway is provided in **Appendix C**. It should also be noted that despite the traffic volumes estimate to be generated by the site exceed the 100-trip threshold, the site trip estimate provides a conservative assessment of site traffic based on ITE trip rates and does not reflect the proposed reduction in parking being sought for the site at a rate of 0.37 spaces per unit.

TAC clarifies that the primary purpose of examining opposing driveway alignment is to manage specific operational issues, namely left-turn accommodation and inter-development traffic movements. In this case, the proposed residential apartment driveway is expected to generate modest turning volumes, with limited if any left-turn demand into the opposing commercial property. TAC also states that where there is expected to be a significant amount of inter-development traffic, it would be advantageous to locate driveways with a minimum offset of 100 metres. However, as stated above, it is anticipated that the inter-development traffic will be limited, if any.

As such, the key operational concerns identified by TAC are not present to a degree that would necessitate driveway alignment nor spacing the two driveways by at least 100 metres.

In addition, the southbound left-turn movement into the site access is reported to operate with a 95th percentile queue of up to 9 metres during the a.m. peak hour and 12 metres during the p.m. peak hour and is not anticipated to impact the operation of the driveways located north of the subject site. This ensures that although the site access is located as far north as possible, it does not impeded the operations of the adjacent driveways.

TAC also notes that alignment is most beneficial where a two-way left-turn lane is present and where overlapping left-turn storage areas could create conflicts: “Where a two-way left-turn lane (TWLTL) is used, the potential for conflicting movements within the TWLTL can be reduced significantly by positioning the driveways to avoid overlapping left turn zones. Aligning driveways directly opposite each other is normally the most effective in promoting orderly use of the TWLTL.”

While there is the equivalent of a continuous two-way left-turn lane along this section of Sixth Line, the proposed offset of the two driveways make it so that there are no overlapping left turns from Sixth Line into either driveway, the two operate fully independently. A left-turn lane warrant has been completed to

confirm that a left-turn lane into the site access is warranted and can be accommodated without impacting the existing developments to the north.

Finally, TAC emphasizes that driveway placement is a context-sensitive decision rather than a prescriptive requirement: “The relative impact is assessed to determine the best design decision.” Given the low operating speed, relatively modest traffic volumes, non-overlapping left turn from Sixth Line, and the low-to-moderate driveway volumes associated with a residential apartment use, the proposed offset between the subject site access and the opposing commercial driveway is consistent with TAC guidance and represents a safe and appropriate design solution. Requiring alignment in this context would introduce unnecessary site design constraints without providing a measurable operational or safety benefit.

Although aligning the proposed driveway with the commercial access opposite the site may provide a degree of visual consistency, doing so would introduce internal circulation inefficiencies, constrain vehicle manoeuvring, and reduce separation from the adjacent intersection and pedestrian crossing. Locating the driveway at the north property line provides a straight-in access, improves internal operations, minimizes on-street dwell time, and maximizes safety by increasing distance from intersection-related conflicts. On balance, the proposed driveway location represents the more functional and safety-oriented solution.

The following table compares the advantages and disadvantages of locating the access in its proposed location (offset from the opposing access) and locating it directly opposite of the existing access.

Table 13 Access Location Comparisons

Type	Advantages	Disadvantages
Offset Access towards the North (Approximately 42 metres from Elm Road)	<ul style="list-style-type: none"> • Located as far north from Elm Road and the PXO. • Despite being offset, the location of the access north of the existing access is considered the better offset management as the left-turns from opposing accesses do not overlap. • Allows vehicles to maneuver in a straight line through the site without having to design turns internally that would need to accommodate emergency and waste vehicles 	<ul style="list-style-type: none"> • Is not aligned with the access across on the opposite side of the road. • Requires modifications to the median.
Aligned Access (Approximately 28 metres from Elm Road)	<ul style="list-style-type: none"> • Is aligned with the access across on the opposite side of the road. • Would not impact the existing median island. 	<ul style="list-style-type: none"> • The subject site is a long rectangular parcel with a short frontage on Sixth Line. Aligning the access would result in having to cut back the building in order to accommodate the larger design vehicles having to turn towards either the north or south side of the property.

11. Traffic Safety Review

11.1 Sightline Assessment

As requested by Town staff, GHD completed a sightline assessment for the site driveway along Sixth Line. Adjacent to the proposed site, Sixth Line has a posted speed limit of 40 km/h and is relatively flat to the north and south of the proposed access. For the purpose of the sight distance assessment, a design speed of 50 km/h along Sixth Line was used for the assessment.

Section 9.9 of the Transportation Association of Canada’s Geometric Design Guide for Canadian Roads (TAC GDGCR) recommends intersection sight distances for different scenarios, with the following scenarios used to complete the intersection sight distance analysis:

- Case B1 – Left turn from the minor road
- Case B2 – Right turn from the minor road
- Case F – Left turns from the major road

For the purpose of the assessment, the minor road is assumed to be the site driveway. A vehicle entering the major road from the site driveways is assumed to stop a distance of approximately 4.4 metres to the pavement edge of the major road as recommended by TAC. In this stopped position, the driver will be required to look left and right in order to perceive and react to approaching vehicles prior to initiating a turning movement onto the intersecting drive aisle. The recommended intersection sight distances are provided in TAC GDGCR Tables 9.9.4, 9.9.6 and 9.9.12 for passenger vehicles rucks turning left from stop, turning right from stop, or turning left from the major road.

The intersection sight distance is calculated from the equation.

$$ISD = 0.278 V_{major} t_g$$

Where:

$$ISD = \textit{intersection sight distance}$$

$$V_{major} = \textit{design speed of the major road} \left(\frac{km}{h} \right)$$

$$t_g = \textit{time gap for the minor road vehicle to enter the major road (s)}$$

The intersection sight distance requirement for passenger cars was determined by the equation above, where the time gap for the minor road vehicle to enter the major road for passenger vehicles is 7.5 seconds for turning left from stop, 6.5 seconds for vehicles turning right from a stop and 5.5 seconds for left turns from the major road. The recommended intersection sight distances for the proposed driveway are summarized in the table below based on a 50 km/h design speed along Sixth Line.

Table 14 Minimum Intersection Sight Distance for the Proposed Driveway

Case (Design Speed of 50 km/h)	Suggested Intersection Sight Distance for Passenger Vehicles (TAC 2017)	Available Intersection Sight Distance	TAC Reference
B1: Vehicles turning left from stop	105 m	>105 m	Table 9.9.4
B2: Vehicles turning right from stop	95 m	>105 m	Table 9.9.6
F: Left turns from the major road	80 m	>105 m	Table 9.9.12

The available sight distances along Sixth Line at the proposed driveway exceeds the minimum stopping sight distance for a 50 km/h design speed for a passenger vehicle. The available sightline and how it was measured is illustrated in **Figure 17**, and is shown for a passenger vehicle turning left out of the site as it provides an assessment for the worst-case scenario.

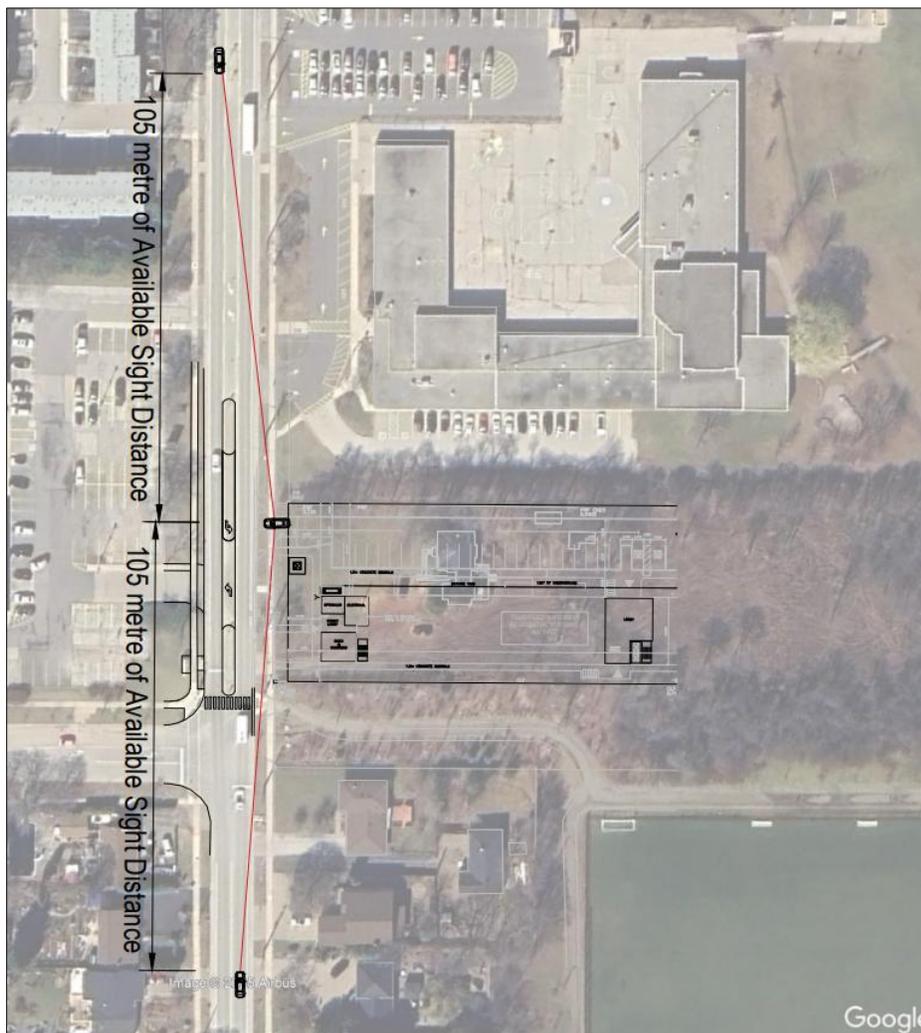


Figure 17 Intersection Sight Distance (Proposed Driveway)

The location of the proposed site accesses provides sufficient intersection sight distances to satisfy the TAC GDGCR minimum recommendations for both vehicles and trucks based on the applicable design speed of the adjacent roads.

11.2 Offset Left-Turns

An access to a commercial plaza is provided along Sixth Line to the south of the subject site’s proposed access. The access operates as a full-moves access with sufficient space between the two medians on Sixth Line to accommodate one vehicle waiting to turn left into the plaza. Additionally, there are no physical obstructions along Sixth Line or within the right-of-way that would impede the ability of a driver waiting to turn left to or from the plaza to observe a vehicle turning right from the site and vice-versa with a driver from the site access observing a driver turning left out from the plaza. Given the offset of approximately 13.5 metres between the proposed access and the existing commercial plaza (measured from centreline to centreline) and no obstructions between the two driveways, the offset between the two driveways is not anticipated to have an impact on the operations of the respective accesses.

11.3 Collision Review

Town of Oakville staff requested GHD to conduct a review of collision data from the last five years to determine if there are existing traffic safety issues that may be addressed. Town staff provided GHD with collision data from the intersection of Sixth Line and Elm Road. Within the last five years, a total of 2 collisions have been recorded at the intersection with the collisions resulting in either property damage or non-fatal injuries.

To supplement the historical data, a Highway Safety Software (HSS) analysis was conducted to compare predicted and expected crash frequencies. According to this methodology, predicted crash frequency is based on empirical data and statistical models for similar intersections, while expected crash frequency adjusts that prediction using site-specific collision history. If the expected frequency is higher than predicted, it may indicate a potential safety concern requiring further analysis. The results of the analysis are summarized below.

Table 15 Predicted and Expected Crash Frequency Comparison

Crash Type	Predicted Crash Frequency	Expected Crash Frequency
Fatal & Injury (FI)	0.257	0.182
Property Damage Only	0.419	0.296
Total	0.676	0.478

The 5-year expected crash frequencies for all crash types are lower than the predicted values, indicating no immediate safety concerns at the intersection.

Based on the collisions recorded for the intersection and the predictive collision analysis completed following the Highway Safety Manual procedures, the intersection is not a collision-prone location.

12. Pedestrian and Cycling Circulation Plan

A pedestrian and cycling circulation plan was prepared for the subject site, shown in **Figure 18**, and identifies the internal site circulation as well as the existing pedestrian sidewalks, bike routes, park and woodland trails, and transit stops in close proximity to the subject site.

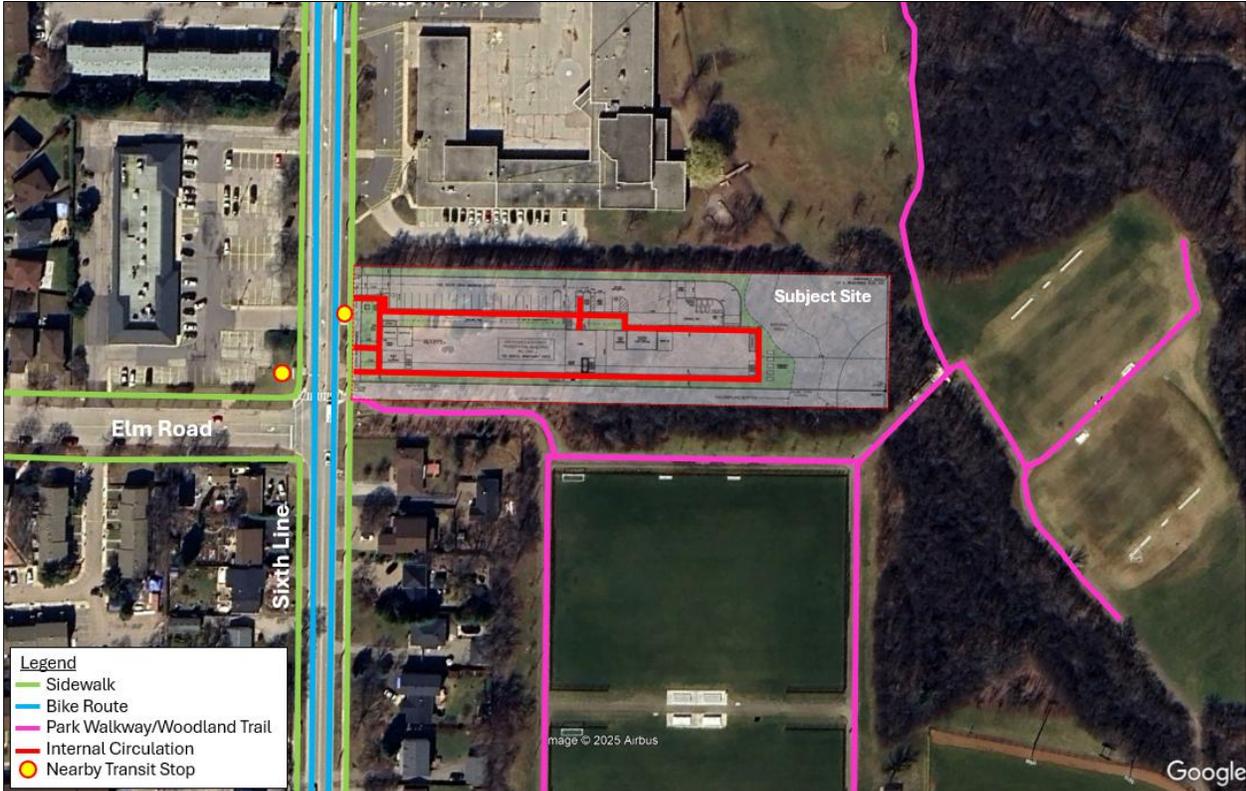


Figure 18 Pedestrian and Cycling Circulation Plan

13. Vehicle Swept Path Analysis

GHD completed a vehicle swept path analysis to evaluate internal site circulation and confirm that the proposed site layout can accommodate the turning requirements of key design vehicles, including a fire/emergency services vehicle, a medium single-unit (MSU) truck, a waste collection vehicle, a para-transit vehicle, and a standard passenger vehicle. The swept path simulations were conducted using AutoTURN software and plots of the simulations are included in **Appendix G**. The results demonstrate that all design vehicles can maneuver through the site, including at loading areas, drive aisles, and access points, without encroachment or operational conflict. These findings confirm that the proposed site layout meets functional circulation requirements and is consistent with municipal and emergency access design guidelines.

14. Pavement Marking and Signage Plan

GHD prepared a pavement marking and signage plan for the subject site identifying all required pavement markings and signage. The pavement marking and signage plan is provided in **Appendix I**.

15. Conclusion

A site plan prepared for the subject site consists of a six-storey residential building containing 190 rental apartment units, 3,067 ft² of daycare GFA, and 1,883 ft² of office GFA. Based on ITE Trip Generation rates, the subject site is expected to generate a total of 100 two-way vehicle trips during the a.m. peak hour consisting of 36 inbound and 64 outbound trips. During the p.m. peak hour, it is expected to generate 106 new two-way vehicle trips consisting of 56 inbound and 50 outbound trips.

Under existing, future background, and future total traffic conditions, all intersections are operating at acceptable v/c ratios and levels of service during the a.m. peak and p.m. peak hours with the exception of the intersection of Sixth Line and McCraney Street operating with some movements slightly above capacity.

In order to mitigate the delays during the a.m. peak hour that begin to occur under existing and future background conditions, GHD optimized the signal timings (increased the cycle length by 10 seconds and included a southbound left-turn phase). With the proposed signal timing modifications, all movements are reported to operate below capacity.

The subject site is required to provide a minimum of 205 parking spaces (including 2 barrier free spaces) and 30 bicycle parking spaces.

The subject site provides a total of 103 parking spaces, consisting of 71 spaces for residents, 19 for residential visitors, and 13 spaces shared between the daycare and office uses. Of the total parking supply, 6 spaces are barrier free. The site also includes 30 bicycle parking spaces, and 1 loading space. All Zoning By-law requirements are satisfied with the exception of vehicular parking spaces for the affordable housing land use.

GHD assessed the site circulation for an emergency vehicle, a waste collection vehicle, an MSU truck, a para-transit vehicle, and a passenger vehicle and confirmed no issues with on-site circulation.

Appendix A

Terms of Reference

Raf Andrenacci

From: Martin Chan <Martin.Chan@oakville.ca>
Sent: Friday, June 20, 2025 3:18 PM
To: Raf Andrenacci
Cc: Syed Rizvi; Khalil Barakzai; Will Maria
Subject: FW: [EXTERNAL] Terms of Reference - 1493 Sixth Line

You don't often get email from martin.chan@oakville.ca. [Learn why this is important](#)

Hi Raf, Will,

Responses are included in red below.

Thanks!
Martin

From: Syed Rizvi <syed.rizvi@oakville.ca>
Sent: Wednesday, June 18, 2025 9:39 AM
To: Raf Andrenacci <raf.andrenacci@ghd.com>
Cc: Khalil Barakzai <Khalil.Barakzai@oakville.ca>; Martin Chan <Martin.Chan@oakville.ca>; 'Will Maria' <william.maria@ghd.com>
Subject: FW: [EXTERNAL] Terms of Reference - 1493 Sixth Line

Hi Raf,

Thank you for your email and attached aerial view of the site. Based on the location, the proposed site falls within the East District of the Town.

I've copied Martin Chan, Transportation Engineer for the East District, to review and provide comments on the Terms of Reference for the Transportation Impact Study.

Thanks,
Syed

Syed Rizvi, M.Sc., P. Eng
Transportation Engineer
Transportation and Engineering
Town of Oakville | 905-845-6601, ext. 3981 | www.oakville.ca

Vision: A vibrant and livable community for all

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From: Raf Andrenacci <Raf.Andrenacci@ghd.com>
Sent: Monday, June 16, 2025 1:21 PM
To: Syed Rizvi <syed.rizvi@oakville.ca>; Khan, Ayesha <ayesha.khan@halton.ca>
Cc: Will Maria <William.Maria@ghd.com>
Subject: [EXTERNAL] Terms of Reference - 1493 Sixth Line

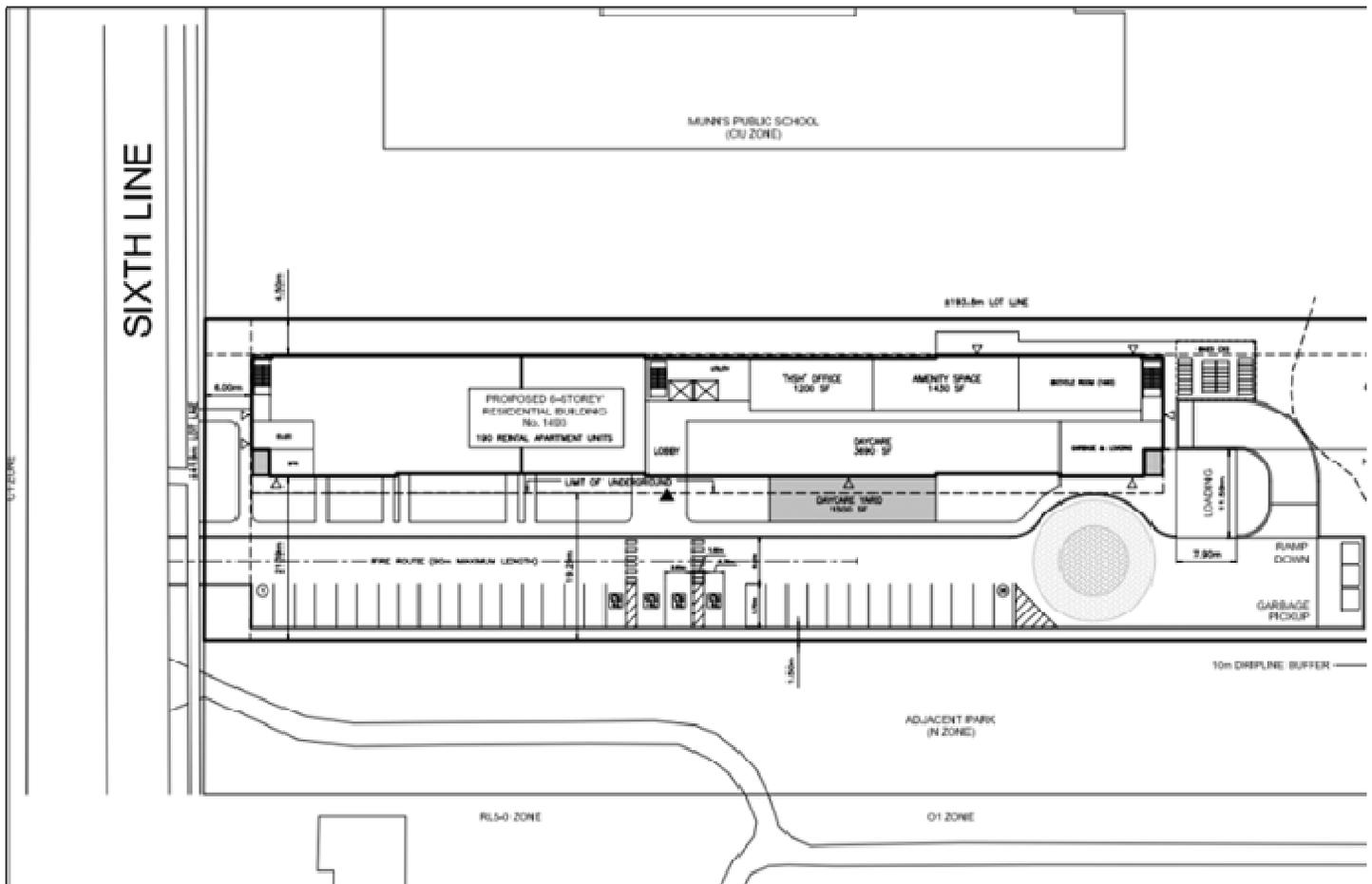
Hello,

GHD Inc. has been retained to prepare a Transportation Impact Study in support of an Official Plan Amendment, Zoning By-law Amendment, and Site Plan Application for the lands municipally known as 1493 Sixth Line in the Town of Oakville.



The proposed development consists of a six-storey mixed use development consisting of 190 affordable housing rental apartments and a 342 m² daycare facility.

Access is proposed via a single full-moves access on Sixth Line.



In order to properly scope this project, we ask that the Town review and provide comments on the following scope and confirm if there are any additional items required as part of the study.

Study intersections

- Existing
 - Upper Middle Road and Sixth Line
 - Sixth Line and Elm Road
 - Given proximity to White Oaks Secondary School, please include:
 - Sixth Line and McCraney St
 - Sixth Line and Miller Road
- Future/Proposed
 - Sixth Line and the proposed site access

Traffic Data

Updated traffic counts at the existing study intersections will be undertaken during the a.m. and p.m. peak hours.

Ensure that traffic counts are not conducted during the long weekends or the summer school break.

Study Peak Hours

Weekday a.m. and p.m. peak hours

Weekday peak period counts should be conducted between 6:30 a.m. to 9:00 a.m., and 4:00 p.m. to 6:30 p.m.

Study Horizon Year

2025 (existing), 2028 (anticipated year of build-out) and 2033 (five years post build-out).

Background Growth Rate

Consistent with the background development identified below, GHD proposes to use a 2% per annum growth rate along Regional roads and 1% per annum along Municipal roadways.

Please reach out to Halton Region to ensure the growth rate along Upper Middle is supportable.

Background Development Traffic

GHD reviewed the Town's development application and identified the proposed development 1105 McCraney Street East as a background development. Town staff to confirm if any additional developments should be included as background developments.

Please add 1295 Sixth Line.

Trip Generation

Will be completed using rates published by the ITE Trip Generation 11th Edition.

The directional distribution of traffic approaching and departing the site will be determined based on TTS 2016/2022 data, existing local patterns and first principles.

Please include the excerpts of the TTS data and rationale for the trip distributions. Distributions between residential and the daycare are expected to be different.

The analysis will identify the transportation system requirements and other measures required to ensure the acceptable operation of the study intersections, including auxiliary turning lanes and other transportation infrastructure improvements.

- Please review existing, future background and future total conditions using Synchro 10 or newer to separately identify background improvements and site warranted improvements.
- 95th percentile queues should be identified using Sim Traffic 10 or newer, over 3 runs, seed time of 15 minutes, simulated over the peak hour.
- Should geometric improvements be required, conceptual drawing(s) should be submitted with the TIS to help determine the feasibility of the proposed improvements.

TAC and Town guidelines will be reviewed in order to complete an access management.

Review for the site access that reviews corner clearance, driveway spacing, auxiliary lanes, corner radii, and clear throat distance.

- Ensure the above site access review are consistent with the applicable Town standards or TAC GDGCR requirements.

Traffic Safety

- Please include sight distance review of the proposed site access using TAC GDGCR.
- It appears the proposed access may be offset from the existing commercial access across Sixth Line. Please review and comment on potential conflicts and/or safety issue.
- Review collision history of the last 5 years to determine if there are existing traffic safety issues.

TDM

- Site Specific TDM Measures should be evaluated to reduce single occupancy vehicular trips and promote alternative transportation mode.
- Separate measures should be considered for the residential portion of the development, and the daycare portion of the development.

Parking and Loading Review

- A parking and loading summary table shall be included to demonstrate compliance with Zoning By-law.

Vehicle Turning Diagrams

- Must be provided to include circulation of design vehicles such as p-cars, delivery trucks, waste collection vehicles, fire trucks etc.
- Please identify additional site-specific design vehicles, if applicable to the proposed site operations.

Pavement Marking and Signage Drawing (PMSP), and Pedestrian/Sidewalk Plan

- Required for Site Plan Application

If the above scope is acceptable to the Town, it will form the basis of our scope of work.

Thank you,
Raf

Rafael Andrenacci
Transportation Planner

GHD Ltd.

T: 905 814 4386 | E: raf.andrenacci@ghd.com

100 Milverton Drive Suite 404, Mississauga, ON L5R 4H1 | www.ghd.com

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Raf Andrenacci

From: Khan, Ayesha <Ayesha.Khan@halton.ca>
Sent: Wednesday, June 18, 2025 3:04 PM
To: Raf Andrenacci
Cc: Will Maria
Subject: RE: Terms of Reference - 1493 Sixth Line

Hi Raf,

I have completed my review of your proposed Terms of Reference and find it satisfactory. Please proceed with the study as outlined below.

I'm sure you already have this, but if you require any Regional information (traffic counts, signal timing), they can be obtained from Halton through a request to our Road Operations staff at accesshalton@halton.ca

Thanks,
Ayesha

Ayesha Khan

Project Manager I – Transportation Development Review

Development Services

Public Works

Halton Region

905-825-6000, ext. | 1-866-442-5866



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From: Raf Andrenacci <Raf.Andrenacci@ghd.com>
Sent: Monday, June 16, 2025 1:21 PM
To: Syed Rizvi <syed.rizvi@oakville.ca>; Khan, Ayesha <Ayesha.Khan@halton.ca>
Cc: Will Maria <William.Maria@ghd.com>
Subject: Terms of Reference - 1493 Sixth Line

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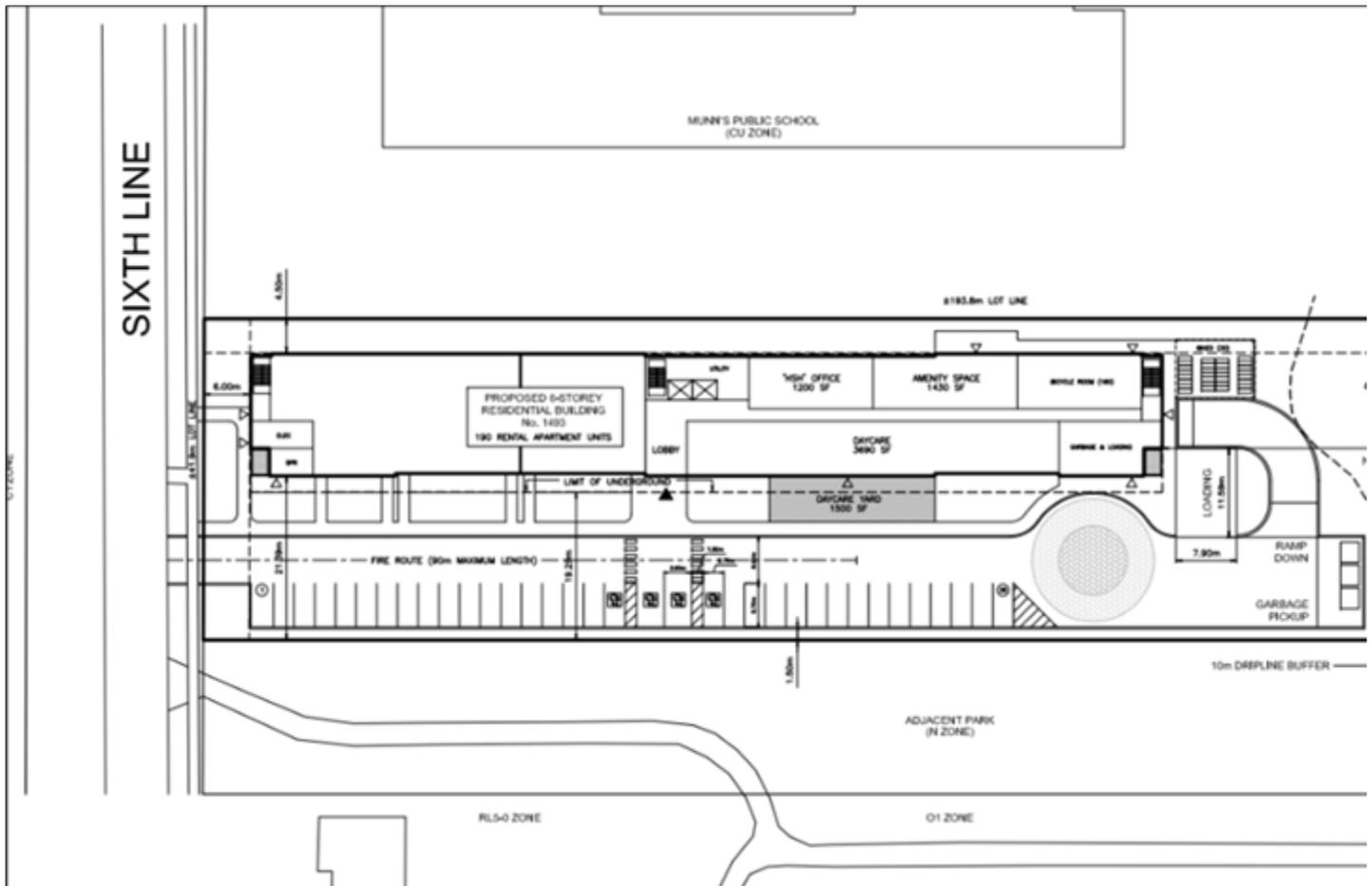
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TAC and Town guidelines will be reviewed in order to complete an access management. Review for the site access that reviews corner clearance, driveway spacing, auxiliary lanes, corner radii, and clear throat distance.

If the above scope is acceptable to the Town, it will form the basis of our scope of work.

Thank you,
Raf

Rafael Andrenacci
Transportation Planner

GHD Ltd.

T: 905 814 4386 | E: raf.andrenacci@ghd.com

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Appendix B

Site Plan

ARCHITECTURAL DRAWINGS

- A-0.0 TITLE PAGE
- A-0.1 SITE PLAN
- A-1.1 FLOOR PLANS
- A-2.1 ELEVATIONS
- A-3.1 SITE SECTION
- A-5.1 UNIT PLANS



ARTISTS CONCEPT ONLY
NORTH SIDE (MAIN ENTRANCE & PARKING)



ARTISTS CONCEPT ONLY
SOUTH SIDE (FACING PARK)

pml.A

patrick markus luckie, Architect
7305 BONDURO CIRCLE • MISSISSAUGA, ON L4N 1Z4 • TEL: 416 885 0108

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Patrick Markus Luckie Architect

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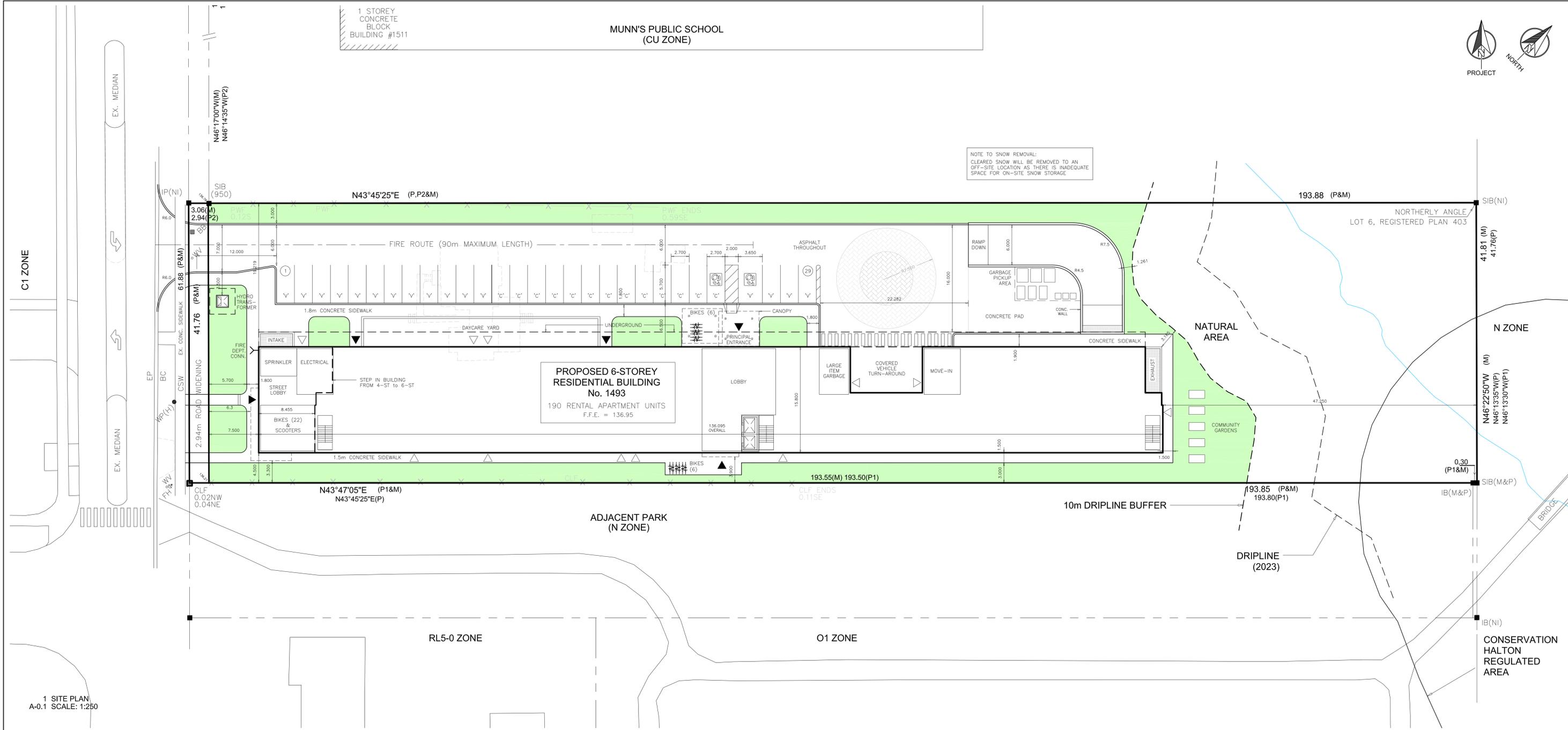
Revisions:	
Date:	Particular:
MAR-08-24	RESUBMITTED PER STAFF COMMENTS
Issue:	
Date:	Particular:
JUN-26-25	ISSUED FOR REVIEW
MAR-08-25	ISSUED FOR APPLICATION
JAN-01-26	ISSUED FOR S.P. APPLICATION

SIXTH LINE HOUSING

1493 SIXTH LINE, OAKVILLE

A-0.0

1 STOREY CONCRETE BLOCK BUILDING #1511
MUNN'S PUBLIC SCHOOL (CU ZONE)



NOTE TO SNOW REMOVAL:
 CLEARED SNOW WILL BE REMOVED TO AN OFF-SITE LOCATION AS THERE IS INADEQUATE SPACE FOR ON-SITE SNOW STORAGE

pml.A

patrick markus luckie, Architect
 7333 BENDIGO CIRCLE - MISSISSAUGA, ON L4W 1G4 - TEL: 416 885 0708

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This is not a site plan.
 This drawing shall not be used for construction purposes unless counterchecked.
 Patrick Markus Luckie Architect

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PENALTA

Date:	Particular:
DEC 10 2023	REVISED CONCEPT, BUILDING ALONG SOUTH LOT LINE
FEB 14 2024	ISSUED ACCESSIBLE PARKING LOCATION
MAR 05 2024	RESUBMITTED PER STAFF COMMENTS
Date:	Particular:
JUN 17 2023	ISSUED FOR REVIEW
MAY 04 2023	ISSUED FOR APPLICATION
JAN 08 2023	ISSUED FOR S.P. APPLICATION

1 SITE PLAN
 A-0.1 SCALE: 1:250

RH ZONE REQUIREMENTS	REQUIREMENT	PROPOSED
Minimum lot area*	1,858.0 m ²	6,166.2 m ²
Minimum lot frontage	24.0 m	41.8 m
Minimum front yard*	7.5 m	7.5 m
Minimum interior side yard (north)	4.5 m	19.2 m
Minimum interior side yard (south)	4.5 m	4.5 m
Minimum rear yard (from lot line)	7.5 m	47.2 m
Minimum rear yard (from 10m buffer)	-	3.1 m
Maximum height	n/a	20.6 m
Maximum lot coverage*	35%	2,131.9 m ² (35%)
Minimum landscaping coverage*	10%	1,531.3 m ² (25%)
Landscape buffer adjacent parking area	3.0 m	3.0 m

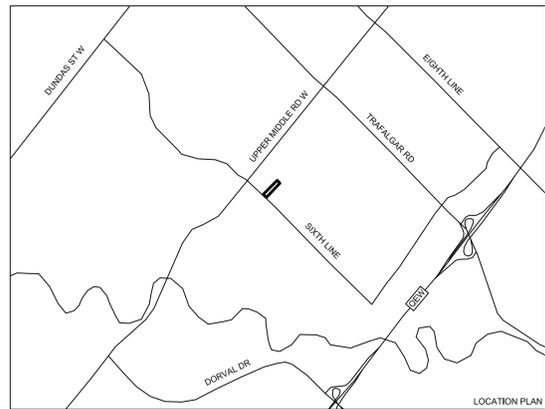
*based on NET lot area (less widening, natural area and buffer)

PROPOSED 6-STORY RESIDENTIAL HOUSING		
LOT AREA		
GROSS AREA	8,092.4 m ² (0.8092 ha)	
ROAD WIDENING	122.6 m ² (0.0123 ha)	
LOT AREA	7,969.8 m ² (0.7969 ha)	
NATURAL AREA + 10m BUFFER	1,803.6 m ² (0.1804 ha)	
NET LOT AREA*	6,166.2 m ² (0.6166 ha)	
GROSS FLOOR AREA		
6th FLOOR	1,979.8 m ²	21,310 sf
5th FLOOR	1,979.8 m ²	21,310 sf
4th FLOOR	2,131.9 m ²	22,945 sf
3rd FLOOR	2,131.9 m ²	22,945 sf
2nd FLOOR	2,131.9 m ²	22,945 sf
1st FLOOR	2,057.5 m ²	22,145 sf
TOTAL	12,412.8 m²	133,600 sf

UNIT BREAKDOWN		
6th FLOOR	23 1br, 11 2br, 1 3br =	35
5th FLOOR	23 1br, 11 2br, 1 3br =	35
4th FLOOR	23 1br, 12 2br, 2 3br =	37
3rd FLOOR	23 1br, 12 2br, 2 3br =	37
2nd FLOOR	23 1br, 12 2br, 2 3br =	37
1st FLOOR	2 1br, 7 2br, 0 3br =	9
TOTAL	117 1br, 65 2br, 8 3br =	190 UNITS @ 0.6166 ha = 308 uph
ACCESSIBLE UNITS		
1br UNITS	32	
2br UNITS	22	
3br UNITS	3	
TOTAL	57 (30% OF 190)	

RENTABLE AREA	
117 1br @ 425 =	49,725 sf
65 2br @ 635 =	41,275 sf
8 3br @ 860 =	6,880 sf
TOTAL =	97,880 sf
BICYCLES	
22 SPACES PROVIDED INDOOR AT GROUND FLOOR	
6 SPACES PROVIDED OUTDOORS AT NORTH ENTRANCE (COVERED)	
6 SPACES PROVIDED OUTDOORS AT SOUTH ENTRANCE	
34 SPACES TOTAL	

FLOOR AREA BREAKDOWN		
FLOOR AREA, RESIDENTIAL	11,952.8 m²	128,650 sf
INCLUDES AREA OF ALL SPACES (INCLUDING EXTERIOR WALKS, CORRIDORS, STAIRS, ELEVATORS, LOBBY, ABOVE GRADE SERVICE ROOMS AND RESIDENTIAL AMENITY AREAS.)		
FLOOR AREA, NON-RESIDENTIAL	460.0 m²	4,950 sf
INCLUDES 1st FLOOR AREAS DEDICATED TO OFFICE, DAYCARE, AND ADMIN.		
FLOOR AREA, GROSS	12,412.8 m²	133,600 sf
ADDITIONAL FLOOR AREAS (NOT INCLUDED IN GROSS AREA)		
BASEMENT PARKING LEVEL	2,442.4 m ²	26,290 sf
MECHANICAL PENTHOUSE	192.2 m ²	2,070 sf
PARKING		
190 RENTAL UNITS @ 0.37 =	71 SPACES	
VISITOR PARKING @ 0.1/190 UNIT =	19 SPACES MARKED 'V'	
285 m ² DAYCARE @ 1/35 =	8 SPACES MARKED 'C'	
175 m ² OFFICE @ 1/35 =	5 SPACES MARKED 'C'	
TOTAL =	103 PARKING SPACES	
74 SPACES PROVIDED UNDERGROUND (71 RESIDENT, 3 VISITOR)		
29 SPACES ON SURFACE (13 OFFICE/DAYCARE, 16 VISITOR)		
ACCESSIBLE PARKING @ 1, PLUS 3% =	5 REQUIRED, 6 PROVIDED	



SIXTH LINE HOUSING

1493 SIXTH LINE, OAKVILLE

SITE PLAN

SCALE 1:250

A-0.1

Appendix C

Traffic Data



Turning Movement Count (2 . SIXTH LINE & ELM RD) MioID: 1314193

Start Time	N Approach SIXTH LINE					S Approach SIXTH LINE					W Approach ELM RD					Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	U-Turn N:N	Peds N:	Approach Total	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Left W:N	U-Turn W:W	Peds W:	Approach Total		
2025-06-24 06:30:00	0	23	0	1	23	10	1	0	0	11	2	0	0	0	2	36	
2025-06-24 06:45:00	1	32	0	0	33	25	2	0	0	27	8	2	0	0	10	70	
2025-06-24 07:00:00	1	27	0	1	28	22	1	0	1	23	8	0	0	1	8	59	
2025-06-24 07:15:00	1	47	0	0	48	35	2	0	0	37	22	2	0	2	24	109	274
2025-06-24 07:30:00	0	107	0	0	107	58	3	0	0	61	22	0	0	2	22	190	428
2025-06-24 07:45:00	1	118	0	5	119	70	8	0	0	78	34	1	0	3	35	232	590
2025-06-24 08:00:00	1	163	0	6	164	125	12	0	0	137	39	3	0	5	42	343	874
2025-06-24 08:15:00	0	158	0	6	158	137	6	0	0	143	35	4	0	1	39	340	1105
2025-06-24 08:30:00	1	68	0	4	69	113	11	0	0	124	32	0	0	4	32	225	1140
2025-06-24 08:45:00	1	81	0	1	82	64	9	0	0	73	21	2	0	0	23	178	1086
BREAK																	
2025-06-24 16:00:00	5	76	0	3	81	82	5	0	0	87	19	3	0	4	22	190	
2025-06-24 16:15:00	4	58	0	0	62	71	7	0	0	78	16	0	0	1	16	156	
2025-06-24 16:30:00	2	71	0	1	73	82	14	0	0	96	18	1	0	4	19	188	
2025-06-24 16:45:00	3	81	0	1	84	92	7	0	0	99	16	3	0	0	19	202	736
2025-06-24 17:00:00	1	64	0	0	65	92	6	0	1	98	12	2	0	5	14	177	723
2025-06-24 17:15:00	1	91	0	4	92	88	15	0	0	103	20	0	0	1	20	215	782
2025-06-24 17:30:00	3	86	0	0	89	114	10	0	0	124	13	2	0	3	15	228	822
2025-06-24 17:45:00	4	86	0	2	90	121	13	0	0	134	17	2	0	2	19	243	863
2025-06-24 18:00:00	2	79	0	0	81	104	6	0	0	110	11	3	0	3	14	205	891
2025-06-24 18:15:00	1	80	0	1	81	108	11	0	0	119	22	2	0	4	24	224	900
Grand Total	33	1596	0	36	1629	1613	149	0	2	1762	387	32	0	45	419	3810	-
Approach%	2%	98%	0%		-	91.5%	8.5%	0%		-	92.4%	7.6%	0%		-	-	-
Totals %	0.9%	41.9%	0%		42.8%	42.3%	3.9%	0%		46.2%	10.2%	0.8%	0%		11%	-	-
Heavy	2	64	0		-	59	13	0		-	15	1	0		-	-	-
Heavy %	6.1%	4%	0%		-	3.7%	8.7%	0%		-	3.9%	3.1%	0%		-	-	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	-	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	-	-



Peak Hour: 07:45 AM - 08:45 AM Weather: Scattered Clouds (26 °C)

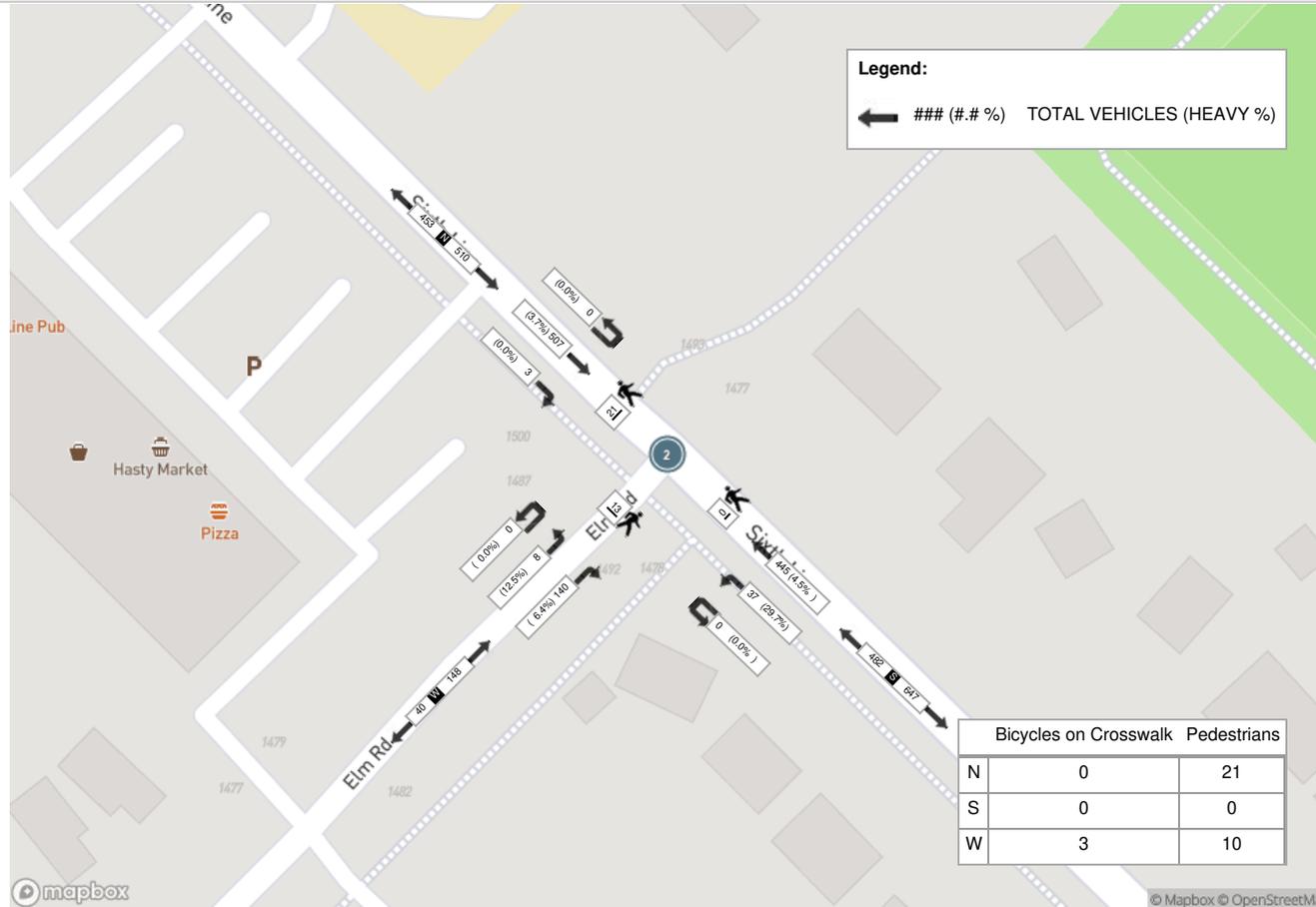
Start Time	N Approach SIXTH LINE					S Approach SIXTH LINE					W Approach ELM RD					Int. Total (15 min)
	Right	Thru	U-Turn	Peds	Approach Total	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	
2025-06-24 07:45:00	1	118	0	5	119	70	8	0	0	78	34	1	0	3	35	232
2025-06-24 08:00:00	1	163	0	6	164	125	12	0	0	137	39	3	0	5	42	343
2025-06-24 08:15:00	0	158	0	6	158	137	6	0	0	143	35	4	0	1	39	340
2025-06-24 08:30:00	1	68	0	4	69	113	11	0	0	124	32	0	0	4	32	225
Grand Total	3	507	0	21	510	445	37	0	0	482	140	8	0	13	148	1140
Approach%	0.6%	99.4%	0%		-	92.3%	7.7%	0%		-	94.6%	5.4%	0%		-	-
Totals %	0.3%	44.5%	0%		44.7%	39%	3.2%	0%		42.3%	12.3%	0.7%	0%		13%	-
PHF	0.75	0.78	0		0.78	0.81	0.77	0		0.84	0.9	0.5	0		0.88	0.83
Heavy	0	19	0		19	20	11	0		31	9	1	0		10	60
Heavy %	0%	3.7%	0%		3.7%	4.5%	29.7%	0%		6.4%	6.4%	12.5%	0%		6.8%	5.3%
Lights	3	486	0		489	422	26	0		448	130	7	0		137	1074
Lights %	100%	95.9%	0%		95.9%	94.8%	70.3%	0%		92.9%	92.9%	87.5%	0%		92.6%	94.2%
Single-Unit Trucks	0	3	0		3	2	0	0		2	2	0	0		2	7
Single-Unit Trucks %	0%	0.6%	0%		0.6%	0.4%	0%	0%		0.4%	1.4%	0%	0%		1.4%	0.6%
Buses	0	16	0		16	18	11	0		29	7	1	0		8	53
Buses %	0%	3.2%	0%		3.1%	4%	29.7%	0%		6%	5%	12.5%	0%		5.4%	4.6%
Bicycles on Road	0	2	0		2	3	0	0		3	1	0	0		1	6
Bicycles on Road %	0%	0.4%	0%		0.4%	0.7%	0%	0%		0.6%	0.7%	0%	0%		0.7%	0.5%
Pedestrians	-	-	-	21	-	-	-	-	0	-	-	-	-	10	-	-
Pedestrians%	-	-	-	61.8%	-	-	-	-	0%	-	-	-	-	29.4%	-	-
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	3	-	-
Bicycles on Crosswalk%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	8.8%	-	-



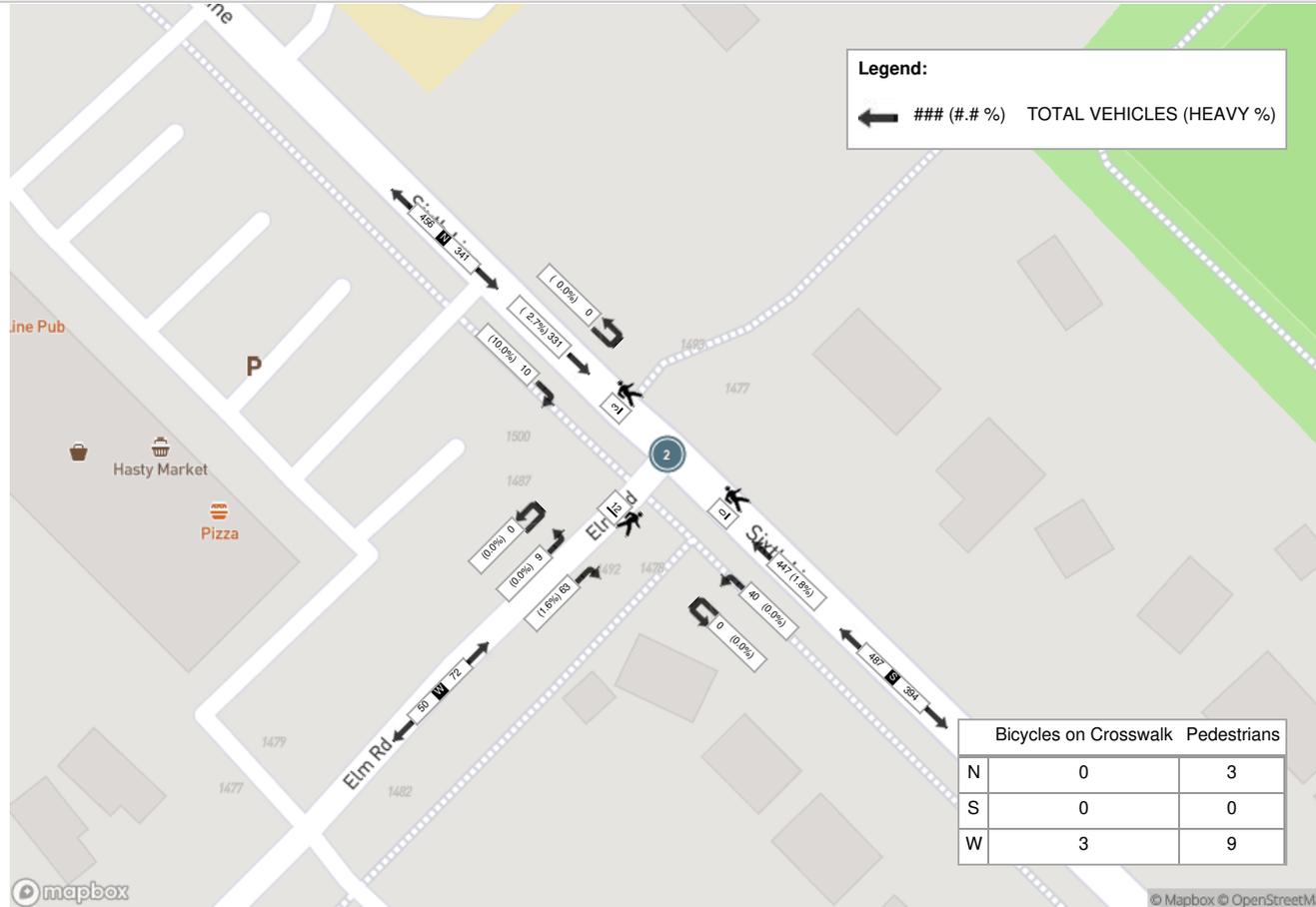
Peak Hour: 05:30 PM - 06:30 PM Weather: Overcast Clouds (34 °C)

Start Time	N Approach SIXTH LINE					S Approach SIXTH LINE					W Approach ELM RD					Int. Total (15 min)
	Right	Thru	U-Turn	Peds	Approach Total	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	
2025-06-24 17:30:00	3	86	0	0	89	114	10	0	0	124	13	2	0	3	15	228
2025-06-24 17:45:00	4	86	0	2	90	121	13	0	0	134	17	2	0	2	19	243
2025-06-24 18:00:00	2	79	0	0	81	104	6	0	0	110	11	3	0	3	14	205
2025-06-24 18:15:00	1	80	0	1	81	108	11	0	0	119	22	2	0	4	24	224
Grand Total	10	331	0	3	341	447	40	0	0	487	63	9	0	12	72	900
Approach%	2.9%	97.1%	0%	-	-	91.8%	8.2%	0%	-	-	87.5%	12.5%	0%	-	-	-
Totals %	1.1%	36.8%	0%	-	37.9%	49.7%	4.4%	0%	-	54.1%	7%	1%	0%	-	8%	-
PHF	0.63	0.96	0	-	0.95	0.92	0.77	0	-	0.91	0.72	0.75	0	-	0.75	0.93
Heavy	1	9	0	-	10	8	0	0	-	8	1	0	0	-	1	19
Heavy %	10%	2.7%	0%	-	2.9%	1.8%	0%	0%	-	1.6%	1.6%	0%	0%	-	1.4%	2.1%
Lights	9	319	0	-	328	436	40	0	-	476	62	9	0	-	71	875
Lights %	90%	96.4%	0%	-	96.2%	97.5%	100%	0%	-	97.7%	98.4%	100%	0%	-	98.6%	97.2%
Single-Unit Trucks	1	4	0	-	5	3	0	0	-	3	1	0	0	-	1	9
Single-Unit Trucks %	10%	1.2%	0%	-	1.5%	0.7%	0%	0%	-	0.6%	1.6%	0%	0%	-	1.4%	1%
Buses	0	5	0	-	5	5	0	0	-	5	0	0	0	-	0	10
Buses %	0%	1.5%	0%	-	1.5%	1.1%	0%	0%	-	1%	0%	0%	0%	-	0%	1.1%
Bicycles on Road	0	3	0	-	3	3	0	0	-	3	0	0	0	-	0	6
Bicycles on Road %	0%	0.9%	0%	-	0.9%	0.7%	0%	0%	-	0.6%	0%	0%	0%	-	0%	0.7%
Pedestrians	-	-	-	3	-	-	-	0	-	-	-	-	9	-	-	-
Pedestrians%	-	-	-	20%	-	-	-	0%	-	-	-	-	60%	-	-	-
Bicycles on Crosswalk	-	-	-	0	-	-	-	0	-	-	-	-	3	-	-	-
Bicycles on Crosswalk%	-	-	-	0%	-	-	-	0%	-	-	-	-	20%	-	-	-

Peak Hour: 07:45 AM - 08:45 AM Weather: Scattered Clouds (26 °C)



Peak Hour: 05:30 PM - 06:30 PM Weather: Overcast Clouds (34 °C)





Turning Movement Count (3 . SIXTH LINE & MCCRANEY ST) MioID: 1314194

Start Time	N Approach SIXTH LINE						E Approach MCCRANEY ST						S Approach SIXTH LINE						W Approach MCCRANEY ST						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
2025-06-24 06:30:00	1	21	8	0	0	30	1	1	0	0	1	2	2	6	0	0	0	8	3	4	4	0	2	11	51	
2025-06-24 06:45:00	1	35	13	0	0	49	5	1	2	0	2	8	0	18	0	0	0	18	3	2	4	0	1	9	84	
2025-06-24 07:00:00	2	19	17	0	1	38	2	1	0	0	0	3	1	12	1	0	0	14	4	6	4	0	1	14	69	
2025-06-24 07:15:00	1	51	22	0	0	74	7	4	2	0	0	13	1	24	2	0	3	27	6	5	6	0	4	17	131	335
2025-06-24 07:30:00	2	55	70	0	0	127	22	1	0	0	1	23	3	32	2	0	0	37	4	1	6	0	3	11	198	482
2025-06-24 07:45:00	2	58	103	0	5	163	57	4	7	0	1	68	9	18	1	0	0	28	2	2	2	0	4	6	265	663
2025-06-24 08:00:00	1	58	131	0	4	190	98	4	8	0	2	110	19	39	1	0	2	59	6	1	2	0	2	9	368	962
2025-06-24 08:15:00	1	57	161	0	8	219	116	4	13	0	4	133	14	24	1	0	5	39	3	4	6	0	3	13	404	1235
2025-06-24 08:30:00	6	58	57	0	5	121	66	2	2	0	1	70	4	46	2	0	4	52	3	9	11	0	4	23	266	1303
2025-06-24 08:45:00	4	66	43	0	4	113	35	12	3	0	6	50	1	39	0	0	3	40	4	8	6	0	1	18	221	1259
BREAK																										
2025-06-24 16:00:00	11	74	10	0	2	95	31	6	3	0	0	40	4	50	3	0	3	57	2	3	7	0	0	12	204	
2025-06-24 16:15:00	1	52	13	0	2	66	24	4	1	0	2	29	3	48	6	0	2	57	3	4	7	0	0	14	166	
2025-06-24 16:30:00	4	68	16	0	2	88	37	2	8	0	1	47	4	58	4	0	2	66	5	3	7	0	1	15	216	
2025-06-24 16:45:00	10	74	11	0	3	95	25	8	1	0	4	34	5	70	3	0	7	78	3	2	4	0	0	9	216	802
2025-06-24 17:00:00	5	57	14	0	0	76	26	6	3	0	0	35	3	72	0	0	3	75	2	1	9	0	2	12	198	796
2025-06-24 17:15:00	15	68	18	0	3	101	34	5	1	0	2	40	2	69	3	0	2	74	1	5	5	0	2	11	226	856
2025-06-24 17:30:00	4	78	17	0	0	99	36	2	0	0	1	38	3	86	1	1	0	91	2	4	4	0	5	10	238	878
2025-06-24 17:45:00	11	71	19	0	1	101	41	8	3	0	1	52	4	83	2	0	0	89	3	0	4	0	0	7	249	911
2025-06-24 18:00:00	12	55	20	0	0	87	26	9	3	0	3	38	1	66	3	0	2	70	4	3	10	0	0	17	212	925
2025-06-24 18:15:00	9	65	19	0	1	93	34	4	5	0	1	43	2	71	1	0	0	74	3	3	6	0	0	12	222	921
Grand Total	103	1140	782	0	41	2025	723	88	65	0	33	876	85	931	36	1	38	1053	66	70	114	0	35	250	4204	-
Approach%	5.1%	56.3%	38.6%	0%	-	-	82.5%	10%	7.4%	0%	-	-	8.1%	88.4%	3.4%	0.1%	-	-	26.4%	28%	45.6%	0%	-	-	-	-
Totals %	2.5%	27.1%	18.6%	0%	-	48.2%	17.2%	2.1%	1.5%	0%	-	20.8%	2%	22.1%	0.9%	0%	-	25%	1.6%	1.7%	2.7%	0%	-	5.9%	-	-
Heavy	1	30	44	0	-	-	41	2	2	0	-	-	3	26	0	0	-	-	0	0	0	0	-	-	-	-
Heavy %	1%	2.6%	5.6%	0%	-	-	5.7%	2.3%	3.1%	0%	-	-	3.5%	2.8%	0%	0%	-	-	0%	0%	0%	0%	-	-	-	-
Bicycles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycle %	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Peak Hour: 07:45 AM - 08:45 AM Weather: Scattered Clouds (26 °C)

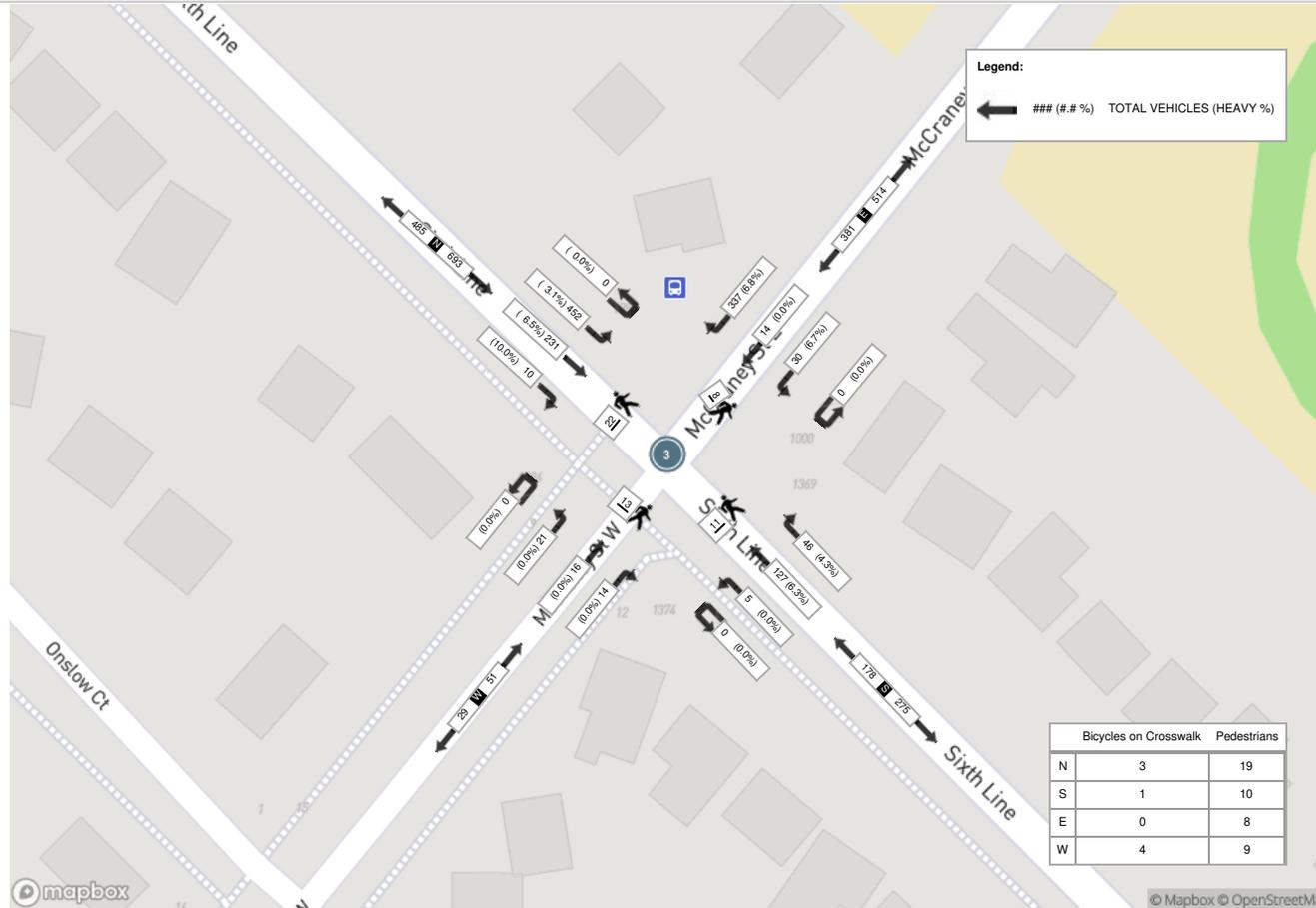
Start Time	N Approach SIXTH LINE						E Approach MCCRANEY ST						S Approach SIXTH LINE						W Approach MCCRANEY ST						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
2025-06-24 07:45:00	2	58	103	0	5	163	57	4	7	0	1	68	9	18	1	0	0	28	2	2	2	0	4	6	265
2025-06-24 08:00:00	1	58	131	0	4	190	98	4	8	0	2	110	19	39	1	0	2	59	6	1	2	0	2	9	368
2025-06-24 08:15:00	1	57	161	0	8	219	116	4	13	0	4	133	14	24	1	0	5	39	3	4	6	0	3	13	404
2025-06-24 08:30:00	6	58	57	0	5	121	66	2	2	0	1	70	4	46	2	0	4	52	3	9	11	0	4	23	266
Grand Total	10	231	452	0	22	693	337	14	30	0	8	381	46	127	5	0	11	178	14	16	21	0	13	51	1303
Approach%	1.4%	33.3%	65.2%	0%	-	-	88.5%	3.7%	7.9%	0%	-	-	25.8%	71.3%	2.8%	0%	-	-	27.5%	31.4%	41.2%	0%	-	-	-
Totals %	0.8%	17.7%	34.7%	0%	53.2%	53.2%	25.9%	1.1%	2.3%	0%	29.2%	29.2%	3.5%	9.7%	0.4%	0%	13.7%	13.7%	1.1%	1.2%	1.6%	0%	3.9%	3.9%	-
PHF	0.42	1	0.7	0	0.79	0.79	0.73	0.88	0.58	0	0.72	0.72	0.61	0.69	0.63	0	0.75	0.75	0.58	0.44	0.48	0	0.55	0.55	0.81
Heavy	1	15	14	0	30	30	23	0	2	0	25	25	2	8	0	0	10	10	0	0	0	0	0	0	65
Heavy %	10%	6.5%	3.1%	0%	4.3%	4.3%	6.8%	0%	6.7%	0%	6.6%	6.6%	4.3%	6.3%	0%	0%	5.6%	5.6%	0%	0%	0%	0%	0%	0%	5%
Lights	9	215	438	0	662	662	314	13	28	0	355	355	44	115	5	0	164	164	14	15	21	0	50	50	1231
Lights %	90%	93.1%	96.9%	0%	95.5%	95.5%	93.2%	92.9%	93.3%	0%	93.2%	93.2%	95.7%	90.6%	100%	0%	92.1%	92.1%	100%	93.8%	100%	0%	98%	98%	94.5%
Single-Unit Trucks	1	5	0	0	6	6	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	7
Single-Unit Trucks %	10%	2.2%	0%	0%	0.9%	0.9%	0%	0%	0%	0%	0%	0%	0%	0.8%	0%	0%	0.6%	0.6%	0%	0%	0%	0%	0%	0%	0.5%
Buses	0	10	14	0	24	24	23	0	2	0	25	25	2	7	0	0	9	9	0	0	0	0	0	0	58
Buses %	0%	4.3%	3.1%	0%	3.5%	3.5%	6.8%	0%	6.7%	0%	6.6%	6.6%	4.3%	5.5%	0%	0%	5.1%	5.1%	0%	0%	0%	0%	0%	0%	4.5%
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated Trucks %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bicycles on Road	0	1	0	0	1	1	0	1	0	0	1	1	0	4	0	0	4	4	0	1	0	0	0	1	7
Bicycles on Road %	0%	0.4%	0%	0%	0.1%	0.1%	0%	7.1%	0%	0%	0.3%	0.3%	0%	3.1%	0%	0%	2.2%	2.2%	0%	6.3%	0%	0%	0%	2%	0.5%
Pedestrians	-	-	-	-	19	19	-	-	-	-	8	8	-	-	-	-	10	10	-	-	-	-	9	9	-
Pedestrians %	-	-	-	-	35.2%	35.2%	-	-	-	-	14.8%	14.8%	-	-	-	-	18.5%	18.5%	-	-	-	-	16.7%	16.7%	-
Bicycles on Crosswalk	-	-	-	-	3	3	-	-	-	-	0	0	-	-	-	-	1	1	-	-	-	-	4	4	-
Bicycles on Crosswalk %	-	-	-	-	5.6%	5.6%	-	-	-	-	0%	0%	-	-	-	-	1.9%	1.9%	-	-	-	-	7.4%	7.4%	-



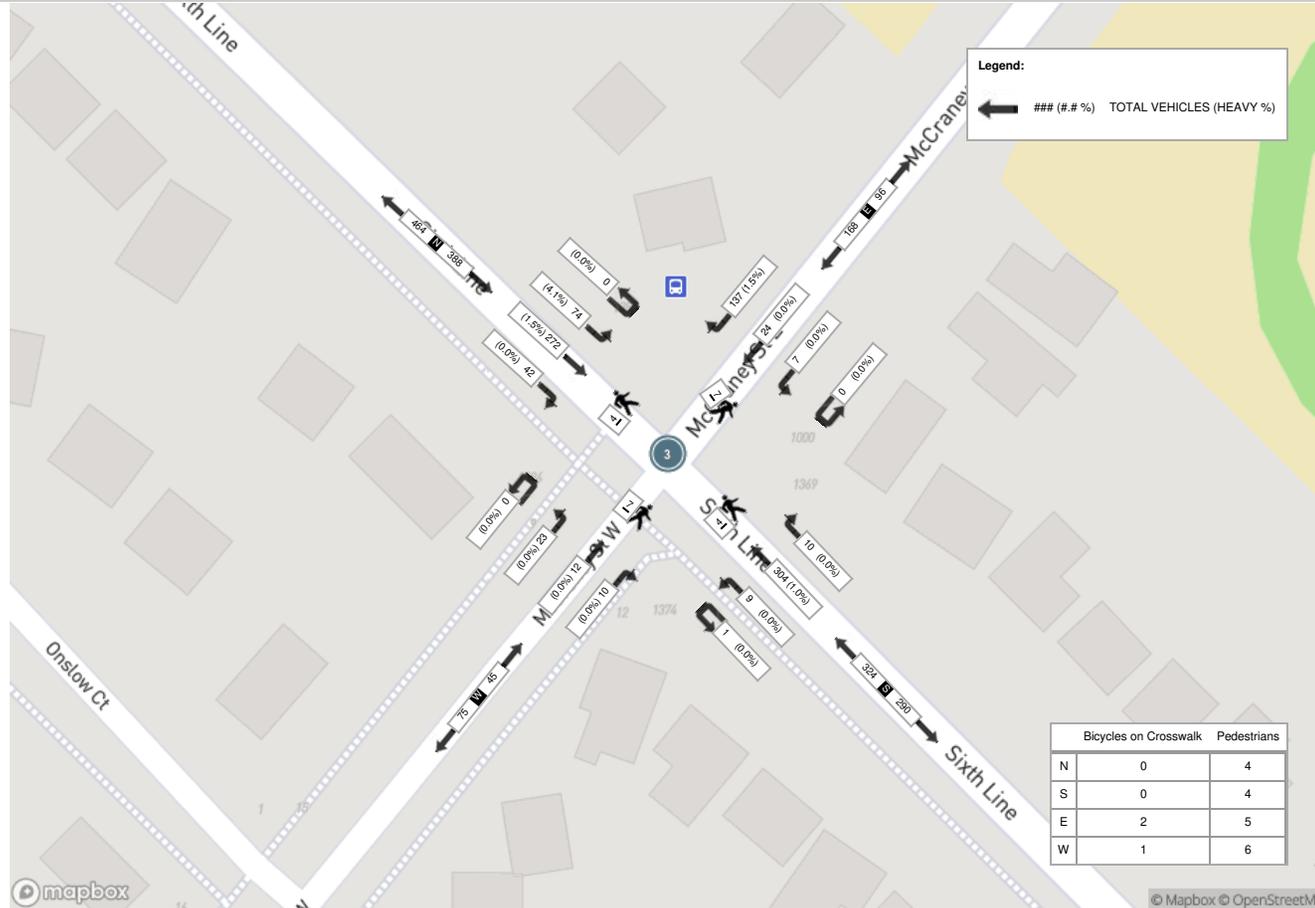
Peak Hour: 05:15 PM - 06:15 PM Weather: Overcast Clouds (34 °C)

Start Time	N Approach SIXTH LINE						E Approach MCCRANEY ST						S Approach SIXTH LINE						W Approach MCCRANEY ST						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
2025-06-24 17:15:00	15	68	18	0	3	101	34	5	1	0	2	40	2	69	3	0	2	74	1	5	5	0	2	11	226
2025-06-24 17:30:00	4	78	17	0	0	99	36	2	0	0	1	38	3	86	1	1	0	91	2	4	4	0	5	10	238
2025-06-24 17:45:00	11	71	19	0	1	101	41	8	3	0	1	52	4	83	2	0	0	89	3	0	4	0	0	7	249
2025-06-24 18:00:00	12	55	20	0	0	87	26	9	3	0	3	38	1	66	3	0	2	70	4	3	10	0	0	17	212
Grand Total	42	272	74	0	4	388	137	24	7	0	7	168	10	304	9	1	4	324	10	12	23	0	7	45	925
Approach%	10.8%	70.1%	19.1%	0%	-	-	81.5%	14.3%	4.2%	0%	-	-	3.1%	93.8%	2.8%	0.3%	-	22.2%	26.7%	51.1%	0%	-	-	-	
Totals %	4.5%	29.4%	8%	0%	41.9%	14.8%	2.6%	0.8%	0%	18.2%	1.1%	32.9%	1%	0.1%	35%	1.1%	1.3%	2.5%	0%	4.9%	-	-	-		
PHF	0.7	0.87	0.93	0	0.96	0.84	0.67	0.58	0	0.81	0.63	0.88	0.75	0.25	0.89	0.63	0.6	0.58	0	0.66	0.93	-	-		
Heavy	0	4	3	0	7	2	0	0	0	2	0	3	0	0	3	0	0	0	0	0	0	12	12		
Heavy %	0%	1.5%	4.1%	0%	1.8%	1.5%	0%	0%	0%	1.2%	0%	1%	0%	0%	0.9%	0%	0%	0%	0%	0%	0%	1.3%	1.3%		
Lights	42	268	71	0	381	135	24	7	0	166	10	297	9	1	317	10	12	23	0	45	909	909			
Lights %	100%	98.5%	95.9%	0%	98.2%	98.5%	100%	100%	0%	98.8%	100%	97.7%	100%	100%	97.8%	100%	100%	100%	0%	100%	98.3%	98.3%			
Single-Unit Trucks	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3	3			
Single-Unit Trucks %	0%	0.7%	0%	0%	0.5%	0%	0%	0%	0%	0%	0%	0.3%	0%	0%	0.3%	0%	0%	0%	0%	0%	0.3%	0.3%			
Buses	0	2	3	0	5	2	0	0	0	2	0	2	0	0	2	0	0	0	0	0	9	9			
Buses %	0%	0.7%	4.1%	0%	1.3%	1.5%	0%	0%	0%	1.2%	0%	0.7%	0%	0%	0.6%	0%	0%	0%	0%	0%	1%	1%			
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Articulated Trucks %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4	4			
Bicycles on Road %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1.3%	0%	0%	1.2%	0%	0%	0%	0%	0%	0%	0.4%			
Pedestrians	-	-	-	-	4	-	-	-	-	5	-	-	-	-	4	-	-	-	-	6	-	-			
Pedestrians %	-	-	-	-	18.2%	-	-	-	-	22.7%	-	-	-	-	18.2%	-	-	-	-	27.3%	-	-			
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	2	-	-	-	-	0	-	-	-	-	1	-	-			
Bicycles on Crosswalk %	-	-	-	-	0%	-	-	-	-	9.1%	-	-	-	-	0%	-	-	-	-	4.5%	-	-			

Peak Hour: 07:45 AM - 08:45 AM Weather: Scattered Clouds (26 °C)



Peak Hour: 05:15 PM - 06:15 PM Weather: Overcast Clouds (34 °C)





Turning Movement Count (4 . SIXTH LINE & MILLER RD) MioID: 1314195

Start Time	N Approach SIXTH LINE					S Approach SIXTH LINE					W Approach MILLER RD					Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	U-Turn N:N	Peds N:	Approach Total	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Left W:N	U-Turn W:W	Peds W:	Approach Total		
2025-06-24 06:30:00	0	24	0	0	24	11	1	0	0	12	7	0	0	0	7	43	
2025-06-24 06:45:00	0	43	0	0	43	28	0	0	0	28	5	0	0	0	5	76	
2025-06-24 07:00:00	0	38	0	0	38	19	0	0	0	19	1	3	0	0	4	61	
2025-06-24 07:15:00	0	70	0	0	70	35	1	0	0	36	6	2	0	2	8	114	294
2025-06-24 07:30:00	5	119	0	0	124	60	1	0	0	61	6	0	0	3	6	191	442
2025-06-24 07:45:00	1	157	0	0	158	76	2	0	0	78	7	0	0	5	7	243	609
2025-06-24 08:00:00	2	187	0	0	189	134	2	0	0	136	13	2	0	2	15	340	888
2025-06-24 08:15:00	1	202	0	0	203	139	6	0	0	145	14	1	0	6	15	363	1137
2025-06-24 08:30:00	3	98	0	0	101	127	5	0	0	132	16	0	0	6	16	249	1195
2025-06-24 08:45:00	6	101	0	2	107	70	11	0	0	81	12	0	0	1	12	200	1152
BREAK																	
2025-06-24 16:00:00	5	88	0	2	93	80	2	0	0	82	6	4	0	1	10	185	
2025-06-24 16:15:00	6	65	0	0	71	76	8	0	1	84	2	2	0	0	4	159	
2025-06-24 16:30:00	2	86	0	0	88	94	7	0	0	101	3	2	0	3	5	194	
2025-06-24 16:45:00	1	93	0	0	94	101	4	0	0	105	1	2	0	1	3	202	740
2025-06-24 17:00:00	7	71	0	0	78	94	7	0	0	101	5	0	0	1	5	184	739
2025-06-24 17:15:00	6	99	0	0	105	106	8	0	0	114	4	4	0	0	8	227	807
2025-06-24 17:30:00	7	98	0	0	105	118	7	0	0	125	7	1	0	3	8	238	851
2025-06-24 17:45:00	6	94	0	1	100	132	5	0	0	137	8	2	0	3	10	247	896
2025-06-24 18:00:00	7	86	0	0	93	102	7	0	0	109	7	2	0	9	9	211	923
2025-06-24 18:15:00	4	93	0	0	97	109	5	0	0	114	9	4	0	1	13	224	920
Grand Total	69	1912	0	5	1981	1711	89	0	1	1800	139	31	0	47	170	3951	-
Approach%	3.5%	96.5%	0%		-	95.1%	4.9%	0%		-	81.8%	18.2%	0%		-	-	-
Totals %	1.7%	48.4%	0%		50.1%	43.3%	2.3%	0%		45.6%	3.5%	0.8%	0%		4.3%	-	-
Heavy	4	73	0		-	74	1	0		-	3	1	0		-	-	-
Heavy %	5.8%	3.8%	0%		-	4.3%	1.1%	0%		-	2.2%	3.2%	0%		-	-	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	-	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	-	-



Peak Hour: 07:45 AM - 08:45 AM Weather: Scattered Clouds (26 °C)

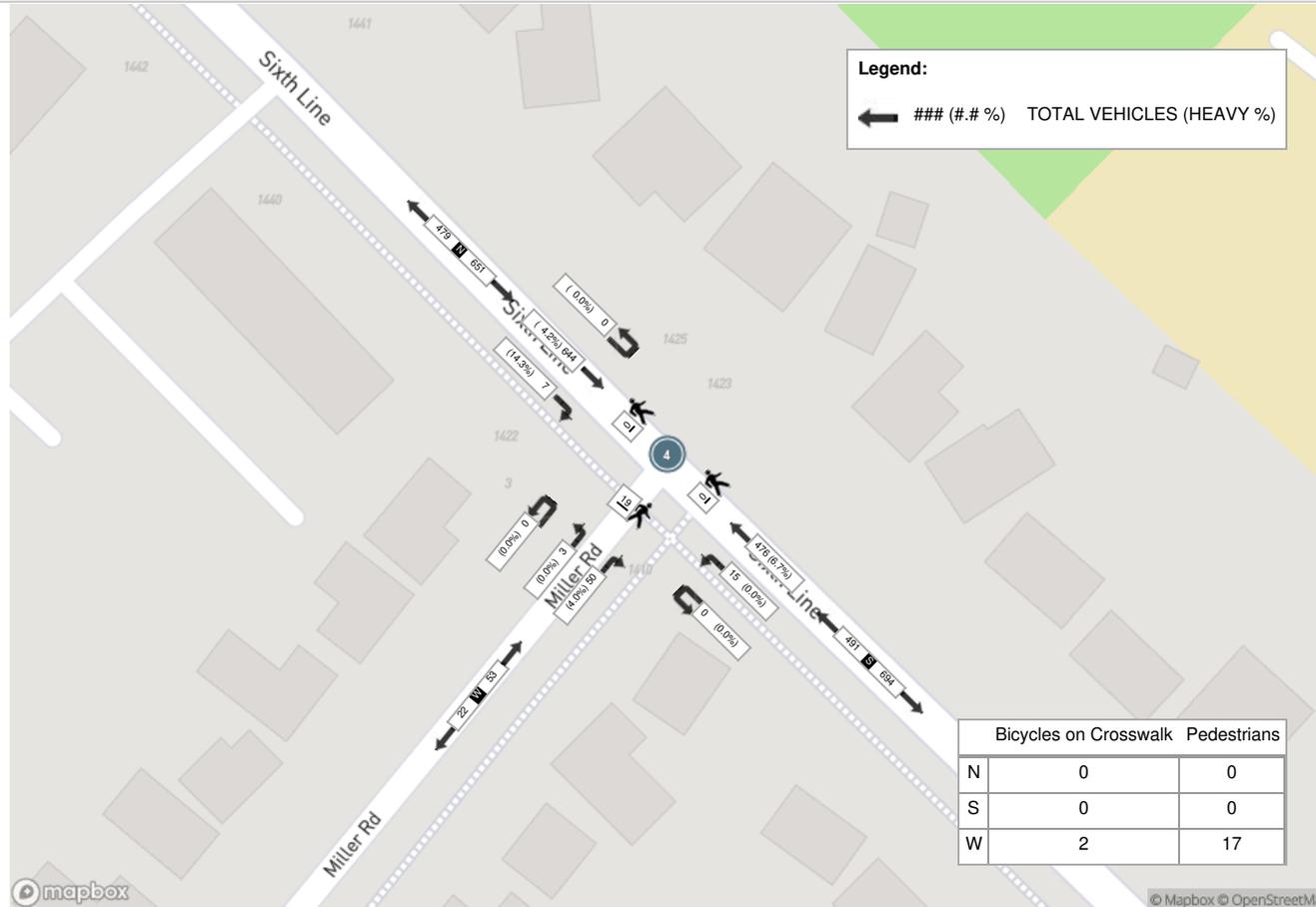
Start Time	N Approach SIXTH LINE					S Approach SIXTH LINE					W Approach MILLER RD					Int. Total (15 min)
	Right	Thru	U-Turn	Peds	Approach Total	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	
2025-06-24 07:45:00	1	157	0	0	158	76	2	0	0	78	7	0	0	5	7	243
2025-06-24 08:00:00	2	187	0	0	189	134	2	0	0	136	13	2	0	2	15	340
2025-06-24 08:15:00	1	202	0	0	203	139	6	0	0	145	14	1	0	6	15	363
2025-06-24 08:30:00	3	98	0	0	101	127	5	0	0	132	16	0	0	6	16	249
Grand Total	7	644	0	0	651	476	15	0	0	491	50	3	0	19	53	1195
Approach%	1.1%	98.9%	0%		-	96.9%	3.1%	0%		-	94.3%	5.7%	0%		-	-
Totals %	0.6%	53.9%	0%		54.5%	39.8%	1.3%	0%		41.1%	4.2%	0.3%	0%		4.4%	-
PHF	0.58	0.8	0		0.8	0.86	0.63	0		0.85	0.78	0.38	0		0.83	0.82
Heavy	1	27	0		28	32	0	0		32	2	0	0		2	62
Heavy %	14.3%	4.2%	0%		4.3%	6.7%	0%	0%		6.5%	4%	0%	0%		3.8%	5.2%
Lights	6	612	0		618	438	15	0		453	48	3	0		51	1122
Lights %	85.7%	95%	0%		94.9%	92%	100%	0%		92.3%	96%	100%	0%		96.2%	93.9%
Single-Unit Trucks	0	4	0		4	2	0	0		2	0	0	0		0	6
Single-Unit Trucks %	0%	0.6%	0%		0.6%	0.4%	0%	0%		0.4%	0%	0%	0%		0%	0.5%
Buses	1	23	0		24	30	0	0		30	2	0	0		2	56
Buses %	14.3%	3.6%	0%		3.7%	6.3%	0%	0%		6.1%	4%	0%	0%		3.8%	4.7%
Bicycles on Road	0	5	0		5	6	0	0		6	0	0	0		0	11
Bicycles on Road %	0%	0.8%	0%		0.8%	1.3%	0%	0%		1.2%	0%	0%	0%		0%	0.9%
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	17	-	-
Pedestrians%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	89.5%	-	-
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	2	-	-
Bicycles on Crosswalk%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	10.5%	-	-



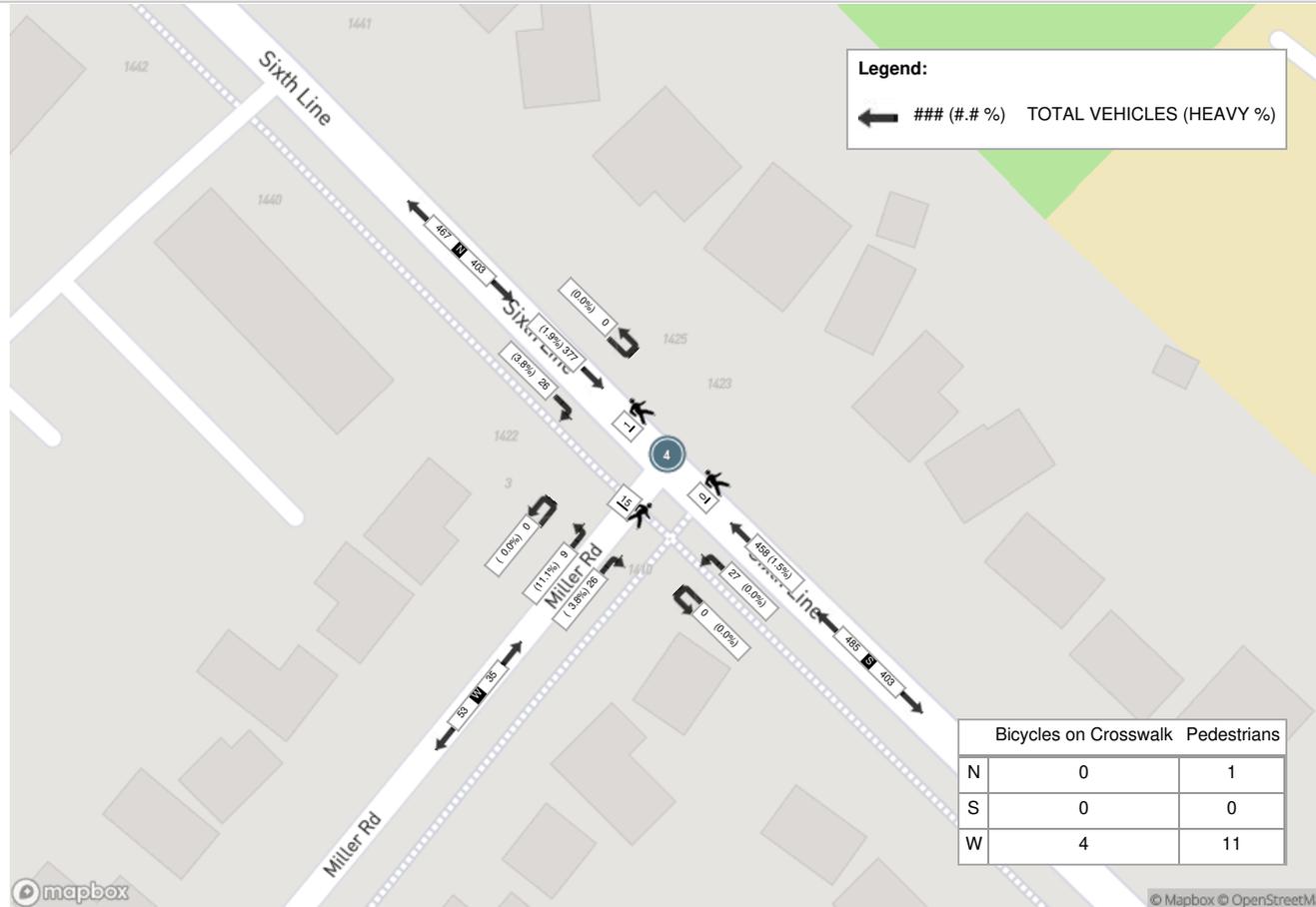
Peak Hour: 05:15 PM - 06:15 PM Weather: Overcast Clouds (34 °C)

Start Time	N Approach SIXTH LINE					S Approach SIXTH LINE					W Approach MILLER RD					Int. Total (15 min)
	Right	Thru	U-Turn	Peds	Approach Total	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	
2025-06-24 17:15:00	6	99	0	0	105	106	8	0	0	114	4	4	0	0	8	227
2025-06-24 17:30:00	7	98	0	0	105	118	7	0	0	125	7	1	0	3	8	238
2025-06-24 17:45:00	6	94	0	1	100	132	5	0	0	137	8	2	0	3	10	247
2025-06-24 18:00:00	7	86	0	0	93	102	7	0	0	109	7	2	0	9	9	211
Grand Total	26	377	0	1	403	458	27	0	0	485	26	9	0	15	35	923
Approach%	6.5%	93.5%	0%	-	-	94.4%	5.6%	0%	-	-	74.3%	25.7%	0%	-	-	-
Totals %	2.8%	40.8%	0%	43.7%	49.6%	2.9%	0%	52.5%	2.8%	1%	0%	3.8%	-	-	-	-
PHF	0.93	0.95	0	0.96	0.87	0.84	0	0.89	0.81	0.56	0	0.88	0.93	-	-	-
Heavy	1	7	0	8	7	0	0	7	1	1	0	2	17	-	-	-
Heavy %	3.8%	1.9%	0%	2%	1.5%	0%	0%	1.4%	3.8%	11.1%	0%	5.7%	1.8%	-	-	-
Lights	25	370	0	395	446	27	0	473	25	8	0	33	901	-	-	-
Lights %	96.2%	98.1%	0%	98%	97.4%	100%	0%	97.5%	96.2%	88.9%	0%	94.3%	97.6%	-	-	-
Single-Unit Trucks	1	3	0	4	2	0	0	2	1	1	0	2	8	-	-	-
Single-Unit Trucks %	3.8%	0.8%	0%	1%	0.4%	0%	0%	0.4%	3.8%	11.1%	0%	5.7%	0.9%	-	-	-
Buses	0	4	0	4	5	0	0	5	0	0	0	0	9	-	-	-
Buses %	0%	1.1%	0%	1%	1.1%	0%	0%	1%	0%	0%	0%	0%	1%	-	-	-
Bicycles on Road	0	0	0	0	5	0	0	5	0	0	0	0	5	-	-	-
Bicycles on Road %	0%	0%	0%	0%	1.1%	0%	0%	1%	0%	0%	0%	0%	0.5%	-	-	-
Pedestrians	-	-	-	1	-	-	-	0	-	-	-	11	-	-	-	-
Pedestrians%	-	-	-	6.3%	-	-	-	0%	-	-	-	68.8%	-	-	-	-
Bicycles on Crosswalk	-	-	-	0	-	-	-	0	-	-	-	4	-	-	-	-
Bicycles on Crosswalk%	-	-	-	0%	-	-	-	0%	-	-	-	25%	-	-	-	-

Peak Hour: 07:45 AM - 08:45 AM Weather: Scattered Clouds (26 °C)



Peak Hour: 05:15 PM - 06:15 PM Weather: Overcast Clouds (34 °C)





Turning Movement Count (1 . UPPER MIDDLE RD & SIXTH LINE) MioID: 1314192

Start Time	N Approach SIXTH LINE						E Approach UPPER MIDDLE RD						S Approach SIXTH LINE						W Approach UPPER MIDDLE RD						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
2025-06-24 06:30:00	3	17	8	0	2	28	3	30	0	0	0	33	7	2	3	0	0	12	5	67	8	0	4	80	153	
2025-06-24 06:45:00	10	17	12	0	0	39	7	52	8	0	2	67	12	9	8	0	1	29	12	86	7	0	1	105	240	
2025-06-24 07:00:00	6	15	28	0	0	49	11	41	4	0	1	56	10	9	2	0	1	21	12	88	13	0	2	113	239	
2025-06-24 07:15:00	12	25	18	0	0	55	11	65	9	0	1	85	13	8	16	0	5	37	15	103	15	0	0	133	310	942
2025-06-24 07:30:00	12	64	26	0	1	102	14	72	13	0	0	99	22	18	16	0	1	56	41	153	13	0	0	207	464	1253
2025-06-24 07:45:00	12	46	19	0	2	77	15	102	23	0	1	140	20	25	36	0	1	81	54	174	11	0	3	239	537	1550
2025-06-24 08:00:00	14	93	32	0	2	139	17	95	35	0	4	147	21	52	40	0	0	113	62	143	15	0	3	220	619	1930
2025-06-24 08:15:00	14	72	42	0	4	128	24	140	33	0	4	197	37	73	35	0	1	145	44	189	22	0	2	255	725	2345
2025-06-24 08:30:00	30	43	33	0	0	106	27	129	43	0	0	199	50	62	37	0	0	149	22	189	22	0	3	233	687	2568
2025-06-24 08:45:00	32	46	47	0	0	125	18	137	39	0	1	194	55	37	28	0	2	120	28	197	33	0	2	258	697	2728
BREAK																										
2025-06-24 16:00:00	13	34	21	0	1	68	29	203	25	0	2	257	17	33	35	0	0	85	23	158	31	1	0	213	623	
2025-06-24 16:15:00	22	35	19	0	2	76	38	202	20	0	2	260	12	39	27	0	0	78	16	134	37	0	2	187	601	
2025-06-24 16:30:00	31	26	7	0	1	64	37	221	20	0	0	278	11	33	37	0	0	81	19	133	21	0	2	173	596	
2025-06-24 16:45:00	31	36	18	0	1	85	40	194	23	0	1	257	11	53	42	0	0	106	31	140	34	0	2	205	653	2473
2025-06-24 17:00:00	28	31	38	0	3	97	29	214	19	0	0	262	19	39	38	0	0	96	20	157	29	0	0	206	661	2511
2025-06-24 17:15:00	38	58	61	0	4	157	39	178	20	0	0	237	14	44	36	0	1	94	24	134	36	0	3	194	682	2592
2025-06-24 17:30:00	34	40	64	0	4	138	33	208	25	0	2	266	23	47	49	0	1	119	20	149	39	0	2	208	731	2727
2025-06-24 17:45:00	40	59	40	0	6	139	32	168	21	0	4	221	15	61	50	0	0	126	17	120	34	0	2	171	657	2731
2025-06-24 18:00:00	29	37	31	0	0	97	35	174	15	0	2	224	15	36	44	0	1	95	28	156	44	0	0	228	644	2714
2025-06-24 18:15:00	33	45	21	0	1	99	29	159	28	0	2	216	17	33	50	0	2	100	23	119	17	0	0	159	574	2606
Grand Total	444	839	585	0	34	1868	488	2784	423	0	29	3695	401	713	629	0	17	1743	516	2789	481	1	33	3787	11093	-
Approach%	23.8%	44.9%	31.3%	0%	-	-	13.2%	75.3%	11.4%	0%	-	-	23%	40.9%	36.1%	0%	-	-	13.6%	73.6%	12.7%	0%	-	-	-	
Totals %	4%	7.6%	5.3%	0%	-	16.8%	4.4%	25.1%	3.8%	0%	-	33.3%	3.6%	6.4%	5.7%	0%	-	15.7%	4.7%	25.1%	4.3%	0%	-	34.1%	-	-
Heavy	9	19	1	0	-	-	8	50	27	0	-	-	19	17	28	0	-	-	23	49	4	0	-	-	-	
Heavy %	2%	2.3%	0.2%	0%	-	-	1.6%	1.8%	6.4%	0%	-	-	4.7%	2.4%	4.5%	0%	-	-	4.5%	1.8%	0.8%	0%	-	-	-	
Bicycles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycle %	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Peak Hour: 08:00 AM - 09:00 AM Weather: Scattered Clouds (26 °C)

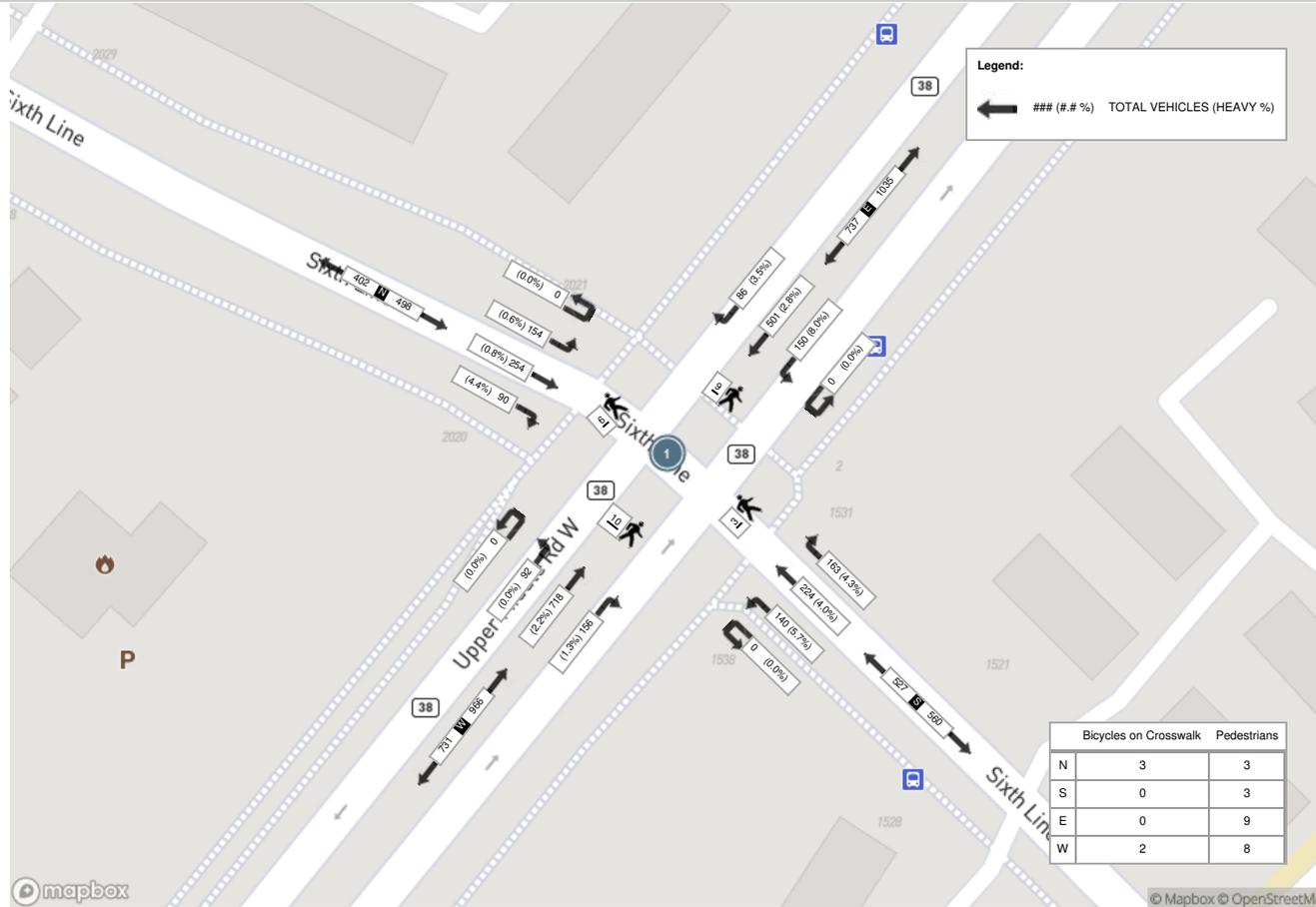
Start Time	N Approach SIXTH LINE						E Approach UPPER MIDDLE RD						S Approach SIXTH LINE						W Approach UPPER MIDDLE RD						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
2025-06-24 08:00:00	14	93	32	0	2	139	17	95	35	0	4	147	21	52	40	0	0	113	62	143	15	0	3	220	619
2025-06-24 08:15:00	14	72	42	0	4	128	24	140	33	0	4	197	37	73	35	0	1	145	44	189	22	0	2	255	725
2025-06-24 08:30:00	30	43	33	0	0	106	27	129	43	0	0	199	50	62	37	0	0	149	22	189	22	0	3	233	687
2025-06-24 08:45:00	32	46	47	0	0	125	18	137	39	0	1	194	55	37	28	0	2	120	28	197	33	0	2	258	697
Grand Total	90	254	154	0	6	498	86	501	150	0	9	737	163	224	140	0	3	527	156	718	92	0	10	966	2728
Approach%	18.1%	51%	30.9%	0%	-	-	11.7%	68%	20.4%	0%	-	-	30.9%	42.5%	26.6%	0%	-	-	16.1%	74.3%	9.5%	0%	-	-	-
Totals %	3.3%	9.3%	5.6%	0%	18.3%	3.2%	18.4%	5.5%	0%	27%	6%	8.2%	5.1%	0%	19.3%	5.7%	26.3%	3.4%	0%	35.4%	-	-	-		
PHF	0.7	0.68	0.82	0	0.9	0.8	0.89	0.87	0	0.93	0.74	0.77	0.88	0	0.88	0.63	0.91	0.7	0	0.94	0.94	0.94	-		
Heavy	4	2	1	0	7	3	14	12	0	29	7	9	8	0	24	2	16	0	0	18	18	78	-		
Heavy %	4.4%	0.8%	0.6%	0%	1.4%	3.5%	2.8%	8%	0%	3.9%	4.3%	4%	5.7%	0%	4.6%	1.3%	2.2%	0%	0%	1.9%	1.9%	2.9%	-		
Lights	86	249	153	0	488	83	487	138	0	708	156	213	132	0	501	154	701	92	0	947	2644	-			
Lights %	95.6%	98%	99.4%	0%	98%	96.5%	97.2%	92%	0%	96.1%	95.7%	95.1%	94.3%	0%	95.1%	98.7%	97.6%	100%	0%	98%	96.9%	-			
Single-Unit Trucks	1	1	0	0	2	1	7	1	0	9	1	0	1	0	2	0	9	0	0	9	22	-			
Single-Unit Trucks %	1.1%	0.4%	0%	0%	0.4%	1.2%	1.4%	0.7%	0%	1.2%	0.6%	0%	0.7%	0%	0.4%	0%	1.3%	0%	0%	0.9%	0.8%	-			
Buses	3	1	1	0	5	2	5	11	0	18	6	9	7	0	22	2	5	0	0	7	52	-			
Buses %	3.3%	0.4%	0.6%	0%	1%	2.3%	1%	7.3%	0%	2.4%	3.7%	4%	5%	0%	4.2%	1.3%	0.7%	0%	0%	0.7%	1.9%	-			
Articulated Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4	-			
Articulated Trucks %	0%	0%	0%	0%	0%	0%	0.4%	0%	0%	0.3%	0%	0%	0%	0%	0%	0%	0.3%	0%	0%	0.2%	0.1%	-			
Bicycles on Road	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	6	-			
Bicycles on Road %	0%	1.2%	0%	0%	0.6%	0%	0%	0%	0%	0%	0%	0.9%	0%	0%	0.4%	0%	0.1%	0%	0%	0.1%	0.2%	-			
Pedestrians	-	-	-	-	3	-	-	-	-	9	-	-	-	-	3	-	-	-	-	8	-	-			
Pedestrians %	-	-	-	-	10.7%	-	-	-	-	32.1%	-	-	-	-	10.7%	-	-	-	-	28.6%	-	-			
Bicycles on Crosswalk	-	-	-	-	3	-	-	-	-	0	-	-	-	-	0	-	-	-	-	2	-	-			
Bicycles on Crosswalk %	-	-	-	-	10.7%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	7.1%	-	-			



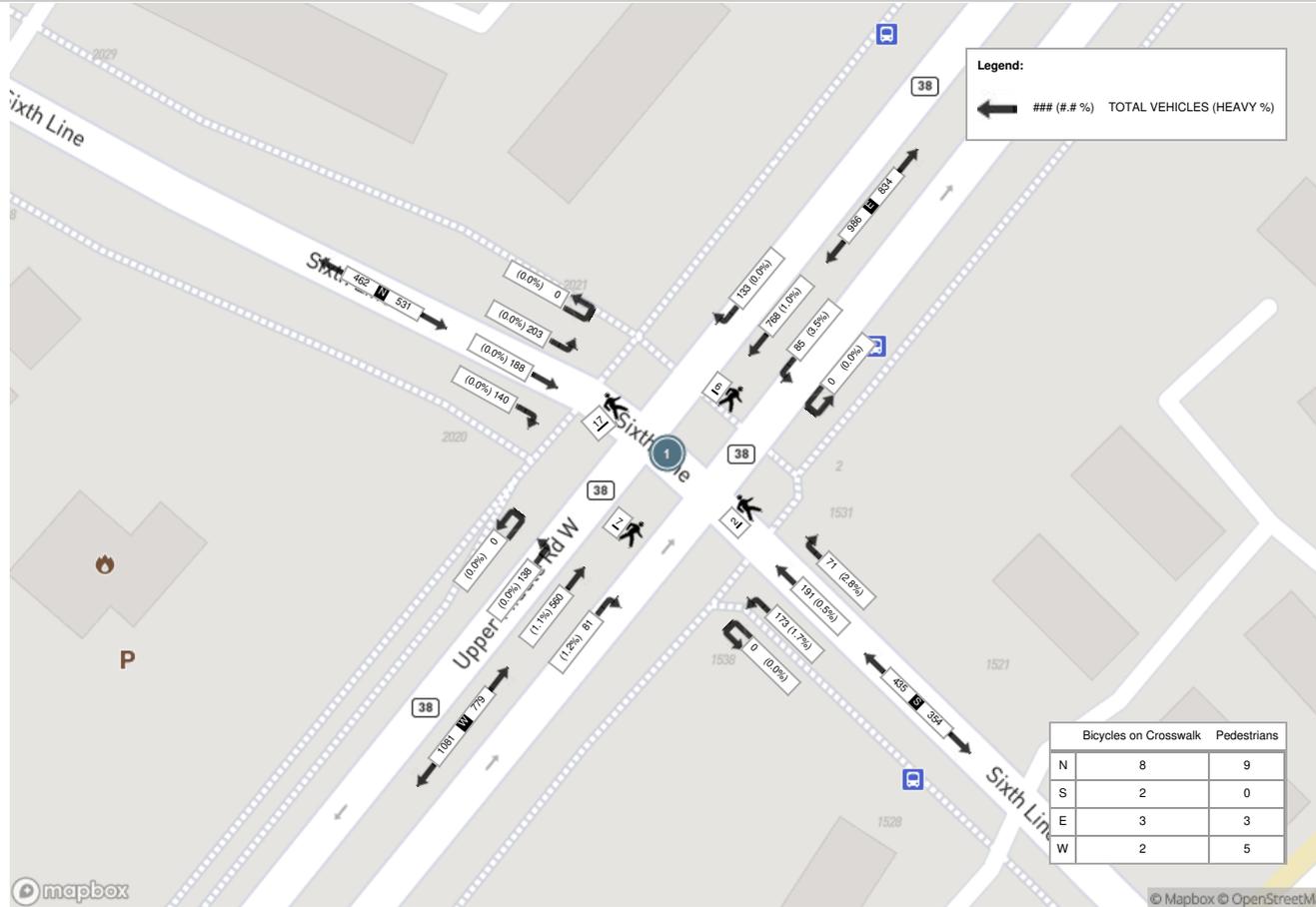
Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (34 °C)

Start Time	N Approach SIXTH LINE						E Approach UPPER MIDDLE RD						S Approach SIXTH LINE						W Approach UPPER MIDDLE RD						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
2025-06-24 17:00:00	28	31	38	0	3	97	29	214	19	0	0	262	19	39	38	0	0	96	20	157	29	0	0	206	661
2025-06-24 17:15:00	38	58	61	0	4	157	39	178	20	0	0	237	14	44	36	0	1	94	24	134	36	0	3	194	682
2025-06-24 17:30:00	34	40	64	0	4	138	33	208	25	0	2	266	23	47	49	0	1	119	20	149	39	0	2	208	731
2025-06-24 17:45:00	40	59	40	0	6	139	32	168	21	0	4	221	15	61	50	0	0	126	17	120	34	0	2	171	657
Grand Total	140	188	203	0	17	531	133	768	85	0	6	986	71	191	173	0	2	435	81	560	138	0	7	779	2731
Approach%	26.4%	35.4%	38.2%	0%	-	-	13.5%	77.9%	8.6%	0%	-	-	16.3%	43.9%	39.8%	0%	-	-	10.4%	71.9%	17.7%	0%	-	-	-
Totals %	5.1%	6.9%	7.4%	0%	19.4%	19.4%	4.9%	28.1%	3.1%	0%	36.1%	36.1%	2.6%	7%	6.3%	0%	15.9%	15.9%	3%	20.5%	5.1%	0%	28.5%	28.5%	-
PHF	0.88	0.8	0.79	0	0.85	0.85	0.85	0.9	0.85	0	0.93	0.93	0.77	0.78	0.87	0	0.86	0.86	0.84	0.89	0.88	0	0.94	0.94	0.93
Heavy	0	0	0	0	0	0	0	8	3	0	11	11	2	1	3	0	6	6	1	6	0	0	7	7	24
Heavy %	0%	0%	0%	0%	0%	0%	0%	1%	3.5%	0%	1.1%	1.1%	2.8%	0.5%	1.7%	0%	1.4%	1.4%	1.2%	1.1%	0%	0%	0.9%	0.9%	0.9%
Lights	140	187	203	0	530	530	133	760	82	0	975	975	69	187	170	0	426	426	80	553	138	0	771	771	2702
Lights %	100%	99.5%	100%	0%	99.8%	99.8%	100%	99%	96.5%	0%	98.9%	98.9%	97.2%	97.9%	98.3%	0%	97.9%	97.9%	98.8%	98.8%	100%	0%	99%	99%	98.9%
Single-Unit Trucks	0	0	0	0	0	0	0	3	1	0	4	4	0	0	0	0	0	0	0	2	0	0	2	2	6
Single-Unit Trucks %	0%	0%	0%	0%	0%	0%	0%	0.4%	1.2%	0%	0.4%	0.4%	0%	0%	0%	0%	0%	0%	0%	0.4%	0%	0%	0.3%	0.3%	0.2%
Buses	0	0	0	0	0	0	0	3	2	0	5	5	2	1	3	0	6	6	1	2	0	0	3	3	14
Buses %	0%	0%	0%	0%	0%	0%	0%	0.4%	2.4%	0%	0.5%	0.5%	2.8%	0.5%	1.7%	0%	1.4%	1.4%	1.2%	0.4%	0%	0%	0.4%	0.4%	0.5%
Articulated Trucks	0	0	0	0	0	0	0	2	0	0	2	2	0	0	0	0	0	0	0	2	0	0	2	2	4
Articulated Trucks %	0%	0%	0%	0%	0%	0%	0%	0.3%	0%	0%	0.2%	0.2%	0%	0%	0%	0%	0%	0%	0%	0.4%	0%	0%	0.3%	0.3%	0.1%
Bicycles on Road	0	1	0	0	1	1	0	0	0	0	0	0	0	3	0	0	3	3	0	1	0	0	1	1	5
Bicycles on Road %	0%	0.5%	0%	0%	0.2%	0.2%	0%	0%	0%	0%	0%	0%	0%	1.6%	0%	0%	0.7%	0.7%	0%	0.2%	0%	0%	0.1%	0.1%	0.2%
Pedestrians	-	-	-	-	9	9	-	-	-	-	3	3	-	-	-	-	0	0	-	-	-	-	5	5	-
Pedestrians %	-	-	-	-	28.1%	28.1%	-	-	-	-	9.4%	9.4%	-	-	-	-	0%	0%	-	-	-	-	15.6%	15.6%	-
Bicycles on Crosswalk	-	-	-	-	8	8	-	-	-	-	3	3	-	-	-	-	2	2	-	-	-	-	2	2	-
Bicycles on Crosswalk %	-	-	-	-	25%	25%	-	-	-	-	9.4%	9.4%	-	-	-	-	6.3%	6.3%	-	-	-	-	6.3%	6.3%	-

Peak Hour: 08:00 AM - 09:00 AM Weather: Scattered Clouds (26 °C)



Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (34 °C)





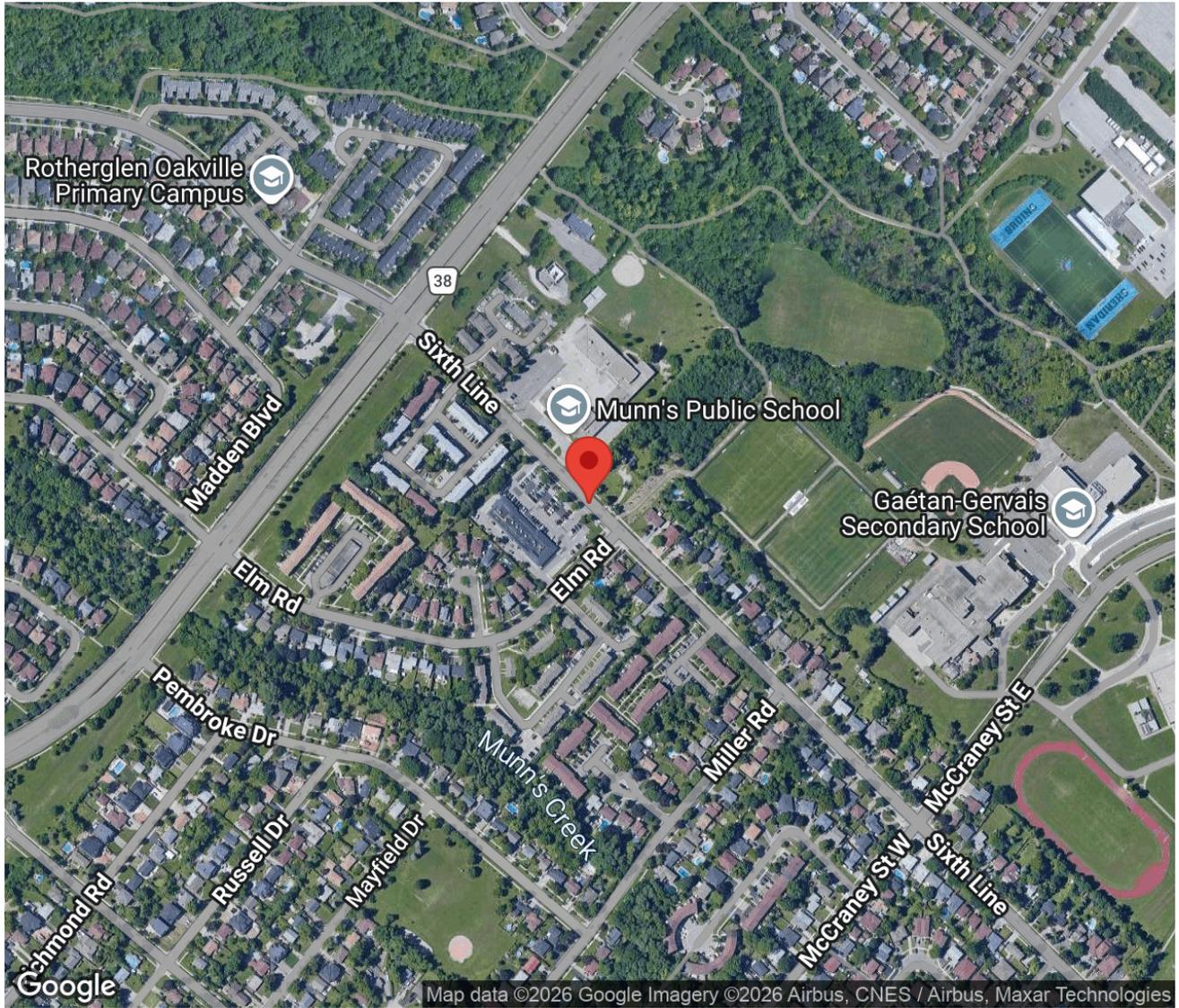
Project #26-039 - GHD

Intersection Count Report

Intersection: Sixth Line & 1500 Sixth Line
Municipality: Oakville
Count Date: Wednesday, Feb 11, 2026
Site Code: 2603900001
Count Categories: Cars, Trucks, Bicycles, Pedestrians
Count Period: 07:00-09:00, 16:00-18:00
Weather: Clear
Comments:

Traffic Count Map

Intersection: Sixth Line & 1500 Sixth Line
Site Code: 2603900001
Municipality: Oakville
Count Date: Feb 11, 2026



Traffic Count Summary

Intersection: Sixth Line & 1500 Sixth Line
 Site Code: 2603900001
 Municipality: Oakville
 Count Date: Feb 11, 2026

Sixth Line - Traffic Summary

Hour	North Approach Totals						South Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	0	339	1	0	340	0	2	293	0	0	295	0	635
08:00 - 09:00	0	295	1	0	296	0	3	388	0	0	391	0	687
BREAK													
16:00 - 17:00	0	351	6	0	357	0	5	444	0	0	449	3	806
17:00 - 18:00	0	270	5	0	275	0	4	467	0	0	471	1	746
GRAND TOTAL	0	1255	13	0	1268	0	14	1592	0	0	1606	4	2874



Traffic Count Summary

Intersection: Sixth Line & 1500 Sixth Line
 Site Code: 2603900001
 Municipality: Oakville
 Count Date: Feb 11, 2026

1500 Sixth Line - Traffic Summary

Hour	East Approach Totals						West Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	0	0	0	0	0	9	1	0	0	0	1	5	1
08:00 - 09:00	0	0	0	0	0	13	1	0	2	0	3	7	3
BREAK													
16:00 - 17:00	0	0	0	0	0	4	5	0	10	0	15	3	15
17:00 - 18:00	0	0	0	0	0	3	3	0	15	0	18	3	18
GRAND TOTAL	0	0	0	0	0	29	10	0	27	0	37	18	37



Traffic Count Data

Intersection: Sixth Line & 1500 Sixth Line
 Site Code: 2603900001
 Municipality: Oakville
 Count Date: Feb 11, 2026

North Approach - Sixth Line

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	0	35	0	0	35	0	1	0	0	1	0	0	0	0	0	0
07:15	0	57	0	0	57	0	3	0	0	3	0	0	0	0	0	0
07:30	0	135	0	0	135	0	20	0	0	20	0	0	0	0	0	0
07:45	0	82	1	0	83	0	5	0	0	5	0	1	0	0	1	0
08:00	0	77	1	0	78	0	4	0	0	4	0	0	0	0	0	0
08:15	0	57	0	0	57	0	4	0	0	4	0	0	0	0	0	0
08:30	0	69	0	0	69	0	4	0	0	4	0	1	0	0	1	0
08:45	0	76	0	0	76	0	3	0	0	3	0	0	0	0	0	0
SUBTOTAL	0	588	2	0	590	0	44	0	0	44	0	2	0	0	2	0



Traffic Count Data

Intersection: Sixth Line & 1500 Sixth Line
 Site Code: 2603900001
 Municipality: Oakville
 Count Date: Feb 11, 2026

North Approach - Sixth Line

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	0	73	0	0	73	0	5	0	0	5	0	0	0	0	0	0
16:15	0	93	1	0	94	0	3	0	0	3	0	0	0	0	0	0
16:30	0	87	4	0	91	0	2	0	0	2	0	0	0	0	0	0
16:45	0	87	1	0	88	0	1	0	0	1	0	0	0	0	0	0
17:00	0	61	0	0	61	0	1	0	0	1	0	0	0	0	0	0
17:15	0	74	2	0	76	0	1	0	0	1	0	0	0	0	0	0
17:30	0	53	2	0	55	0	0	0	0	0	0	0	0	0	0	0
17:45	0	79	1	0	80	0	1	0	0	1	0	0	0	0	0	0
SUBTOTAL	0	607	11	0	618	0	14	0	0	14	0	0	0	0	0	0
GRAND TOTAL	0	1195	13	0	1208	0	58	0	0	58	0	2	0	0	2	0



Traffic Count Data

Intersection: Sixth Line & 1500 Sixth Line
 Site Code: 2603900001
 Municipality: Oakville
 Count Date: Feb 11, 2026

South Approach - Sixth Line

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	0	28	0	0	28	0	0	0	0	0	0	0	0	0	0	0
07:15	2	39	0	0	41	0	1	0	0	1	0	0	0	0	0	0
07:30	0	88	0	0	88	0	7	0	0	7	0	0	0	0	0	0
07:45	0	118	0	0	118	0	12	0	0	12	0	0	0	0	0	0
08:00	0	150	0	0	150	0	11	0	0	11	0	0	0	0	0	0
08:15	0	92	0	0	92	0	8	0	0	8	0	0	0	0	0	0
08:30	1	55	0	0	56	1	4	0	0	5	0	0	0	0	0	0
08:45	1	66	0	0	67	0	2	0	0	2	0	0	0	0	0	0
SUBTOTAL	4	636	0	0	640	1	45	0	0	46	0	0	0	0	0	0



Traffic Count Data

Intersection: Sixth Line & 1500 Sixth Line
 Site Code: 2603900001
 Municipality: Oakville
 Count Date: Feb 11, 2026

South Approach - Sixth Line

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	3	121	0	0	124	0	3	0	0	3	0	0	0	0	0	0
16:15	0	96	0	0	96	0	1	0	0	1	0	0	0	0	0	0
16:30	1	113	0	0	114	0	2	0	0	2	0	0	0	0	0	3
16:45	1	107	0	0	108	0	1	0	0	1	0	0	0	0	0	0
17:00	0	123	0	0	123	0	1	0	0	1	0	0	0	0	0	0
17:15	2	108	0	0	110	0	0	0	0	0	0	0	0	0	0	0
17:30	0	123	0	0	123	0	2	0	0	2	0	0	0	0	0	1
17:45	2	109	0	0	111	0	1	0	0	1	0	0	0	0	0	0
SUBTOTAL	9	900	0	0	909	0	11	0	0	11	0	0	0	0	0	4
GRAND TOTAL	13	1536	0	0	1549	1	56	0	0	57	0	0	0	0	0	4



Traffic Count Data

Intersection: Sixth Line & 1500 Sixth Line
 Site Code: 2603900001
 Municipality: Oakville
 Count Date: Feb 11, 2026

West Approach - 1500 Sixth Line

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
SUBTOTAL	1	0	1	0	2	1	0	1	0	2	0	0	0	0	0	12



Traffic Count Data

Intersection: Sixth Line & 1500 Sixth Line
 Site Code: 2603900001
 Municipality: Oakville
 Count Date: Feb 11, 2026

West Approach - 1500 Sixth Line

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0
16:15	1	0	3	0	4	0	0	0	0	0	0	0	0	0	0	3
16:30	1	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0
16:45	2	0	3	0	5	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0
17:15	2	0	4	0	6	0	0	0	0	0	0	0	0	0	0	0
17:30	1	0	6	0	7	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	3
SUBTOTAL	8	0	25	0	33	0	0	0	0	0	0	0	0	0	0	6
GRAND TOTAL	9	0	26	0	35	1	0	1	0	2	0	0	0	0	0	18

Peak Hour Diagram

Specified Period

From: 07:00:00
To: 09:00:00

One Hour Peak

From: 07:30:00
To: 08:30:00

Intersection: Sixth Line & 1500 Sixth Line
Site Code: 2603900001
Count Date: Feb 11, 2026

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Sixth Line runs N/S

North Approach

	Out	In	Total
	353	448	801
	33	38	71
	1	0	1
Totals	387	486	873

Sixth Line

	0	1	0
	0	33	0
	2	351	0
Totals	2	385	0



Peds: 0

1500 Sixth Line

			Totals
0	0	0	0
0	0	0	0
0	0	0	0

Peds: 10



Peds: 14

Peds: 0

West Approach

	Out	In	Total
	0	2	2
	0	0	0
	0	0	0
Totals	0	2	2

Totals	0	486	0
	0	448	0
	0	38	0
	0	0	0

Sixth Line

South Approach

	Out	In	Total
	448	351	799
	38	33	71
	0	1	1
Totals	486	385	871

- Cars

- Trucks

- Bicycles

Comments



Peak Hour Summary

Intersection: Sixth Line & 1500 Sixth Line
 Site Code: 2603900001
 Count Date: Feb 11, 2026
 Period: 07:00 - 09:00

Peak Hour Data (07:30 - 08:30)

Start Time	North Approach Sixth Line					South Approach Sixth Line					East Approach					West Approach 1500 Sixth Line					Total Vehicles				
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑		→	↻	Peds	Total
07:30		155	0	0	0	155	0	95		0	0	95					5		0		0	0	1	0	250
07:45		88	1	0	0	89	0	130		0	0	130					2		0		0	0	4	0	219
08:00		81	1	0	0	82	0	161		0	0	161					4		0		0	0	4	0	243
08:15		61	0	0	0	61	0	100		0	0	100					3		0		0	0	1	0	161
Grand Total		385	2	0	0	387	0	486		0	0	486					14	0	0	0	0	0	10	0	873
Approach %		99.5	0.5	0	-	-	0	100		0	0	-					-	-	0		0	0	-	-	
Totals %		44.1	0.2	0	-	44.3	0	55.7		0	0	55.7					0	0	0		0	0	0	0	
PHF		0.62	0.5	0	0	0.62	0	0.75		0	0	0.75					0	0	0	0	0	0	0	0	0.87
Cars		351	2	0	-	353	0	448		0	0	448					0	0	0	0	0	0	0	0	801
% Cars		91.2	100	0	-	91.2	0	92.2		0	0	92.2					0	0	0	0	0	0	0	0	91.8
Trucks		33	0	0	-	33	0	38		0	0	38					0	0	0	0	0	0	0	0	71
% Trucks		8.6	0	0	-	8.5	0	7.8		0	0	7.8					0	0	0	0	0	0	0	0	8.1
Bicycles		1	0	0	-	1	0	0		0	0	0					0	0	0	0	0	0	0	0	1
% Bicycles		0.3	0	0	-	0.3	0	0		0	0	0					0	0	0	0	0	0	0	0	0.1
Peds					0	-				0	-						14	-			10	-			24
% Peds					0	-				0	-						58.3	-			41.7	-			

Peak Hour Diagram

Specified Period

From: 16:00:00
To: 18:00:00

One Hour Peak

From: 16:00:00
To: 17:00:00

Intersection: Sixth Line & 1500 Sixth Line
Site Code: 2603900001
Count Date: Feb 11, 2026

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Sixth Line runs N/S

North Approach

	Out	In	Total
	346	442	788
	11	7	18
	0	0	0
Totals	357	449	806

Sixth Line

	0	0	0
	0	11	0
	6	340	0
Totals	6	351	0



Peds: 0

1500 Sixth Line

			Totals	
0	0	0	0	
0	0	5	5	
0	0	10	10	

Peds: 3



Peds: 4

Peds: 3

West Approach

	Out	In	Total
	15	11	26
	0	0	0
	0	0	0
Totals	15	11	26

Totals	5	444	0
	5	437	0
	0	7	0
	0	0	0



Sixth Line

South Approach

	Out	In	Total
	442	350	792
	7	11	18
	0	0	0
Totals	449	361	810

 - Cars

 - Trucks

 - Bicycles

Comments



Peak Hour Summary

Intersection: Sixth Line & 1500 Sixth Line
 Site Code: 2603900001
 Count Date: Feb 11, 2026
 Period: 16:00 - 18:00

Peak Hour Data (16:00 - 17:00)

Start Time	North Approach Sixth Line					South Approach Sixth Line					East Approach					West Approach 1500 Sixth Line					Total Vehicles				
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑		→	↻	Peds	Total
16:00		78	0	0	0	78	3	124		0	0	127					3		1		1	0	0	2	207
16:15		96	1	0	0	97	0	97		0	0	97					1		1		3	0	3	4	198
16:30		89	4	0	0	93	1	115		0	3	116					0		1		3	0	0	4	213
16:45		88	1	0	0	89	1	108		0	0	109					0		2		3	0	0	5	203
Grand Total		351	6	0	0	357	5	444		0	3	449					4	0	5		10	0	3	15	821
Approach %		98.3	1.7	0	-	-	1.1	98.9		0	-	-					-	-	33.3		66.7	0	-	-	
Totals %		42.8	0.7	0	-	43.5	0.6	54.1		0	-	54.7					0	-	0.6		1.2	0	-	1.8	
PHF		0.91	0.38	0	0	0.92	0.42	0.9		0	0	0.88					0	0	0.63		0.83	0	0	0.75	0.96
Cars		340	6	0	-	346	5	437		0	-	442					0	-	5		10	0	-	15	803
% Cars		96.9	100	0	-	96.9	100	98.4		0	-	98.4					0	-	100		100	0	-	100	97.8
Trucks		11	0	0	-	11	0	7		0	-	7					0	-	0		0	0	-	0	18
% Trucks		3.1	0	0	-	3.1	0	1.6		0	-	1.6					0	-	0		0	0	-	0	2.2
Bicycles		0	0	0	-	0	0	0		0	-	0					0	-	0		0	0	-	0	0
% Bicycles		0	0	0	-	0	0	0		0	-	0					0	-	0		0	0	-	0	0
Peds					0	-					3	-					4	-				3	-		10
% Peds					0	-					30	-					40	-				30	-		

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MOVING TRAFFIC FORWARD

OAK1115 - Sixth Line @ McCraney 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								
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	E	N	S	N	W	N	N	N	N	N	N	N	N
Movement	L	T		T		T		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 Interlock CRC	No
CRC (16 bit)	937A
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 Phases	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	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
Phase Must Gap With Phase Disable	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	10	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	11	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	14	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

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

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MOVING TRAFFIC FORWARD

OAK1115 - Sixth Line @ McCraney St - 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

Town of Oakville, ON



MOVING TRAFFIC FORWARD

OAK1115 - Sixth Line @ McCraney St - 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	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

Town of Oakville, ON



MOVING TRAFFIC FORWARD

OAK1115 - Sixth Line @ McCraney St - 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-T	N	E-T	N	S-T	N	W-T	N	N	N	N	N	N	N	N
Min Green	7	24	0	20	0	24	5	20	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	5	0	0	0	5	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	14	0	11	0	14	0	11	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	2.5	5.5	5.0	3.5	5.0	5.5	5.0	3.5	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	20	40	35	30	35	40	35	30	35	35	35	35	35	35	35	35
Max2	20	50	40	40	40	50	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	3.3	3.0	3.3	3.0	3.3	3.0	3.3	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	2.3	1.0	2.0	1.0	2.3	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	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	S-L	N-T	N	E-T	N	S-T	N	W-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	S-L	N-T	N	E-T	N	S-T	N	W-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 4 - ""

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	S-L	N-T	N	E-T	N	S-T	N	W-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

Town of Oakville, ON



MOVING TRAFFIC FORWARD

OAK1115 - Sixth Line @ McCraney 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
---------	-------	----------	---------	-------------	-------------	----------	--------------	--------------	-------------

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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MOVING TRAFFIC FORWARD

OAK1115 - Sixth Line @ McCraney St - Econolite Type - Cobalt

Controller Pedestrian Overlaps

Vehicle / Pedestrian Overlaps (MM) 2-3

Included	Pedestrian Overlaps
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MOVING TRAFFIC FORWARD

OAK1115 - Sixth Line @ McCraney 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: No
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: No
Exit Flash: W
Minimum Flash: 8
Mimimum Recall: No
Cycle Through Phase: No

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MOVING TRAFFIC FORWARD

OAK1115 - Sixth Line @ McCraney 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			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																
Vehicle Recall		X					X									
Ped Recall																
Max Recall																
Soft Recall																
No Rest																
AI Calc																

Town of Oakville, ON



MOVING TRAFFIC FORWARD

OAK1115 - Sixth Line @ McCraney St - Econolite Type - Cobalt

**Coordination Options
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		
Delay Coord Wk-LZ	No	Force Off	Float
Offset Reference	Lead	Use Ped Time	Yes
Ped Recall	Yes	Ped Reservice	Yes
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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MOVING TRAFFIC FORWARD

OAK1115 - Sixth Line @ McCraney St - Econolite Type - Cobalt

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

Town of Oakville, ON



MOVING TRAFFIC FORWARD

OAK1115 - Sixth Line @ McCraney St - Econolite Type - Cobalt

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

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MOVING TRAFFIC FORWARD

OAK1115 - Sixth Line @ McCraney 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	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	4.0	2.5
	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		

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

Town of Oakville, ON



 MOVING TRAFFIC FORWARD

OAK1115 - Sixth Line @ McCraney 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...

Town of Oakville, ON



MOVING TRAFFIC FORWARD

OAK1115 - Sixth Line @ McCraney 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

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MOVING TRAFFIC FORWARD

OAK1115 - Sixth Line @ McCraney St - Econolite Type - Cobalt

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

Manual Action Plan: 0
SYNC Reference Time: 00:00
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

OAK1115 - Sixth Line @ McCraney St - Econolite Type - Cobalt

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

Town of Oakville, ON



MOVING TRAFFIC FORWARD

OAK1115 - Sixth Line @ McCraney St - Econolite Type - Cobalt

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

Schedule (MM) 5-4

Town of Oakville, ON



MOVING TRAFFIC FORWARD

OAK1115 - Sixth Line @ McCraney 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
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MOVING TRAFFIC FORWARD

OAK1115 - Sixth Line @ McCraney 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
2	1		S
3	4		S
4	4		S
5	5		S
6	6	2	S
7	8		S
8	8		S
9	9		N
10	10		N
11	11		N
12	12		N
13	13		N
14	14		N
15	15		N
16	16		N
33	9		S
34	10		S
35	11		S
36	12		S

Vehicle Detector Plan Number - 2

Veh Detector	Assigned Phase	Called Phase	Type
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Vehicle Detector Plan Number - 3

Veh Detector	Assigned Phase	Called Phase	Type
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Vehicle Detector Plan Number - 4

Veh Detector	Assigned Phase	Called Phase	Type
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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	N-NTCIP	No	
10	N-NTCIP	No	
11	N-NTCIP	No	
12	N-NTCIP	No	
13	N-NTCIP	No	
14	N-NTCIP	No	
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	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	0	No	Yes	0.0	Passage	0.0	0	No	6	None	No	No	No
2	1	No	Yes	0.0	Passage	0.0	0	No	6	None	No	No	No
3	4	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	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	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	6	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
--------------	-------	----------	-------------	------------	------------	----------------------------	---------------------------	-------------------	-----------------	---------	------------	------------	-----------------

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
--------------	-------	----------	-------------	------------	------------	----------------------------	---------------------------	-------------------	-----------------	---------	------------	------------	-----------------

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
--------------	-------	----------	-------------	------------	------------	----------------------------	---------------------------	-------------------	-----------------	---------	------------	------------	-----------------

Ped Detector Phase Assignment (MM) 6-3

Mode: Econolite

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

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

Town of Oakville, ON



MOVING TRAFFIC FORWARD

OAK1115 - Sixth Line @ McCraney St - Econolite Type - Cobalt

Detectors

Detectors - Pg 2

Log - Speed Detector Setup (MM) 6-4

NTCIP Log Period: 60 ECPI Log Period: 0 Length Unit: 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
-----	--------	-----	------	------------



Region of Halton

MOVING TRAFFIC FORWARD

REG0814 - Upper Middle Rd @ Sixth Line - 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	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	S	N	E	W	N	S	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 Interlock No
 CRC
 CRC (16 bit) 3138
 Enable Automatic Backup to Datakey Yes

Backup Prevent (MM) 1-1-3

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

	.	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.

	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

	X	.	.	.	.	.	.	.	.	.	.

	X	.	.	.	.	.	.	.	.

Phase	.	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Must
Gap	.	.	.	X	.	.	.	.	.	.	.	.	.	.	.	.
With
Phase

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



Region of Halton

MOVING TRAFFIC FORWARD

REG0814 - Upper Middle Rd @ Sixth Line - 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: 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	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



Region of Halton

MOVING TRAFFIC FORWARD

REG0814 - Upper Middle Rd @ Sixth Line - 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	No
Coordination Errors	No	Controller Download	No
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: Upper Middle Rd @ Sixth Line

Sign On Message Line 2: Zone 8 - Int 14

Software Modules (MM) 8-7

Application Version: 32.62.00

OS (Boot) Version: 06.03.10

Region of Halton



MOVING TRAFFIC FORWARD

REG0814 - Upper Middle Rd @ Sixth Line - 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	W-L	E-T	S-L	N-T	E-L	W-T	N-L	S-T	N	N	N	N	N	N	N	N
Min Green	7	20	7	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	23	0	32	0	23	0	32	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	3.5	4.5	3.5	3.5	3.5	4.5	3.5	3.5	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	25	60	25	40	25	60	25	40	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	3.7	3.0	3.7	3.0	3.7	3.0	3.7	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.8	1.0	2.7	1.0	1.8	1.0	2.7	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	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	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



Region of Halton

MOVING TRAFFIC FORWARD

REG0814 - Upper Middle Rd @ Sixth Line - Econolite Type - Cobalt

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



Region of Halton

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REG0814 - Upper Middle Rd @ Sixth Line - 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 Reserve	Yes
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

Region of Halton



MOVING TRAFFIC FORWARD

REG0814 - Upper Middle Rd @ Sixth Line - 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	120	Std (COS)	111	Offsets In	Percent
Offset Value	97%	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	W-L	E-T	S-L	N-T	E-L	W-T	N-L	S-T	N	N	N	N	N	N	N	N
Splits (Split Pat 1)	10	42	10	38	10	42	10	38	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 # 2

Split Pattern	2	TS2 (Pat-Off)	0-2	Splits In	Percent
Cycle	110	Std (COS)	121	Offsets In	Percent
Offset Value	27%	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	W-L	E-T	S-L	N-T	E-L	W-T	N-L	S-T	N	N	N	N	N	N	N	N
Splits (Split Pat 2)	10	38	10	42	10	38	10	42	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 # 3

Split Pattern	3	TS2 (Pat-Off)	0-3	Splits In	Percent
Cycle	120	Std (COS)	131	Offsets In	Percent
Offset Value	68%	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	W-L	E-T	S-L	N-T	E-L	W-T	N-L	S-T	N	N	N	N	N	N	N	N
Splits (Split Pat 3)	10	40	12	38	11	39	10	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																

Coordinator Pattern # 4

Split Pattern	4	TS2 (Pat-Off)	1-1	Splits In	Percent
Cycle	110	Std (COS)	141	Offsets In	Percent
Offset Value	27%	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	W-L	E-T	S-L	N-T	E-L	W-T	N-L	S-T	N	N	N	N	N	N	N	N
Splits (Split Pat 4)	10	41	10	39	10	41	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
Special Function Outputs																

Coordinator Pattern # 6

Split Pattern	6	TS2 (Pat-Off)	1-3	Splits In	Percent
Cycle	100	Std (COS)	112	Offsets In	Percent
Offset Value	23%	Dwell/Add Time	0		
Actuated Coord	No	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	S-L	N-T	E-L	W-T	N-L	S-T	N	N	N	N	N	N	N	N
Splits (Split Pat 6)	12	40	12	36	12	40	12	36	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																

Region of Halton



MOVING TRAFFIC FORWARD

REG0814 - Upper Middle Rd @ Sixth Line - 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	W-L	E-T	S-L	N-T	E-L	W-T	N-L	S-T	N	N	N	N	N	N	N	N
Split (percent)	10	42	10	38	10	42	10	38	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	S-L	N-T	E-L	W-T	N-L	S-T	N	N	N	N	N	N	N	N
Split (percent)	10	38	10	42	10	38	10	42	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	W-L	E-T	S-L	N-T	E-L	W-T	N-L	S-T	N	N	N	N	N	N	N	N
Split (percent)	10	40	12	38	11	39	10	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	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	W-L	E-T	S-L	N-T	E-L	W-T	N-L	S-T	N	N	N	N	N	N	N	N
Split (percent)	10	41	10	39	10	41	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	X

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

Split Pattern # 6

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	W-L	E-T	S-L	N-T	E-L	W-T	N-L	S-T	N	N	N	N	N	N	N	N
Split (percent)	12	40	12	36	12	40	12	36	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%



Region of Halton

MOVING TRAFFIC FORWARD

REG0814 - Upper Middle Rd @ Sixth Line - 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	09:30
3	3	15:15
4	2	18:30
5	5	21:00

Day Plan #2 - "2"

Event	Action Plan	Start Time
2	4	07:00
5	5	19:00

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

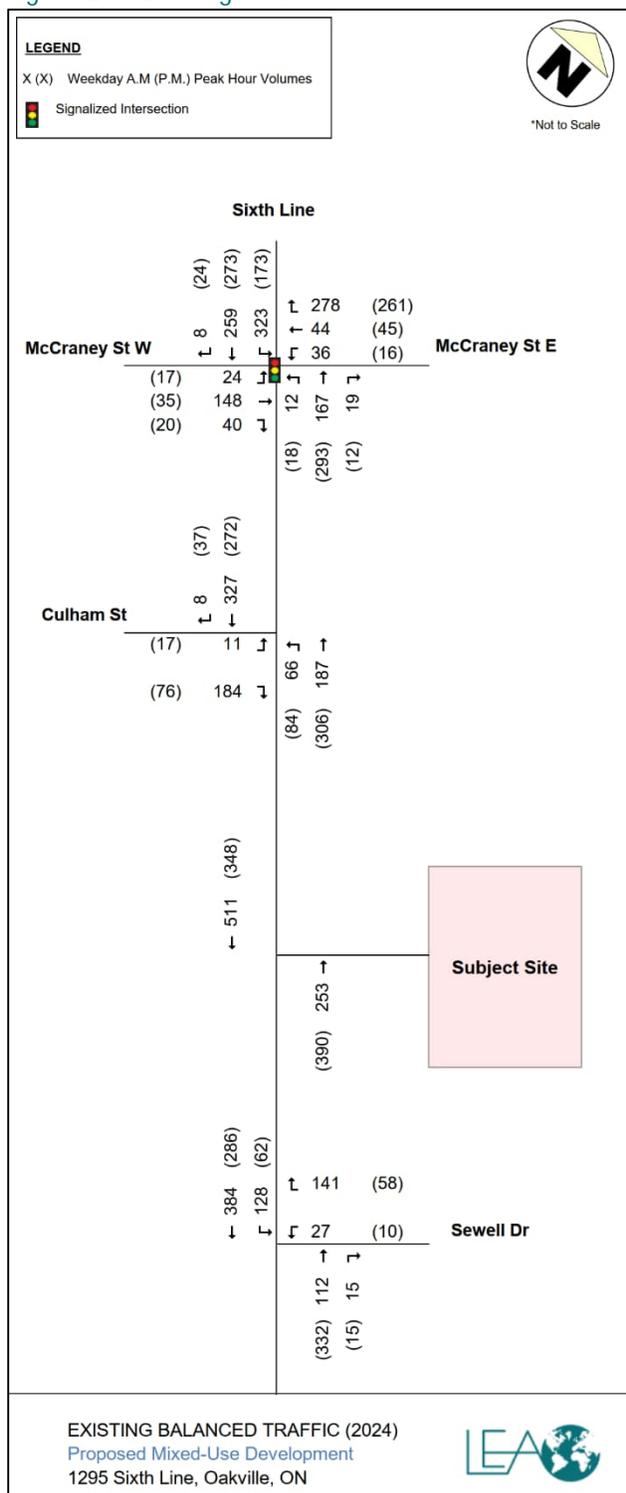
Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

Traffic Counts From 1295 Sixth Line TIS

2.6 EXISTING TRAFFIC VOLUMES

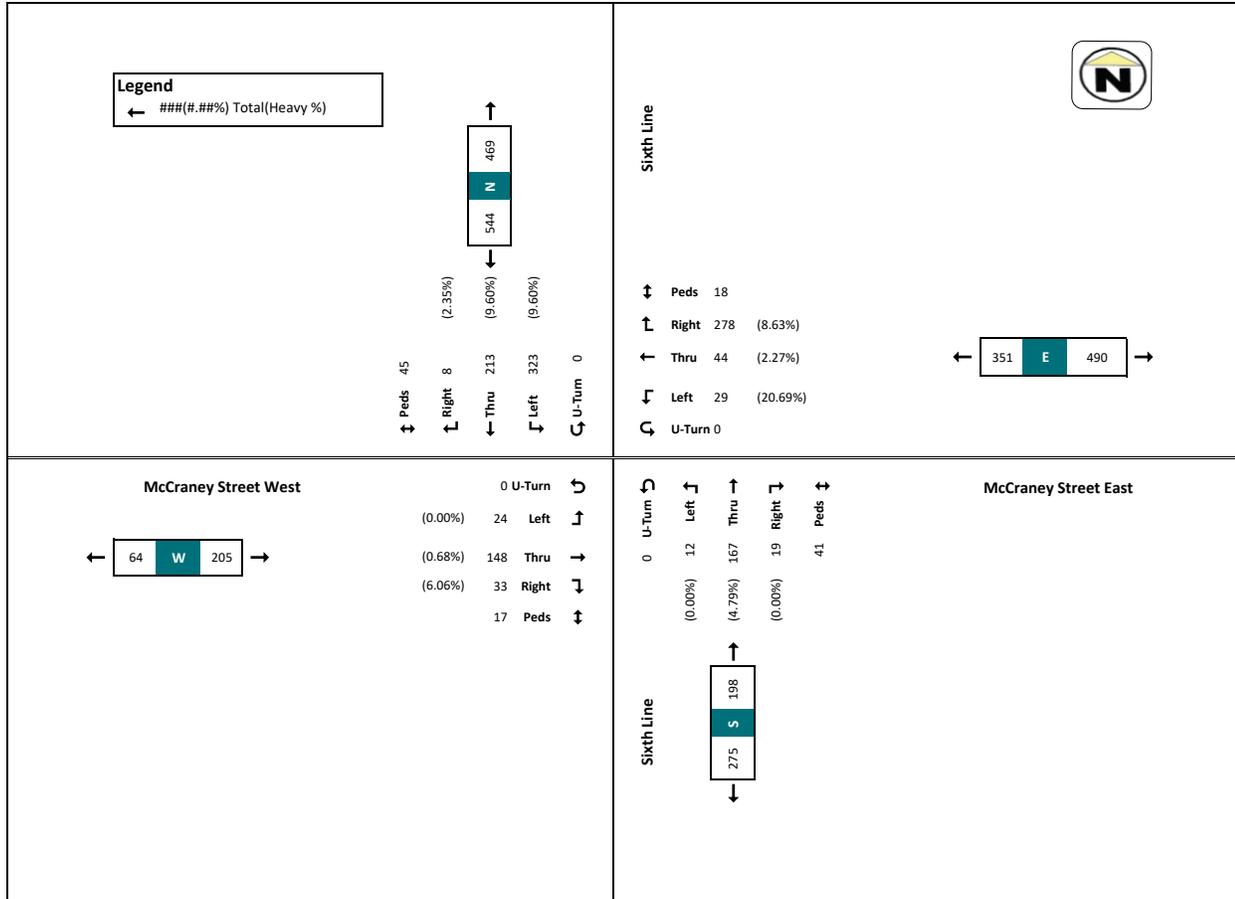
The existing traffic volumes during the weekday AM and PM peak hours are illustrated in Figure 2-6.

Figure 2-6: Existing Peak Hour Traffic Volumes



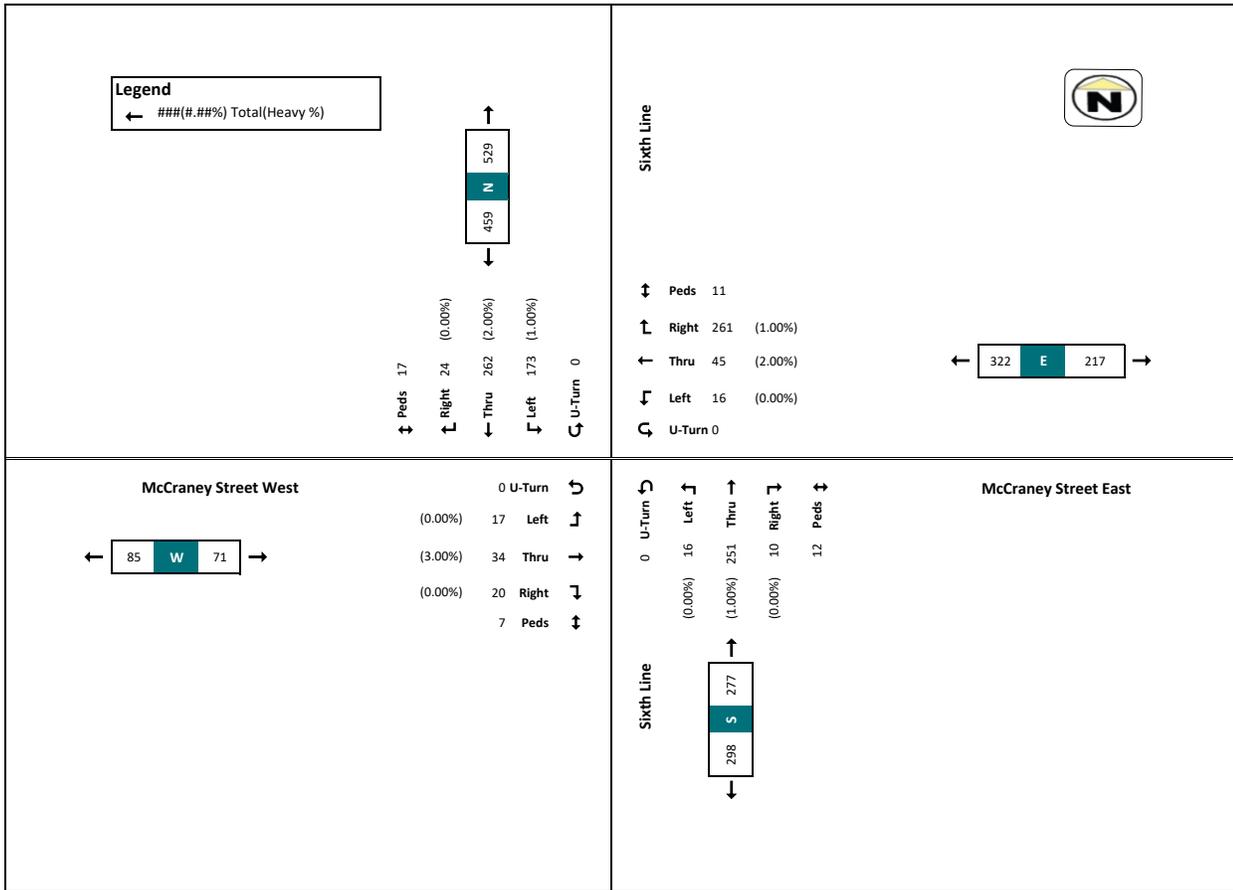
AM Peak Hour - Sixth Line & McCraney Street West

Start Time	Sixth Line Southbound					McCraney Street East Westbound					Sixth Line Northbound					McCraney Street West Eastbound					Grand Total	
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds		App. Total
7:30	0	99	55	1	7	0	5	7	27	3	0	1	44	2	2	0	5	18	7	4	47	30
7:45	0	108	39	3	22	0	7	16	78	8	0	3	33	12	19	0	4	65	13	7	82	381
8:00	0	90	59	1	9	0	16	17	101	4	0	4	51	4	10	0	7	58	7	3	72	415
8:15	0	26	60	3	7	0	1	4	42	3	0	4	39	1	10	0	8	7	6	3	21	201
Hourly Total	0	323	213	8	45	0	29	44	278	18	0	12	167	19	41	0	24	148	33	17	205	1298
Approach %	0.0%	59.4%	39.2%	1.5%	-	0.0%	8.3%	12.5%	79.2%	-	0.0%	6.1%	84.3%	9.6%	-	0.0%	11.7%	72.2%	16.1%	-	-	-
Total %	0.0%	24.9%	16.4%	0.6%	-	0.0%	2.2%	3.4%	21.4%	-	27.0%	0.0%	0.9%	12.9%	1.5%	-	15.3%	0.0%	1.8%	11.4%	2.5%	-
PHF	0	0.75	0.89	0.67	0.88	0	0.45	0.65	0.69	0.65	0	0.75	0.82	0.4	-	0.84	0	0.75	0.57	0.63	-	0.63
% Light	0	292	208	7	37	0	23	43	254	3	0	12	159	19	-	190	0	24	147	33	-	202
% Light	90.4%	97.3%	87.5%	87.2%	82.2%	-	79.3%	87.7%	93.4%	-	91.2%	100.0%	96.2%	100.0%	-	96.0%	-	100.0%	99.3%	93.9%	-	98.5%
% Buses	31	2	1	1	34	-	6	3	24	31	-	6	7	0	-	0	-	0	1	1	-	3
% Buses	9.6%	0.9%	12.5%	6.3%	75.6%	-	20.7%	2.3%	8.6%	8.8%	-	0.0%	4.2%	0.0%	-	3.5%	-	0.0%	0.7%	6.1%	-	1.5%
% Trucks	0	3	0	0	3	-	0	0	0	0	-	0	1	0	-	0	-	0	0	0	-	0
% Trucks	0.0%	1.4%	0.0%	0.0%	6.6%	-	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.6%	0.0%	-	0.5%	-	0.0%	0.0%	0.0%	-	0.0%
Bicycles	-	-	-	-	0	-	-	-	4	4	-	-	-	-	-	-	-	-	-	-	-	1
Pedestrians	-	-	-	45	-	-	-	-	18	-	-	-	-	-	0	-	-	-	-	-	-	80



PM Peak Hour - Sixth Line & McCraney Street West

Start Time	Sixth Line Southbound						McCraney Street East Westbound						Sixth Line Northbound						McCraney Street West Eastbound						Grand Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
16:00	0	44	62	6	4	112	0	2	12	65	3	79	0	0	52	2	5	54	0	3	11	4	0	18	263
16:15	0	46	63	3	5	114	0	5	11	64	5	67	0	7	71	3	2	80	0	6	8	3	7	17	279
16:30	0	48	72	8	6	128	0	1	12	89	2	102	0	6	71	3	3	80	0	5	8	3	7	16	306
16:45	0	35	65	5	5	105	0	8	10	56	1	74	0	3	57	2	2	62	0	3	10	8	4	21	262
Hourly Total	0	173	262	24	17	459	0	16	45	261	11	322	0	16	251	10	12	277	0	17	35	20	7	72	1130
Approach %	0.0%	37.7%	57.1%	5.2%	3.7%	40.6%	0.0%	5.0%	14.0%	81.1%	3.3%	28.5%	0.0%	5.8%	90.6%	3.6%	3.6%	24.5%	0.0%	23.6%	48.6%	27.8%	1.9%	6.4%	1.9%
Total %	0.0%	15.3%	23.2%	2.1%	1.5%	40.6%	0.0%	1.2%	3.9%	23.9%	1.1%	28.5%	0.0%	1.2%	19.3%	0.8%	0.8%	24.5%	0.0%	1.9%	2.7%	1.9%	0.5%	1.9%	6.4%
Phf	0	0.9	0.91	0.25	0.9	0.9	0	0.5	0.94	0.23	0.79	0.79	0	0.57	0.88	0.83	0.85	0.85	0	0.71	0.8	0.63	0.56	0.87	0.87
Lights	0	172	258	24	17	454	0	16	44	258	11	318	0	16	248	10	12	274	0	17	34	20	7	71	1117
% Lights	99.4%	98.5%	100.0%	100.0%	98.9%	98.9%	100.0%	97.8%	98.9%	98.8%	98.8%	98.8%	100.0%	98.8%	100.0%	98.8%	100.0%	98.9%	100.0%	100.0%	97.1%	100.0%	98.6%	98.6%	98.8%
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Appendix D

Background Development Excerpts

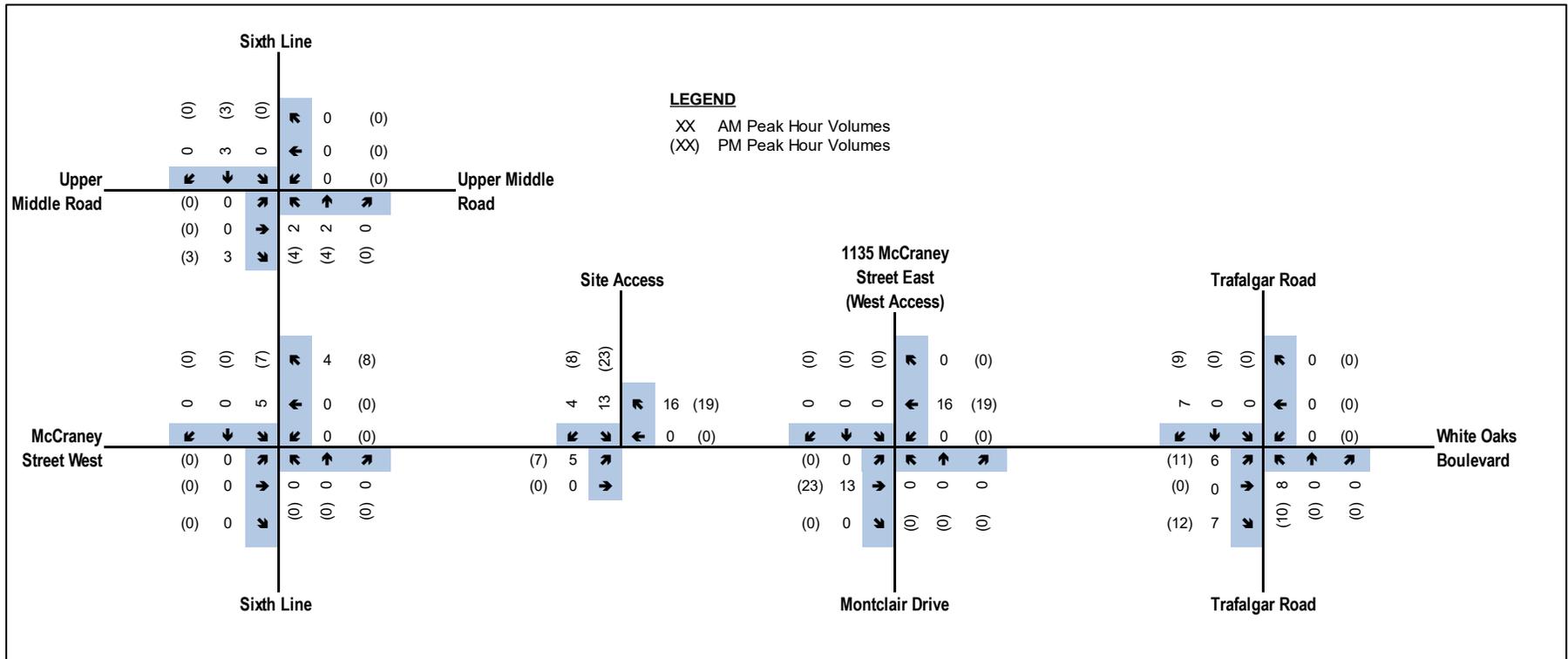


Figure 6 Estimated Site Trips

4.3 TRIP DISTRIBUTION AND ASSIGNMENT

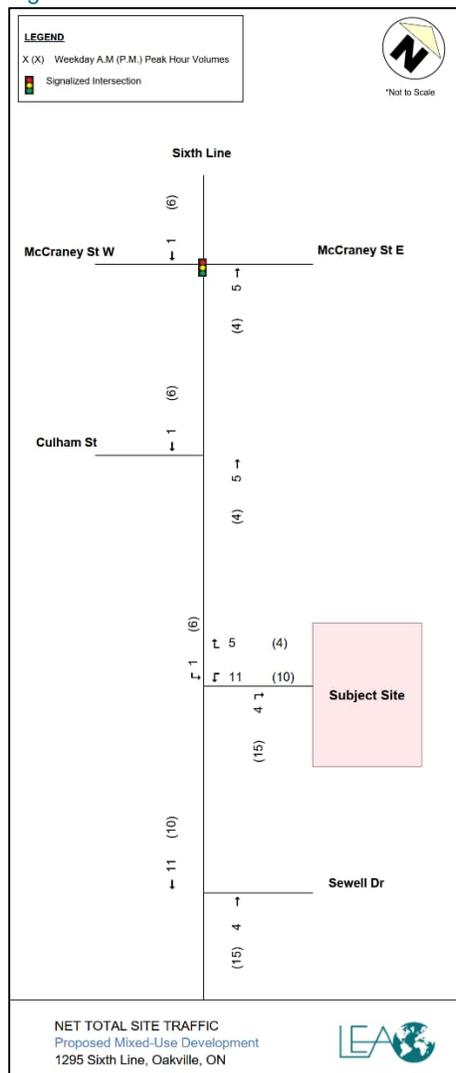
The trip distribution of site traffic was estimated using Transportation Tomorrow Survey (TTS) 2016 data. Trips were filtered for the inbound trips based on the PM peak hour and outbound based on the AM peak hour for traffic zones 4030 and 4031. Site traffic was assigned to the road network based on trip patterns in the study area, logical routing, turning restrictions and the location and configuration of the site access. Table 4-3 outlines the trip distribution for the site and detailed TTS calculations are provided in Appendix E.

Table 4-3: Site Trip Distribution

Gateway	Inbound	Outbound
Sixth Line (N)	27%	29%
Sixth Line (S)	73%	71%
Total	100%	100%

The site generated traffic volumes for the weekday AM and PM peak hours are illustrated in Figure 4-1.

Figure 4-1: Site Generated Peak Hour Traffic Volumes



Appendix E

**TRANS 2022 Origin-Destination
Household Travel Survey Excerpts**

Exhibit 3.17: Daily Mode Share by Trip Origin (2022)

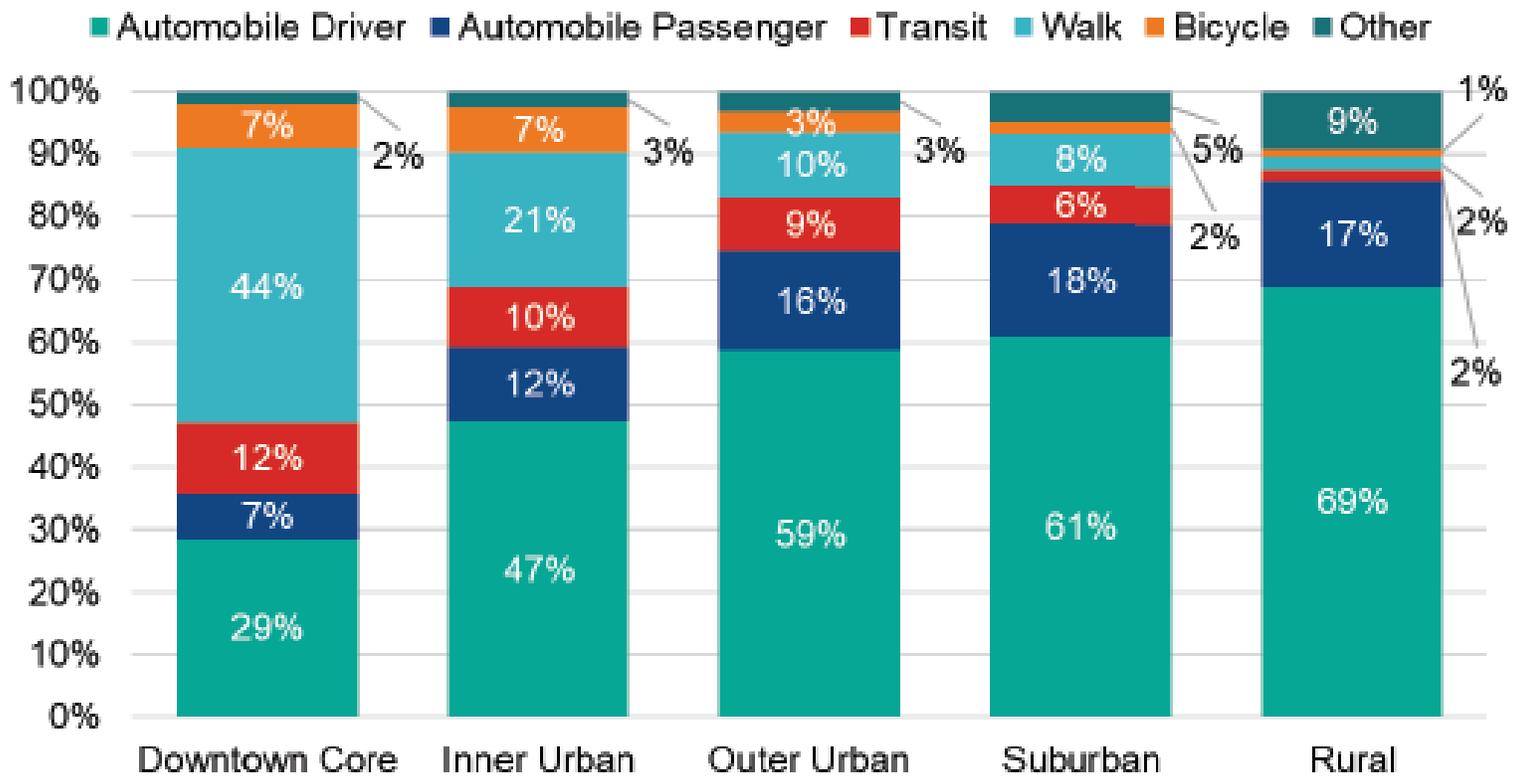
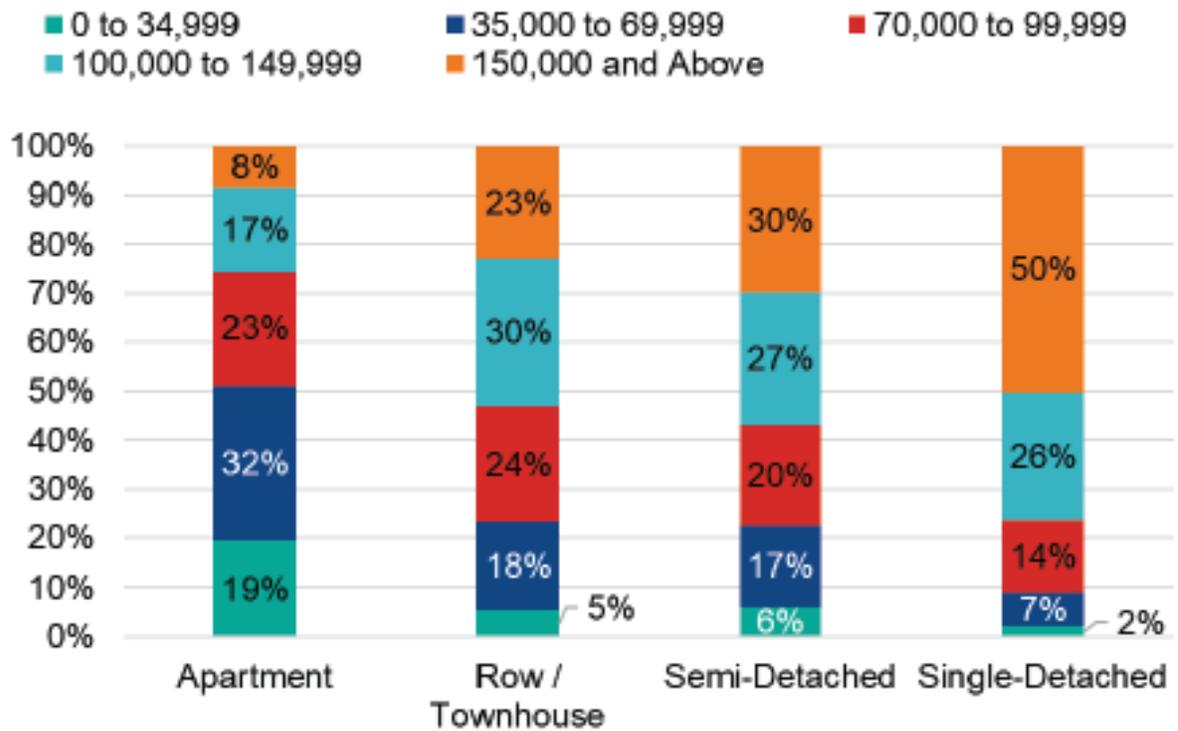
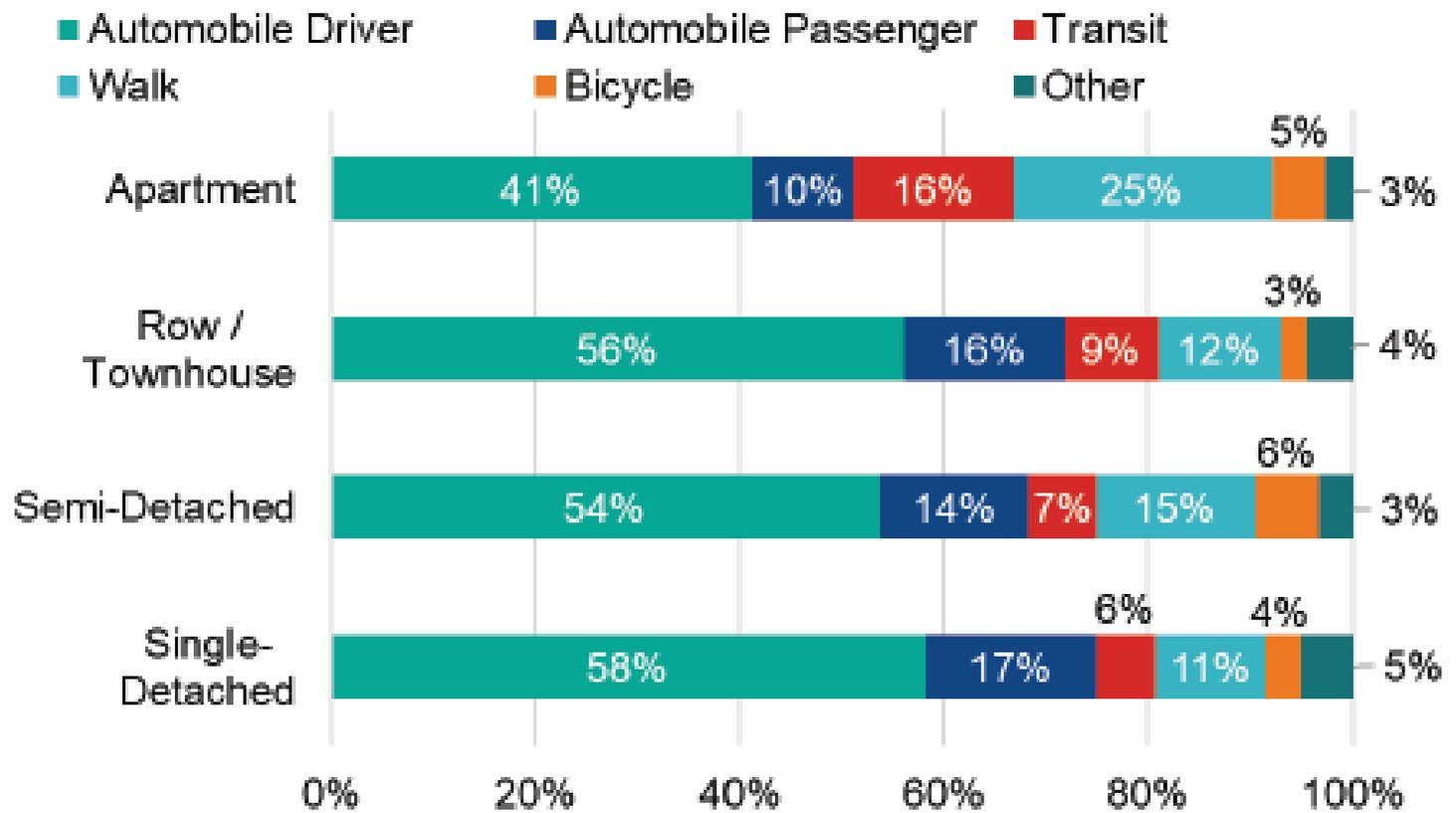


Exhibit 2.6: Household Income by Dwelling Type (2022)



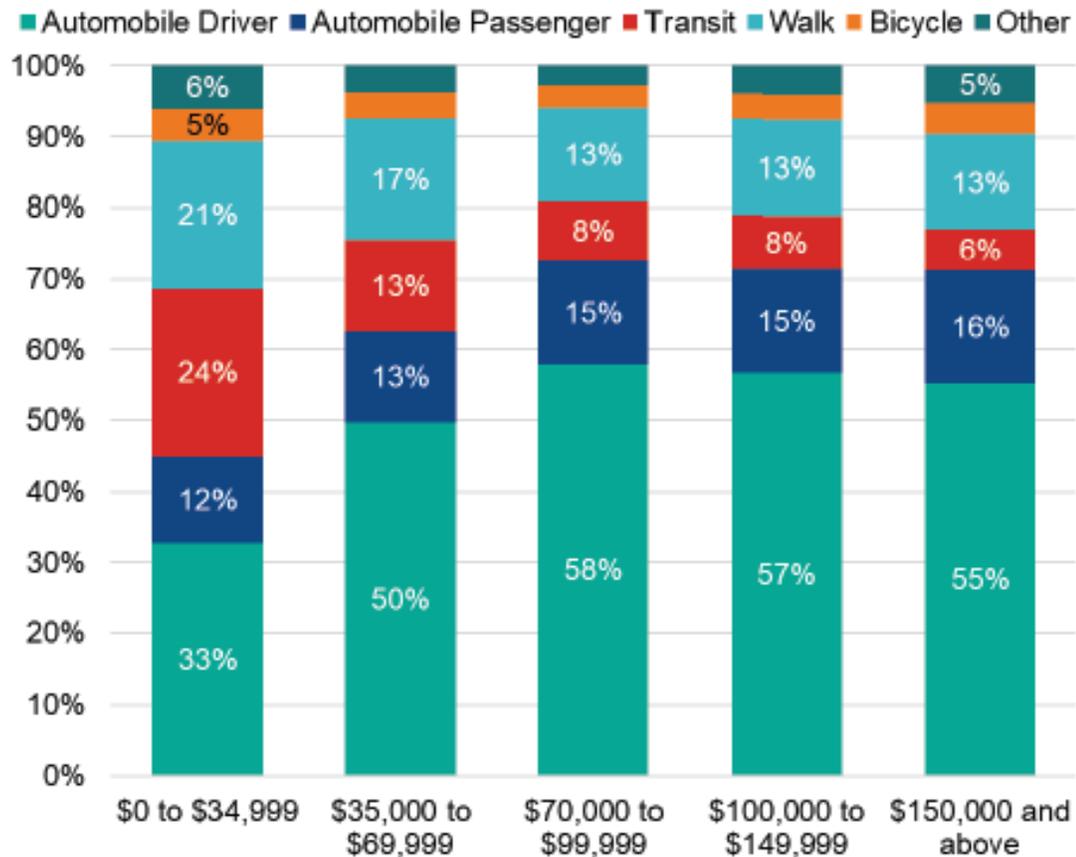
Source: 2022 Origin-Destination Survey.

Exhibit 3.19: Daily Mode Share by Dwelling Type (2022)



Source: 2022 Origin-Destination Survey.

Exhibit 3.20: Daily Mode Share by Household Income (2022)



Source: 2022 Origin-Destination Survey.

Appendix F

Synchro Outputs

Lanes, Volumes, Timings
1: Sixth Line & Upper Middle Road

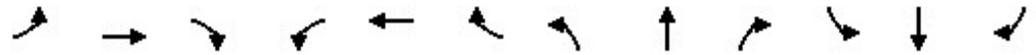
Existing 2025
AM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	718	156	150	501	86	140	224	163	154	254	90
Future Volume (vph)	92	718	156	150	501	86	140	224	163	154	254	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		55.0	45.0		45.0	30.0		30.0	40.0		0.0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97	1.00		0.97	1.00		0.98	0.99	0.99	
Fr _t			0.850			0.850			0.850		0.961	
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3579	1617	1690	3544	1570	1722	1847	1570	1807	1804	0
Fl _t Permitted	0.370			0.229			0.349			0.520		
Satd. Flow (perm)	707	3579	1575	407	3544	1520	630	1847	1537	983	1804	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			162			104			161			16
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		498.8			445.5			239.9			113.9	
Travel Time (s)		37.4			33.4			18.0			8.5	
Confl. Peds. (#/hr)	6		3	3		6	9		10	10		9
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	1%	8%	3%	4%	6%	4%	4%	1%	1%	4%
Adj. Flow (vph)	98	764	166	160	533	91	149	238	173	164	270	96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	764	166	160	533	91	149	238	173	164	366	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
1: Sixth Line & Upper Middle Road

Existing 2025
AM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	
Minimum Split (s)	12.0	42.0	42.0	12.0	42.0	42.0	12.0	45.4	45.4	12.0	45.4	
Total Split (s)	12.0	50.0	50.0	12.0	50.0	50.0	12.0	46.0	46.0	12.0	46.0	
Total Split (%)	10.0%	41.7%	41.7%	10.0%	41.7%	41.7%	10.0%	38.3%	38.3%	10.0%	38.3%	
Maximum Green (s)	8.0	44.5	44.5	8.0	44.5	44.5	8.0	39.6	39.6	8.0	39.6	
Yellow Time (s)	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7	
All-Red Time (s)	1.0	1.8	1.8	1.0	1.8	1.8	1.0	2.7	2.7	1.0	2.7	
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	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	3.5	3.5	3.5	3.5	
Recall Mode	None	C-Max	C-Max	None	Max	Max	None	Max	Max	None	Max	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		23.0	23.0		23.0	23.0		32.0	32.0		32.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effct Green (s)	53.8	44.5	44.5	54.2	44.7	44.7	50.0	39.6	39.6	50.0	39.6	
Actuated g/C Ratio	0.45	0.37	0.37	0.45	0.37	0.37	0.42	0.33	0.33	0.42	0.33	
v/c Ratio	0.25	0.58	0.24	0.59	0.40	0.14	0.44	0.39	0.28	0.35	0.60	
Control Delay	18.8	32.3	5.0	28.4	29.0	4.2	24.9	33.3	6.6	22.8	37.1	
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	18.8	32.3	5.0	28.4	29.0	4.2	24.9	33.3	6.6	22.8	37.1	
LOS	B	C	A	C	C	A	C	C	A	C	D	
Approach Delay		26.6			26.0			22.8			32.7	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:EBTL, Start of Green
Natural Cycle:	115
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.60
Intersection Signal Delay:	26.8
Intersection LOS:	C
Intersection Capacity Utilization:	90.9%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 1: Sixth Line & Upper Middle Road



Queues
1: Sixth Line & Upper Middle Road

Existing 2025
AM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	98	764	166	160	533	91	149	238	173	164	366
v/c Ratio	0.25	0.58	0.24	0.59	0.40	0.14	0.44	0.39	0.28	0.35	0.60
Control Delay	18.8	32.3	5.0	28.4	29.0	4.2	24.9	33.3	6.6	22.8	37.1
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	18.8	32.3	5.0	28.4	29.0	4.2	24.9	33.3	6.6	22.8	37.1
Queue Length 50th (m)	12.3	75.0	0.6	20.9	48.4	0.0	20.7	42.9	1.9	22.8	68.7
Queue Length 95th (m)	21.9	94.5	14.3	34.2	63.4	8.4	34.2	65.2	17.2	37.0	100.2
Internal Link Dist (m)		474.8			421.5			215.9			89.9
Turn Bay Length (m)	55.0		55.0	45.0		45.0	30.0		30.0	40.0	
Base Capacity (vph)	392	1327	685	269	1320	631	335	609	615	464	606
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	0.25	0.58	0.24	0.59	0.40	0.14	0.44	0.39	0.28	0.35	0.60

Intersection Summary

HCM Signalized Intersection Capacity Analysis
 1: Sixth Line & Upper Middle Road

Existing 2025
 AM Peak Hr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	92	718	156	150	501	86	140	224	163	154	254	90	
Future Volume (vph)	92	718	156	150	501	86	140	224	163	154	254	90	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	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	0.97	1.00	1.00	0.98	1.00	0.99		
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	1.00	0.85	1.00	1.00	0.85	1.00	0.96		
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1822	3579	1575	1689	3544	1520	1720	1847	1537	1801	1804		
Flt Permitted	0.37	1.00	1.00	0.23	1.00	1.00	0.35	1.00	1.00	0.52	1.00		
Satd. Flow (perm)	710	3579	1575	407	3544	1520	633	1847	1537	987	1804		
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)	98	764	166	160	533	91	149	238	173	164	270	96	
RTOR Reduction (vph)	0	0	102	0	0	57	0	0	108	0	11	0	
Lane Group Flow (vph)	98	764	64	160	533	34	149	238	65	164	355	0	
Confl. Peds. (#/hr)	6		3	3		6	9		10	10		9	
Heavy Vehicles (%)	0%	2%	1%	8%	3%	4%	6%	4%	4%	1%	1%	4%	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		
Protected Phases	5	2		1	6		7	4		3	8		
Permitted Phases	2		2	6		6	4		4	8			
Actuated Green, G (s)	52.3	44.5	44.5	52.7	44.7	44.7	47.6	39.6	39.6	47.6	39.6		
Effective Green, g (s)	52.3	44.5	44.5	52.7	44.7	44.7	47.6	39.6	39.6	47.6	39.6		
Actuated g/C Ratio	0.44	0.37	0.37	0.44	0.37	0.37	0.40	0.33	0.33	0.40	0.33		
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4		
Vehicle Extension (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	3.5	3.5	3.5	3.5		
Lane Grp Cap (vph)	381	1327	584	264	1320	566	323	609	507	445	595		
v/s Ratio Prot	0.02	0.21		c0.04	0.15		c0.03	0.13		0.02	c0.20		
v/s Ratio Perm	0.10		0.04	c0.23		0.02	0.15		0.04	0.12			
v/c Ratio	0.26	0.58	0.11	0.61	0.40	0.06	0.46	0.39	0.13	0.37	0.60		
Uniform Delay, d1	20.5	30.2	24.8	22.3	27.8	24.2	24.9	30.9	28.1	24.2	33.5		
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.4	1.8	0.4	4.1	0.9	0.2	1.2	1.9	0.5	0.6	4.4		
Delay (s)	20.9	32.0	25.1	26.4	28.7	24.4	26.1	32.8	28.6	24.8	37.9		
Level of Service	C	C	C	C	C	C	C	C	C	C	D		
Approach Delay (s)		29.9			27.8			29.7			33.9		
Approach LOS		C			C			C			C		
Intersection Summary													
HCM 2000 Control Delay			30.0		HCM 2000 Level of Service					C			
HCM 2000 Volume to Capacity ratio			0.59										
Actuated Cycle Length (s)			120.0		Sum of lost time (s)					19.9			
Intersection Capacity Utilization			90.9%		ICU Level of Service					E			
Analysis Period (min)			15										

c Critical Lane Group

Lanes, Volumes, Timings
2: Sixth Line & Elm Road

Existing 2025
AM Peak Hr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	8	171	40	477	617	3
Future Volume (vph)	8	171	40	477	617	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0	0.0	0.0			0.0
Storage Lanes	1	1	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850			0.999	
Flt Protected	0.950			0.996		
Satd. Flow (prot)	1615	1541	0	1789	1846	0
Flt Permitted	0.950			0.996		
Satd. Flow (perm)	1615	1541	0	1789	1846	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	103.8			216.0	48.0	
Travel Time (s)	7.8			16.2	3.6	
Confl. Peds. (#/hr)			13			13
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	13%	6%	30%	5%	4%	0%
Adj. Flow (vph)	10	206	48	575	743	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	206	0	623	747	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	68.2%
ICU Level of Service	C
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

2: Sixth Line & Elm Road

Existing 2025
AM Peak Hr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	171	40	477	617	3
Future Volume (Veh/h)	8	171	40	477	617	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	10	206	48	575	743	4
Pedestrians	13					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					288	
pX, platoon unblocked	0.86	0.86	0.86			
vC, conflicting volume	1429	758	760			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1418	640	643			
tC, single (s)	6.5	6.3	4.4			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.5			
p0 queue free %	91	48	93			
cM capacity (veh/h)	113	399	700			
Direction, Lane #	EB 1	EB 2	NB 1	SB 1		
Volume Total	10	206	623	747		
Volume Left	10	0	48	0		
Volume Right	0	206	0	4		
cSH	113	399	700	1700		
Volume to Capacity	0.09	0.52	0.07	0.44		
Queue Length 95th (m)	2.2	21.8	1.7	0.0		
Control Delay (s)	39.9	23.3	1.8	0.0		
Lane LOS	E	C	A			
Approach Delay (s)	24.0		1.8	0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			4.0			
Intersection Capacity Utilization			68.2%	ICU Level of Service	C	
Analysis Period (min)			15			

Lanes, Volumes, Timings
3: Sixth Line & Miller Road

Existing 2025
AM Peak Hr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	61	16	514	781	7
Future Volume (vph)	3	61	16	514	781	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.872			0.999		
Flt Protected	0.997			0.998		
Satd. Flow (prot)	1639	0	0	1795	1685	0
Flt Permitted	0.997			0.998		
Satd. Flow (perm)	1639	0	0	1795	1685	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	494.9			187.0	216.0	
Travel Time (s)	37.1			14.0	16.2	
Confl. Peds. (#/hr)				19		19
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	2%	0%	7%	14%	4%
Adj. Flow (vph)	4	74	20	627	952	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	78	0	0	647	961	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	52.2%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
3: Sixth Line & Miller Road

Existing 2025
AM Peak Hr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	61	16	514	781	7
Future Volume (Veh/h)	3	61	16	514	781	7
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	4	74	20	627	952	9
Pedestrians	19					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	2					
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)	187					
pX, platoon unblocked	0.94					
vC, conflicting volume	1642	976	980			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1652	976	980			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	75	97			
cM capacity (veh/h)	98	299	699			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	78	647	961			
Volume Left	4	20	0			
Volume Right	74	0	9			
cSH	271	699	1700			
Volume to Capacity	0.29	0.03	0.57			
Queue Length 95th (m)	8.8	0.7	0.0			
Control Delay (s)	23.6	0.8	0.0			
Lane LOS	C	A				
Approach Delay (s)	23.6	0.8	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			52.2%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings
 4: Sixth Line & McCraney Street West/McCraney Street East

Existing 2025
 AM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	148	40	36	86	337	19	167	46	452	371	19
Future Volume (vph)	26	148	40	36	86	337	19	167	46	452	371	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0		0.0	30.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.98	0.95		0.99	0.99		0.99		
Frt		0.968			0.880			0.967			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	1842	0	1706	1513	0	1825	1746	0	1772	1780	0
Flt Permitted	0.165			0.485			0.489			0.462		
Satd. Flow (perm)	317	1842	0	857	1513	0	927	1746	0	854	1780	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			201			16			4	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		496.2			318.9			167.6			187.0	
Travel Time (s)		37.2			23.9			12.6			14.0	
Confl. Peds. (#/hr)	22		11	11		22	13		8	8		
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	0%	7%	0%	7%	0%	6%	4%	3%	7%	10%
Adj. Flow (vph)	32	183	49	44	106	416	23	206	57	558	458	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	232	0	44	522	0	23	263	0	558	481	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		

Lanes, Volumes, Timings
4: Sixth Line & McCraney Street West/McCraney Street East

Existing 2025
AM Peak Hr

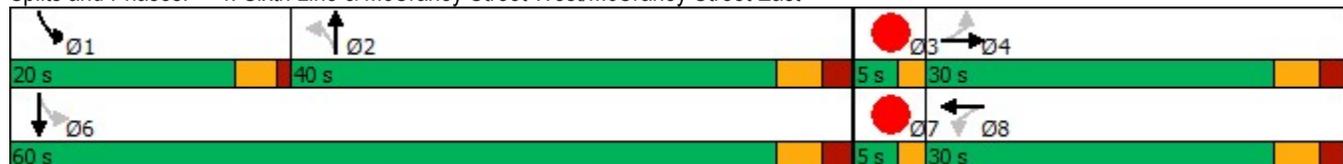


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		24.0	24.0		7.0	24.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		20.0	60.0	
Total Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		20.0	60.0	
Total Split (%)	31.6%	31.6%		31.6%	31.6%		42.1%	42.1%		21.1%	63.2%	
Maximum Green (s)	24.7	24.7		24.7	24.7		34.4	34.4		16.0	54.4	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.3	2.3		1.0	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0			10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		14.0	14.0			14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)	24.2	24.2		24.2	24.2		34.4	34.4		56.0	54.4	
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.36	0.36		0.59	0.58	
v/c Ratio	0.40	0.48		0.20	0.97		0.07	0.41		0.84	0.47	
Control Delay	45.7	31.8		30.4	55.6		20.7	23.5		26.4	13.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	45.7	31.8		30.4	55.6		20.7	23.5		26.4	13.5	
LOS	D	C		C	E		C	C		C	B	
Approach Delay		33.5			53.6			23.3			20.5	
Approach LOS		C			D			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 95
 Actuated Cycle Length: 94.5
 Natural Cycle: 95
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.97
 Intersection Signal Delay: 31.1
 Intersection LOS: C
 Intersection Capacity Utilization 87.4%
 ICU Level of Service E
 Analysis Period (min) 15

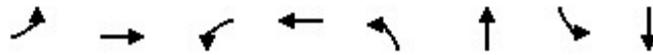
Splits and Phases: 4: Sixth Line & McCraney Street West/McCraney Street East



Lane Group	Ø3	Ø7
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

4: Sixth Line & McCraney Street West/McCraney Street East

AM Peak Hr



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	32	232	44	522	23	263	558	481
v/c Ratio	0.40	0.48	0.20	0.97	0.07	0.41	0.84	0.47
Control Delay	45.7	31.8	30.4	55.6	20.7	23.5	26.4	13.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.7	31.8	30.4	55.6	20.7	23.5	26.4	13.5
Queue Length 50th (m)	4.8	33.7	6.3	62.7	2.7	33.2	56.9	47.8
Queue Length 95th (m)	12.7	48.7	13.7	#101.1	7.1	47.2	70.9	60.6
Internal Link Dist (m)		472.2		294.9		143.6		163.0
Turn Bay Length (m)	15.0		30.0		25.0		35.0	
Base Capacity (vph)	82	491	223	544	337	645	661	1025
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.47	0.20	0.96	0.07	0.41	0.84	0.47

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

4: Sixth Line & McCraney Street West/McCraney Street East

Existing 2025
AM Peak Hr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	148	40	36	86	337	19	167	46	452	371	19
Future Volume (vph)	26	148	40	36	86	337	19	167	46	452	371	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	0.99		1.00	0.95		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.98	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.88		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	1843		1679	1515		1801	1747		1765	1780	
Flt Permitted	0.17	1.00		0.48	1.00		0.49	1.00		0.46	1.00	
Satd. Flow (perm)	318	1843		856	1515		926	1747		858	1780	
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	32	183	49	44	106	416	23	206	57	558	458	23
RTOR Reduction (vph)	0	10	0	0	150	0	0	10	0	0	2	0
Lane Group Flow (vph)	32	222	0	44	372	0	23	253	0	558	479	0
Confl. Peds. (#/hr)	22		11	11		22	13		8	8		
Heavy Vehicles (%)	0%	0%	0%	7%	0%	7%	0%	6%	4%	3%	7%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	24.2	24.2		24.2	24.2		34.4	34.4		54.4	54.4	
Effective Green, g (s)	24.2	24.2		24.2	24.2		34.4	34.4		54.4	54.4	
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.36	0.36		0.58	0.58	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	81	471		219	387		337	635		647	1024	
v/s Ratio Prot		0.12			c0.25			0.14		c0.15	0.27	
v/s Ratio Perm	0.10			0.05			0.02			c0.35		
v/c Ratio	0.40	0.47		0.20	0.96		0.07	0.40		0.86	0.47	
Uniform Delay, d1	29.1	29.7		27.6	34.7		19.6	22.4		14.3	11.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.2	0.7		0.5	35.8		0.4	1.9		11.4	1.5	
Delay (s)	32.2	30.5		28.0	70.5		20.0	24.2		25.8	13.2	
Level of Service	C	C		C	E		B	C		C	B	
Approach Delay (s)		30.7			67.2			23.9			19.9	
Approach LOS		C			E			C			B	
Intersection Summary												
HCM 2000 Control Delay			34.2				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			94.5			Sum of lost time (s)			16.9			
Intersection Capacity Utilization			87.4%			ICU Level of Service			E			
Analysis Period (min)			15									

c Critical Lane Group

Intersection: 1: Sixth Line & Upper Middle Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (m)	57.3	97.3	101.0	57.5	47.4	81.0	76.9	46.9	32.4	120.8	32.5	42.3
Average Queue (m)	20.1	60.5	59.8	25.7	28.7	41.9	37.9	10.1	21.2	46.1	18.7	29.8
95th Queue (m)	47.9	86.8	88.2	59.8	49.8	69.1	64.2	30.9	37.0	96.1	38.2	52.1
Link Distance (m)		491.0	491.0			435.0	435.0			221.2		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	55.0			55.0	45.0			45.0	30.0		30.0	40.0
Storage Blk Time (%)	0	7	7	0	2	3	3	0	5	13	1	1
Queuing Penalty (veh)	0	7	12	1	5	5	2	0	19	39	3	4

Intersection: 1: Sixth Line & Upper Middle Road

Movement	SB
Directions Served	TR
Maximum Queue (m)	107.5
Average Queue (m)	62.8
95th Queue (m)	111.2
Link Distance (m)	98.8
Upstream Blk Time (%)	5
Queuing Penalty (veh)	0
Storage Bay Dist (m)	
Storage Blk Time (%)	22
Queuing Penalty (veh)	33

Intersection: 2: Sixth Line & Elm Road

Movement	EB	EB	NB	SB
Directions Served	L	R	LT	TR
Maximum Queue (m)	15.2	37.9	45.3	9.1
Average Queue (m)	2.5	16.4	9.3	0.4
95th Queue (m)	10.9	29.2	29.9	4.8
Link Distance (m)		98.5	202.2	34.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)	20.0			
Storage Blk Time (%)	0	3		
Queuing Penalty (veh)	0	0		

Intersection: 3: Sixth Line & Miller Road

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (m)	22.1	36.0
Average Queue (m)	9.6	4.3
95th Queue (m)	18.6	20.5
Link Distance (m)	487.2	174.7
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Sixth Line & McCraney Street West/McCraney Street East

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	17.4	81.7	32.3	198.3	24.8	60.7	91.9	81.0
Average Queue (m)	9.8	33.1	13.0	121.7	5.3	26.6	46.8	36.7
95th Queue (m)	20.6	66.0	33.9	283.2	16.9	50.8	76.0	64.6
Link Distance (m)		488.4		311.0		159.8		174.7
Upstream Blk Time (%)				12				
Queuing Penalty (veh)				0				
Storage Bay Dist (m)	15.0		30.0		25.0		35.0	
Storage Blk Time (%)	23	32	0	53	0	10	17	8
Queuing Penalty (veh)	43	8	2	19	0	2	68	35

Zone Summary

Zone wide Queuing Penalty: 309

Lanes, Volumes, Timings
1: Sixth Line & Upper Middle Road

Existing 2025
PM Peak Hr

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	138	560	81	85	768	133	173	191	71	203	189	140
Future Volume (vph)	138	560	81	85	768	133	173	191	71	203	189	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		55.0	45.0		45.0	30.0		30.0	40.0		0.0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99		0.98	1.00		0.95	1.00		0.98	1.00		
Fr _t			0.850			0.850			0.850		0.936	
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3614	1617	1755	3614	1633	1789	1921	1617	1825	1791	0
Fl _t Permitted	0.178			0.322			0.400			0.540		
Satd. Flow (perm)	340	3614	1578	594	3614	1546	751	1921	1587	1033	1791	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			104			104			95			34
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		498.8			445.5			239.9			113.9	
Travel Time (s)		37.4			33.4			18.0			8.5	
Confl. Peds. (#/hr)	17		2	2		17	6		7	7		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	1%	1%	4%	1%	0%	2%	0%	1%	0%	0%	1%
Adj. Flow (vph)	148	602	87	91	826	143	186	205	76	218	203	151
Shared Lane Traffic (%)												
Lane Group Flow (vph)	148	602	87	91	826	143	186	205	76	218	354	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
1: Sixth Line & Upper Middle Road

Existing 2025
PM Peak Hr

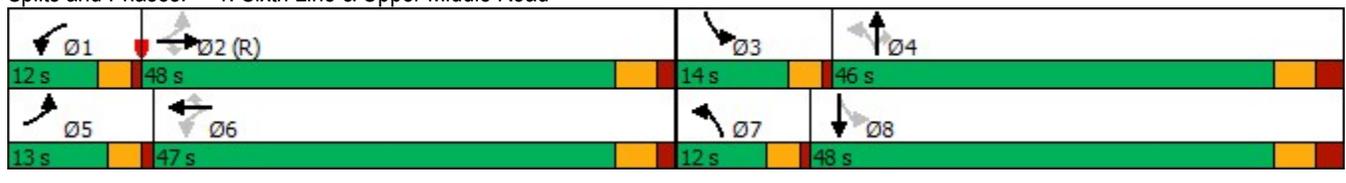


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	
Minimum Split (s)	13.0	48.0	48.0	12.0	47.0	47.0	12.0	46.0	46.0	14.0	48.0	
Total Split (s)	13.0	48.0	48.0	12.0	47.0	47.0	12.0	46.0	46.0	14.0	48.0	
Total Split (%)	10.8%	40.0%	40.0%	10.0%	39.2%	39.2%	10.0%	38.3%	38.3%	11.7%	40.0%	
Maximum Green (s)	9.0	42.5	42.5	8.0	41.5	41.5	8.0	39.6	39.6	10.0	41.6	
Yellow Time (s)	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7	
All-Red Time (s)	1.0	1.8	1.8	1.0	1.8	1.8	1.0	2.7	2.7	1.0	2.7	
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	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	3.5	3.5	3.5	3.5	
Recall Mode	None	C-Max	C-Max	None	Max	Max	None	Max	Max	None	Max	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		23.0	23.0		23.0	23.0		32.0	32.0		32.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effct Green (s)	53.0	42.7	42.7	51.0	41.7	41.7	50.0	39.6	39.6	54.0	41.6	
Actuated g/C Ratio	0.44	0.36	0.36	0.42	0.35	0.35	0.42	0.33	0.33	0.45	0.35	
v/c Ratio	0.57	0.47	0.14	0.28	0.66	0.24	0.49	0.32	0.13	0.41	0.55	
Control Delay	27.8	31.4	3.9	20.5	36.3	10.1	24.9	32.0	3.9	22.3	32.3	
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	27.8	31.4	3.9	20.5	36.3	10.1	24.9	32.0	3.9	22.3	32.3	
LOS	C	C	A	C	D	B	C	C	A	C	C	
Approach Delay		27.9			31.4			24.6			28.5	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:EBTL, Start of Green
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.66
Intersection Signal Delay:	28.7
Intersection LOS:	C
Intersection Capacity Utilization:	93.0%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 1: Sixth Line & Upper Middle Road



Queues
1: Sixth Line & Upper Middle Road

Existing 2025
PM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	148	602	87	91	826	143	186	205	76	218	354
v/c Ratio	0.57	0.47	0.14	0.28	0.66	0.24	0.49	0.32	0.13	0.41	0.55
Control Delay	27.8	31.4	3.9	20.5	36.3	10.1	24.9	32.0	3.9	22.3	32.3
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	27.8	31.4	3.9	20.5	36.3	10.1	24.9	32.0	3.9	22.3	32.3
Queue Length 50th (m)	19.7	57.3	0.0	11.8	86.2	6.1	25.4	36.1	0.0	30.3	60.4
Queue Length 95th (m)	32.6	74.0	7.8	21.4	107.8	20.3	40.3	56.1	7.3	46.9	90.4
Internal Link Dist (m)		474.8			421.5			215.9			89.9
Turn Bay Length (m)	55.0		55.0	45.0		45.0	30.0		30.0	40.0	
Base Capacity (vph)	262	1285	628	330	1254	604	382	633	587	530	643
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	0.56	0.47	0.14	0.28	0.66	0.24	0.49	0.32	0.13	0.41	0.55

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1: Sixth Line & Upper Middle Road

Existing 2025
PM Peak Hr

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	138	560	81	85	768	133	173	191	71	203	189	140	
Future Volume (vph)	138	560	81	85	768	133	173	191	71	203	189	140	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00		
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.95	1.00	1.00	0.98	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	1.00	0.85	1.00	1.00	0.85	1.00	0.94		
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1823	3614	1578	1754	3614	1546	1787	1921	1587	1821	1791		
Flt Permitted	0.18	1.00	1.00	0.32	1.00	1.00	0.40	1.00	1.00	0.54	1.00		
Satd. Flow (perm)	341	3614	1578	595	3614	1546	752	1921	1587	1034	1791		
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)	148	602	87	91	826	143	186	205	76	218	203	151	
RTOR Reduction (vph)	0	0	56	0	0	68	0	0	51	0	22	0	
Lane Group Flow (vph)	148	602	31	91	826	75	186	205	25	218	332	0	
Confl. Peds. (#/hr)	17		2	2		17	6		7	7			
Heavy Vehicles (%)	0%	1%	1%	4%	1%	0%	2%	0%	1%	0%	0%	1%	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		
Protected Phases	5	2		1	6		7	4		3	8		
Permitted Phases	2		2	6		6	4		4	8			
Actuated Green, G (s)	51.5	42.7	42.7	49.5	41.7	41.7	47.6	39.6	39.6	51.6	41.6		
Effective Green, g (s)	51.5	42.7	42.7	49.5	41.7	41.7	47.6	39.6	39.6	51.6	41.6		
Actuated g/C Ratio	0.43	0.36	0.36	0.41	0.35	0.35	0.40	0.33	0.33	0.43	0.35		
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4		
Vehicle Extension (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	3.5	3.5	3.5	3.5		
Lane Grp Cap (vph)	255	1285	561	320	1255	537	367	633	523	510	620		
v/s Ratio Prot	c0.04	0.17		0.02	c0.23		0.03	0.11		c0.04	c0.19		
v/s Ratio Perm	0.21		0.02	0.10		0.05	0.17		0.02	0.15			
v/c Ratio	0.58	0.47	0.06	0.28	0.66	0.14	0.51	0.32	0.05	0.43	0.54		
Uniform Delay, d1	23.5	29.9	25.4	22.3	33.1	26.9	25.4	30.2	27.4	22.3	31.4		
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	3.6	1.2	0.2	0.6	2.7	0.5	1.3	1.4	0.2	0.7	3.3		
Delay (s)	27.1	31.1	25.6	22.9	35.8	27.4	26.7	31.5	27.5	23.0	34.7		
Level of Service	C	C	C	C	D	C	C	C	C	C	C		
Approach Delay (s)		29.8			33.6			28.9			30.3		
Approach LOS		C			C			C			C		
Intersection Summary													
HCM 2000 Control Delay			31.1									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.59										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	19.9
Intersection Capacity Utilization			93.0%									ICU Level of Service	F
Analysis Period (min)			15										

c Critical Lane Group

Lanes, Volumes, Timings
2: Sixth Line & Elm Road

Existing 2025
PM Peak Hr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	9	79	47	522	413	10
Future Volume (vph)	9	79	47	522	413	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0	0.0	0.0			0.0
Storage Lanes	1	1	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850			0.997	
Flt Protected	0.950			0.996		
Satd. Flow (prot)	1825	1601	0	1879	1857	0
Flt Permitted	0.950			0.996		
Satd. Flow (perm)	1825	1601	0	1879	1857	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	103.8			216.0	48.0	
Travel Time (s)	7.8			16.2	3.6	
Confl. Peds. (#/hr)	3		12			12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	2%	0%	2%	3%	10%
Adj. Flow (vph)	10	85	51	561	444	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	85	0	612	455	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	65.8%
Analysis Period (min)	15
	ICU Level of Service C

HCM Unsignalized Intersection Capacity Analysis

2: Sixth Line & Elm Road

Existing 2025
PM Peak Hr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	9	79	47	522	413	10
Future Volume (Veh/h)	9	79	47	522	413	10
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)	10	85	51	561	444	11
Pedestrians	12				3	
Lane Width (m)	3.7				3.7	
Walking Speed (m/s)	1.1				1.1	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					288	
pX, platoon unblocked						
vC, conflicting volume	1128	462	467			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1128	462	467			
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	86	95			
cM capacity (veh/h)	214	593	1092			
Direction, Lane #	EB 1	EB 2	NB 1	SB 1		
Volume Total	10	85	612	455		
Volume Left	10	0	51	0		
Volume Right	0	85	0	11		
cSH	214	593	1092	1700		
Volume to Capacity	0.05	0.14	0.05	0.27		
Queue Length 95th (m)	1.1	3.8	1.1	0.0		
Control Delay (s)	22.6	12.1	1.2	0.0		
Lane LOS	C	B	A			
Approach Delay (s)	13.2		1.2	0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			1.7			
Intersection Capacity Utilization			65.8%	ICU Level of Service	C	
Analysis Period (min)			15			

Lanes, Volumes, Timings
3: Sixth Line & Miller Road

Existing 2025
PM Peak Hr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	9	32	33	560	466	26
Future Volume (vph)	9	32	33	560	466	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.896					0.993
Flt Protected	0.989					0.997
Satd. Flow (prot)	1612	0	0	1880	1836	0
Flt Permitted	0.989					0.997
Satd. Flow (perm)	1612	0	0	1880	1836	0
Link Speed (k/h)	48					48
Link Distance (m)	494.9					216.0
Travel Time (s)	37.1					16.2
Confl. Peds. (#/hr)	1					15
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	11%	4%	0%	2%	4%	2%
Adj. Flow (vph)	10	34	35	602	501	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	44	0	0	637	529	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7					3.7
Link Offset(m)	0.0					0.0
Crosswalk Width(m)	1.6					1.6
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			
Sign Control	Stop					Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	66.5%
ICU Level of Service	C
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

3: Sixth Line & Miller Road

Existing 2025
PM Peak Hr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	9	32	33	560	466	26
Future Volume (Veh/h)	9	32	33	560	466	26
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)	10	34	35	602	501	28
Pedestrians	15				1	
Lane Width (m)	3.7				3.7	
Walking Speed (m/s)	1.1				1.1	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)	187					
pX, platoon unblocked	0.88					
vC, conflicting volume	1203	530	544			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1162	530	544			
tC, single (s)	6.5	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	94	94	97			
cM capacity (veh/h)	173	537	1020			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	44	637	529			
Volume Left	10	35	0			
Volume Right	34	0	28			
cSH	363	1020	1700			
Volume to Capacity	0.12	0.03	0.31			
Queue Length 95th (m)	3.1	0.8	0.0			
Control Delay (s)	16.3	0.9	0.0			
Lane LOS	C	A				
Approach Delay (s)	16.3	0.9	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			66.5%	ICU Level of Service	C	
Analysis Period (min)			15			

Lanes, Volumes, Timings
 4: Sixth Line & McCraney Street West/McCraney Street East

Existing 2025
 PM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	48	21	22	84	261	30	304	25	173	273	52
Future Volume (vph)	28	48	21	22	84	261	30	304	25	173	273	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0		0.0	30.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	0.99		0.99	0.98		0.99	1.00		0.99	0.99	
Frt		0.954			0.886			0.989			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	1817	0	1825	1641	0	1825	1878	0	1755	1834	0
Flt Permitted	0.297			0.548			0.551			0.412		
Satd. Flow (perm)	569	1817	0	1045	1641	0	1050	1878	0	756	1834	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			160			5			17	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		496.2			318.9			167.6			187.0	
Travel Time (s)		37.2			23.9			12.6			14.0	
Confl. Peds. (#/hr)	4		4	4		4	7		7	7		7
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	1%	0%	4%	2%	0%
Adj. Flow (vph)	30	52	23	24	90	281	32	327	27	186	294	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	75	0	24	371	0	32	354	0	186	350	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		

Lanes, Volumes, Timings
 4: Sixth Line & McCraney Street West/McCraney Street East

Existing 2025
 PM Peak Hr

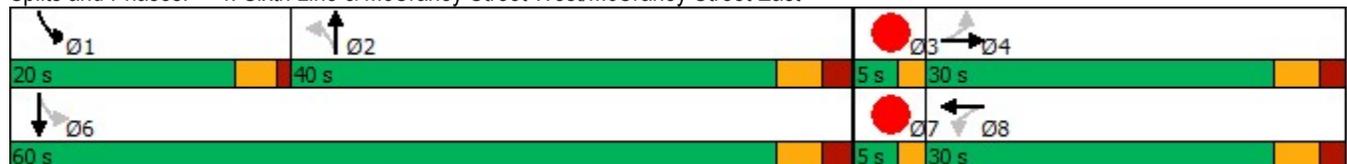


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		24.0	24.0		7.0	24.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		20.0	60.0	
Total Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		20.0	60.0	
Total Split (%)	31.6%	31.6%		31.6%	31.6%		42.1%	42.1%		21.1%	63.2%	
Maximum Green (s)	24.7	24.7		24.7	24.7		34.4	34.4		16.0	54.4	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.3	2.3		1.0	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0			10.0	
Flash Dont Walk (s)	14.0	14.0		14.0	14.0		14.0	14.0			14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)	21.5	21.5		21.5	21.5		40.6	40.6		56.0	54.4	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.44	0.44		0.61	0.59	
v/c Ratio	0.23	0.17		0.10	0.73		0.07	0.43		0.33	0.32	
Control Delay	33.1	21.4		28.5	27.5		17.1	20.3		9.8	10.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	33.1	21.4		28.5	27.5		17.1	20.3		9.8	10.1	
LOS	C	C		C	C		B	C		A	B	
Approach Delay		24.8			27.6			20.0			10.0	
Approach LOS		C			C			C			B	

Intersection Summary

Area Type:	Other
Cycle Length:	95
Actuated Cycle Length:	91.8
Natural Cycle:	95
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.73
Intersection Signal Delay:	18.7
Intersection LOS:	B
Intersection Capacity Utilization:	77.0%
ICU Level of Service:	D
Analysis Period (min):	15

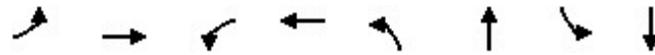
Splits and Phases: 4: Sixth Line & McCraney Street West/McCraney Street East



Lane Group	Ø3	Ø7
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

4: Sixth Line & McCraney Street West/McCraney Street East

PM Peak Hr



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	30	75	24	371	32	354	186	350
v/c Ratio	0.23	0.17	0.10	0.73	0.07	0.43	0.33	0.32
Control Delay	33.1	21.4	28.5	27.5	17.1	20.3	9.8	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.1	21.4	28.5	27.5	17.1	20.3	9.8	10.1
Queue Length 50th (m)	4.3	7.3	3.3	34.4	3.0	39.4	12.4	25.7
Queue Length 95th (m)	12.1	18.1	9.7	65.7	9.5	72.0	24.4	46.2
Internal Link Dist (m)		472.2		294.9		143.6		163.0
Turn Bay Length (m)	15.0		30.0		25.0		35.0	
Base Capacity (vph)	152	505	280	558	464	832	635	1093
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.15	0.09	0.66	0.07	0.43	0.29	0.32

Intersection Summary

HCM Signalized Intersection Capacity Analysis
 4: Sixth Line & McCraney Street West/McCraney Street East

Existing 2025
 PM Peak Hr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (vph)	28	48	21	22	84	261	30	304	25	173	273	52
Future Volume (vph)	28	48	21	22	84	261	30	304	25	173	273	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	0.99		1.00	0.98		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.89		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1818	1817		1814	1642		1810	1877		1751	1834	
Flt Permitted	0.30	1.00		0.55	1.00		0.55	1.00		0.41	1.00	
Satd. Flow (perm)	568	1817		1046	1642		1050	1877		758	1834	
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)	30	52	23	24	90	281	32	327	27	186	294	56
RTOR Reduction (vph)	0	19	0	0	121	0	0	3	0	0	7	0
Lane Group Flow (vph)	30	56	0	24	250	0	32	351	0	186	343	0
Confl. Peds. (#/hr)	4		4	4		4	7		7	7		7
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	1%	0%	4%	2%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	17.4	17.4		22.5	22.5		40.6	40.6		54.4	54.4	
Effective Green, g (s)	17.4	17.4		22.5	22.5		40.6	40.6		54.4	54.4	
Actuated g/C Ratio	0.19	0.19		0.24	0.24		0.44	0.44		0.59	0.59	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	106	340		253	398		459	821		549	1075	
v/s Ratio Prot		0.03			c0.15			c0.19		0.04	c0.19	
v/s Ratio Perm	0.05			0.02			0.03			0.16		
v/c Ratio	0.28	0.17		0.09	0.63		0.07	0.43		0.34	0.32	
Uniform Delay, d1	32.3	31.6		27.3	31.4		15.1	18.1		9.7	9.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.5	0.2		0.2	3.1		0.3	1.6		0.4	0.8	
Delay (s)	33.8	31.8		27.4	34.5		15.4	19.7		10.1	10.6	
Level of Service	C	C		C	C		B	B		B	B	
Approach Delay (s)		32.4			34.1			19.3			10.4	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM 2000 Control Delay			21.0				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.46									
Actuated Cycle Length (s)			92.8			Sum of lost time (s)			16.9			
Intersection Capacity Utilization			77.0%			ICU Level of Service			D			
Analysis Period (min)			15									

c Critical Lane Group

Intersection: 1: Sixth Line & Upper Middle Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (m)	57.1	67.4	69.5	56.2	47.5	119.5	118.6	47.5	32.4	91.8	32.4	42.3
Average Queue (m)	25.1	46.2	44.6	11.5	20.4	72.8	70.1	23.7	23.9	35.4	9.9	30.7
95th Queue (m)	48.8	65.6	63.8	32.2	48.1	104.5	102.1	54.7	38.5	72.8	28.5	51.0
Link Distance (m)		491.0	491.0			435.0	435.0			221.2		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	55.0			55.0	45.0			45.0	30.0		30.0	40.0
Storage Blk Time (%)	0	2	2	0	0	21	19	0	6	8	0	3
Queuing Penalty (veh)	0	3	1	0	1	18	25	2	15	20	1	10

Intersection: 1: Sixth Line & Upper Middle Road

Movement	SB
Directions Served	TR
Maximum Queue (m)	100.5
Average Queue (m)	47.9
95th Queue (m)	89.4
Link Distance (m)	98.8
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (m)	
Storage Blk Time (%)	11
Queuing Penalty (veh)	22

Intersection: 2: Sixth Line & Elm Road

Movement	EB	EB	NB	SB
Directions Served	L	R	LT	TR
Maximum Queue (m)	10.0	24.0	25.2	10.1
Average Queue (m)	2.4	9.7	6.2	0.3
95th Queue (m)	9.0	17.3	18.9	3.8
Link Distance (m)		98.5	202.2	34.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)	20.0			
Storage Blk Time (%)		0		
Queuing Penalty (veh)		0		

Intersection: 3: Sixth Line & Miller Road

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (m)	16.8	32.7	6.1
Average Queue (m)	6.8	6.0	0.2
95th Queue (m)	14.4	20.7	3.3
Link Distance (m)	487.2	174.7	202.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Sixth Line & McCraney Street West/McCraney Street East

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	17.3	38.1	32.3	103.9	21.9	73.6	38.0	57.1
Average Queue (m)	8.3	13.2	7.8	47.8	5.7	36.0	17.3	26.1
95th Queue (m)	18.9	29.5	24.3	86.7	17.1	63.4	32.1	48.9
Link Distance (m)		488.4		311.0		159.8		174.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)	15.0		30.0		25.0		35.0	
Storage Blk Time (%)	8	12	0	24	0	15	1	4
Queuing Penalty (veh)	6	3	0	5	0	4	3	7

Zone Summary

Zone wide Queuing Penalty: 147

Lanes, Volumes, Timings
1: Sixth Line & Upper Middle Road

Future Background 2028
AM Peak Hr

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	762	169	159	532	91	147	235	170	159	266	93
Future Volume (vph)	98	762	169	159	532	91	147	235	170	159	266	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		55.0	45.0		45.0	30.0		30.0	40.0		0.0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99		0.97	1.00		0.97	1.00		0.98	0.99	0.99	
Frt			0.850			0.850			0.850		0.961	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3579	1617	1690	3544	1570	1722	1847	1570	1807	1804	0
Flt Permitted	0.386			0.159			0.317			0.517		
Satd. Flow (perm)	738	3579	1575	283	3544	1520	572	1847	1537	977	1804	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			151			104			161			16
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		498.8			445.5			239.9			113.9	
Travel Time (s)		37.4			33.4			18.0			8.5	
Confl. Peds. (#/hr)	6		3	3		6	9		10	10		9
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	1%	8%	3%	4%	6%	4%	4%	1%	1%	4%
Adj. Flow (vph)	104	811	180	169	566	97	156	250	181	169	283	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	811	180	169	566	97	156	250	181	169	382	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
1: Sixth Line & Upper Middle Road

Future Background 2028
AM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	
Minimum Split (s)	12.0	42.0	42.0	12.0	42.0	42.0	12.0	45.4	45.4	12.0	45.4	
Total Split (s)	12.0	42.6	42.6	19.0	49.6	49.6	13.0	46.4	46.4	12.0	45.4	
Total Split (%)	10.0%	35.5%	35.5%	15.8%	41.3%	41.3%	10.8%	38.7%	38.7%	10.0%	37.8%	
Maximum Green (s)	8.0	37.1	37.1	15.0	44.1	44.1	9.0	40.0	40.0	8.0	39.0	
Yellow Time (s)	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7	
All-Red Time (s)	1.0	1.8	1.8	1.0	1.8	1.8	1.0	2.7	2.7	1.0	2.7	
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	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	3.5	3.5	3.5	3.5	
Recall Mode	None	C-Max	C-Max	None	Max	Max	None	Max	Max	None	Max	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		23.0	23.0		23.0	23.0		32.0	32.0		32.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effct Green (s)	48.9	39.6	39.6	57.0	44.3	44.3	51.3	40.0	40.0	49.5	39.1	
Actuated g/C Ratio	0.41	0.33	0.33	0.48	0.37	0.37	0.43	0.33	0.33	0.41	0.33	
v/c Ratio	0.28	0.69	0.29	0.60	0.43	0.15	0.47	0.41	0.29	0.37	0.64	
Control Delay	19.8	38.9	8.6	27.5	29.8	4.8	25.1	33.3	7.3	22.9	38.7	
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	19.8	38.9	8.6	27.5	29.8	4.8	25.1	33.3	7.3	22.9	38.7	
LOS	B	D	A	C	C	A	C	C	A	C	D	
Approach Delay		32.1			26.4			23.1			33.9	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 29.2
 Intersection LOS: C
 Intersection Capacity Utilization 91.7%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 1: Sixth Line & Upper Middle Road



Queues

Future Background 2028

1: Sixth Line & Upper Middle Road

AM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	104	811	180	169	566	97	156	250	181	169	382
v/c Ratio	0.28	0.69	0.29	0.60	0.43	0.15	0.47	0.41	0.29	0.37	0.64
Control Delay	19.8	38.9	8.6	27.5	29.8	4.8	25.1	33.3	7.3	22.9	38.7
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	19.8	38.9	8.6	27.5	29.8	4.8	25.1	33.3	7.3	22.9	38.7
Queue Length 50th (m)	13.2	87.2	4.7	22.4	52.3	0.0	21.6	45.2	3.2	23.5	73.3
Queue Length 95th (m)	23.2	112.2	21.3	36.1	68.0	9.7	35.4	68.2	18.7	37.7	106.4
Internal Link Dist (m)		474.8			421.5			215.9			89.9
Turn Bay Length (m)	55.0		55.0	45.0		45.0	30.0		30.0	40.0	
Base Capacity (vph)	374	1179	620	311	1307	626	331	615	619	458	598
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	0.28	0.69	0.29	0.54	0.43	0.15	0.47	0.41	0.29	0.37	0.64

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1: Sixth Line & Upper Middle Road

Future Background 2028
AM Peak Hr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	98	762	169	159	532	91	147	235	170	159	266	93
Future Volume (vph)	98	762	169	159	532	91	147	235	170	159	266	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	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	0.97	1.00	1.00	0.98	1.00	0.99	
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	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1822	3579	1575	1690	3544	1520	1720	1847	1537	1802	1805	
Flt Permitted	0.39	1.00	1.00	0.16	1.00	1.00	0.32	1.00	1.00	0.52	1.00	
Satd. Flow (perm)	740	3579	1575	283	3544	1520	574	1847	1537	981	1805	
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)	104	811	180	169	566	97	156	250	181	169	283	99
RTOR Reduction (vph)	0	0	101	0	0	61	0	0	107	0	11	0
Lane Group Flow (vph)	104	811	79	169	566	36	156	250	74	169	371	0
Confl. Peds. (#/hr)	6		3	3		6	9		10	10		9
Heavy Vehicles (%)	0%	2%	1%	8%	3%	4%	6%	4%	4%	1%	1%	4%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		
Actuated Green, G (s)	47.4	39.6	39.6	56.1	44.3	44.3	48.9	40.0	40.0	47.1	39.1	
Effective Green, g (s)	47.4	39.6	39.6	56.1	44.3	44.3	48.9	40.0	40.0	47.1	39.1	
Actuated g/C Ratio	0.39	0.33	0.33	0.47	0.37	0.37	0.41	0.33	0.33	0.39	0.33	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Vehicle Extension (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	3.5	3.5	3.5	3.5	
Lane Grp Cap (vph)	362	1181	519	278	1308	561	318	615	512	439	588	
v/s Ratio Prot	0.02	c0.23		c0.06	0.16		c0.04	0.14		0.03	c0.21	
v/s Ratio Perm	0.09		0.05	0.22		0.02	0.16		0.05	0.13		
v/c Ratio	0.29	0.69	0.15	0.61	0.43	0.06	0.49	0.41	0.14	0.38	0.63	
Uniform Delay, d1	23.4	34.8	28.4	22.1	28.4	24.5	24.5	30.8	28.0	24.6	34.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	3.3	0.6	3.9	1.0	0.2	1.4	2.0	0.6	0.7	5.1	
Delay (s)	23.9	38.1	29.0	26.0	29.5	24.7	25.9	32.8	28.6	25.3	39.4	
Level of Service	C	D	C	C	C	C	C	C	C	C	D	
Approach Delay (s)		35.2			28.2			29.7			35.1	
Approach LOS		D			C			C			D	
Intersection Summary												
HCM 2000 Control Delay			32.2	HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			120.0	Sum of lost time (s)				19.9				
Intersection Capacity Utilization			91.7%	ICU Level of Service				F				
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings
2: Sixth Line & Elm Road

Future Background 2028
AM Peak Hr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	8	176	41	500	643	3
Future Volume (vph)	8	176	41	500	643	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0	0.0	0.0			0.0
Storage Lanes	1	1	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Flt		0.850			0.999	
Flt Protected	0.950			0.996		
Satd. Flow (prot)	1615	1541	0	1790	1846	0
Flt Permitted	0.950			0.996		
Satd. Flow (perm)	1615	1541	0	1790	1846	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	103.8			216.0	48.0	
Travel Time (s)	7.8			16.2	3.6	
Confl. Peds. (#/hr)			13			13
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	13%	6%	30%	5%	4%	0%
Adj. Flow (vph)	10	212	49	602	775	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	212	0	651	779	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	70.2%
ICU Level of Service	C
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
2: Sixth Line & Elm Road

Future Background 2028
AM Peak Hr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	176	41	500	643	3
Future Volume (Veh/h)	8	176	41	500	643	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	10	212	49	602	775	4
Pedestrians	13					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					288	
pX, platoon unblocked	0.84	0.84	0.84			
vC, conflicting volume	1490	790	792			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1488	659	661			
tC, single (s)	6.5	6.3	4.4			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.5			
p0 queue free %	90	44	93			
cM capacity (veh/h)	100	381	673			
Direction, Lane #	EB 1	EB 2	NB 1	SB 1		
Volume Total	10	212	651	779		
Volume Left	10	0	49	0		
Volume Right	0	212	0	4		
cSH	100	381	673	1700		
Volume to Capacity	0.10	0.56	0.07	0.46		
Queue Length 95th (m)	2.5	24.8	1.8	0.0		
Control Delay (s)	45.1	25.7	1.9	0.0		
Lane LOS	E	D	A			
Approach Delay (s)	26.6		1.9	0.0		
Approach LOS	D					
Intersection Summary						
Average Delay			4.3			
Intersection Capacity Utilization			70.2%	ICU Level of Service	C	
Analysis Period (min)			15			

Lanes, Volumes, Timings
3: Sixth Line & Miller Road

Future Background 2028
AM Peak Hr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	63	16	539	812	7
Future Volume (vph)	3	63	16	539	812	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.872			0.999		
Flt Protected	0.998			0.999		
Satd. Flow (prot)	1641	0	0	1797	1685	0
Flt Permitted	0.998			0.999		
Satd. Flow (perm)	1641	0	0	1797	1685	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	494.9			187.0	216.0	
Travel Time (s)	37.1			14.0	16.2	
Confl. Peds. (#/hr)				19		19
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	2%	0%	7%	14%	4%
Adj. Flow (vph)	4	77	20	657	990	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	81	0	0	677	999	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	53.9%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
3: Sixth Line & Miller Road

Future Background 2028
AM Peak Hr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	63	16	539	812	7
Future Volume (Veh/h)	3	63	16	539	812	7
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	4	77	20	657	990	9
Pedestrians	19					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	2					
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)	187					
pX, platoon unblocked	0.93					
vC, conflicting volume	1710	1014	1018			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1727	1014	1018			
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	73	97			
cM capacity (veh/h)	87	284	677			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	81	677	999			
Volume Left	4	20	0			
Volume Right	77	0	9			
cSH	256	677	1700			
Volume to Capacity	0.32	0.03	0.59			
Queue Length 95th (m)	10.0	0.7	0.0			
Control Delay (s)	25.5	0.8	0.0			
Lane LOS	D	A				
Approach Delay (s)	25.5	0.8	0.0			
Approach LOS	D					
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utilization			53.9%	ICU Level of Service	A	
Analysis Period (min)			15			

4: Sixth Line & McCraney Street West/McCraney Street East

AM Peak Hr

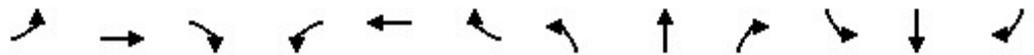


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	152	41	37	89	351	20	177	47	472	383	20
Future Volume (vph)	27	152	41	37	89	351	20	177	47	472	383	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0		0.0	30.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.98	0.95		0.99	0.99		0.99		
Frt		0.968			0.880			0.969				0.992
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	1842	0	1706	1513	0	1825	1750	0	1772	1779	0
Flt Permitted	0.162			0.475			0.481			0.445		
Satd. Flow (perm)	311	1842	0	840	1513	0	912	1750	0	823	1779	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			202			16				5
Link Speed (k/h)		48			48			48				48
Link Distance (m)		496.2			318.9			167.6				187.0
Travel Time (s)		37.2			23.9			12.6				14.0
Confl. Peds. (#/hr)	22		11	11		22	13		8	8		
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	0%	7%	0%	7%	0%	6%	4%	3%	7%	10%
Adj. Flow (vph)	33	188	51	46	110	433	25	219	58	583	473	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	239	0	46	543	0	25	277	0	583	498	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		

Lanes, Volumes, Timings
 4: Sixth Line & McCraney Street West/McCraney Street East

Future Background 2028
 AM Peak Hr

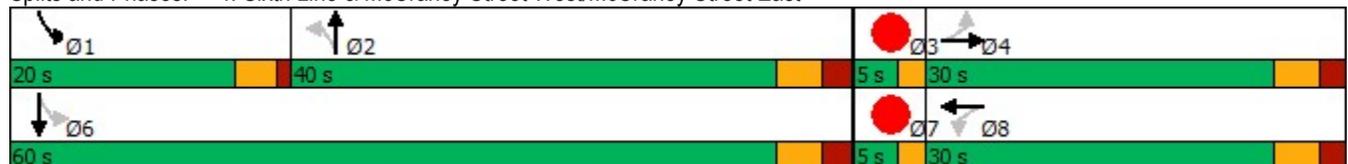


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		24.0	24.0		7.0	24.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		20.0	60.0	
Total Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		20.0	60.0	
Total Split (%)	31.6%	31.6%		31.6%	31.6%		42.1%	42.1%		21.1%	63.2%	
Maximum Green (s)	24.7	24.7		24.7	24.7		34.4	34.4		16.0	54.4	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.3	2.3		1.0	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0			10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		14.0	14.0			14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)	24.7	24.7		24.7	24.7		34.4	34.4		56.0	54.4	
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.36	0.36		0.59	0.57	
v/c Ratio	0.41	0.49		0.21	1.00		0.08	0.43		0.91	0.49	
Control Delay	47.0	32.0		30.7	63.0		20.8	24.1		33.8	13.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	47.0	32.0		30.7	63.0		20.8	24.1		33.8	13.9	
LOS	D	C		C	E		C	C		C	B	
Approach Delay		33.8			60.4			23.8			24.7	
Approach LOS		C			E			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 95
 Actuated Cycle Length: 95
 Natural Cycle: 95
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 35.0
 Intersection LOS: D
 Intersection Capacity Utilization 89.3%
 ICU Level of Service E
 Analysis Period (min) 15

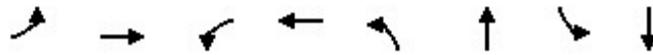
Splits and Phases: 4: Sixth Line & McCraney Street West/McCraney Street East



Lane Group	Ø3	Ø7
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

4: Sixth Line & McCraney Street West/McCraney Street East

AM Peak Hr



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	33	239	46	543	25	277	583	498
v/c Ratio	0.41	0.49	0.21	1.00	0.08	0.43	0.91	0.49
Control Delay	47.0	32.0	30.7	63.0	20.8	24.1	33.8	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.0	32.0	30.7	63.0	20.8	24.1	33.8	13.9
Queue Length 50th (m)	5.0	34.9	6.6	-68.4	3.0	35.5	60.6	50.0
Queue Length 95th (m)	13.2	50.3	14.2	#109.0	7.7	49.9	#82.6	63.2
Internal Link Dist (m)		472.2		294.9		143.6		163.0
Turn Bay Length (m)	15.0		30.0		25.0		35.0	
Base Capacity (vph)	80	489	218	542	330	643	644	1020
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.49	0.21	1.00	0.08	0.43	0.91	0.49

Intersection Summary

~ 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.

HCM Signalized Intersection Capacity Analysis
 4: Sixth Line & McCraney Street West/McCraney Street East

Future Background 2028
 AM Peak Hr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	152	41	37	89	351	20	177	47	472	383	20
Future Volume (vph)	27	152	41	37	89	351	20	177	47	472	383	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	0.99		1.00	0.95		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.98	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.88		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	1842		1679	1514		1802	1749		1766	1779	
Flt Permitted	0.16	1.00		0.48	1.00		0.48	1.00		0.44	1.00	
Satd. Flow (perm)	311	1842		840	1514		912	1749		826	1779	
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	33	188	51	46	110	433	25	219	58	583	473	25
RTOR Reduction (vph)	0	10	0	0	149	0	0	10	0	0	2	0
Lane Group Flow (vph)	33	229	0	46	394	0	25	267	0	583	496	0
Confl. Peds. (#/hr)	22		11	11		22	13		8	8		
Heavy Vehicles (%)	0%	0%	0%	7%	0%	7%	0%	6%	4%	3%	7%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	24.7	24.7		24.7	24.7		34.4	34.4		54.4	54.4	
Effective Green, g (s)	24.7	24.7		24.7	24.7		34.4	34.4		54.4	54.4	
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.36	0.36		0.57	0.57	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	80	478		218	393		330	633		631	1018	
v/s Ratio Prot		0.12			c0.26			0.15		c0.16	0.28	
v/s Ratio Perm	0.11			0.05			0.03			c0.37		
v/c Ratio	0.41	0.48		0.21	1.00		0.08	0.42		0.92	0.49	
Uniform Delay, d1	29.1	29.7		27.5	35.1		19.9	22.8		15.9	12.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.4	0.8		0.5	45.7		0.4	2.1		19.3	1.7	
Delay (s)	32.6	30.5		28.0	80.9		20.3	24.9		35.2	13.7	
Level of Service	C	C		C	F		C	C		D	B	
Approach Delay (s)		30.7			76.7			24.5			25.3	
Approach LOS		C			E			C			C	
Intersection Summary												
HCM 2000 Control Delay			39.4				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.95									
Actuated Cycle Length (s)			95.0			Sum of lost time (s)			16.9			
Intersection Capacity Utilization			89.3%			ICU Level of Service			E			
Analysis Period (min)			15									

c Critical Lane Group

Intersection: 1: Sixth Line & Upper Middle Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (m)	57.3	111.5	111.6	57.5	47.4	83.3	79.8	47.4	32.4	153.5	32.5	42.3
Average Queue (m)	25.5	71.5	71.6	34.6	27.7	46.4	42.3	14.5	23.9	54.3	22.0	30.9
95th Queue (m)	59.2	101.3	100.8	71.0	49.6	76.7	70.4	38.8	38.1	114.7	40.5	52.0
Link Distance (m)		491.0	491.0			435.0	435.0			221.2		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	55.0			55.0	45.0			45.0	30.0		30.0	40.0
Storage Blk Time (%)	0	13	13	1	2	6	5	0	5	15	3	1
Queuing Penalty (veh)	0	13	22	2	5	9	4	0	20	47	10	5

Intersection: 1: Sixth Line & Upper Middle Road

Movement	SB
Directions Served	TR
Maximum Queue (m)	108.0
Average Queue (m)	60.3
95th Queue (m)	105.7
Link Distance (m)	98.8
Upstream Blk Time (%)	4
Queuing Penalty (veh)	0
Storage Bay Dist (m)	
Storage Blk Time (%)	20
Queuing Penalty (veh)	32

Intersection: 2: Sixth Line & Elm Road

Movement	EB	EB	NB	SB
Directions Served	L	R	LT	TR
Maximum Queue (m)	17.7	37.4	55.6	8.8
Average Queue (m)	2.4	17.8	12.5	0.4
95th Queue (m)	10.1	30.2	39.4	4.1
Link Distance (m)		98.5	202.2	34.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)	20.0			
Storage Blk Time (%)	0	5		
Queuing Penalty (veh)	0	0		

Intersection: 3: Sixth Line & Miller Road

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (m)	21.4	41.5
Average Queue (m)	9.0	4.9
95th Queue (m)	18.0	22.0
Link Distance (m)	487.2	174.7
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Sixth Line & McCraney Street West/McCraney Street East

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	17.4	126.2	32.4	220.2	27.2	70.0	89.9	82.7
Average Queue (m)	11.3	41.7	17.3	118.8	4.9	31.4	49.1	33.9
95th Queue (m)	20.9	96.3	39.7	228.4	16.6	57.2	79.4	63.2
Link Distance (m)		488.4		311.0		159.8		174.7
Upstream Blk Time (%)				0				
Queuing Penalty (veh)				0				
Storage Bay Dist (m)	15.0		30.0		25.0		35.0	
Storage Blk Time (%)	38	34	1	63	0	13	18	6
Queuing Penalty (veh)	74	9	4	23	0	3	73	28

Zone Summary

Zone wide Queuing Penalty: 385

Lanes, Volumes, Timings
1: Sixth Line & Upper Middle Road

Future Background 2028
PM Peak Hr

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	594	90	92	815	141	184	203	73	209	201	144
Future Volume (vph)	146	594	90	92	815	141	184	203	73	209	201	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		55.0	45.0		45.0	30.0		30.0	40.0		0.0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99		0.98	1.00		0.95	1.00		0.98	1.00		
Fr _t			0.850			0.850			0.850		0.937	
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3614	1617	1755	3614	1633	1789	1921	1617	1825	1793	0
Fl _t Permitted	0.153			0.299			0.377			0.522		
Satd. Flow (perm)	292	3614	1578	552	3614	1546	708	1921	1587	998	1793	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			104			105			95			33
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		498.8			445.5			239.9			113.9	
Travel Time (s)		37.4			33.4			18.0			8.5	
Confl. Peds. (#/hr)	17		2	2		17	6		7	7		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	1%	1%	4%	1%	0%	2%	0%	1%	0%	0%	1%
Adj. Flow (vph)	157	639	97	99	876	152	198	218	78	225	216	155
Shared Lane Traffic (%)												
Lane Group Flow (vph)	157	639	97	99	876	152	198	218	78	225	371	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
1: Sixth Line & Upper Middle Road

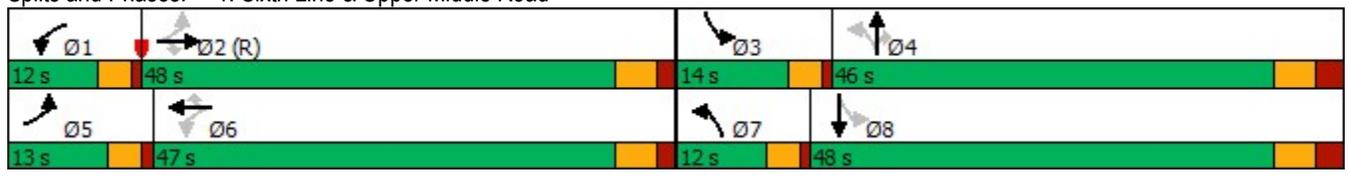
Future Background 2028
PM Peak Hr

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	SBR
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	
Minimum Split (s)	13.0	48.0	48.0	12.0	47.0	47.0	12.0	46.0	46.0	14.0	48.0	
Total Split (s)	13.0	48.0	48.0	12.0	47.0	47.0	12.0	46.0	46.0	14.0	48.0	
Total Split (%)	10.8%	40.0%	40.0%	10.0%	39.2%	39.2%	10.0%	38.3%	38.3%	11.7%	40.0%	
Maximum Green (s)	9.0	42.5	42.5	8.0	41.5	41.5	8.0	39.6	39.6	10.0	41.6	
Yellow Time (s)	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7	
All-Red Time (s)	1.0	1.8	1.8	1.0	1.8	1.8	1.0	2.7	2.7	1.0	2.7	
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	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	3.5	3.5	3.5	3.5	
Recall Mode	None	C-Max	C-Max	None	Max	Max	None	Max	Max	None	Max	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		23.0	23.0		23.0	23.0		32.0	32.0		32.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effct Green (s)	53.1	42.7	42.7	50.9	41.6	41.6	50.0	39.6	39.6	54.0	41.6	
Actuated g/C Ratio	0.44	0.36	0.36	0.42	0.35	0.35	0.42	0.33	0.33	0.45	0.35	
v/c Ratio	0.65	0.50	0.15	0.32	0.70	0.25	0.54	0.34	0.13	0.43	0.58	
Control Delay	32.3	31.9	5.0	21.2	37.5	11.0	26.6	32.3	4.2	22.7	33.3	
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	32.3	31.9	5.0	21.2	37.5	11.0	26.6	32.3	4.2	22.7	33.3	
LOS	C	C	A	C	D	B	C	C	A	C	C	
Approach Delay		29.1			32.5			25.6			29.3	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.70
 Intersection Signal Delay: 29.8
 Intersection LOS: C
 Intersection Capacity Utilization 93.8%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 1: Sixth Line & Upper Middle Road



Queues

Future Background 2028

1: Sixth Line & Upper Middle Road

PM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	157	639	97	99	876	152	198	218	78	225	371
v/c Ratio	0.65	0.50	0.15	0.32	0.70	0.25	0.54	0.34	0.13	0.43	0.58
Control Delay	32.3	31.9	5.0	21.2	37.5	11.0	26.6	32.3	4.2	22.7	33.3
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	32.3	31.9	5.0	21.2	37.5	11.0	26.6	32.3	4.2	22.7	33.3
Queue Length 50th (m)	21.0	61.6	0.0	12.9	93.2	7.4	27.3	38.7	0.0	31.5	64.6
Queue Length 95th (m)	34.4	79.1	9.9	23.1	116.0	22.3	43.0	59.4	7.6	48.3	95.8
Internal Link Dist (m)		474.8			421.5			215.9			89.9
Turn Bay Length (m)	55.0		55.0	45.0		45.0	30.0		30.0	40.0	
Base Capacity (vph)	244	1285	628	315	1252	604	367	633	587	518	643
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	0.64	0.50	0.15	0.31	0.70	0.25	0.54	0.34	0.13	0.43	0.58

Intersection Summary

HCM Signalized Intersection Capacity Analysis
 1: Sixth Line & Upper Middle Road

Future Background 2028
 PM Peak Hr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	146	594	90	92	815	141	184	203	73	209	201	144	
Future Volume (vph)	146	594	90	92	815	141	184	203	73	209	201	144	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00		
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.95	1.00	1.00	0.98	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	1.00	0.85	1.00	1.00	0.85	1.00	0.94		
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1824	3614	1578	1754	3614	1546	1788	1921	1587	1821	1793		
Flt Permitted	0.15	1.00	1.00	0.30	1.00	1.00	0.38	1.00	1.00	0.52	1.00		
Satd. Flow (perm)	293	3614	1578	553	3614	1546	710	1921	1587	1001	1793		
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)	157	639	97	99	876	152	198	218	78	225	216	155	
RTOR Reduction (vph)	0	0	62	0	0	69	0	0	52	0	22	0	
Lane Group Flow (vph)	157	639	35	99	876	83	198	218	26	225	349	0	
Confl. Peds. (#/hr)	17		2	2		17	6		7	7			
Heavy Vehicles (%)	0%	1%	1%	4%	1%	0%	2%	0%	1%	0%	0%	1%	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		
Protected Phases	5	2		1	6		7	4		3	8		
Permitted Phases	2		2	6		6	4		4	8			
Actuated Green, G (s)	51.6	42.7	42.7	49.4	41.6	41.6	47.6	39.6	39.6	51.6	41.6		
Effective Green, g (s)	51.6	42.7	42.7	49.4	41.6	41.6	47.6	39.6	39.6	51.6	41.6		
Actuated g/C Ratio	0.43	0.36	0.36	0.41	0.35	0.35	0.40	0.33	0.33	0.43	0.35		
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4		
Vehicle Extension (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	3.5	3.5	3.5	3.5		
Lane Grp Cap (vph)	239	1285	561	305	1252	535	353	633	523	498	621		
v/s Ratio Prot	c0.05	0.18		0.02	c0.24		c0.04	0.11		c0.04	c0.19		
v/s Ratio Perm	0.23		0.02	0.11		0.05	0.18		0.02	0.16			
v/c Ratio	0.66	0.50	0.06	0.32	0.70	0.16	0.56	0.34	0.05	0.45	0.56		
Uniform Delay, d1	24.2	30.2	25.5	22.6	33.8	27.1	26.3	30.4	27.4	22.5	31.8		
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	6.6	1.4	0.2	0.7	3.3	0.6	2.2	1.5	0.2	0.8	3.7		
Delay (s)	30.8	31.6	25.7	23.3	37.1	27.7	28.6	31.9	27.6	23.2	35.5		
Level of Service	C	C	C	C	D	C	C	C	C	C	D		
Approach Delay (s)		30.8			34.6			29.9			30.9		
Approach LOS		C			C			C			C		
Intersection Summary													
HCM 2000 Control Delay			32.1		HCM 2000 Level of Service					C			
HCM 2000 Volume to Capacity ratio			0.63										
Actuated Cycle Length (s)			120.0		Sum of lost time (s)					19.9			
Intersection Capacity Utilization			93.8%		ICU Level of Service					F			
Analysis Period (min)			15										

c Critical Lane Group

Lanes, Volumes, Timings
2: Sixth Line & Elm Road

Future Background 2028
PM Peak Hr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	9	81	48	550	438	10
Future Volume (vph)	9	81	48	550	438	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0	0.0	0.0			0.0
Storage Lanes	1	1	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Fr _t		0.850			0.997	
Fl _t Protected	0.950			0.996		
Satd. Flow (prot)	1825	1601	0	1879	1857	0
Fl _t Permitted	0.950			0.996		
Satd. Flow (perm)	1825	1601	0	1879	1857	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	103.8			216.0	48.0	
Travel Time (s)	7.8			16.2	3.6	
Confl. Peds. (#/hr)	3		12			12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	2%	0%	2%	3%	10%
Adj. Flow (vph)	10	87	52	591	471	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	87	0	643	482	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	68.6%
ICU Level of Service	C
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

2: Sixth Line & Elm Road

Future Background 2028
PM Peak Hr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	9	81	48	550	438	10
Future Volume (Veh/h)	9	81	48	550	438	10
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)	10	87	52	591	471	11
Pedestrians	12				3	
Lane Width (m)	3.7				3.7	
Walking Speed (m/s)	1.1				1.1	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					288	
pX, platoon unblocked						
vC, conflicting volume	1186	488	494			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1186	488	494			
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	85	95			
cM capacity (veh/h)	197	573	1067			
Direction, Lane #	EB 1	EB 2	NB 1	SB 1		
Volume Total	10	87	643	482		
Volume Left	10	0	52	0		
Volume Right	0	87	0	11		
cSH	197	573	1067	1700		
Volume to Capacity	0.05	0.15	0.05	0.28		
Queue Length 95th (m)	1.2	4.0	1.2	0.0		
Control Delay (s)	24.2	12.4	1.3	0.0		
Lane LOS	C	B	A			
Approach Delay (s)	13.6		1.3	0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			68.6%	ICU Level of Service	C	
Analysis Period (min)			15			

Lanes, Volumes, Timings
3: Sixth Line & Miller Road

Future Background 2028
PM Peak Hr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	9	33	34	589	492	27
Future Volume (vph)	9	33	34	589	492	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.895				0.993	
Flt Protected	0.989				0.997	
Satd. Flow (prot)	1611	0	0	1880	1836	0
Flt Permitted	0.989				0.997	
Satd. Flow (perm)	1611	0	0	1880	1836	0
Link Speed (k/h)	48				48	48
Link Distance (m)	494.9				187.0	216.0
Travel Time (s)	37.1				14.0	16.2
Confl. Peds. (#/hr)	1	15				15
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	11%	4%	0%	2%	4%	2%
Adj. Flow (vph)	10	35	37	633	529	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	45	0	0	670	558	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7				3.7	3.7
Link Offset(m)	0.0				0.0	0.0
Crosswalk Width(m)	1.6				1.6	1.6
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24	14		
Sign Control	Stop				Free	Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	68.8%
ICU Level of Service	C
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
3: Sixth Line & Miller Road

Future Background 2028
PM Peak Hr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	9	33	34	589	492	27
Future Volume (Veh/h)	9	33	34	589	492	27
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)	10	35	37	633	529	29
Pedestrians	15				1	
Lane Width (m)	3.7				3.7	
Walking Speed (m/s)	1.1				1.1	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)	187					
pX, platoon unblocked	0.87					
vC, conflicting volume	1266	558	573			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1231	558	573			
tC, single (s)	6.5	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	94	93	96			
cM capacity (veh/h)	155	517	995			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	45	670	558			
Volume Left	10	37	0			
Volume Right	35	0	29			
cSH	340	995	1700			
Volume to Capacity	0.13	0.04	0.33			
Queue Length 95th (m)	3.4	0.9	0.0			
Control Delay (s)	17.2	1.0	0.0			
Lane LOS	C	A				
Approach Delay (s)	17.2	1.0	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			68.8%	ICU Level of Service	C	
Analysis Period (min)			15			

4: Sixth Line & McCraney Street West/McCraney Street East

PM Peak Hr

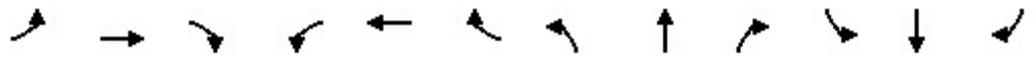


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	49	22	23	87	277	31	317	26	184	287	54
Future Volume (vph)	29	49	22	23	87	277	31	317	26	184	287	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0		0.0	30.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	0.99		0.99	0.98		0.99	1.00		0.99	0.99	
Frt		0.953			0.886			0.989			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	1815	0	1825	1641	0	1825	1878	0	1755	1834	0
Flt Permitted	0.259			0.546			0.543			0.394		
Satd. Flow (perm)	496	1815	0	1041	1641	0	1034	1878	0	724	1834	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			162			5			17	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		496.2			318.9			167.6			187.0	
Travel Time (s)		37.2			23.9			12.6			14.0	
Confl. Peds. (#/hr)	4		4	4		4	7		7	7		7
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	1%	0%	4%	2%	0%
Adj. Flow (vph)	31	53	24	25	94	298	33	341	28	198	309	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	31	77	0	25	392	0	33	369	0	198	367	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		

Lanes, Volumes, Timings
 4: Sixth Line & McCraney Street West/McCraney Street East

Future Background 2028
 PM Peak Hr

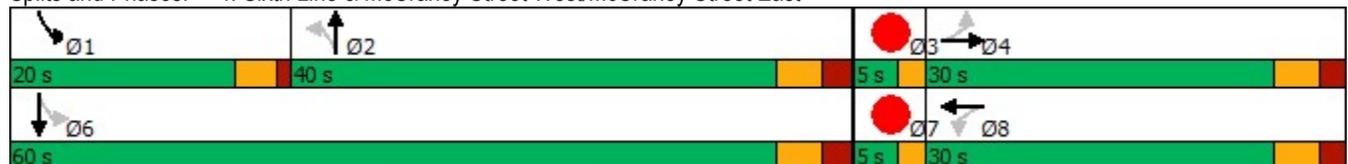


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		24.0	24.0		7.0	24.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		20.0	60.0	
Total Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		20.0	60.0	
Total Split (%)	31.6%	31.6%		31.6%	31.6%		42.1%	42.1%		21.1%	63.2%	
Maximum Green (s)	24.7	24.7		24.7	24.7		34.4	34.4		16.0	54.4	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.3	2.3		1.0	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0			10.0	
Flash Dont Walk (s)	14.0	14.0		14.0	14.0		14.0	14.0			14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)	21.8	21.8		21.8	21.8		40.3	40.3		56.1	54.5	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.44	0.44		0.61	0.59	
v/c Ratio	0.26	0.17		0.10	0.77		0.07	0.45		0.36	0.34	
Control Delay	35.2	21.5		28.4	29.8		17.7	21.2		10.3	10.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	35.2	21.5		28.4	29.8		17.7	21.2		10.3	10.5	
LOS	D	C		C	C		B	C		B	B	
Approach Delay		25.4			29.7			20.9			10.4	
Approach LOS		C			C			C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 95
 Actuated Cycle Length: 92.2
 Natural Cycle: 95
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 19.7
 Intersection LOS: B
 Intersection Capacity Utilization 77.8%
 ICU Level of Service D
 Analysis Period (min) 15

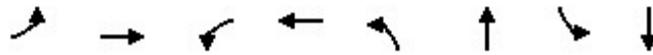
Splits and Phases: 4: Sixth Line & McCraney Street West/McCraney Street East



Lane Group	Ø3	Ø7
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

4: Sixth Line & McCraney Street West/McCraney Street East

PM Peak Hr



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	31	77	25	392	33	369	198	367
v/c Ratio	0.26	0.17	0.10	0.77	0.07	0.45	0.36	0.34
Control Delay	35.2	21.5	28.4	29.8	17.7	21.2	10.3	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.2	21.5	28.4	29.8	17.7	21.2	10.3	10.5
Queue Length 50th (m)	4.5	7.6	3.5	38.3	3.1	41.7	13.4	27.3
Queue Length 95th (m)	12.6	18.4	9.9	71.6	9.9	76.2	25.9	48.9
Internal Link Dist (m)		472.2		294.9		143.6		163.0
Turn Bay Length (m)	15.0		30.0		25.0		35.0	
Base Capacity (vph)	132	503	278	558	451	822	619	1090
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.15	0.09	0.70	0.07	0.45	0.32	0.34

Intersection Summary

HCM Signalized Intersection Capacity Analysis

4: Sixth Line & McCraney Street West/McCraney Street East

Future Background 2028
PM Peak Hr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	49	22	23	87	277	31	317	26	184	287	54
Future Volume (vph)	29	49	22	23	87	277	31	317	26	184	287	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	0.99		1.00	0.98		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.89		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1818	1816		1814	1641		1810	1877		1751	1835	
Flt Permitted	0.26	1.00		0.55	1.00		0.54	1.00		0.39	1.00	
Satd. Flow (perm)	495	1816		1043	1641		1034	1877		726	1835	
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)	31	53	24	25	94	298	33	341	28	198	309	58
RTOR Reduction (vph)	0	19	0	0	122	0	0	3	0	0	7	0
Lane Group Flow (vph)	31	58	0	25	270	0	33	366	0	198	360	0
Confl. Peds. (#/hr)	4		4	4		4	7		7	7		7
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	1%	0%	4%	2%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	17.7	17.7		22.9	22.9		40.2	40.2		54.4	54.4	
Effective Green, g (s)	17.7	17.7		22.9	22.9		40.2	40.2		54.4	54.4	
Actuated g/C Ratio	0.19	0.19		0.25	0.25		0.43	0.43		0.58	0.58	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	94	344		256	403		445	809		535	1071	
v/s Ratio Prot		0.03			c0.16			c0.20		c0.04	0.20	
v/s Ratio Perm	0.06			0.02			0.03			0.18		
v/c Ratio	0.33	0.17		0.10	0.67		0.07	0.45		0.37	0.34	
Uniform Delay, d1	32.6	31.6		27.2	31.7		15.6	18.7		10.1	10.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	0.2		0.2	4.2		0.3	1.8		0.4	0.8	
Delay (s)	34.7	31.8		27.3	35.9		15.9	20.6		10.5	10.9	
Level of Service	C	C		C	D		B	C		B	B	
Approach Delay (s)		32.7			35.4			20.2			10.8	
Approach LOS		C			D			C			B	
Intersection Summary												
HCM 2000 Control Delay			21.8			HCM 2000 Level of Service		C				
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			93.2			Sum of lost time (s)		16.9				
Intersection Capacity Utilization			77.8%			ICU Level of Service		D				
Analysis Period (min)			15									

c Critical Lane Group

Intersection: 1: Sixth Line & Upper Middle Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (m)	56.6	81.6	79.8	49.2	47.5	112.3	111.1	47.5	32.4	115.0	32.4	42.4
Average Queue (m)	24.7	48.8	48.2	15.4	22.7	75.4	72.6	29.7	25.1	41.4	10.8	31.1
95th Queue (m)	49.1	71.4	72.7	42.5	51.7	101.3	99.5	61.3	38.6	85.3	29.9	51.4
Link Distance (m)		491.0	491.0			435.0	435.0			221.2		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	55.0			55.0	45.0			45.0	30.0		30.0	40.0
Storage Blk Time (%)	0	3	3	0	0	25	22	1	6	11	0	3
Queuing Penalty (veh)	0	4	2	0	1	23	31	3	16	29	1	10

Intersection: 1: Sixth Line & Upper Middle Road

Movement	SB
Directions Served	TR
Maximum Queue (m)	100.5
Average Queue (m)	52.7
95th Queue (m)	95.2
Link Distance (m)	98.8
Upstream Blk Time (%)	2
Queuing Penalty (veh)	0
Storage Bay Dist (m)	
Storage Blk Time (%)	13
Queuing Penalty (veh)	26

Intersection: 2: Sixth Line & Elm Road

Movement	EB	EB	NB	SB
Directions Served	L	R	LT	TR
Maximum Queue (m)	10.1	19.5	41.1	4.8
Average Queue (m)	2.1	9.9	8.9	0.2
95th Queue (m)	8.4	17.2	27.0	2.8
Link Distance (m)		98.5	202.2	34.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)	20.0			
Storage Blk Time (%)		0		
Queuing Penalty (veh)		0		

Intersection: 3: Sixth Line & Miller Road

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (m)	17.6	34.6	9.5
Average Queue (m)	8.3	6.2	0.3
95th Queue (m)	16.5	21.6	3.6
Link Distance (m)	487.2	174.7	202.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Sixth Line & McCraney Street West/McCraney Street East

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	17.4	48.0	32.3	105.5	27.2	78.1	43.7	58.3
Average Queue (m)	8.7	13.7	7.2	49.3	6.4	37.7	19.3	26.0
95th Queue (m)	19.2	33.3	24.3	86.9	19.5	65.5	35.6	49.9
Link Distance (m)		488.4		311.0		159.8		174.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)	15.0		30.0		25.0		35.0	
Storage Blk Time (%)	13	9	0	25	0	17	1	4
Queuing Penalty (veh)	9	3	0	6	0	5	4	6

Zone Summary

Zone wide Queuing Penalty: 180

Lanes, Volumes, Timings
1: Sixth Line & Upper Middle Road

Future Total 2028
AM Peak Hr

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	762	177	168	532	91	157	245	185	159	272	93
Future Volume (vph)	98	762	177	168	532	91	157	245	185	159	272	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		55.0	45.0		45.0	30.0		30.0	40.0		0.0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99		0.97	1.00		0.97	1.00		0.98	0.99	0.99	
Frt			0.850			0.850			0.850		0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3579	1617	1690	3544	1570	1722	1847	1570	1807	1807	0
Flt Permitted	0.389			0.157			0.308			0.503		
Satd. Flow (perm)	743	3579	1575	279	3544	1520	556	1847	1537	951	1807	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			157			104			168			15
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		498.8			445.5			239.9			113.9	
Travel Time (s)		37.4			33.4			18.0			8.5	
Confl. Peds. (#/hr)	6		3	3		6	9		10	10		9
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	1%	8%	3%	4%	6%	4%	4%	1%	1%	4%
Adj. Flow (vph)	104	811	188	179	566	97	167	261	197	169	289	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	811	188	179	566	97	167	261	197	169	388	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
1: Sixth Line & Upper Middle Road

Future Total 2028
AM Peak Hr

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	SBR
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	
Minimum Split (s)	12.0	42.0	42.0	12.0	42.0	42.0	12.0	45.4	45.4	12.0	45.4	
Total Split (s)	12.0	42.6	42.6	19.0	49.6	49.6	13.0	46.4	46.4	12.0	45.4	
Total Split (%)	10.0%	35.5%	35.5%	15.8%	41.3%	41.3%	10.8%	38.7%	38.7%	10.0%	37.8%	
Maximum Green (s)	8.0	37.1	37.1	15.0	44.1	44.1	9.0	40.0	40.0	8.0	39.0	
Yellow Time (s)	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7	
All-Red Time (s)	1.0	1.8	1.8	1.0	1.8	1.8	1.0	2.7	2.7	1.0	2.7	
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	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	3.5	3.5	3.5	3.5	
Recall Mode	None	C-Max	C-Max	None	Max	Max	None	Max	Max	None	Max	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		23.0	23.0		23.0	23.0		32.0	32.0		32.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effct Green (s)	48.6	39.3	39.3	57.2	44.3	44.3	51.4	40.0	40.0	49.4	39.0	
Actuated g/C Ratio	0.40	0.33	0.33	0.48	0.37	0.37	0.43	0.33	0.33	0.41	0.32	
v/c Ratio	0.28	0.69	0.30	0.63	0.43	0.15	0.51	0.42	0.32	0.38	0.65	
Control Delay	19.8	39.3	8.7	28.7	29.8	4.8	26.3	33.7	7.9	23.1	39.3	
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	19.8	39.3	8.7	28.7	29.8	4.8	26.3	33.7	7.9	23.1	39.3	
LOS	B	D	A	C	C	A	C	C	A	C	D	
Approach Delay		32.2			26.7			23.6			34.4	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 29.4
 Intersection LOS: C
 Intersection Capacity Utilization 92.2%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 1: Sixth Line & Upper Middle Road



Queues

Future Total 2028

1: Sixth Line & Upper Middle Road

AM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	104	811	188	179	566	97	167	261	197	169	388
v/c Ratio	0.28	0.69	0.30	0.63	0.43	0.15	0.51	0.42	0.32	0.38	0.65
Control Delay	19.8	39.3	8.7	28.7	29.8	4.8	26.3	33.7	7.9	23.1	39.3
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	19.8	39.3	8.7	28.7	29.8	4.8	26.3	33.7	7.9	23.1	39.3
Queue Length 50th (m)	13.2	87.6	5.0	23.8	52.3	0.0	23.3	47.5	4.6	23.5	75.0
Queue Length 95th (m)	23.2	112.2	22.1	38.3	68.0	9.7	37.7	71.3	21.1	37.7	108.7
Internal Link Dist (m)		474.8			421.5			215.9			89.9
Turn Bay Length (m)	55.0		55.0	45.0		45.0	30.0		30.0	40.0	
Base Capacity (vph)	373	1170	620	310	1307	626	325	615	624	448	597
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	0.28	0.69	0.30	0.58	0.43	0.15	0.51	0.42	0.32	0.38	0.65

Intersection Summary

HCM Signalized Intersection Capacity Analysis
 1: Sixth Line & Upper Middle Road

Future Total 2028
 AM Peak Hr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	762	177	168	532	91	157	245	185	159	272	93
Future Volume (vph)	98	762	177	168	532	91	157	245	185	159	272	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	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	0.97	1.00	1.00	0.98	1.00	0.99	
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	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1822	3579	1575	1690	3544	1520	1720	1847	1537	1802	1806	
Flt Permitted	0.39	1.00	1.00	0.16	1.00	1.00	0.31	1.00	1.00	0.50	1.00	
Satd. Flow (perm)	746	3579	1575	280	3544	1520	558	1847	1537	955	1806	
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)	104	811	188	179	566	97	167	261	197	169	289	99
RTOR Reduction (vph)	0	0	106	0	0	61	0	0	112	0	10	0
Lane Group Flow (vph)	104	811	82	179	566	36	167	261	85	169	378	0
Confl. Peds. (#/hr)	6		3	3		6	9		10	10		9
Heavy Vehicles (%)	0%	2%	1%	8%	3%	4%	6%	4%	4%	1%	1%	4%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		
Actuated Green, G (s)	47.1	39.3	39.3	56.1	44.3	44.3	49.0	40.0	40.0	47.0	39.0	
Effective Green, g (s)	47.1	39.3	39.3	56.1	44.3	44.3	49.0	40.0	40.0	47.0	39.0	
Actuated g/C Ratio	0.39	0.33	0.33	0.47	0.37	0.37	0.41	0.33	0.33	0.39	0.32	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Vehicle Extension (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	3.5	3.5	3.5	3.5	
Lane Grp Cap (vph)	362	1172	515	281	1308	561	315	615	512	430	586	
v/s Ratio Prot	0.02	c0.23		c0.07	0.16		c0.04	0.14		0.03	c0.21	
v/s Ratio Perm	0.09		0.05	0.23		0.02	0.18		0.06	0.13		
v/c Ratio	0.29	0.69	0.16	0.64	0.43	0.06	0.53	0.42	0.17	0.39	0.64	
Uniform Delay, d1	23.6	35.1	28.6	22.3	28.4	24.5	24.7	31.1	28.2	24.7	34.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	3.4	0.7	4.9	1.0	0.2	1.9	2.1	0.7	0.7	5.4	
Delay (s)	24.1	38.5	29.3	27.2	29.5	24.7	26.6	33.2	28.9	25.4	40.0	
Level of Service	C	D	C	C	C	C	C	C	C	C	D	
Approach Delay (s)		35.5			28.4			30.1			35.6	
Approach LOS		D			C			C			D	
Intersection Summary												
HCM 2000 Control Delay			32.5	HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			120.0	Sum of lost time (s)				19.9				
Intersection Capacity Utilization			92.2%	ICU Level of Service				F				
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings
2: Sixth Line & Elm Road

Future Total 2028
AM Peak Hr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	9	176	41	512	677	5
Future Volume (vph)	9	176	41	512	677	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0	0.0	0.0			0.0
Storage Lanes	1	1	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Fr _t		0.850			0.999	
Fl _t Protected	0.950			0.996		
Satd. Flow (prot)	1615	1541	0	1791	1846	0
Fl _t Permitted	0.950			0.996		
Satd. Flow (perm)	1615	1541	0	1791	1846	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	103.8			216.0	48.0	
Travel Time (s)	7.8			16.2	3.6	
Confl. Peds. (#/hr)			13			13
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	13%	6%	30%	5%	4%	0%
Adj. Flow (vph)	11	212	49	617	816	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	212	0	666	822	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	70.8%
ICU Level of Service	C
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
 2: Sixth Line & Elm Road

Future Total 2028
 AM Peak Hr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	9	176	41	512	677	5
Future Volume (Veh/h)	9	176	41	512	677	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	11	212	49	617	816	6
Pedestrians	13					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					288	
pX, platoon unblocked	0.85	0.85	0.85			
vC, conflicting volume	1547	832	835			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1556	710	714			
tC, single (s)	6.5	6.3	4.4			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.5			
p0 queue free %	88	41	92			
cM capacity (veh/h)	90	356	643			
Direction, Lane #	EB 1	EB 2	NB 1	SB 1		
Volume Total	11	212	666	822		
Volume Left	11	0	49	0		
Volume Right	0	212	0	6		
cSH	90	356	643	1700		
Volume to Capacity	0.12	0.59	0.08	0.48		
Queue Length 95th (m)	3.0	27.8	1.9	0.0		
Control Delay (s)	50.3	28.9	2.0	0.0		
Lane LOS	F	D	A			
Approach Delay (s)	30.0		2.0	0.0		
Approach LOS	D					
Intersection Summary						
Average Delay			4.7			
Intersection Capacity Utilization			70.8%	ICU Level of Service	C	
Analysis Period (min)			15			

Lanes, Volumes, Timings
3: Sixth Line & Miller Road

Future Total 2028
AM Peak Hr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	63	16	550	845	8
Future Volume (vph)	4	63	16	550	845	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.873			0.999		
Flt Protected	0.997			0.999		
Satd. Flow (prot)	1641	0	0	1797	1685	0
Flt Permitted	0.997			0.999		
Satd. Flow (perm)	1641	0	0	1797	1685	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	494.9			187.0	216.0	
Travel Time (s)	37.1			14.0	16.2	
Confl. Peds. (#/hr)				19		19
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	2%	0%	7%	14%	4%
Adj. Flow (vph)	5	77	20	671	1030	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	82	0	0	691	1040	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	55.8%
ICU Level of Service	B
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
3: Sixth Line & Miller Road

Future Total 2028
AM Peak Hr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	63	16	550	845	8
Future Volume (Veh/h)	4	63	16	550	845	8
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	5	77	20	671	1030	10
Pedestrians	19					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	2					
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)	187					
pX, platoon unblocked	0.93					
vC, conflicting volume	1765	1054	1059			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1786	1054	1059			
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	71	97			
cM capacity (veh/h)	80	269	653			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	82	691	1040			
Volume Left	5	20	0			
Volume Right	77	0	10			
cSH	235	653	1700			
Volume to Capacity	0.35	0.03	0.61			
Queue Length 95th (m)	11.3	0.7	0.0			
Control Delay (s)	28.3	0.8	0.0			
Lane LOS	D	A				
Approach Delay (s)	28.3	0.8	0.0			
Approach LOS	D					
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			55.8%	ICU Level of Service	B	
Analysis Period (min)			15			

4: Sixth Line & McCraney Street West/McCraney Street East

AM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	152	41	37	89	357	20	181	47	486	400	22
Future Volume (vph)	28	152	41	37	89	357	20	181	47	486	400	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0		0.0	30.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.98	0.94		0.99	0.99		0.99		
Frt		0.968			0.880			0.969			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	1842	0	1706	1513	0	1825	1750	0	1772	1778	0
Flt Permitted	0.162			0.475			0.471			0.440		
Satd. Flow (perm)	311	1842	0	840	1513	0	894	1750	0	814	1778	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			205			15				5
Link Speed (k/h)		48			48			48				48
Link Distance (m)		496.2			318.9			167.6				187.0
Travel Time (s)		37.2			23.9			12.6				14.0
Confl. Peds. (#/hr)	22		11	11		22	13		8	8		
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	0%	7%	0%	7%	0%	6%	4%	3%	7%	10%
Adj. Flow (vph)	35	188	51	46	110	441	25	223	58	600	494	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	239	0	46	551	0	25	281	0	600	521	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		

Lanes, Volumes, Timings
 4: Sixth Line & McCraney Street West/McCraney Street East

Future Total 2028
 AM Peak Hr

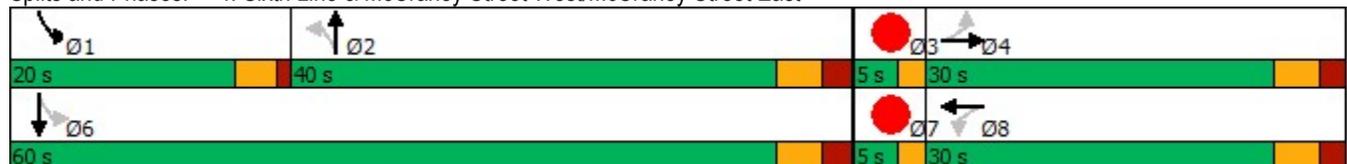


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		24.0	24.0		7.0	24.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		20.0	60.0	
Total Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		20.0	60.0	
Total Split (%)	31.6%	31.6%		31.6%	31.6%		42.1%	42.1%		21.1%	63.2%	
Maximum Green (s)	24.7	24.7		24.7	24.7		34.4	34.4		16.0	54.4	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.3	2.3		1.0	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0			10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		14.0	14.0			14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)	24.7	24.7		24.7	24.7		34.4	34.4		56.0	54.4	
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.36	0.36		0.59	0.57	
v/c Ratio	0.44	0.49		0.21	1.01		0.08	0.44		0.94	0.51	
Control Delay	49.0	32.0		30.7	65.1		20.9	24.3		38.8	14.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	49.0	32.0		30.7	65.1		20.9	24.3		38.8	14.3	
LOS	D	C		C	E		C	C		D	B	
Approach Delay		34.2			62.4			24.0			27.4	
Approach LOS		C			E			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 95
 Actuated Cycle Length: 95
 Natural Cycle: 95
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 36.9
 Intersection LOS: D
 Intersection Capacity Utilization 90.1%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 4: Sixth Line & McCraney Street West/McCraney Street East



Lane Group	Ø3	Ø7
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

4: Sixth Line & McCraney Street West/McCraney Street East

AM Peak Hr



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	35	239	46	551	25	281	600	521
v/c Ratio	0.44	0.49	0.21	1.01	0.08	0.44	0.94	0.51
Control Delay	49.0	32.0	30.7	65.1	20.9	24.3	38.8	14.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.0	32.0	30.7	65.1	20.9	24.3	38.8	14.3
Queue Length 50th (m)	5.4	34.9	6.6	~71.8	3.0	36.3	63.3	53.2
Queue Length 95th (m)	13.9	50.3	14.2	#111.2	7.7	50.8	#91.0	67.0
Internal Link Dist (m)		472.2		294.9		143.6		163.0
Turn Bay Length (m)	15.0		30.0		25.0		35.0	
Base Capacity (vph)	80	489	218	545	323	643	641	1020
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.49	0.21	1.01	0.08	0.44	0.94	0.51

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

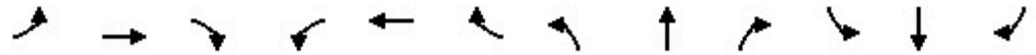
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
 4: Sixth Line & McCraney Street West/McCraney Street East

Future Total 2028
 AM Peak Hr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (vph)	28	152	41	37	89	357	20	181	47	486	400	22
Future Volume (vph)	28	152	41	37	89	357	20	181	47	486	400	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	0.99		1.00	0.94		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.98	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.88		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	1842		1679	1513		1802	1750		1766	1779	
Flt Permitted	0.16	1.00		0.48	1.00		0.47	1.00		0.44	1.00	
Satd. Flow (perm)	311	1842		840	1513		893	1750		818	1779	
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	35	188	51	46	110	441	25	223	58	600	494	27
RTOR Reduction (vph)	0	10	0	0	152	0	0	10	0	0	2	0
Lane Group Flow (vph)	35	229	0	46	399	0	25	271	0	600	519	0
Confl. Peds. (#/hr)	22		11	11		22	13		8	8		
Heavy Vehicles (%)	0%	0%	0%	7%	0%	7%	0%	6%	4%	3%	7%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	24.7	24.7		24.7	24.7		34.4	34.4		54.4	54.4	
Effective Green, g (s)	24.7	24.7		24.7	24.7		34.4	34.4		54.4	54.4	
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.36	0.36		0.57	0.57	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	80	478		218	393		323	633		628	1018	
v/s Ratio Prot		0.12			c0.26			0.16		c0.16	0.29	
v/s Ratio Perm	0.11			0.05			0.03			c0.39		
v/c Ratio	0.44	0.48		0.21	1.02		0.08	0.43		0.96	0.51	
Uniform Delay, d1	29.3	29.7		27.5	35.1		19.9	22.9		16.7	12.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.8	0.8		0.5	49.5		0.5	2.1		25.1	1.8	
Delay (s)	33.1	30.5		28.0	84.7		20.4	25.0		41.8	14.1	
Level of Service	C	C		C	F		C	C		D	B	
Approach Delay (s)		30.8			80.3			24.6			28.9	
Approach LOS		C			F			C			C	
Intersection Summary												
HCM 2000 Control Delay			41.9			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.98									
Actuated Cycle Length (s)			95.0			Sum of lost time (s)			16.9			
Intersection Capacity Utilization			90.1%			ICU Level of Service			E			
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings
5: Sixth Line & Site Access

Future Total 2028
AM Peak Hr

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	36	35	509	13	23	646
Future Volume (vph)	36	35	509	13	23	646
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		0.0	5.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.933		0.997			
Flt Protected	0.975				0.950	
Satd. Flow (prot)	1713	0	1878	0	1789	1883
Flt Permitted	0.975				0.950	
Satd. Flow (perm)	1713	0	1878	0	1789	1883
Link Speed (k/h)	48		48			48
Link Distance (m)	63.6		48.0			239.9
Travel Time (s)	4.8		3.6			18.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	38	553	14	25	702
Shared Lane Traffic (%)						
Lane Group Flow (vph)	77	0	567	0	25	702
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		3.7			3.7
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	44.8%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
5: Sixth Line & Site Access

Future Total 2028
AM Peak Hr

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	36	35	509	13	23	646
Future Volume (Veh/h)	36	35	509	13	23	646
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	39	38	553	14	25	702
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						240
pX, platoon unblocked	0.82					
vC, conflicting volume	1312	560	567			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1272	560	567			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	74	93	98			
cM capacity (veh/h)	149	528	1005			
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	77	567	25	702		
Volume Left	39	0	25	0		
Volume Right	38	14	0	0		
cSH	230	1700	1005	1700		
Volume to Capacity	0.33	0.33	0.02	0.41		
Queue Length 95th (m)	10.7	0.0	0.6	0.0		
Control Delay (s)	28.3	0.0	8.7	0.0		
Lane LOS	D		A			
Approach Delay (s)	28.3	0.0	0.3			
Approach LOS	D					
Intersection Summary						
Average Delay			1.7			
Intersection Capacity Utilization			44.8%	ICU Level of Service		A
Analysis Period (min)	15					

Intersection: 1: Sixth Line & Upper Middle Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (m)	57.3	112.4	116.7	57.5	47.4	79.5	74.6	47.3	32.4	127.1	32.5	42.3
Average Queue (m)	25.4	68.2	69.2	34.4	31.4	45.4	41.6	13.8	23.6	57.4	23.0	30.0
95th Queue (m)	58.3	98.4	101.0	70.3	52.1	71.2	68.1	38.4	38.0	111.5	40.9	50.5
Link Distance (m)		491.0	491.0			435.0	435.0			221.2		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	55.0			55.0	45.0			45.0	30.0		30.0	40.0
Storage Blk Time (%)	0	11	12	1	2	6	5	0	5	18	2	1
Queuing Penalty (veh)	0	11	21	2	4	10	4	0	20	60	8	5

Intersection: 1: Sixth Line & Upper Middle Road

Movement	SB
Directions Served	TR
Maximum Queue (m)	104.6
Average Queue (m)	60.6
95th Queue (m)	104.9
Link Distance (m)	98.8
Upstream Blk Time (%)	3
Queuing Penalty (veh)	0
Storage Bay Dist (m)	
Storage Blk Time (%)	21
Queuing Penalty (veh)	34

Intersection: 2: Sixth Line & Elm Road

Movement	EB	EB	NB	SB
Directions Served	L	R	LT	TR
Maximum Queue (m)	19.7	37.5	42.8	11.4
Average Queue (m)	2.7	17.8	11.7	0.4
95th Queue (m)	10.6	30.1	33.7	4.2
Link Distance (m)		98.5	202.2	34.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)	20.0			
Storage Blk Time (%)	0	5		
Queuing Penalty (veh)	0	0		

Intersection: 3: Sixth Line & Miller Road

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (m)	22.2	35.0	1.2
Average Queue (m)	10.1	6.4	0.0
95th Queue (m)	17.8	24.2	0.9
Link Distance (m)	487.2	174.7	202.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Sixth Line & McCraney Street West/McCraney Street East

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	17.4	117.4	32.4	213.6	27.3	66.7	92.1	96.9
Average Queue (m)	10.8	41.5	16.8	107.8	5.3	29.8	50.8	40.4
95th Queue (m)	20.9	94.7	38.7	209.6	18.3	54.0	80.8	73.6
Link Distance (m)		488.4		311.0		159.8		174.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)	15.0		30.0		25.0		35.0	
Storage Blk Time (%)	28	36	1	56	0	13	21	8
Queuing Penalty (veh)	55	10	4	21	0	3	87	39

Intersection: 5: Sixth Line & Site Access

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (m)	24.2	7.9	9.1	9.3
Average Queue (m)	11.4	0.3	2.3	1.5
95th Queue (m)	19.4	3.5	8.7	7.1
Link Distance (m)	56.2	34.3		221.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)			5.0	
Storage Blk Time (%)			1	0
Queuing Penalty (veh)			7	0

Network Summary

Network wide Queuing Penalty: 407

Lanes, Volumes, Timings
1: Sixth Line & Upper Middle Road

Future Total 2028
PM Peak Hr

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	594	101	106	815	141	193	211	86	209	213	144
Future Volume (vph)	146	594	101	106	815	141	193	211	86	209	213	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		55.0	45.0		45.0	30.0		30.0	40.0		0.0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99		0.98	1.00		0.95	1.00		0.98	1.00		
Frt			0.850			0.850			0.850		0.939	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3614	1617	1755	3614	1633	1789	1921	1617	1825	1797	0
Flt Permitted	0.153			0.298			0.361			0.510		
Satd. Flow (perm)	292	3614	1578	550	3614	1546	678	1921	1587	976	1797	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			105			95			31
Link Speed (k/h)		48			48			48				48
Link Distance (m)		498.8			445.5			239.9				113.9
Travel Time (s)		37.4			33.4			18.0				8.5
Confl. Peds. (#/hr)	17		2	2		17	6		7	7		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	1%	1%	4%	1%	0%	2%	0%	1%	0%	0%	1%
Adj. Flow (vph)	157	639	109	114	876	152	208	227	92	225	229	155
Shared Lane Traffic (%)												
Lane Group Flow (vph)	157	639	109	114	876	152	208	227	92	225	384	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0

Lanes, Volumes, Timings
1: Sixth Line & Upper Middle Road

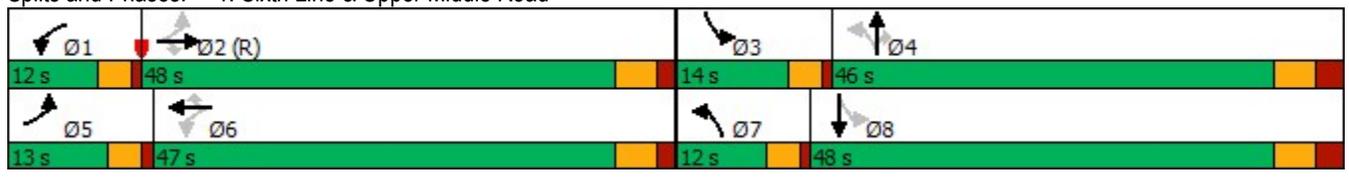
Future Total 2028
PM Peak Hr

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	SBR
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	
Minimum Split (s)	13.0	48.0	48.0	12.0	47.0	47.0	12.0	46.0	46.0	14.0	48.0	
Total Split (s)	13.0	48.0	48.0	12.0	47.0	47.0	12.0	46.0	46.0	14.0	48.0	
Total Split (%)	10.8%	40.0%	40.0%	10.0%	39.2%	39.2%	10.0%	38.3%	38.3%	11.7%	40.0%	
Maximum Green (s)	9.0	42.5	42.5	8.0	41.5	41.5	8.0	39.6	39.6	10.0	41.6	
Yellow Time (s)	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7	
All-Red Time (s)	1.0	1.8	1.8	1.0	1.8	1.8	1.0	2.7	2.7	1.0	2.7	
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	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	3.5	3.5	3.5	3.5	
Recall Mode	None	C-Max	C-Max	None	Max	Max	None	Max	Max	None	Max	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		23.0	23.0		23.0	23.0		32.0	32.0		32.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effct Green (s)	53.0	42.6	42.6	51.0	41.6	41.6	50.0	39.6	39.6	54.0	41.6	
Actuated g/C Ratio	0.44	0.36	0.36	0.42	0.35	0.35	0.42	0.33	0.33	0.45	0.35	
v/c Ratio	0.65	0.50	0.17	0.36	0.70	0.25	0.58	0.36	0.16	0.44	0.60	
Control Delay	32.3	32.0	5.5	21.9	37.5	11.0	28.3	32.6	6.0	22.9	34.1	
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	32.3	32.0	5.5	21.9	37.5	11.0	28.3	32.6	6.0	22.9	34.1	
LOS	C	C	A	C	D	B	C	C	A	C	C	
Approach Delay		28.9			32.4			26.3			30.0	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.70
 Intersection Signal Delay: 29.9
 Intersection LOS: C
 Intersection Capacity Utilization 93.8%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 1: Sixth Line & Upper Middle Road



Queues

Future Total 2028

1: Sixth Line & Upper Middle Road

PM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	157	639	109	114	876	152	208	227	92	225	384
v/c Ratio	0.65	0.50	0.17	0.36	0.70	0.25	0.58	0.36	0.16	0.44	0.60
Control Delay	32.3	32.0	5.5	21.9	37.5	11.0	28.3	32.6	6.0	22.9	34.1
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	32.3	32.0	5.5	21.9	37.5	11.0	28.3	32.6	6.0	22.9	34.1
Queue Length 50th (m)	21.0	61.6	0.0	14.9	93.2	7.4	28.8	40.4	0.0	31.5	68.1
Queue Length 95th (m)	34.4	79.1	11.7	26.0	116.0	22.3	44.9	61.9	10.6	48.3	100.3
Internal Link Dist (m)		474.8			421.5			215.9			89.9
Turn Bay Length (m)	55.0		55.0	45.0		45.0	30.0		30.0	40.0	
Base Capacity (vph)	243	1283	630	314	1252	604	356	633	587	509	643
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	0.65	0.50	0.17	0.36	0.70	0.25	0.58	0.36	0.16	0.44	0.60

Intersection Summary

HCM Signalized Intersection Capacity Analysis
 1: Sixth Line & Upper Middle Road

Future Total 2028
 PM Peak Hr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	594	101	106	815	141	193	211	86	209	213	144
Future Volume (vph)	146	594	101	106	815	141	193	211	86	209	213	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.95	1.00	1.00	0.98	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	1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1824	3614	1578	1754	3614	1546	1788	1921	1587	1821	1798	
Flt Permitted	0.15	1.00	1.00	0.30	1.00	1.00	0.36	1.00	1.00	0.51	1.00	
Satd. Flow (perm)	294	3614	1578	551	3614	1546	679	1921	1587	978	1798	
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)	157	639	109	114	876	152	208	227	92	225	229	155
RTOR Reduction (vph)	0	0	70	0	0	69	0	0	62	0	20	0
Lane Group Flow (vph)	157	639	39	114	876	83	208	227	30	225	364	0
Confl. Peds. (#/hr)	17		2	2		17	6		7	7		
Heavy Vehicles (%)	0%	1%	1%	4%	1%	0%	2%	0%	1%	0%	0%	1%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		
Actuated Green, G (s)	51.5	42.6	42.6	49.5	41.6	41.6	47.6	39.6	39.6	51.6	41.6	
Effective Green, g (s)	51.5	42.6	42.6	49.5	41.6	41.6	47.6	39.6	39.6	51.6	41.6	
Actuated g/C Ratio	0.43	0.36	0.36	0.41	0.35	0.35	0.40	0.33	0.33	0.43	0.35	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Vehicle Extension (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	3.5	3.5	3.5	3.5	
Lane Grp Cap (vph)	239	1282	560	306	1252	535	343	633	523	490	623	
v/s Ratio Prot	c0.05	0.18		0.02	c0.24		c0.04	0.12		c0.04	c0.20	
v/s Ratio Perm	0.23		0.02	0.13		0.05	0.20		0.02	0.16		
v/c Ratio	0.66	0.50	0.07	0.37	0.70	0.16	0.61	0.36	0.06	0.46	0.58	
Uniform Delay, d1	24.2	30.3	25.6	22.8	33.8	27.1	27.2	30.5	27.5	22.5	32.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.6	1.4	0.2	0.9	3.3	0.6	3.2	1.6	0.2	0.8	4.0	
Delay (s)	30.8	31.7	25.8	23.7	37.1	27.7	30.4	32.1	27.7	23.3	36.1	
Level of Service	C	C	C	C	D	C	C	C	C	C	D	
Approach Delay (s)		30.9			34.5			30.7			31.4	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			32.2	HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			120.0	Sum of lost time (s)				19.9				
Intersection Capacity Utilization			93.8%	ICU Level of Service				F				
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings
2: Sixth Line & Elm Road

Future Total 2028
PM Peak Hr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	81	48	574	455	12
Future Volume (vph)	10	81	48	574	455	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0	0.0	0.0			0.0
Storage Lanes	1	1	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850			0.997	
Flt Protected	0.950			0.996		
Satd. Flow (prot)	1825	1601	0	1879	1856	0
Flt Permitted	0.950			0.996		
Satd. Flow (perm)	1825	1601	0	1879	1856	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	103.8			216.0	48.0	
Travel Time (s)	7.8			16.2	3.6	
Confl. Peds. (#/hr)	3		12			12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	2%	0%	2%	3%	10%
Adj. Flow (vph)	11	87	52	617	489	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	87	0	669	502	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	70.9%
ICU Level of Service	C
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
2: Sixth Line & Elm Road

Future Total 2028
PM Peak Hr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	81	48	574	455	12
Future Volume (Veh/h)	10	81	48	574	455	12
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)	11	87	52	617	489	13
Pedestrians	12				3	
Lane Width (m)	3.7				3.7	
Walking Speed (m/s)	1.1				1.1	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					288	
pX, platoon unblocked						
vC, conflicting volume	1232	508	514			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1232	508	514			
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	84	95			
cM capacity (veh/h)	185	559	1049			
Direction, Lane #	EB 1	EB 2	NB 1	SB 1		
Volume Total	11	87	669	502		
Volume Left	11	0	52	0		
Volume Right	0	87	0	13		
cSH	185	559	1049	1700		
Volume to Capacity	0.06	0.16	0.05	0.30		
Queue Length 95th (m)	1.4	4.2	1.2	0.0		
Control Delay (s)	25.7	12.6	1.3	0.0		
Lane LOS	D	B	A			
Approach Delay (s)	14.1		1.3	0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			70.9%	ICU Level of Service	C	
Analysis Period (min)			15			

Lanes, Volumes, Timings
3: Sixth Line & Miller Road

Future Total 2028
PM Peak Hr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	33	34	612	508	28
Future Volume (vph)	10	33	34	612	508	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.897			0.993		
Flt Protected	0.988			0.997		
Satd. Flow (prot)	1611	0	0	1880	1836	0
Flt Permitted	0.988			0.997		
Satd. Flow (perm)	1611	0	0	1880	1836	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	494.9			187.0	216.0	
Travel Time (s)	37.1			14.0	16.2	
Confl. Peds. (#/hr)	1		15		15	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	11%	4%	0%	2%	4%	2%
Adj. Flow (vph)	11	35	37	658	546	30
Shared Lane Traffic (%)						
Lane Group Flow (vph)	46	0	0	695	576	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	70.0%
ICU Level of Service	C
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
3: Sixth Line & Miller Road

Future Total 2028
PM Peak Hr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	33	34	612	508	28
Future Volume (Veh/h)	10	33	34	612	508	28
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)	11	35	37	658	546	30
Pedestrians	15				1	
Lane Width (m)	3.7				3.7	
Walking Speed (m/s)	1.1				1.1	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)	187					
pX, platoon unblocked	0.87					
vC, conflicting volume	1309	576	591			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1279	576	591			
tC, single (s)	6.5	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	92	93	96			
cM capacity (veh/h)	144	506	980			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	46	695	576			
Volume Left	11	37	0			
Volume Right	35	0	30			
cSH	316	980	1700			
Volume to Capacity	0.15	0.04	0.34			
Queue Length 95th (m)	3.8	0.9	0.0			
Control Delay (s)	18.3	1.0	0.0			
Lane LOS	C	A				
Approach Delay (s)	18.3	1.0	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			70.0%	ICU Level of Service	C	
Analysis Period (min)			15			

Lanes, Volumes, Timings
 4: Sixth Line & McCraney Street West/McCraney Street East

Future Total 2028
 PM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	49	22	23	87	292	31	324	26	186	299	56
Future Volume (vph)	30	49	22	23	87	292	31	324	26	186	299	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0		0.0	30.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	0.99		0.99	0.98		0.99	1.00		0.99	0.99	
Frt		0.953			0.885			0.989			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	1815	0	1825	1639	0	1825	1878	0	1755	1834	0
Flt Permitted	0.225			0.547			0.535			0.387		
Satd. Flow (perm)	431	1815	0	1043	1639	0	1019	1878	0	711	1834	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			171			5			17	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		496.2			318.9			167.6			187.0	
Travel Time (s)		37.2			23.9			12.6			14.0	
Confl. Peds. (#/hr)	4		4	4		4	7		7	7		7
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	1%	0%	4%	2%	0%
Adj. Flow (vph)	32	53	24	25	94	314	33	348	28	200	322	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	77	0	25	408	0	33	376	0	200	382	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		

Lanes, Volumes, Timings
 4: Sixth Line & McCraney Street West/McCraney Street East

Future Total 2028
 PM Peak Hr

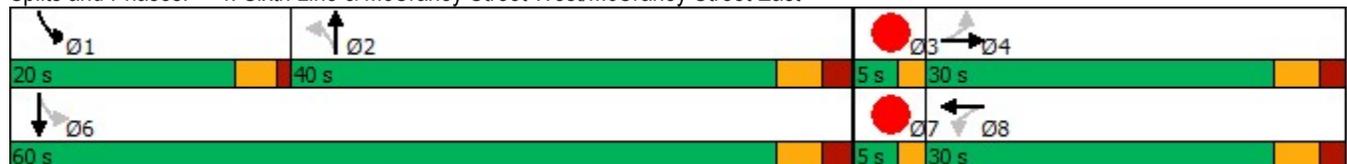


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		24.0	24.0		7.0	24.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		20.0	60.0	
Total Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		20.0	60.0	
Total Split (%)	31.6%	31.6%		31.6%	31.6%		42.1%	42.1%		21.1%	63.2%	
Maximum Green (s)	24.7	24.7		24.7	24.7		34.4	34.4		16.0	54.4	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.3	2.3		1.0	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0			10.0	
Flash Dont Walk (s)	14.0	14.0		14.0	14.0		14.0	14.0			14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)	21.8	21.8		21.8	21.8		40.2	40.2		56.0	54.4	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.44	0.44		0.61	0.59	
v/c Ratio	0.31	0.17		0.10	0.79		0.07	0.46		0.36	0.35	
Control Delay	38.2	21.5		28.3	30.8		17.8	21.4		10.4	10.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	38.2	21.5		28.3	30.8		17.8	21.4		10.4	10.7	
LOS	D	C		C	C		B	C		B	B	
Approach Delay		26.4			30.6			21.1			10.6	
Approach LOS		C			C			C			B	

Intersection Summary

Area Type:	Other
Cycle Length:	95
Actuated Cycle Length:	92.2
Natural Cycle:	95
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.79
Intersection Signal Delay:	20.2
Intersection LOS:	C
Intersection Capacity Utilization:	78.7%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 4: Sixth Line & McCraney Street West/McCraney Street East



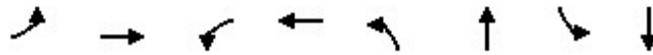
Lane Group	Ø3	Ø7
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Queues

Future Total 2028

4: Sixth Line & McCraney Street West/McCraney Street East

PM Peak Hr



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	32	77	25	408	33	376	200	382
v/c Ratio	0.31	0.17	0.10	0.79	0.07	0.46	0.36	0.35
Control Delay	38.2	21.5	28.3	30.8	17.8	21.4	10.4	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.2	21.5	28.3	30.8	17.8	21.4	10.4	10.7
Queue Length 50th (m)	4.7	7.6	3.5	40.0	3.2	42.9	13.5	28.8
Queue Length 95th (m)	13.4	18.4	9.9	74.8	9.9	77.8	26.1	51.3
Internal Link Dist (m)		472.2		294.9		143.6		163.0
Turn Bay Length (m)	15.0		30.0		25.0		35.0	
Base Capacity (vph)	115	503	279	564	444	820	613	1089
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.15	0.09	0.72	0.07	0.46	0.33	0.35
Intersection Summary								

HCM Signalized Intersection Capacity Analysis

4: Sixth Line & McCraney Street West/McCraney Street East

Future Total 2028
PM Peak Hr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	49	22	23	87	292	31	324	26	186	299	56
Future Volume (vph)	30	49	22	23	87	292	31	324	26	186	299	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	0.99		1.00	0.98		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.88		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1819	1816		1814	1638		1810	1878		1751	1835	
Flt Permitted	0.23	1.00		0.55	1.00		0.54	1.00		0.39	1.00	
Satd. Flow (perm)	431	1816		1044	1638		1020	1878		713	1835	
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)	32	53	24	25	94	314	33	348	28	200	322	60
RTOR Reduction (vph)	0	19	0	0	129	0	0	3	0	0	7	0
Lane Group Flow (vph)	32	58	0	25	279	0	33	373	0	200	375	0
Confl. Peds. (#/hr)	4		4	4		4	7		7	7		7
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	1%	0%	4%	2%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	17.8	17.8		23.0	23.0		40.2	40.2		54.5	54.5	
Effective Green, g (s)	17.8	17.8		23.0	23.0		40.2	40.2		54.5	54.5	
Actuated g/C Ratio	0.19	0.19		0.25	0.25		0.43	0.43		0.58	0.58	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	82	346		257	403		439	808		530	1070	
v/s Ratio Prot		0.03			c0.17			c0.20		0.04	c0.20	
v/s Ratio Perm	0.07			0.02			0.03			0.18		
v/c Ratio	0.39	0.17		0.10	0.69		0.08	0.46		0.38	0.35	
Uniform Delay, d1	33.1	31.6		27.2	32.0		15.7	18.9		10.2	10.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.1	0.2		0.2	5.1		0.3	1.9		0.5	0.9	
Delay (s)	36.1	31.8		27.3	37.1		16.0	20.8		10.6	11.1	
Level of Service	D	C		C	D		B	C		B	B	
Approach Delay (s)		33.1			36.5			20.4			10.9	
Approach LOS		C			D			C			B	
Intersection Summary												
HCM 2000 Control Delay			22.3	HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			93.4	Sum of lost time (s)				16.9				
Intersection Capacity Utilization			78.7%	ICU Level of Service				D				
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
5: Sixth Line & Site Access

Future Total 2028
PM Peak Hr

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	19	30	559	25	37	448
Future Volume (vph)	19	30	559	25	37	448
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		0.0	5.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.917		0.994			
Flt Protected	0.981				0.950	
Satd. Flow (prot)	1694	0	1872	0	1789	1883
Flt Permitted	0.981				0.950	
Satd. Flow (perm)	1694	0	1872	0	1789	1883
Link Speed (k/h)	48		48			48
Link Distance (m)	63.6		48.0			239.9
Travel Time (s)	4.8		3.6			18.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	33	608	27	40	487
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	635	0	40	487
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		3.7			3.7
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	40.9%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
5: Sixth Line & Site Access

Future Total 2028
PM Peak Hr

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	19	30	559	25	37	448
Future Volume (Veh/h)	19	30	559	25	37	448
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	21	33	608	27	40	487
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						240
pX, platoon unblocked	1.00					
vC, conflicting volume	1188	622			635	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1188	622			635	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	89	93			96	
cM capacity (veh/h)	199	487			948	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	54	635	40	487		
Volume Left	21	0	40	0		
Volume Right	33	27	0	0		
cSH	312	1700	948	1700		
Volume to Capacity	0.17	0.37	0.04	0.29		
Queue Length 95th (m)	4.7	0.0	1.0	0.0		
Control Delay (s)	19.0	0.0	9.0	0.0		
Lane LOS	C		A			
Approach Delay (s)	19.0	0.0	0.7			
Approach LOS	C					
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			40.9%	ICU Level of Service	A	
Analysis Period (min)			15			

Intersection: 1: Sixth Line & Upper Middle Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (m)	57.3	84.0	82.1	57.4	47.5	108.9	115.5	47.5	32.4	102.2	32.4	42.3
Average Queue (m)	26.0	50.7	49.5	17.1	27.6	76.1	75.1	28.7	24.7	42.4	11.3	31.8
95th Queue (m)	52.5	74.9	73.3	46.2	56.3	104.3	106.3	59.9	39.5	86.0	31.0	52.0
Link Distance (m)		491.0	491.0			435.0	435.0			221.2		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	55.0			55.0	45.0			45.0	30.0		30.0	40.0
Storage Blk Time (%)	0	4	4	0	0	23	21	1	6	12	0	3
Queuing Penalty (veh)	1	5	4	1	1	25	29	3	17	35	1	11

Intersection: 1: Sixth Line & Upper Middle Road

Movement	SB
Directions Served	TR
Maximum Queue (m)	102.5
Average Queue (m)	55.0
95th Queue (m)	100.5
Link Distance (m)	98.8
Upstream Blk Time (%)	2
Queuing Penalty (veh)	0
Storage Bay Dist (m)	
Storage Blk Time (%)	16
Queuing Penalty (veh)	32

Intersection: 2: Sixth Line & Elm Road

Movement	EB	EB	NB	SB
Directions Served	L	R	LT	TR
Maximum Queue (m)	9.1	18.7	34.3	3.8
Average Queue (m)	2.8	10.2	8.8	0.2
95th Queue (m)	9.5	16.6	26.2	2.3
Link Distance (m)		98.5	202.2	34.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)	20.0			
Storage Blk Time (%)		0		
Queuing Penalty (veh)		0		

Intersection: 3: Sixth Line & Miller Road

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (m)	18.1	41.7	12.0
Average Queue (m)	7.6	7.9	0.6
95th Queue (m)	15.5	26.6	5.7
Link Distance (m)	487.2	174.7	202.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Sixth Line & McCraney Street West/McCraney Street East

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	17.4	59.0	31.5	103.1	27.3	79.4	44.8	58.0
Average Queue (m)	8.9	17.4	7.2	52.0	7.6	39.2	20.7	28.2
95th Queue (m)	19.4	41.3	23.2	90.9	21.8	68.2	35.7	50.2
Link Distance (m)		488.4		311.0		159.8		174.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)	15.0		30.0		25.0		35.0	
Storage Blk Time (%)	19	14	0	28	0	18	1	4
Queuing Penalty (veh)	14	4	0	6	0	6	5	8

Intersection: 5: Sixth Line & Site Access

Movement	WB	SB	SB
Directions Served	LR	L	T
Maximum Queue (m)	19.5	11.4	22.4
Average Queue (m)	8.2	4.0	3.1
95th Queue (m)	16.4	11.5	13.8
Link Distance (m)	56.2		221.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)		5.0	
Storage Blk Time (%)		2	0
Queuing Penalty (veh)		9	0

Network Summary

Network wide Queuing Penalty: 217

Lanes, Volumes, Timings
1: Sixth Line & Upper Middle Road

Future Background 2033
AM Peak Hr

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	841	186	176	587	101	155	247	179	167	279	97
Future Volume (vph)	108	841	186	176	587	101	155	247	179	167	279	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		55.0	45.0		45.0	30.0		30.0	40.0		0.0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97	1.00		0.97	1.00		0.98	0.99		0.99
Frt			0.850			0.850			0.850			0.961
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3579	1617	1690	3544	1570	1722	1847	1570	1807	1805	0
Flt Permitted	0.344			0.129			0.302			0.484		
Satd. Flow (perm)	658	3579	1575	229	3544	1520	545	1847	1537	915	1805	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			156			107			159			15
Link Speed (k/h)		48			48			48				48
Link Distance (m)		498.8			445.5			239.9				113.9
Travel Time (s)		37.4			33.4			18.0				8.5
Confl. Peds. (#/hr)	6		3	3		6	9		10	10		9
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	1%	8%	3%	4%	6%	4%	4%	1%	1%	4%
Adj. Flow (vph)	115	895	198	187	624	107	165	263	190	178	297	103
Shared Lane Traffic (%)												
Lane Group Flow (vph)	115	895	198	187	624	107	165	263	190	178	400	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1		2
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0

Lanes, Volumes, Timings
1: Sixth Line & Upper Middle Road

Future Background 2033
AM Peak Hr

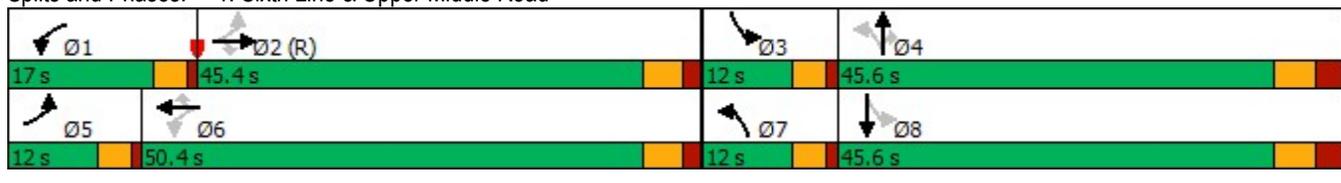


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	SBR
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	
Minimum Split (s)	12.0	42.0	42.0	12.0	42.0	42.0	12.0	45.4	45.4	12.0	45.4	
Total Split (s)	12.0	45.4	45.4	17.0	50.4	50.4	12.0	45.6	45.6	12.0	45.6	
Total Split (%)	10.0%	37.8%	37.8%	14.2%	42.0%	42.0%	10.0%	38.0%	38.0%	10.0%	38.0%	
Maximum Green (s)	8.0	39.9	39.9	13.0	44.9	44.9	8.0	39.2	39.2	8.0	39.2	
Yellow Time (s)	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7	
All-Red Time (s)	1.0	1.8	1.8	1.0	1.8	1.8	1.0	2.7	2.7	1.0	2.7	
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	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	3.5	3.5	3.5	3.5	
Recall Mode	None	C-Max	C-Max	None	Max	Max	None	Max	Max	None	Max	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		23.0	23.0		23.0	23.0		32.0	32.0		32.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effct Green (s)	50.1	40.7	40.7	58.1	45.0	45.0	49.6	39.2	39.2	49.6	39.2	
Actuated g/C Ratio	0.42	0.34	0.34	0.48	0.38	0.38	0.41	0.33	0.33	0.41	0.33	
v/c Ratio	0.33	0.74	0.31	0.72	0.47	0.17	0.54	0.44	0.31	0.41	0.67	
Control Delay	20.0	39.6	9.1	36.3	29.9	5.3	28.5	34.5	8.4	24.1	39.9	
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	20.0	39.6	9.1	36.3	29.9	5.3	28.5	34.5	8.4	24.1	39.9	
LOS	B	D	A	D	C	A	C	C	A	C	D	
Approach Delay		32.7			28.3			24.9			35.0	
Approach LOS		C			C			C			D	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:EBTL, Start of Green
Natural Cycle:	115
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	30.4
Intersection LOS:	C
Intersection Capacity Utilization:	93.1%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 1: Sixth Line & Upper Middle Road



Queues

Future Background 2033

1: Sixth Line & Upper Middle Road

AM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	115	895	198	187	624	107	165	263	190	178	400
v/c Ratio	0.33	0.74	0.31	0.72	0.47	0.17	0.54	0.44	0.31	0.41	0.67
Control Delay	20.0	39.6	9.1	36.3	29.9	5.3	28.5	34.5	8.4	24.1	39.9
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	20.0	39.6	9.1	36.3	29.9	5.3	28.5	34.5	8.4	24.1	39.9
Queue Length 50th (m)	14.4	98.3	6.8	24.7	58.1	0.0	23.3	48.5	5.0	25.2	77.9
Queue Length 95th (m)	25.1	122.2	23.9	#48.8	74.8	11.2	37.9	72.6	21.5	40.1	112.5
Internal Link Dist (m)		474.8			421.5			215.9			89.9
Turn Bay Length (m)	55.0		55.0	45.0		45.0	30.0		30.0	40.0	
Base Capacity (vph)	353	1214	637	269	1330	637	303	603	609	437	599
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	0.33	0.74	0.31	0.70	0.47	0.17	0.54	0.44	0.31	0.41	0.67

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
1: Sixth Line & Upper Middle Road

Future Background 2033
AM Peak Hr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	841	186	176	587	101	155	247	179	167	279	97
Future Volume (vph)	108	841	186	176	587	101	155	247	179	167	279	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	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	0.97	1.00	1.00	0.98	1.00	0.99	
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	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1823	3579	1575	1690	3544	1520	1720	1847	1537	1802	1805	
Flt Permitted	0.34	1.00	1.00	0.13	1.00	1.00	0.30	1.00	1.00	0.48	1.00	
Satd. Flow (perm)	661	3579	1575	229	3544	1520	547	1847	1537	918	1805	
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)	115	895	198	187	624	107	165	263	190	178	297	103
RTOR Reduction (vph)	0	0	103	0	0	67	0	0	107	0	10	0
Lane Group Flow (vph)	115	895	95	187	624	40	165	263	83	178	390	0
Confl. Peds. (#/hr)	6		3	3		6	9		10	10		9
Heavy Vehicles (%)	0%	2%	1%	8%	3%	4%	6%	4%	4%	1%	1%	4%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		
Actuated Green, G (s)	48.6	40.7	40.7	56.9	45.0	45.0	47.2	39.2	39.2	47.2	39.2	
Effective Green, g (s)	48.6	40.7	40.7	56.9	45.0	45.0	47.2	39.2	39.2	47.2	39.2	
Actuated g/C Ratio	0.41	0.34	0.34	0.47	0.38	0.38	0.39	0.33	0.33	0.39	0.33	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Vehicle Extension (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	3.5	3.5	3.5	3.5	
Lane Grp Cap (vph)	344	1213	534	257	1329	570	293	603	502	420	589	
v/s Ratio Prot	0.02	0.25		c0.07	0.18		c0.04	0.14		0.03	c0.22	
v/s Ratio Perm	0.11		0.06	c0.27		0.03	0.18		0.05	0.14		
v/c Ratio	0.33	0.74	0.18	0.73	0.47	0.07	0.56	0.44	0.17	0.42	0.66	
Uniform Delay, d1	22.9	34.9	27.9	23.1	28.4	24.1	25.8	31.7	28.8	24.8	34.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	4.0	0.7	10.2	1.2	0.2	2.7	2.3	0.7	0.8	5.8	
Delay (s)	23.6	39.0	28.6	33.2	29.6	24.3	28.5	34.0	29.5	25.6	40.5	
Level of Service	C	D	C	C	C	C	C	C	C	C	D	
Approach Delay (s)		35.8			29.7			31.1			35.9	
Approach LOS		D			C			C			D	
Intersection Summary												
HCM 2000 Control Delay			33.3		HCM 2000 Level of Service					C		
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			120.0		Sum of lost time (s)					19.9		
Intersection Capacity Utilization			93.1%		ICU Level of Service					F		
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings
2: Sixth Line & Elm Road

Future Background 2033
AM Peak Hr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	9	185	43	526	675	3
Future Volume (vph)	9	185	43	526	675	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0	0.0	0.0			0.0
Storage Lanes	1	1	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Fr _t		0.850			0.999	
Fl _t Protected	0.950			0.996		
Satd. Flow (prot)	1615	1541	0	1790	1846	0
Fl _t Permitted	0.950			0.996		
Satd. Flow (perm)	1615	1541	0	1790	1846	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	103.8			216.0	48.0	
Travel Time (s)	7.8			16.2	3.6	
Confl. Peds. (#/hr)			13			13
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	13%	6%	30%	5%	4%	0%
Adj. Flow (vph)	11	223	52	634	813	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	223	0	686	817	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	73.2%
ICU Level of Service	D
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

2: Sixth Line & Elm Road

Future Background 2033
AM Peak Hr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	9	185	43	526	675	3
Future Volume (Veh/h)	9	185	43	526	675	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	11	223	52	634	813	4
Pedestrians	13					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					288	
pX, platoon unblocked	0.82	0.82	0.82			
vC, conflicting volume	1566	828	830			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1580	681	684			
tC, single (s)	6.5	6.3	4.4			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.5			
p0 queue free %	87	38	92			
cM capacity (veh/h)	84	359	642			
Direction, Lane #	EB 1	EB 2	NB 1	SB 1		
Volume Total	11	223	686	817		
Volume Left	11	0	52	0		
Volume Right	0	223	0	4		
cSH	84	359	642	1700		
Volume to Capacity	0.13	0.62	0.08	0.48		
Queue Length 95th (m)	3.3	30.2	2.0	0.0		
Control Delay (s)	54.1	30.1	2.2	0.0		
Lane LOS	F	D	A			
Approach Delay (s)	31.2		2.2	0.0		
Approach LOS	D					
Intersection Summary						
Average Delay			5.1			
Intersection Capacity Utilization			73.2%	ICU Level of Service	D	
Analysis Period (min)			15			

Lanes, Volumes, Timings
3: Sixth Line & Miller Road

Future Background 2033
AM Peak Hr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	66	17	566	853	8
Future Volume (vph)	3	66	17	566	853	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.871					0.999
Flt Protected	0.998					0.999
Satd. Flow (prot)	1639	0	0	1797	1685	0
Flt Permitted	0.998					0.999
Satd. Flow (perm)	1639	0	0	1797	1685	0
Link Speed (k/h)	48					48
Link Distance (m)	494.9					216.0
Travel Time (s)	37.1					16.2
Confl. Peds. (#/hr)			19			
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	2%	0%	7%	14%	4%
Adj. Flow (vph)	4	80	21	690	1040	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	84	0	0	711	1050	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7					3.7
Link Offset(m)	0.0					0.0
Crosswalk Width(m)	1.6					1.6
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			
Sign Control	Stop					Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	56.3%
ICU Level of Service	B
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

3: Sixth Line & Miller Road

Future Background 2033
AM Peak Hr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	66	17	566	853	8
Future Volume (Veh/h)	3	66	17	566	853	8
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	4	80	21	690	1040	10
Pedestrians	19					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	2					
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)	187					
pX, platoon unblocked	0.92					
vC, conflicting volume	1796	1064	1069			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1821	1064	1069			
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	70	97			
cM capacity (veh/h)	75	266	647			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	84	711	1050			
Volume Left	4	21	0			
Volume Right	80	0	10			
cSH	237	647	1700			
Volume to Capacity	0.35	0.03	0.62			
Queue Length 95th (m)	11.6	0.8	0.0			
Control Delay (s)	28.3	0.9	0.0			
Lane LOS	D	A				
Approach Delay (s)	28.3	0.9	0.0			
Approach LOS	D					
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			56.3%	ICU Level of Service	B	
Analysis Period (min)			15			

4: Sixth Line & McCraney Street West/McCraney Street East

AM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	160	43	39	93	369	21	186	50	495	403	21
Future Volume (vph)	28	160	43	39	93	369	21	186	50	495	403	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0		0.0	30.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.98	0.95		0.99	0.99		0.99		
Frt		0.968			0.880			0.968				0.993
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	1842	0	1706	1513	0	1825	1748	0	1772	1780	0
Flt Permitted	0.162			0.455			0.470			0.428		
Satd. Flow (perm)	311	1842	0	805	1513	0	892	1748	0	792	1780	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			203			16				5
Link Speed (k/h)		48			48			48				48
Link Distance (m)		496.2			318.9			167.6				187.0
Travel Time (s)		37.2			23.9			12.6				14.0
Confl. Peds. (#/hr)	22		11	11		22	13		8	8		
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	0%	7%	0%	7%	0%	6%	4%	3%	7%	10%
Adj. Flow (vph)	35	198	53	48	115	456	26	230	62	611	498	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	251	0	48	571	0	26	292	0	611	524	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		

Lanes, Volumes, Timings
 4: Sixth Line & McCraney Street West/McCraney Street East

Future Background 2033
 AM Peak Hr

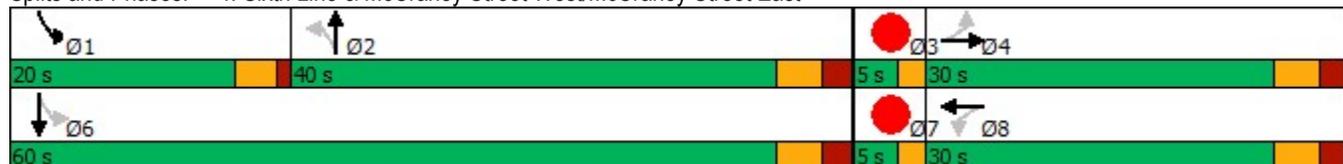


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		24.0	24.0		7.0	24.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		20.0	60.0	
Total Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		20.0	60.0	
Total Split (%)	31.6%	31.6%		31.6%	31.6%		42.1%	42.1%		21.1%	63.2%	
Maximum Green (s)	24.7	24.7		24.7	24.7		34.4	34.4		16.0	54.4	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.3	2.3		1.0	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0			10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		14.0	14.0			14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)	24.7	24.7		24.7	24.7		34.4	34.4		56.0	54.4	
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.36	0.36		0.59	0.57	
v/c Ratio	0.44	0.51		0.23	1.05		0.08	0.45		0.97	0.51	
Control Delay	49.0	32.6		31.3	76.8		20.9	24.6		45.4	14.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	49.0	32.6		31.3	76.8		20.9	24.6		45.4	14.4	
LOS	D	C		C	E		C	C		D	B	
Approach Delay		34.6			73.3			24.3			31.1	
Approach LOS		C			E			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 95
 Actuated Cycle Length: 95
 Natural Cycle: 95
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 1.05
 Intersection Signal Delay: 41.7
 Intersection LOS: D
 Intersection Capacity Utilization 92.3%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 4: Sixth Line & McCraney Street West/McCraney Street East



Lane Group	Ø3	Ø7
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

4: Sixth Line & McCraney Street West/McCraney Street East

AM Peak Hr



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	35	251	48	571	26	292	611	524
v/c Ratio	0.44	0.51	0.23	1.05	0.08	0.45	0.97	0.51
Control Delay	49.0	32.6	31.3	76.8	20.9	24.6	45.4	14.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.0	32.6	31.3	76.8	20.9	24.6	45.4	14.4
Queue Length 50th (m)	5.4	37.1	6.9	~85.1	3.1	37.9	65.1	53.6
Queue Length 95th (m)	13.9	52.7	14.8	#119.7	7.8	52.8	#98.4	67.5
Internal Link Dist (m)		472.2		294.9		143.6		163.0
Turn Bay Length (m)	15.0		30.0		25.0		35.0	
Base Capacity (vph)	80	489	209	543	322	643	631	1021
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.51	0.23	1.05	0.08	0.45	0.97	0.51

Intersection Summary

~ 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.

HCM Signalized Intersection Capacity Analysis
 4: Sixth Line & McCraney Street West/McCraney Street East

Future Background 2033
 AM Peak Hr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗		
Traffic Volume (vph)	28	160	43	39	93	369	21	186	50	495	403	21	
Future Volume (vph)	28	160	43	39	93	369	21	186	50	495	403	21	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6		
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00		
Frbp, ped/bikes	1.00	0.99		1.00	0.95		1.00	0.99		1.00	1.00		
Flpb, ped/bikes	1.00	1.00		0.98	1.00		0.99	1.00		1.00	1.00		
Frt	1.00	0.97		1.00	0.88		1.00	0.97		1.00	0.99		
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00		
Satd. Flow (prot)	1825	1843		1680	1514		1802	1748		1766	1780		
Flt Permitted	0.16	1.00		0.45	1.00		0.47	1.00		0.43	1.00		
Satd. Flow (perm)	311	1843		804	1514		891	1748		795	1780		
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	
Adj. Flow (vph)	35	198	53	48	115	456	26	230	62	611	498	26	
RTOR Reduction (vph)	0	10	0	0	150	0	0	10	0	0	2	0	
Lane Group Flow (vph)	35	241	0	48	421	0	26	282	0	611	522	0	
Confl. Peds. (#/hr)	22		11	11		22	13		8	8			
Heavy Vehicles (%)	0%	0%	0%	7%	0%	7%	0%	6%	4%	3%	7%	10%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA		
Protected Phases		4			8			2		1	6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)	24.7	24.7		24.7	24.7		34.4	34.4		54.4	54.4		
Effective Green, g (s)	24.7	24.7		24.7	24.7		34.4	34.4		54.4	54.4		
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.36	0.36		0.57	0.57		
Clearance Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	80	479		209	393		322	632		618	1019		
v/s Ratio Prot		0.13			c0.28			0.16		c0.17	0.29		
v/s Ratio Perm	0.11			0.06			0.03			c0.40			
v/c Ratio	0.44	0.50		0.23	1.07		0.08	0.45		0.99	0.51		
Uniform Delay, d1	29.3	29.9		27.7	35.1		19.9	23.0		17.5	12.3		
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00		
Incremental Delay, d2	3.8	0.8		0.6	65.5		0.5	2.3		33.0	1.8		
Delay (s)	33.1	30.8		28.2	100.7		20.4	25.3		50.4	14.1		
Level of Service	C	C		C	F		C	C		D	B		
Approach Delay (s)		31.0			95.0			24.9			33.7		
Approach LOS		C			F			C			C		
Intersection Summary													
HCM 2000 Control Delay			48.3									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			1.02										
Actuated Cycle Length (s)			95.0									Sum of lost time (s)	16.9
Intersection Capacity Utilization			92.3%									ICU Level of Service	F
Analysis Period (min)			15										

c Critical Lane Group

Intersection: 1: Sixth Line & Upper Middle Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (m)	57.3	115.2	117.9	57.5	47.4	101.7	100.0	47.5	32.4	149.1	32.5	42.4
Average Queue (m)	30.0	76.8	76.3	37.1	32.4	51.6	49.4	16.1	25.5	68.8	21.3	32.9
95th Queue (m)	65.1	109.2	108.9	73.0	54.3	85.3	82.9	42.7	38.2	134.3	40.9	52.3
Link Distance (m)		491.0	491.0			435.0	435.0			221.2		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	55.0			55.0	45.0			45.0	30.0		30.0	40.0
Storage Blk Time (%)	0	16	15	1	4	7	6	0	7	22	1	2
Queuing Penalty (veh)	1	17	28	4	11	12	6	1	29	73	5	8

Intersection: 1: Sixth Line & Upper Middle Road

Movement	SB
Directions Served	TR
Maximum Queue (m)	103.4
Average Queue (m)	67.9
95th Queue (m)	109.3
Link Distance (m)	98.8
Upstream Blk Time (%)	5
Queuing Penalty (veh)	0
Storage Bay Dist (m)	
Storage Blk Time (%)	25
Queuing Penalty (veh)	42

Intersection: 2: Sixth Line & Elm Road

Movement	EB	EB	NB	SB
Directions Served	L	R	LT	TR
Maximum Queue (m)	12.7	44.2	71.6	16.6
Average Queue (m)	2.5	19.9	13.9	0.9
95th Queue (m)	9.6	35.4	46.9	7.6
Link Distance (m)		98.5	202.2	34.3
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (m)	20.0			
Storage Blk Time (%)	0	7		
Queuing Penalty (veh)	0	1		

Intersection: 3: Sixth Line & Miller Road

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (m)	22.4	53.9	3.2
Average Queue (m)	10.6	8.0	0.2
95th Queue (m)	19.5	30.7	2.3
Link Distance (m)	487.2	174.7	202.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Sixth Line & McCraney Street West/McCraney Street East

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	17.5	162.1	32.4	271.8	21.0	80.3	92.0	117.9
Average Queue (m)	12.1	67.2	17.6	145.9	3.5	34.1	54.3	47.1
95th Queue (m)	22.0	168.1	39.6	272.0	13.4	63.0	88.5	93.9
Link Distance (m)		488.4		311.0		159.8		174.7
Upstream Blk Time (%)				3				0
Queuing Penalty (veh)				0				0
Storage Bay Dist (m)	15.0		30.0		25.0		35.0	
Storage Blk Time (%)	48	39	0	67	0	16	26	9
Queuing Penalty (veh)	97	11	2	26	0	3	109	46

Zone Summary

Zone wide Queuing Penalty: 531

Lanes, Volumes, Timings
1: Sixth Line & Upper Middle Road

Future Background 2033
PM Peak Hr

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	656	99	102	900	156	193	213	77	220	211	152
Future Volume (vph)	162	656	99	102	900	156	193	213	77	220	211	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		55.0	45.0		45.0	30.0		30.0	40.0		0.0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.98	1.00		0.95	1.00		0.98	1.00		
Frt			0.850			0.850			0.850		0.937	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3614	1617	1755	3614	1633	1789	1921	1617	1825	1793	0
Flt Permitted	0.111			0.259			0.353			0.507		
Satd. Flow (perm)	212	3614	1578	478	3614	1546	663	1921	1587	970	1793	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			106			105			95			33
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		498.8			445.5			239.9			113.9	
Travel Time (s)		37.4			33.4			18.0			8.5	
Confl. Peds. (#/hr)	17		2	2		17	6		7	7		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	1%	1%	4%	1%	0%	2%	0%	1%	0%	0%	1%
Adj. Flow (vph)	174	705	106	110	968	168	208	229	83	237	227	163
Shared Lane Traffic (%)												
Lane Group Flow (vph)	174	705	106	110	968	168	208	229	83	237	390	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
1: Sixth Line & Upper Middle Road

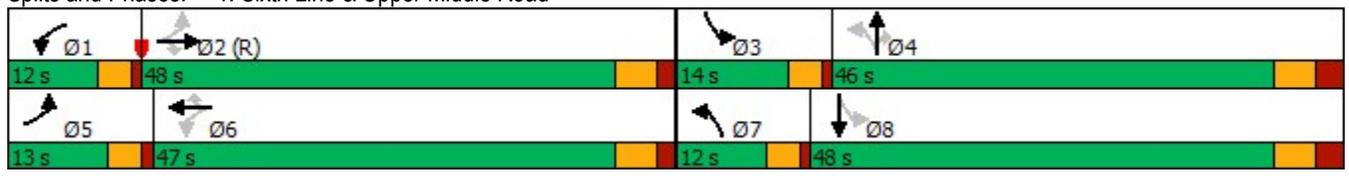
Future Background 2033
PM Peak Hr

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	SBR
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	
Minimum Split (s)	13.0	48.0	48.0	12.0	47.0	47.0	12.0	46.0	46.0	14.0	48.0	
Total Split (s)	13.0	48.0	48.0	12.0	47.0	47.0	12.0	46.0	46.0	14.0	48.0	
Total Split (%)	10.8%	40.0%	40.0%	10.0%	39.2%	39.2%	10.0%	38.3%	38.3%	11.7%	40.0%	
Maximum Green (s)	9.0	42.5	42.5	8.0	41.5	41.5	8.0	39.6	39.6	10.0	41.6	
Yellow Time (s)	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7	
All-Red Time (s)	1.0	1.8	1.8	1.0	1.8	1.8	1.0	2.7	2.7	1.0	2.7	
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	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	3.5	3.5	3.5	3.5	
Recall Mode	None	C-Max	C-Max	None	Max	Max	None	Max	Max	None	Max	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		23.0	23.0		23.0	23.0		32.0	32.0		32.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effct Green (s)	53.1	42.6	42.6	50.9	41.5	41.5	50.0	39.6	39.6	54.0	41.6	
Actuated g/C Ratio	0.44	0.36	0.36	0.42	0.35	0.35	0.42	0.33	0.33	0.45	0.35	
v/c Ratio	0.81	0.55	0.17	0.38	0.78	0.28	0.59	0.36	0.14	0.47	0.61	
Control Delay	50.5	33.0	5.6	22.5	40.2	12.5	28.7	32.6	4.9	23.4	34.3	
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	50.5	33.0	5.6	22.5	40.2	12.5	28.7	32.6	4.9	23.4	34.3	
LOS	D	C	A	C	D	B	C	C	A	C	C	
Approach Delay		33.1			34.9			26.6			30.2	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 32.2
 Intersection LOS: C
 Intersection Capacity Utilization 95.2%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 1: Sixth Line & Upper Middle Road



Queues

Future Background 2033

1: Sixth Line & Upper Middle Road

PM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	174	705	106	110	968	168	208	229	83	237	390
v/c Ratio	0.81	0.55	0.17	0.38	0.78	0.28	0.59	0.36	0.14	0.47	0.61
Control Delay	50.5	33.0	5.6	22.5	40.2	12.5	28.7	32.6	4.9	23.4	34.3
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	50.5	33.0	5.6	22.5	40.2	12.5	28.7	32.6	4.9	23.4	34.3
Queue Length 50th (m)	23.6	69.5	0.0	14.4	106.5	10.1	28.8	40.8	0.0	33.4	69.3
Queue Length 95th (m)	#57.5	88.3	11.6	25.2	131.2	26.3	44.9	62.4	8.8	50.8	101.6
Internal Link Dist (m)		474.8			421.5			215.9			89.9
Turn Bay Length (m)	55.0		55.0	45.0		45.0	30.0		30.0	40.0	
Base Capacity (vph)	214	1283	629	288	1249	603	351	633	587	507	643
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	0.81	0.55	0.17	0.38	0.78	0.28	0.59	0.36	0.14	0.47	0.61

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
 1: Sixth Line & Upper Middle Road

Future Background 2033
 PM Peak Hr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	162	656	99	102	900	156	193	213	77	220	211	152	
Future Volume (vph)	162	656	99	102	900	156	193	213	77	220	211	152	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00		
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.95	1.00	1.00	0.98	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	1.00	0.85	1.00	1.00	0.85	1.00	0.94		
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1824	3614	1578	1754	3614	1546	1788	1921	1587	1821	1793		
Flt Permitted	0.11	1.00	1.00	0.26	1.00	1.00	0.35	1.00	1.00	0.51	1.00		
Satd. Flow (perm)	214	3614	1578	478	3614	1546	664	1921	1587	973	1793		
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)	174	705	106	110	968	168	208	229	83	237	227	163	
RTOR Reduction (vph)	0	0	68	0	0	69	0	0	56	0	22	0	
Lane Group Flow (vph)	174	705	38	110	968	99	208	229	27	237	368	0	
Confl. Peds. (#/hr)	17		2	2		17	6		7	7			
Heavy Vehicles (%)	0%	1%	1%	4%	1%	0%	2%	0%	1%	0%	0%	1%	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		
Protected Phases	5	2		1	6		7	4		3	8		
Permitted Phases	2		2	6		6	4		4	8			
Actuated Green, G (s)	51.6	42.6	42.6	49.4	41.5	41.5	47.6	39.6	39.6	51.6	41.6		
Effective Green, g (s)	51.6	42.6	42.6	49.4	41.5	41.5	47.6	39.6	39.6	51.6	41.6		
Actuated g/C Ratio	0.43	0.36	0.36	0.41	0.35	0.35	0.40	0.33	0.33	0.43	0.35		
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4		
Vehicle Extension (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	3.5	3.5	3.5	3.5		
Lane Grp Cap (vph)	212	1282	560	280	1249	534	338	633	523	489	621		
v/s Ratio Prot	c0.06	0.20		0.03	0.27		c0.04	0.12		c0.04	c0.21		
v/s Ratio Perm	c0.29		0.02	0.14		0.06	0.20		0.02	0.17			
v/c Ratio	0.82	0.55	0.07	0.39	0.78	0.19	0.62	0.36	0.05	0.48	0.59		
Uniform Delay, d1	25.8	31.0	25.6	23.1	35.1	27.4	27.3	30.6	27.4	22.8	32.2		
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	22.3	1.7	0.2	1.1	4.7	0.8	3.5	1.6	0.2	0.9	4.1		
Delay (s)	48.1	32.7	25.8	24.1	39.8	28.2	30.8	32.2	27.6	23.7	36.4		
Level of Service	D	C	C	C	D	C	C	C	C	C	D		
Approach Delay (s)		34.7			36.9			30.9			31.6		
Approach LOS		C			D			C			C		
Intersection Summary													
HCM 2000 Control Delay			34.3									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.72										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	19.9
Intersection Capacity Utilization			95.2%									ICU Level of Service	F
Analysis Period (min)			15										

c Critical Lane Group

Lanes, Volumes, Timings
2: Sixth Line & Elm Road

Future Background 2033
PM Peak Hr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	86	51	577	459	11
Future Volume (vph)	10	86	51	577	459	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0	0.0	0.0			0.0
Storage Lanes	1	1	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850			0.997	
Flt Protected	0.950			0.996		
Satd. Flow (prot)	1825	1601	0	1879	1857	0
Flt Permitted	0.950			0.996		
Satd. Flow (perm)	1825	1601	0	1879	1857	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	103.8			216.0	48.0	
Travel Time (s)	7.8			16.2	3.6	
Confl. Peds. (#/hr)	3		12			12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	2%	0%	2%	3%	10%
Adj. Flow (vph)	11	92	55	620	494	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	92	0	675	506	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	71.4%
ICU Level of Service	C
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

2: Sixth Line & Elm Road

Future Background 2033
PM Peak Hr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	86	51	577	459	11
Future Volume (Veh/h)	10	86	51	577	459	11
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)	11	92	55	620	494	12
Pedestrians	12				3	
Lane Width (m)	3.7				3.7	
Walking Speed (m/s)	1.1				1.1	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)						288
pX, platoon unblocked						
vC, conflicting volume	1245	512	518			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1245	512	518			
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	83	95			
cM capacity (veh/h)	181	555	1046			
Direction, Lane #	EB 1	EB 2	NB 1	SB 1		
Volume Total	11	92	675	506		
Volume Left	11	0	55	0		
Volume Right	0	92	0	12		
cSH	181	555	1046	1700		
Volume to Capacity	0.06	0.17	0.05	0.30		
Queue Length 95th (m)	1.5	4.5	1.3	0.0		
Control Delay (s)	26.2	12.8	1.4	0.0		
Lane LOS	D	B	A			
Approach Delay (s)	14.2		1.4	0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			71.4%	ICU Level of Service	C	
Analysis Period (min)			15			

Lanes, Volumes, Timings
3: Sixth Line & Miller Road

Future Background 2033
PM Peak Hr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	35	36	618	517	28
Future Volume (vph)	10	35	36	618	517	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.895					0.993
Flt Protected	0.989					0.997
Satd. Flow (prot)	1611	0	0	1880	1836	0
Flt Permitted	0.989					0.997
Satd. Flow (perm)	1611	0	0	1880	1836	0
Link Speed (k/h)	48					48
Link Distance (m)	494.9					216.0
Travel Time (s)	37.1					16.2
Confl. Peds. (#/hr)	1					15
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	11%	4%	0%	2%	4%	2%
Adj. Flow (vph)	11	38	39	665	556	30
Shared Lane Traffic (%)						
Lane Group Flow (vph)	49	0	0	704	586	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7					3.7
Link Offset(m)	0.0					0.0
Crosswalk Width(m)	1.6					1.6
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			
Sign Control	Stop					Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	72.0%
ICU Level of Service	C
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
3: Sixth Line & Miller Road

Future Background 2033
PM Peak Hr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	35	36	618	517	28
Future Volume (Veh/h)	10	35	36	618	517	28
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)	11	38	39	665	556	30
Pedestrians	15				1	
Lane Width (m)	3.7				3.7	
Walking Speed (m/s)	1.1				1.1	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)	187					
pX, platoon unblocked	0.86					
vC, conflicting volume	1330	586	601			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1302	586	601			
tC, single (s)	6.5	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	92	92	96			
cM capacity (veh/h)	138	499	972			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	49	704	586			
Volume Left	11	39	0			
Volume Right	38	0	30			
cSH	314	972	1700			
Volume to Capacity	0.16	0.04	0.34			
Queue Length 95th (m)	4.1	1.0	0.0			
Control Delay (s)	18.6	1.0	0.0			
Lane LOS	C	A				
Approach Delay (s)	18.6	1.0	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay	1.2					
Intersection Capacity Utilization	72.0%			ICU Level of Service	C	
Analysis Period (min)	15					

4: Sixth Line & McCraney Street West/McCraney Street East

PM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	52	23	24	91	291	32	333	27	193	302	56
Future Volume (vph)	30	52	23	24	91	291	32	333	27	193	302	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0		0.0	30.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	0.99		0.99	0.98		0.99	1.00		0.99	0.99	
Frt		0.954			0.886			0.989			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	1817	0	1825	1641	0	1825	1878	0	1755	1836	0
Flt Permitted	0.223			0.546			0.534			0.374		
Satd. Flow (perm)	427	1817	0	1042	1641	0	1018	1878	0	687	1836	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			164			5			16	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		496.2			318.9			167.6			187.0	
Travel Time (s)		37.2			23.9			12.6			14.0	
Confl. Peds. (#/hr)	4		4	4		4	7		7	7		7
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	1%	0%	4%	2%	0%
Adj. Flow (vph)	32	56	25	26	98	313	34	358	29	208	325	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	81	0	26	411	0	34	387	0	208	385	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		

Lanes, Volumes, Timings
 4: Sixth Line & McCraney Street West/McCraney Street East

Future Background 2033
 PM Peak Hr

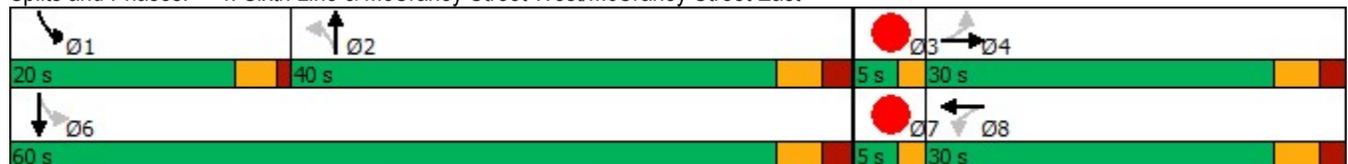


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		24.0	24.0		7.0	24.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		20.0	60.0	
Total Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		20.0	60.0	
Total Split (%)	31.6%	31.6%		31.6%	31.6%		42.1%	42.1%		21.1%	63.2%	
Maximum Green (s)	24.7	24.7		24.7	24.7		34.4	34.4		16.0	54.4	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.3	2.3		1.0	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0			10.0	
Flash Dont Walk (s)	14.0	14.0		14.0	14.0		14.0	14.0			14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)	21.9	21.9		21.9	21.9		39.9	39.9		56.0	54.4	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.43	0.43		0.61	0.59	
v/c Ratio	0.32	0.18		0.11	0.80		0.08	0.47		0.39	0.35	
Control Delay	38.4	21.8		28.4	32.3		18.0	21.9		10.7	10.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	38.4	21.8		28.4	32.3		18.0	21.9		10.7	10.8	
LOS	D	C		C	C		B	C		B	B	
Approach Delay		26.5			32.1			21.6			10.7	
Approach LOS		C			C			C			B	

Intersection Summary

Area Type:	Other
Cycle Length:	95
Actuated Cycle Length:	92.3
Natural Cycle:	95
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.80
Intersection Signal Delay:	20.8
Intersection LOS:	C
Intersection Capacity Utilization:	78.7%
ICU Level of Service:	D
Analysis Period (min):	15

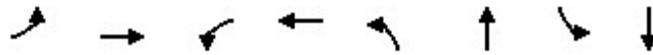
Splits and Phases: 4: Sixth Line & McCraney Street West/McCraney Street East



Lane Group	Ø3	Ø7
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

4: Sixth Line & McCraney Street West/McCraney Street East

PM Peak Hr



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	32	81	26	411	34	387	208	385
v/c Ratio	0.32	0.18	0.11	0.80	0.08	0.47	0.39	0.35
Control Delay	38.4	21.8	28.4	32.3	18.0	21.9	10.7	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.4	21.8	28.4	32.3	18.0	21.9	10.7	10.8
Queue Length 50th (m)	4.7	8.2	3.6	42.0	3.3	45.2	14.3	29.7
Queue Length 95th (m)	13.4	19.3	10.2	#78.7	10.2	80.9	27.2	52.0
Internal Link Dist (m)		472.2		294.9		143.6		163.0
Turn Bay Length (m)	15.0		30.0		25.0		35.0	
Base Capacity (vph)	114	503	279	559	440	815	602	1089
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.16	0.09	0.74	0.08	0.47	0.35	0.35

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
 4: Sixth Line & McCraney Street West/McCraney Street East

Future Background 2033
 PM Peak Hr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	52	23	24	91	291	32	333	27	193	302	56
Future Volume (vph)	30	52	23	24	91	291	32	333	27	193	302	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	0.99		1.00	0.98		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.89		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1819	1817		1814	1641		1810	1877		1751	1835	
Flt Permitted	0.22	1.00		0.55	1.00		0.53	1.00		0.37	1.00	
Satd. Flow (perm)	428	1817		1042	1641		1017	1877		690	1835	
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)	32	56	25	26	98	313	34	358	29	208	325	60
RTOR Reduction (vph)	0	19	0	0	123	0	0	3	0	0	7	0
Lane Group Flow (vph)	32	62	0	26	288	0	34	384	0	208	378	0
Confl. Peds. (#/hr)	4		4	4		4	7		7	7		7
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	1%	0%	4%	2%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	17.9	17.9		23.1	23.1		39.9	39.9		54.4	54.4	
Effective Green, g (s)	17.9	17.9		23.1	23.1		39.9	39.9		54.4	54.4	
Actuated g/C Ratio	0.19	0.19		0.25	0.25		0.43	0.43		0.58	0.58	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	82	348		257	405		434	801		521	1068	
v/s Ratio Prot		0.03			c0.18			c0.20		c0.04	0.21	
v/s Ratio Perm	0.07			0.02			0.03			0.19		
v/c Ratio	0.39	0.18		0.10	0.71		0.08	0.48		0.40	0.35	
Uniform Delay, d1	33.0	31.6		27.1	32.1		15.9	19.3		10.4	10.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.1	0.2		0.2	5.8		0.4	2.1		0.5	0.9	
Delay (s)	36.0	31.8		27.3	37.9		16.2	21.3		10.9	11.2	
Level of Service	D	C		C	D		B	C		B	B	
Approach Delay (s)		33.0			37.2			20.9			11.1	
Approach LOS		C			D			C			B	
Intersection Summary												
HCM 2000 Control Delay			22.6			HCM 2000 Level of Service		C				
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			93.4			Sum of lost time (s)		16.9				
Intersection Capacity Utilization			78.7%			ICU Level of Service		D				
Analysis Period (min)			15									

c Critical Lane Group

Intersection: 1: Sixth Line & Upper Middle Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (m)	57.3	93.4	93.0	57.0	47.5	120.5	114.6	47.5	32.4	111.5	32.4	42.3
Average Queue (m)	29.2	53.5	53.5	15.9	25.0	84.5	82.0	30.3	26.7	48.6	12.9	34.6
95th Queue (m)	55.8	81.2	79.6	44.7	53.0	113.5	109.1	61.7	38.9	93.3	32.8	52.0
Link Distance (m)		491.0	491.0			435.0	435.0			221.2		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	55.0			55.0	45.0			45.0	30.0		30.0	40.0
Storage Blk Time (%)	0	4	4	0	0	28	26	1	7	14	0	4
Queuing Penalty (veh)	1	7	4	0	1	29	41	4	22	39	1	16

Intersection: 1: Sixth Line & Upper Middle Road

Movement	SB
Directions Served	TR
Maximum Queue (m)	104.5
Average Queue (m)	63.9
95th Queue (m)	111.4
Link Distance (m)	98.8
Upstream Blk Time (%)	4
Queuing Penalty (veh)	0
Storage Bay Dist (m)	
Storage Blk Time (%)	19
Queuing Penalty (veh)	41

Intersection: 2: Sixth Line & Elm Road

Movement	EB	EB	NB	SB
Directions Served	L	R	LT	TR
Maximum Queue (m)	12.3	22.7	46.9	6.4
Average Queue (m)	2.1	10.4	12.5	0.2
95th Queue (m)	8.7	17.9	34.7	2.8
Link Distance (m)		98.5	202.2	34.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)	20.0			
Storage Blk Time (%)	0	0		
Queuing Penalty (veh)	0	0		

Intersection: 3: Sixth Line & Miller Road

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (m)	16.3	30.7	5.1
Average Queue (m)	7.5	6.5	0.2
95th Queue (m)	15.3	21.5	2.4
Link Distance (m)	487.2	174.7	202.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Sixth Line & McCraney Street West/McCraney Street East

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	17.4	56.4	32.3	111.9	27.2	78.4	43.6	60.6
Average Queue (m)	8.7	16.2	7.5	57.8	7.1	40.3	21.4	27.8
95th Queue (m)	19.3	38.6	26.1	110.0	19.9	68.9	37.3	51.9
Link Distance (m)		488.4		311.0		159.8		174.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)	15.0		30.0		25.0		35.0	
Storage Blk Time (%)	18	12	0	32	0	20	1	4
Queuing Penalty (veh)	13	4	0	8	0	6	5	9

Zone Summary

Zone wide Queuing Penalty: 251

Lanes, Volumes, Timings

Future Background 2033 - Signal Improvements

4: Sixth Line & McCraney Street West/McCraney Street East

AM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	160	43	39	93	369	21	186	50	495	403	21
Future Volume (vph)	28	160	43	39	93	369	21	186	50	495	403	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0		0.0	30.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.98	0.94		0.99	0.99		0.99		
Frt		0.968			0.880			0.968				0.993
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	1841	0	1706	1507	0	1825	1748	0	1772	1780	0
Flt Permitted	0.129			0.476			0.470			0.306		
Satd. Flow (perm)	248	1841	0	841	1507	0	891	1748	0	566	1780	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			195			12				4
Link Speed (k/h)		48			48			48				48
Link Distance (m)		496.2			318.9			167.6				187.0
Travel Time (s)		37.2			23.9			12.6				14.0
Confl. Peds. (#/hr)	22		11	11		22	13		8	8		
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	0%	7%	0%	7%	0%	6%	4%	3%	7%	10%
Adj. Flow (vph)	35	198	53	48	115	456	26	230	62	611	498	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	251	0	48	571	0	26	292	0	611	524	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		

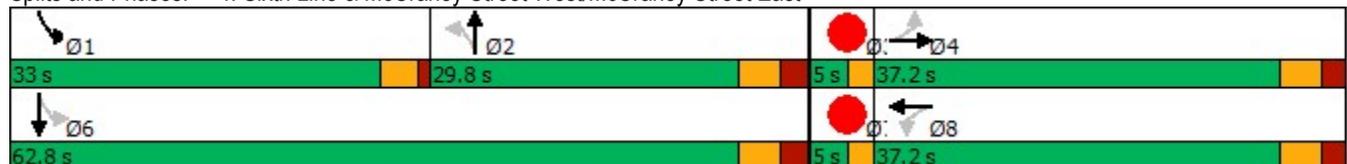


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		24.0	24.0		7.0	24.0	
Minimum Split (s)	26.3	26.3		26.3	26.3		29.6	29.6		11.0	29.6	
Total Split (s)	37.2	37.2		37.2	37.2		29.8	29.8		33.0	62.8	
Total Split (%)	35.4%	35.4%		35.4%	35.4%		28.4%	28.4%		31.4%	59.8%	
Maximum Green (s)	31.9	31.9		31.9	31.9		24.2	24.2		29.0	57.2	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.3	2.3		1.0	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0			10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		14.0	14.0			14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effect Green (s)	31.0	31.0		31.0	31.0		25.0	25.0		58.8	57.2	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.24	0.24		0.56	0.55	
v/c Ratio	0.48	0.45		0.19	0.98		0.12	0.68		0.94	0.54	
Control Delay	54.2	31.0		29.6	56.6		34.0	44.4		43.6	17.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	54.2	31.0		29.6	56.6		34.0	44.4		43.6	17.6	
LOS	D	C		C	E		C	D		D	B	
Approach Delay		33.8			54.5			43.5			31.6	
Approach LOS		C			D			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 105
 Actuated Cycle Length: 104.1
 Natural Cycle: 90
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 39.5
 Intersection LOS: D
 Intersection Capacity Utilization 92.3%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 4: Sixth Line & McCraney Street West/McCraney Street East



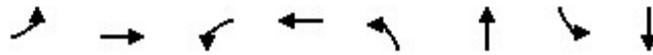
Lane Group	Ø3	Ø7
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Queues

Future Background 2033 - Signal Improvements

4: Sixth Line & McCraney Street West/McCraney Street East

AM Peak Hr



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	35	251	48	571	26	292	611	524
v/c Ratio	0.48	0.45	0.19	0.98	0.12	0.68	0.94	0.54
Control Delay	54.2	31.0	29.6	56.6	34.0	44.4	43.6	17.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.2	31.0	29.6	56.6	34.0	44.4	43.6	17.6
Queue Length 50th (m)	5.8	38.9	7.2	81.8	4.2	52.9	83.5	64.9
Queue Length 95th (m)	15.2	53.9	14.8	#120.6	10.4	71.5	#119.6	80.0
Internal Link Dist (m)		472.2		294.9		143.6		163.0
Turn Bay Length (m)	15.0		30.0		25.0		35.0	
Base Capacity (vph)	76	573	257	596	213	428	655	979
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.44	0.19	0.96	0.12	0.68	0.93	0.54

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis Future Background 2033 - Signal Improvements 4: Sixth Line & McCraney Street West/McCraney Street East

AM Peak Hr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	160	43	39	93	369	21	186	50	495	403	21
Future Volume (vph)	28	160	43	39	93	369	21	186	50	495	403	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	0.99		1.00	0.94		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.98	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.88		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	1842		1678	1508		1800	1748		1768	1780	
Flt Permitted	0.13	1.00		0.48	1.00		0.47	1.00		0.31	1.00	
Satd. Flow (perm)	248	1842		841	1508		890	1748		570	1780	
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	35	198	53	48	115	456	26	230	62	611	498	26
RTOR Reduction (vph)	0	9	0	0	137	0	0	9	0	0	2	0
Lane Group Flow (vph)	35	242	0	48	434	0	26	283	0	611	522	0
Confl. Peds. (#/hr)	22		11	11		22	13		8	8		
Heavy Vehicles (%)	0%	0%	0%	7%	0%	7%	0%	6%	4%	3%	7%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	31.0	31.0		31.0	31.0		25.0	25.0		57.2	57.2	
Effective Green, g (s)	31.0	31.0		31.0	31.0		25.0	25.0		57.2	57.2	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.24	0.24		0.55	0.55	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	73	548		250	449		213	419		637	978	
v/s Ratio Prot		0.13			c0.29			0.16		c0.26	0.29	
v/s Ratio Perm	0.14			0.06			0.03			c0.27		
v/c Ratio	0.48	0.44		0.19	0.97		0.12	0.68		0.96	0.53	
Uniform Delay, d1	29.9	29.5		27.2	36.0		31.0	35.9		19.5	15.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.9	0.6		0.4	33.6		1.2	8.4		25.6	2.1	
Delay (s)	34.8	30.1		27.6	69.6		32.1	44.3		45.1	17.0	
Level of Service	C	C		C	E		C	D		D	B	
Approach Delay (s)		30.7			66.4			43.3			32.1	
Approach LOS		C			E			D			C	
Intersection Summary												
HCM 2000 Control Delay			42.5				HCM 2000 Level of Service				D	
HCM 2000 Volume to Capacity ratio			0.96									
Actuated Cycle Length (s)			104.1			Sum of lost time (s)				16.9		
Intersection Capacity Utilization			92.3%			ICU Level of Service				F		
Analysis Period (min)			15									

c Critical Lane Group

Intersection: 4: Sixth Line & McCraney Street West/McCraney Street East

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	17.4	93.5	32.3	213.7	27.3	87.1	94.2	125.2
Average Queue (m)	10.9	40.1	15.2	97.6	5.6	42.2	63.5	51.8
95th Queue (m)	20.9	86.6	37.2	188.4	19.1	75.5	98.3	100.3
Link Distance (m)		488.4		311.0		159.8		174.7
Upstream Blk Time (%)								0
Queuing Penalty (veh)								1
Storage Bay Dist (m)	15.0		30.0		25.0		35.0	
Storage Blk Time (%)	30	34	1	49	0	27	29	10
Queuing Penalty (veh)	60	10	4	19	0	6	122	51

Lanes, Volumes, Timings
1: Sixth Line & Upper Middle Road

Future Total 2033
AM Peak Hr

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	108	841	194	185	587	101	165	257	194	167	285	97
Future Volume (vph)	108	841	194	185	587	101	165	257	194	167	285	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		55.0	45.0		45.0	30.0		30.0	40.0		0.0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97	1.00		0.97	1.00		0.98	0.99	0.99	
Frt			0.850			0.850			0.850		0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3579	1617	1690	3544	1570	1722	1847	1570	1807	1807	0
Flt Permitted	0.346			0.127			0.295			0.470		
Satd. Flow (perm)	662	3579	1575	226	3544	1520	533	1847	1537	889	1807	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			162			107			166			15
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		498.8			445.5			239.9			113.9	
Travel Time (s)		37.4			33.4			18.0			8.5	
Confl. Peds. (#/hr)	6		3	3		6	9		10	10		9
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	1%	8%	3%	4%	6%	4%	4%	1%	1%	4%
Adj. Flow (vph)	115	895	206	197	624	107	176	273	206	178	303	103
Shared Lane Traffic (%)												
Lane Group Flow (vph)	115	895	206	197	624	107	176	273	206	178	406	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings
1: Sixth Line & Upper Middle Road

Future Total 2033
AM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	
Minimum Split (s)	12.0	42.0	42.0	12.0	42.0	42.0	12.0	45.4	45.4	12.0	45.4	
Total Split (s)	12.0	45.4	45.4	17.0	50.4	50.4	12.0	45.6	45.6	12.0	45.6	
Total Split (%)	10.0%	37.8%	37.8%	14.2%	42.0%	42.0%	10.0%	38.0%	38.0%	10.0%	38.0%	
Maximum Green (s)	8.0	39.9	39.9	13.0	44.9	44.9	8.0	39.2	39.2	8.0	39.2	
Yellow Time (s)	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7	
All-Red Time (s)	1.0	1.8	1.8	1.0	1.8	1.8	1.0	2.7	2.7	1.0	2.7	
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	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	3.5	3.5	3.5	3.5	
Recall Mode	None	C-Max	C-Max	None	Max	Max	None	Max	Max	None	Max	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		23.0	23.0		23.0	23.0		32.0	32.0		32.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effct Green (s)	49.8	40.5	40.5	58.2	45.0	45.0	49.6	39.2	39.2	49.6	39.2	
Actuated g/C Ratio	0.42	0.34	0.34	0.48	0.38	0.38	0.41	0.33	0.33	0.41	0.33	
v/c Ratio	0.33	0.74	0.32	0.75	0.47	0.17	0.59	0.45	0.34	0.42	0.68	
Control Delay	20.0	39.8	9.1	39.5	29.9	5.3	30.4	34.9	9.0	24.3	40.3	
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	20.0	39.8	9.1	39.5	29.9	5.3	30.4	34.9	9.0	24.3	40.3	
LOS	B	D	A	D	C	A	C	C	A	C	D	
Approach Delay		32.8			29.1			25.5			35.4	
Approach LOS		C			C			C			D	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green
 Natural Cycle: 115

Lanes, Volumes, Timings
 1: Sixth Line & Upper Middle Road

Future Total 2033
 AM Peak Hr

Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 30.8	Intersection LOS: C
Intersection Capacity Utilization 93.6%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 1: Sixth Line & Upper Middle Road

 Ø1	 Ø2 (R)	 Ø3	 Ø4
17 s	45.4 s	12 s	45.6 s
 Ø5	 Ø6	 Ø7	 Ø8
12 s	50.4 s	12 s	45.6 s

Queues
1: Sixth Line & Upper Middle Road

Future Total 2033
AM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	115	895	206	197	624	107	176	273	206	178	406
v/c Ratio	0.33	0.74	0.32	0.75	0.47	0.17	0.59	0.45	0.34	0.42	0.68
Control Delay	20.0	39.8	9.1	39.5	29.9	5.3	30.4	34.9	9.0	24.3	40.3
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	20.0	39.8	9.1	39.5	29.9	5.3	30.4	34.9	9.0	24.3	40.3
Queue Length 50th (m)	14.4	98.3	7.1	26.2	58.1	0.0	25.0	50.6	6.5	25.2	79.4
Queue Length 95th (m)	25.1	122.2	24.6	#55.3	74.8	11.2	40.2	75.6	24.1	40.1	114.4
Internal Link Dist (m)		474.8			421.5			215.9			89.9
Turn Bay Length (m)	55.0		55.0	45.0		45.0	30.0		30.0	40.0	
Base Capacity (vph)	353	1207	638	268	1330	637	299	603	613	428	600
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	0.33	0.74	0.32	0.74	0.47	0.17	0.59	0.45	0.34	0.42	0.68

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

1: Sixth Line & Upper Middle Road

Future Total 2033
AM Peak Hr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	108	841	194	185	587	101	165	257	194	167	285	97
Future Volume (vph)	108	841	194	185	587	101	165	257	194	167	285	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	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	0.97	1.00	1.00	0.98	1.00	0.99	
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	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1823	3579	1575	1690	3544	1520	1720	1847	1537	1802	1807	
Flt Permitted	0.35	1.00	1.00	0.13	1.00	1.00	0.29	1.00	1.00	0.47	1.00	
Satd. Flow (perm)	664	3579	1575	227	3544	1520	534	1847	1537	892	1807	
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)	115	895	206	197	624	107	176	273	206	178	303	103
RTOR Reduction (vph)	0	0	107	0	0	67	0	0	112	0	10	0
Lane Group Flow (vph)	115	895	99	197	624	40	176	273	94	178	396	0
Confl. Peds. (#/hr)	6		3	3		6	9		10	10		9
Heavy Vehicles (%)	0%	2%	1%	8%	3%	4%	6%	4%	4%	1%	1%	4%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		
Actuated Green, G (s)	48.4	40.5	40.5	56.9	45.0	45.0	47.2	39.2	39.2	47.2	39.2	
Effective Green, g (s)	48.4	40.5	40.5	56.9	45.0	45.0	47.2	39.2	39.2	47.2	39.2	
Actuated g/C Ratio	0.40	0.34	0.34	0.47	0.38	0.38	0.39	0.33	0.33	0.39	0.33	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Vehicle Extension (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	3.5	3.5	3.5	3.5	
Lane Grp Cap (vph)	344	1207	531	258	1329	570	289	603	502	411	590	
v/s Ratio Prot	0.02	0.25		c0.08	0.18		c0.04	0.15		0.03	c0.22	
v/s Ratio Perm	0.11		0.06	c0.28		0.03	0.20		0.06	0.14		
v/c Ratio	0.33	0.74	0.19	0.76	0.47	0.07	0.61	0.45	0.19	0.43	0.67	
Uniform Delay, d1	23.0	35.1	28.1	23.3	28.4	24.1	26.6	31.9	29.0	24.8	34.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	4.1	0.8	12.9	1.2	0.2	3.8	2.4	0.8	0.9	6.0	
Delay (s)	23.7	39.3	28.9	36.3	29.6	24.3	30.4	34.4	29.8	25.7	40.8	
Level of Service	C	D	C	D	C	C	C	C	C	C	D	
Approach Delay (s)		36.0			30.4			31.9			36.2	
Approach LOS		D			C			C			D	
Intersection Summary												
HCM 2000 Control Delay			33.7	HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			120.0	Sum of lost time (s)				19.9				

HCM Signalized Intersection Capacity Analysis
1: Sixth Line & Upper Middle Road

Future Total 2033
AM Peak Hr

Intersection Capacity Utilization	93.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings
2: Sixth Line & Elm Road

Future Total 2033
AM Peak Hr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	185	43	538	709	5
Future Volume (vph)	10	185	43	538	709	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0	0.0	0.0			0.0
Storage Lanes	1	1	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850			0.999	
Flt Protected	0.950			0.996		
Satd. Flow (prot)	1615	1541	0	1791	1846	0
Flt Permitted	0.950			0.996		
Satd. Flow (perm)	1615	1541	0	1791	1846	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	103.8			216.0	48.0	
Travel Time (s)	7.8			16.2	3.6	
Confl. Peds. (#/hr)			13			13
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	13%	6%	30%	5%	4%	0%
Adj. Flow (vph)	12	223	52	648	854	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	223	0	700	860	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	73.8%
ICU Level of Service	D
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

2: Sixth Line & Elm Road

Future Total 2033
AM Peak Hr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	185	43	538	709	5
Future Volume (Veh/h)	10	185	43	538	709	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	12	223	52	648	854	6
Pedestrians	13					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)						288
pX, platoon unblocked	0.82	0.82	0.82			
vC, conflicting volume	1622	870	873			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1648	734	737			
tC, single (s)	6.5	6.3	4.4			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.5			
p0 queue free %	84	34	92			
cM capacity (veh/h)	76	336	612			
Direction, Lane #	EB 1	EB 2	NB 1	SB 1		
Volume Total	12	223	700	860		
Volume Left	12	0	52	0		
Volume Right	0	223	0	6		
cSH	76	336	612	1700		
Volume to Capacity	0.16	0.66	0.08	0.51		
Queue Length 95th (m)	4.0	34.2	2.1	0.0		
Control Delay (s)	61.0	34.6	2.3	0.0		
Lane LOS	F	D	A			
Approach Delay (s)	35.9		2.3	0.0		
Approach LOS	E					
Intersection Summary						
Average Delay	5.6					
Intersection Capacity Utilization	73.8%		ICU Level of Service	D		
Analysis Period (min)	15					

Lanes, Volumes, Timings
3: Sixth Line & Miller Road

Future Total 2033
AM Peak Hr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	66	17	577	886	9
Future Volume (vph)	4	66	17	577	886	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.873			0.999		
Flt Protected	0.997			0.999		
Satd. Flow (prot)	1641	0	0	1797	1685	0
Flt Permitted	0.997			0.999		
Satd. Flow (perm)	1641	0	0	1797	1685	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	494.9			187.0	216.0	
Travel Time (s)	37.1			14.0	16.2	
Confl. Peds. (#/hr)				19		19
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	2%	0%	7%	14%	4%
Adj. Flow (vph)	5	80	21	704	1080	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	85	0	0	725	1091	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	58.2%
ICU Level of Service	B
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
 3: Sixth Line & Miller Road

Future Total 2033
 AM Peak Hr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	66	17	577	886	9
Future Volume (Veh/h)	4	66	17	577	886	9
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	5	80	21	704	1080	11
Pedestrians	19					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	2					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)	187					
pX, platoon unblocked	0.92					
vC, conflicting volume	1850	1104	1110			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1882	1104	1110			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	68	97			
cM capacity (veh/h)	69	252	625			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	85	725	1091			
Volume Left	5	21	0			
Volume Right	80	0	11			
cSH	218	625	1700			
Volume to Capacity	0.39	0.03	0.64			
Queue Length 95th (m)	13.2	0.8	0.0			
Control Delay (s)	31.8	0.9	0.0			
Lane LOS	D	A				
Approach Delay (s)	31.8	0.9	0.0			
Approach LOS	D					
Intersection Summary						
Average Delay	1.8					
Intersection Capacity Utilization	58.2%			ICU Level of Service	B	
Analysis Period (min)	15					

Lanes, Volumes, Timings

Future Total 2033

4: Sixth Line & McCraney Street West/McCraney Street East

AM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	160	43	39	93	375	21	190	50	509	420	23
Future Volume (vph)	29	160	43	39	93	375	21	190	50	509	420	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0		0.0	30.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.98	0.94		0.99	0.99		0.99		
Frt		0.968			0.880			0.969			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	1842	0	1706	1513	0	1825	1750	0	1772	1779	0
Flt Permitted	0.162			0.455			0.460			0.422		
Satd. Flow (perm)	311	1842	0	805	1513	0	873	1750	0	781	1779	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			206			16			5	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		496.2			318.9			167.6			187.0	
Travel Time (s)		37.2			23.9			12.6			14.0	
Confl. Peds. (#/hr)	22		11	11		22	13		8	8		
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	0%	7%	0%	7%	0%	6%	4%	3%	7%	10%
Adj. Flow (vph)	36	198	53	48	115	463	26	235	62	628	519	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	36	251	0	48	578	0	26	297	0	628	547	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		

Lanes, Volumes, Timings
 4: Sixth Line & McCraney Street West/McCraney Street East

Future Total 2033
 AM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		24.0	24.0		7.0	24.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		20.0	60.0	
Total Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		20.0	60.0	
Total Split (%)	31.6%	31.6%		31.6%	31.6%		42.1%	42.1%		21.1%	63.2%	
Maximum Green (s)	24.7	24.7		24.7	24.7		34.4	34.4		16.0	54.4	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.3	2.3		1.0	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0			10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		14.0	14.0			14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)	24.7	24.7		24.7	24.7		34.4	34.4		56.0	54.4	
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.36	0.36		0.59	0.57	
v/c Ratio	0.45	0.51		0.23	1.06		0.08	0.46		1.00	0.54	
Control Delay	49.9	32.6		31.3	79.4		21.0	24.7		53.7	14.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	49.9	32.6		31.3	79.4		21.0	24.7		53.7	14.8	
LOS	D	C		C	E		C	C		D	B	
Approach Delay		34.8			75.7			24.4			35.6	
Approach LOS		C			E			C			D	

Intersection Summary

Area Type: Other

Cycle Length: 95

Actuated Cycle Length: 95

Natural Cycle: 95

Control Type: Semi Act-Uncoord

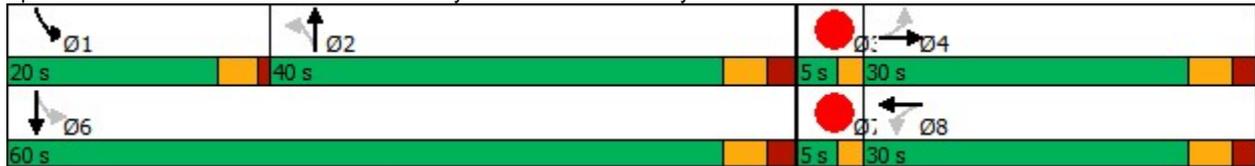
Lane Group	Ø3	Ø7
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Lanes, Volumes, Timings
 4: Sixth Line & McCraney Street West/McCraney Street East

Future Total 2033
 AM Peak Hr

Maximum v/c Ratio: 1.06	
Intersection Signal Delay: 44.4	Intersection LOS: D
Intersection Capacity Utilization 93.0%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 4: Sixth Line & McCraney Street West/McCraney Street East



Queues

Future Total 2033

4: Sixth Line & McCraney Street West/McCraney Street East

AM Peak Hr



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	36	251	48	578	26	297	628	547
v/c Ratio	0.45	0.51	0.23	1.06	0.08	0.46	1.00	0.54
Control Delay	49.9	32.6	31.3	79.4	21.0	24.7	53.7	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.9	32.6	31.3	79.4	21.0	24.7	53.7	14.8
Queue Length 50th (m)	5.5	37.1	6.9	~87.0	3.1	38.8	~68.1	57.1
Queue Length 95th (m)	14.4	52.7	14.8	#121.2	7.8	53.7	#108.1	71.5
Internal Link Dist (m)		472.2		294.9		143.6		163.0
Turn Bay Length (m)	15.0		30.0		25.0		35.0	
Base Capacity (vph)	80	489	209	545	316	643	627	1020
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.51	0.23	1.06	0.08	0.46	1.00	0.54

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

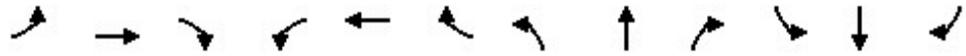
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
 4: Sixth Line & McCraney Street West/McCraney Street East

Future Total 2033
 AM Peak Hr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	160	43	39	93	375	21	190	50	509	420	23
Future Volume (vph)	29	160	43	39	93	375	21	190	50	509	420	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	0.99		1.00	0.94		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.98	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.88		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	1843		1680	1512		1803	1749		1766	1779	
Flt Permitted	0.16	1.00		0.45	1.00		0.46	1.00		0.42	1.00	
Satd. Flow (perm)	311	1843		804	1512		873	1749		785	1779	
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	36	198	53	48	115	463	26	235	62	628	519	28
RTOR Reduction (vph)	0	10	0	0	152	0	0	10	0	0	2	0
Lane Group Flow (vph)	36	241	0	48	426	0	26	287	0	628	545	0
Confl. Peds. (#/hr)	22		11	11		22	13		8	8		
Heavy Vehicles (%)	0%	0%	0%	7%	0%	7%	0%	6%	4%	3%	7%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2			1	6
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	24.7	24.7		24.7	24.7		34.4	34.4		54.4	54.4	
Effective Green, g (s)	24.7	24.7		24.7	24.7		34.4	34.4		54.4	54.4	
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.36	0.36		0.57	0.57	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	80	479		209	393		316	633		614	1018	
v/s Ratio Prot		0.13			c0.28			0.16		c0.17	0.31	
v/s Ratio Perm	0.12			0.06			0.03			c0.41		
v/c Ratio	0.45	0.50		0.23	1.08		0.08	0.45		1.02	0.54	
Uniform Delay, d1	29.5	29.9		27.7	35.1		19.9	23.1		17.8	12.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.0	0.8		0.6	69.4		0.5	2.3		42.2	2.0	
Delay (s)	33.4	30.8		28.2	104.6		20.4	25.5		60.0	14.5	
Level of Service	C	C		C	F		C	C		E	B	
Approach Delay (s)		31.1			98.7			25.1			38.8	
Approach LOS		C			F			C			D	
Intersection Summary												
HCM 2000 Control Delay			51.6			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			1.04									
Actuated Cycle Length (s)			95.0			Sum of lost time (s)			16.9			

HCM Signalized Intersection Capacity Analysis
4: Sixth Line & McCraney Street West/McCraney Street East

Future Total 2033
AM Peak Hr

Intersection Capacity Utilization	93.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings
5: Sixth Line & Site Access

Future Total 2033
AM Peak Hr



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	36	35	534	13	23	678
Future Volume (vph)	36	35	534	13	23	678
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		0.0	5.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.933		0.997			
Flt Protected	0.975				0.950	
Satd. Flow (prot)	1713	0	1878	0	1789	1883
Flt Permitted	0.975				0.950	
Satd. Flow (perm)	1713	0	1878	0	1789	1883
Link Speed (k/h)	48		48			48
Link Distance (m)	63.6		48.0			239.9
Travel Time (s)	4.8		3.6			18.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	38	580	14	25	737
Shared Lane Traffic (%)						
Lane Group Flow (vph)	77	0	594	0	25	737
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		3.7			3.7
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	46.5%
	ICU Level of Service A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
5: Sixth Line & Site Access

Future Total 2033
AM Peak Hr



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	36	35	534	13	23	678
Future Volume (Veh/h)	36	35	534	13	23	678
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	39	38	580	14	25	737
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (m)					240	
pX, platoon unblocked 0.80						
vC, conflicting volume		1374	587	594		
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol		1343	587	594		
tC, single (s)		6.4	6.2	4.1		
tC, 2 stage (s)						
tF (s)		3.5	3.3	2.2		
p0 queue free %		70	93	97		
cM capacity (veh/h)		131	510	982		
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	77	594	25	737		
Volume Left	39	0	25	0		
Volume Right	38	14	0	0		
cSH	207	1700	982	1700		
Volume to Capacity	0.37	0.35	0.03	0.43		
Queue Length 95th (m)	12.3	0.0	0.6	0.0		
Control Delay (s)	32.4	0.0	8.8	0.0		
Lane LOS	D		A			
Approach Delay (s)	32.4	0.0	0.3			
Approach LOS	D					
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			46.5%		ICU Level of Service A	
Analysis Period (min)			15			

Intersection: 1: Sixth Line & Upper Middle Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (m)	57.4	124.4	129.8	57.5	47.4	95.8	88.4	47.5	32.4	169.6	32.5	42.4
Average Queue (m)	32.5	79.6	80.2	40.5	32.8	51.7	48.1	17.0	24.8	77.9	22.5	29.9
95th Queue (m)	68.3	113.9	113.7	74.3	54.4	83.1	77.3	44.4	40.0	155.2	40.8	51.5
Link Distance (m)		491.0	491.0			435.0	435.0			221.2		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	55.0			55.0	45.0			45.0	30.0		30.0	40.0
Storage Blk Time (%)	0	17	17	1	3	7	6	0	8	24	2	3
Queuing Penalty (veh)	1	19	33	3	10	13	6	1	35	87	9	11

Intersection: 1: Sixth Line & Upper Middle Road

Movement	SB
Directions Served	TR
Maximum Queue (m)	108.3
Average Queue (m)	67.2
95th Queue (m)	110.6
Link Distance (m)	98.8
Upstream Blk Time (%)	6
Queuing Penalty (veh)	0
Storage Bay Dist (m)	
Storage Blk Time (%)	23
Queuing Penalty (veh)	39

Intersection: 2: Sixth Line & Elm Road

Movement	EB	EB	NB	SB
Directions Served	L	R	LT	TR
Maximum Queue (m)	17.8	41.8	61.7	17.1
Average Queue (m)	2.7	18.5	13.1	1.4
95th Queue (m)	11.0	33.0	40.4	8.6
Link Distance (m)		98.5	202.2	34.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)	20.0			
Storage Blk Time (%)	0	6		
Queuing Penalty (veh)	1	1		

Intersection: 3: Sixth Line & Miller Road

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (m)	18.4	34.0	14.4
Average Queue (m)	10.2	6.5	0.6
95th Queue (m)	17.8	22.8	10.5
Link Distance (m)	487.2	174.7	202.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Sixth Line & McCraney Street West/McCraney Street East

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	17.4	214.3	32.4	266.8	24.6	69.4	92.9	117.2
Average Queue (m)	10.3	78.7	15.9	151.3	6.5	31.5	54.7	44.5
95th Queue (m)	21.5	208.9	38.5	306.4	18.5	57.8	88.0	90.0
Link Distance (m)		488.4		311.0		159.8		174.7
Upstream Blk Time (%)				8				0
Queuing Penalty (veh)				0				1
Storage Bay Dist (m)	15.0		30.0		25.0		35.0	
Storage Blk Time (%)	40	37	0	63	0	15	25	9
Queuing Penalty (veh)	82	11	1	25	0	3	110	44

Intersection: 5: Sixth Line & Site Access

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (m)	25.9	3.0	9.1	9.3
Average Queue (m)	11.0	0.1	2.1	1.5
95th Queue (m)	20.6	1.5	8.3	7.0
Link Distance (m)	56.2	34.3		221.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)			5.0	
Storage Blk Time (%)			1	0
Queuing Penalty (veh)			6	0

Network Summary

Network wide Queuing Penalty: 551

Lanes, Volumes, Timings
1: Sixth Line & Upper Middle Road

Future Total 2033
PM Peak Hr

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	656	110	116	900	156	202	221	90	220	223	152
Future Volume (vph)	162	656	110	116	900	156	202	221	90	220	223	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	55.0		55.0	45.0		45.0	30.0		30.0	40.0		0.0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.98	1.00		0.95	1.00		0.98	1.00		
Frt			0.850			0.850			0.850		0.939	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3614	1617	1755	3614	1633	1789	1921	1617	1825	1797	0
Flt Permitted	0.111			0.259			0.337			0.495		
Satd. Flow (perm)	212	3614	1578	478	3614	1546	633	1921	1587	947	1797	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			118			105			95			31
Link Speed (k/h)		48			48			48				48
Link Distance (m)		498.8			445.5			239.9				113.9
Travel Time (s)		37.4			33.4			18.0				8.5
Confl. Peds. (#/hr)	17		2	2		17	6		7	7		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	1%	1%	4%	1%	0%	2%	0%	1%	0%	0%	1%
Adj. Flow (vph)	174	705	118	125	968	168	217	238	97	237	240	163
Shared Lane Traffic (%)												
Lane Group Flow (vph)	174	705	118	125	968	168	217	238	97	237	403	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1		2
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0

Lanes, Volumes, Timings
1: Sixth Line & Upper Middle Road

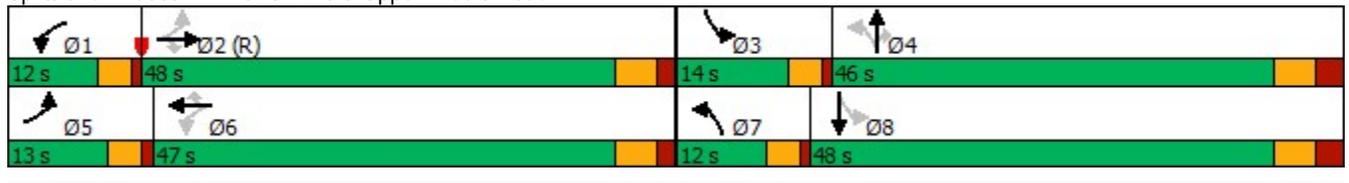
Future Total 2033
PM Peak Hr

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	SBR
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	
Minimum Split (s)	13.0	48.0	48.0	12.0	47.0	47.0	12.0	46.0	46.0	14.0	48.0	
Total Split (s)	13.0	48.0	48.0	12.0	47.0	47.0	12.0	46.0	46.0	14.0	48.0	
Total Split (%)	10.8%	40.0%	40.0%	10.0%	39.2%	39.2%	10.0%	38.3%	38.3%	11.7%	40.0%	
Maximum Green (s)	9.0	42.5	42.5	8.0	41.5	41.5	8.0	39.6	39.6	10.0	41.6	
Yellow Time (s)	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7	
All-Red Time (s)	1.0	1.8	1.8	1.0	1.8	1.8	1.0	2.7	2.7	1.0	2.7	
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	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	3.5	3.5	3.5	3.5	
Recall Mode	None	C-Max	C-Max	None	Max	Max	None	Max	Max	None	Max	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		23.0	23.0		23.0	23.0		32.0	32.0		32.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effct Green (s)	53.1	42.6	42.6	50.9	41.5	41.5	50.0	39.6	39.6	54.0	41.6	
Actuated g/C Ratio	0.44	0.36	0.36	0.42	0.35	0.35	0.42	0.33	0.33	0.45	0.35	
v/c Ratio	0.81	0.55	0.19	0.44	0.78	0.28	0.64	0.38	0.17	0.47	0.63	
Control Delay	50.5	33.1	5.4	23.6	40.2	12.5	31.0	32.9	6.6	23.6	35.2	
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	50.5	33.1	5.4	23.6	40.2	12.5	31.0	32.9	6.6	23.6	35.2	
LOS	D	C	A	C	D	B	C	C	A	C	D	
Approach Delay		32.8			34.9			27.5			30.9	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 32.4
 Intersection LOS: C
 Intersection Capacity Utilization 95.2%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 1: Sixth Line & Upper Middle Road



Queues

Future Total 2033

1: Sixth Line & Upper Middle Road

PM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	174	705	118	125	968	168	217	238	97	237	403
v/c Ratio	0.81	0.55	0.19	0.44	0.78	0.28	0.64	0.38	0.17	0.47	0.63
Control Delay	50.5	33.1	5.4	23.6	40.2	12.5	31.0	32.9	6.6	23.6	35.2
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	50.5	33.1	5.4	23.6	40.2	12.5	31.0	32.9	6.6	23.6	35.2
Queue Length 50th (m)	23.6	69.5	0.0	16.5	106.5	10.1	30.3	42.7	0.3	33.4	72.8
Queue Length 95th (m)	#57.5	88.3	12.1	28.2	131.2	26.3	46.9	64.7	11.9	50.8	106.5
Internal Link Dist (m)		474.8			421.5			215.9			89.9
Turn Bay Length (m)	55.0		55.0	45.0		45.0	30.0		30.0	40.0	
Base Capacity (vph)	214	1281	636	288	1249	603	340	633	587	499	643
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	0.81	0.55	0.19	0.43	0.78	0.28	0.64	0.38	0.17	0.47	0.63

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
 1: Sixth Line & Upper Middle Road

Future Total 2033
 PM Peak Hr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	162	656	110	116	900	156	202	221	90	220	223	152	
Future Volume (vph)	162	656	110	116	900	156	202	221	90	220	223	152	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00		
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.95	1.00	1.00	0.98	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	1.00	0.85	1.00	1.00	0.85	1.00	0.94		
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1824	3614	1578	1754	3614	1546	1788	1921	1587	1821	1797		
Flt Permitted	0.11	1.00	1.00	0.26	1.00	1.00	0.34	1.00	1.00	0.50	1.00		
Satd. Flow (perm)	214	3614	1578	478	3614	1546	633	1921	1587	950	1797		
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)	174	705	118	125	968	168	217	238	97	237	240	163	
RTOR Reduction (vph)	0	0	76	0	0	69	0	0	64	0	20	0	
Lane Group Flow (vph)	174	705	42	125	968	99	217	238	33	237	383	0	
Confl. Peds. (#/hr)	17		2	2		17	6		7	7			
Heavy Vehicles (%)	0%	1%	1%	4%	1%	0%	2%	0%	1%	0%	0%	1%	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		
Protected Phases	5	2		1	6		7	4		3	8		
Permitted Phases	2		2	6		6	4		4	8			
Actuated Green, G (s)	51.6	42.6	42.6	49.4	41.5	41.5	47.6	39.6	39.6	51.6	41.6		
Effective Green, g (s)	51.6	42.6	42.6	49.4	41.5	41.5	47.6	39.6	39.6	51.6	41.6		
Actuated g/C Ratio	0.43	0.36	0.36	0.41	0.35	0.35	0.40	0.33	0.33	0.43	0.35		
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4		
Vehicle Extension (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	3.5	3.5	3.5	3.5		
Lane Grp Cap (vph)	212	1282	560	280	1249	534	328	633	523	481	622		
v/s Ratio Prot	c0.06	0.20		0.03	0.27		c0.04	0.12		c0.04	0.21		
v/s Ratio Perm	c0.29		0.03	0.15		0.06	c0.22		0.02	0.17			
v/c Ratio	0.82	0.55	0.07	0.45	0.78	0.19	0.66	0.38	0.06	0.49	0.62		
Uniform Delay, d1	25.8	31.0	25.6	23.3	35.1	27.4	28.3	30.7	27.5	22.9	32.6		
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	22.3	1.7	0.3	1.3	4.7	0.8	5.1	1.7	0.2	0.9	4.5		
Delay (s)	48.1	32.7	25.9	24.6	39.8	28.2	33.4	32.5	27.7	23.8	37.1		
Level of Service	D	C	C	C	D	C	C	C	C	C	D		
Approach Delay (s)		34.6			36.8			32.0			32.2		
Approach LOS		C			D			C			C		
Intersection Summary													
HCM 2000 Control Delay			34.5									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.74										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	19.9
Intersection Capacity Utilization			95.2%									ICU Level of Service	F
Analysis Period (min)			15										

c Critical Lane Group

Lanes, Volumes, Timings
2: Sixth Line & Elm Road

Future Total 2033
PM Peak Hr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	11	86	51	601	476	13
Future Volume (vph)	11	86	51	601	476	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0	0.0	0.0			0.0
Storage Lanes	1	1	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850			0.996	
Flt Protected	0.950			0.996		
Satd. Flow (prot)	1825	1601	0	1879	1854	0
Flt Permitted	0.950			0.996		
Satd. Flow (perm)	1825	1601	0	1879	1854	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	103.8			216.0	48.0	
Travel Time (s)	7.8			16.2	3.6	
Confl. Peds. (#/hr)	3		12			12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	2%	0%	2%	3%	10%
Adj. Flow (vph)	12	92	55	646	512	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	92	0	701	526	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	73.7%
ICU Level of Service	D
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
2: Sixth Line & Elm Road

Future Total 2033
PM Peak Hr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	86	51	601	476	13
Future Volume (Veh/h)	11	86	51	601	476	13
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)	12	92	55	646	512	14
Pedestrians	12				3	
Lane Width (m)	3.7				3.7	
Walking Speed (m/s)	1.1				1.1	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					288	
pX, platoon unblocked						
vC, conflicting volume	1290	531	538			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1290	531	538			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	83	95			
cM capacity (veh/h)	170	542	1028			
Direction, Lane #	EB 1	EB 2	NB 1	SB 1		
Volume Total	12	92	701	526		
Volume Left	12	0	55	0		
Volume Right	0	92	0	14		
cSH	170	542	1028	1700		
Volume to Capacity	0.07	0.17	0.05	0.31		
Queue Length 95th (m)	1.7	4.6	1.3	0.0		
Control Delay (s)	27.8	13.0	1.4	0.0		
Lane LOS	D	B	A			
Approach Delay (s)	14.7		1.4	0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			73.7%	ICU Level of Service	D	
Analysis Period (min)			15			

Lanes, Volumes, Timings
3: Sixth Line & Miller Road

Future Total 2033
PM Peak Hr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	11	35	36	641	533	29
Future Volume (vph)	11	35	36	641	533	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.897			0.993		
Flt Protected	0.988			0.997		
Satd. Flow (prot)	1611	0	0	1880	1836	0
Flt Permitted	0.988			0.997		
Satd. Flow (perm)	1611	0	0	1880	1836	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	494.9			187.0	216.0	
Travel Time (s)	37.1			14.0	16.2	
Confl. Peds. (#/hr)	1		15		15	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	11%	4%	0%	2%	4%	2%
Adj. Flow (vph)	12	38	39	689	573	31
Shared Lane Traffic (%)						
Lane Group Flow (vph)	50	0	0	728	604	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	73.1%
ICU Level of Service	D
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
3: Sixth Line & Miller Road

Future Total 2033
PM Peak Hr



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	35	36	641	533	29
Future Volume (Veh/h)	11	35	36	641	533	29
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)	12	38	39	689	573	31
Pedestrians	15				1	
Lane Width (m)	3.7				3.7	
Walking Speed (m/s)	1.1				1.1	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)	187					
pX, platoon unblocked	0.85					
vC, conflicting volume	1372	604	619			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1349	604	619			
tC, single (s)	6.5	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	91	92	96			
cM capacity (veh/h)	128	488	957			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	50	728	604			
Volume Left	12	39	0			
Volume Right	38	0	31			
cSH	291	957	1700			
Volume to Capacity	0.17	0.04	0.36			
Queue Length 95th (m)	4.6	1.0	0.0			
Control Delay (s)	19.9	1.1	0.0			
Lane LOS	C	A				
Approach Delay (s)	19.9	1.1	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization			73.1%	ICU Level of Service	D	
Analysis Period (min)			15			

4: Sixth Line & McCraney Street West/McCraney Street East

PM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	52	23	24	91	306	32	340	27	195	314	58
Future Volume (vph)	31	52	23	24	91	306	32	340	27	195	314	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0		0.0	30.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	0.99		0.99	0.98		0.99	1.00		0.99	0.99	
Frt		0.954			0.884			0.989			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	1817	0	1825	1637	0	1825	1878	0	1755	1836	0
Flt Permitted	0.222			0.546			0.526			0.366		
Satd. Flow (perm)	425	1817	0	1042	1637	0	1002	1878	0	672	1836	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			172			5			16	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		496.2			318.9			167.6			187.0	
Travel Time (s)		37.2			23.9			12.6			14.0	
Confl. Peds. (#/hr)	4		4	4		4	7		7	7		7
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	1%	0%	4%	2%	0%
Adj. Flow (vph)	33	56	25	26	98	329	34	366	29	210	338	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	81	0	26	427	0	34	395	0	210	400	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		

Lanes, Volumes, Timings
 4: Sixth Line & McCraney Street West/McCraney Street East

Future Total 2033
 PM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		24.0	24.0		7.0	24.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		20.0	60.0	
Total Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		20.0	60.0	
Total Split (%)	31.6%	31.6%		31.6%	31.6%		42.1%	42.1%		21.1%	63.2%	
Maximum Green (s)	24.7	24.7		24.7	24.7		34.4	34.4		16.0	54.4	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.3	2.3		1.0	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0			10.0	
Flash Dont Walk (s)	14.0	14.0		14.0	14.0		14.0	14.0			14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)	22.1	22.1		22.1	22.1		39.9	39.9		56.0	54.4	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.43	0.43		0.61	0.59	
v/c Ratio	0.33	0.18		0.10	0.82		0.08	0.49		0.40	0.37	
Control Delay	38.8	21.7		28.4	33.5		18.2	22.3		10.9	11.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	38.8	21.7		28.4	33.5		18.2	22.3		10.9	11.0	
LOS	D	C		C	C		B	C		B	B	
Approach Delay		26.6			33.2			22.0			11.0	
Approach LOS		C			C			C			B	

Intersection Summary

Area Type:	Other
Cycle Length:	95
Actuated Cycle Length:	92.5
Natural Cycle:	95
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.82
Intersection Signal Delay:	21.3
Intersection LOS:	C
Intersection Capacity Utilization:	79.7%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 4: Sixth Line & McCraney Street West/McCraney Street East



Lane Group	Ø3	Ø7
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

4: Sixth Line & McCraney Street West/McCraney Street East

PM Peak Hr



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	33	81	26	427	34	395	210	400
v/c Ratio	0.33	0.18	0.10	0.82	0.08	0.49	0.40	0.37
Control Delay	38.8	21.7	28.4	33.5	18.2	22.3	10.9	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	21.7	28.4	33.5	18.2	22.3	10.9	11.0
Queue Length 50th (m)	4.9	8.2	3.6	43.9	3.4	47.5	15.0	32.3
Queue Length 95th (m)	13.8	19.3	10.2	#88.3	10.2	83.0	27.4	54.4
Internal Link Dist (m)		472.2		294.9		143.6		163.0
Turn Bay Length (m)	15.0		30.0		25.0		35.0	
Base Capacity (vph)	113	502	278	563	431	812	594	1087
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.16	0.09	0.76	0.08	0.49	0.35	0.37

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
 4: Sixth Line & McCraney Street West/McCraney Street East

Future Total 2033
 PM Peak Hr

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	52	23	24	91	306	32	340	27	195	314	58
Future Volume (vph)	31	52	23	24	91	306	32	340	27	195	314	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	0.99		1.00	0.98		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.88		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1819	1817		1814	1638		1811	1878		1752	1836	
Flt Permitted	0.22	1.00		0.55	1.00		0.53	1.00		0.37	1.00	
Satd. Flow (perm)	426	1817		1043	1638		1004	1878		675	1836	
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)	33	56	25	26	98	329	34	366	29	210	338	62
RTOR Reduction (vph)	0	19	0	0	129	0	0	3	0	0	7	0
Lane Group Flow (vph)	33	62	0	26	298	0	34	392	0	210	393	0
Confl. Peds. (#/hr)	4		4	4		4	7		7	7		7
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	1%	0%	4%	2%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	18.0	18.0		23.2	23.2		39.9	39.9		54.5	54.5	
Effective Green, g (s)	18.0	18.0		23.2	23.2		39.9	39.9		54.5	54.5	
Actuated g/C Ratio	0.19	0.19		0.25	0.25		0.43	0.43		0.58	0.58	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	81	349		258	406		427	800		514	1069	
v/s Ratio Prot		0.03			c0.18			c0.21		c0.05	0.21	
v/s Ratio Perm	0.08			0.02			0.03			0.19		
v/c Ratio	0.41	0.18		0.10	0.73		0.08	0.49		0.41	0.37	
Uniform Delay, d1	33.1	31.6		27.2	32.4		15.9	19.5		10.5	10.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.3	0.2		0.2	6.7		0.4	2.1		0.5	1.0	
Delay (s)	36.4	31.9		27.3	39.1		16.3	21.6		11.1	11.4	
Level of Service	D	C		C	D		B	C		B	B	
Approach Delay (s)		33.2			38.4			21.2			11.3	
Approach LOS		C			D			C			B	
Intersection Summary												
HCM 2000 Control Delay			23.1				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			93.6			Sum of lost time (s)			16.9			
Intersection Capacity Utilization			79.7%			ICU Level of Service			D			
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings
5: Sixth Line & Site Access

Future Total 2033
PM Peak Hr

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	19	30	587	25	37	470
Future Volume (vph)	19	30	587	25	37	470
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		0.0	5.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.917		0.995			
Flt Protected	0.981				0.950	
Satd. Flow (prot)	1694	0	1874	0	1789	1883
Flt Permitted	0.981				0.950	
Satd. Flow (perm)	1694	0	1874	0	1789	1883
Link Speed (k/h)	48		48			48
Link Distance (m)	63.6		48.0			239.9
Travel Time (s)	4.8		3.6			18.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	33	638	27	40	511
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	665	0	40	511
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		3.7			3.7
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	42.4%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
5: Sixth Line & Site Access

Future Total 2033
PM Peak Hr

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	19	30	587	25	37	470
Future Volume (Veh/h)	19	30	587	25	37	470
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	21	33	638	27	40	511
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage veh						
Upstream signal (m)						240
pX, platoon unblocked						
	0.99					
vC, conflicting volume						
	1242	652			665	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol						
	1240	652			665	
tC, single (s)						
	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)						
	3.5	3.3			2.2	
p0 queue free %						
	89	93			96	
cM capacity (veh/h)						
	183	468			924	
Direction, Lane #	WB 1	NB 1	SB 1	SB 2		
Volume Total	54	665	40	511		
Volume Left	21	0	40	0		
Volume Right	33	27	0	0		
cSH	292	1700	924	1700		
Volume to Capacity	0.19	0.39	0.04	0.30		
Queue Length 95th (m)	5.1	0.0	1.0	0.0		
Control Delay (s)	20.1	0.0	9.1	0.0		
Lane LOS	C		A			
Approach Delay (s)	20.1	0.0	0.7			
Approach LOS	C					
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			42.4%		ICU Level of Service	
Analysis Period (min)			15		A	

Intersection: 1: Sixth Line & Upper Middle Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (m)	57.3	81.6	80.8	57.4	47.5	140.1	130.5	47.5	32.4	132.9	32.5	42.3
Average Queue (m)	32.2	54.2	53.1	18.2	27.6	92.9	89.4	28.8	25.9	52.4	13.8	33.9
95th Queue (m)	58.6	74.8	76.0	48.9	54.6	129.5	126.1	60.3	39.3	107.8	34.4	52.4
Link Distance (m)		491.0	491.0			435.0	435.0			221.2		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	55.0			55.0	45.0			45.0	30.0		30.0	40.0
Storage Blk Time (%)	2	4	5	0	1	32	29	1	9	15	0	4
Queuing Penalty (veh)	5	7	5	1	2	37	46	4	29	45	1	16

Intersection: 1: Sixth Line & Upper Middle Road

Movement	SB
Directions Served	TR
Maximum Queue (m)	103.4
Average Queue (m)	63.4
95th Queue (m)	108.8
Link Distance (m)	98.8
Upstream Blk Time (%)	4
Queuing Penalty (veh)	0
Storage Bay Dist (m)	
Storage Blk Time (%)	18
Queuing Penalty (veh)	40

Intersection: 2: Sixth Line & Elm Road

Movement	EB	EB	NB	SB
Directions Served	L	R	LT	TR
Maximum Queue (m)	10.5	25.9	36.0	10.5
Average Queue (m)	3.3	11.7	7.6	0.4
95th Queue (m)	10.4	20.4	25.9	3.9
Link Distance (m)		98.5	202.2	34.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)	20.0			
Storage Blk Time (%)	0	1		
Queuing Penalty (veh)	0	0		

Intersection: 3: Sixth Line & Miller Road

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (m)	20.1	53.0	2.9
Average Queue (m)	8.4	9.5	0.1
95th Queue (m)	17.1	30.9	1.8
Link Distance (m)	487.2	174.7	202.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Sixth Line & McCraney Street West/McCraney Street East

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	17.2	44.2	32.3	115.4	27.3	84.8	50.5	70.0
Average Queue (m)	9.6	16.3	8.9	54.7	6.2	41.7	21.3	30.9
95th Queue (m)	19.4	35.0	27.4	98.0	19.8	71.1	39.4	57.8
Link Distance (m)		488.4		311.0		159.8		174.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)	15.0		30.0		25.0		35.0	
Storage Blk Time (%)	17	12	0	31	0	19	2	6
Queuing Penalty (veh)	13	4	0	7	0	6	8	11

Intersection: 5: Sixth Line & Site Access

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (m)	23.4	5.3	9.1	22.2
Average Queue (m)	8.8	0.2	3.6	3.3
95th Queue (m)	17.2	2.3	10.8	14.5
Link Distance (m)	56.2	34.3		221.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)			5.0	
Storage Blk Time (%)			2	0
Queuing Penalty (veh)			11	0

Network Summary

Network wide Queuing Penalty: 299

Lanes, Volumes, Timings

Future Total 2033 - Signal Improvements

4: Sixth Line & McCraney Street West/McCraney Street East

AM Peak Hr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	160	43	39	93	375	21	190	50	509	420	23
Future Volume (vph)	29	160	43	39	93	375	21	190	50	509	420	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0		0.0	30.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.98	0.94		0.99	0.99		0.99		
Frt		0.968			0.880			0.969			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	1841	0	1706	1506	0	1825	1749	0	1772	1779	0
Flt Permitted	0.127			0.478			0.460			0.285		
Satd. Flow (perm)	244	1841	0	844	1506	0	872	1749	0	527	1779	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			198			12				4
Link Speed (k/h)		48			48			48				48
Link Distance (m)		496.2			318.9			167.6				187.0
Travel Time (s)		37.2			23.9			12.6				14.0
Confl. Peds. (#/hr)	22		11	11		22	13		8	8		
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	0%	7%	0%	7%	0%	6%	4%	3%	7%	10%
Adj. Flow (vph)	36	198	53	48	115	463	26	235	62	628	519	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	36	251	0	48	578	0	26	297	0	628	547	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø3	Ø7
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		

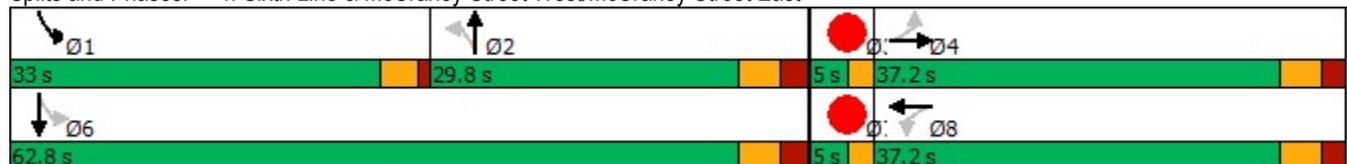


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		20.0	20.0		24.0	24.0		7.0	24.0	
Minimum Split (s)	26.3	26.3		26.3	26.3		29.6	29.6		11.0	29.6	
Total Split (s)	37.2	37.2		37.2	37.2		29.8	29.8		33.0	62.8	
Total Split (%)	35.4%	35.4%		35.4%	35.4%		28.4%	28.4%		31.4%	59.8%	
Maximum Green (s)	31.9	31.9		31.9	31.9		24.2	24.2		29.0	57.2	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.3	2.3		1.0	2.3	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Lead/Lag	Lag	Lag		Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0			10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		14.0	14.0			14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)	31.5	31.5		31.5	31.5		24.2	24.2		58.8	57.2	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.23	0.23		0.56	0.55	
v/c Ratio	0.49	0.45		0.19	0.98		0.13	0.72		0.98	0.56	
Control Delay	55.9	30.9		29.5	56.9		34.1	46.7		52.4	18.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	55.9	30.9		29.5	56.9		34.1	46.7		52.4	18.3	
LOS	E	C		C	E		C	D		D	B	
Approach Delay		34.0			54.8			45.7			36.5	
Approach LOS		C			D			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 105
 Actuated Cycle Length: 104.6
 Natural Cycle: 90
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 42.2
 Intersection LOS: D
 Intersection Capacity Utilization 93.0%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 4: Sixth Line & McCraney Street West/McCraney Street East



Lane Group	Ø3	Ø7
Turn Type		
Protected Phases	3	7
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	5%	5%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Queues

Future Total 2033 - Signal Improvements

4: Sixth Line & McCraney Street West/McCraney Street East

AM Peak Hr



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	36	251	48	578	26	297	628	547
v/c Ratio	0.49	0.45	0.19	0.98	0.13	0.72	0.98	0.56
Control Delay	55.9	30.9	29.5	56.9	34.1	46.7	52.4	18.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.9	30.9	29.5	56.9	34.1	46.7	52.4	18.3
Queue Length 50th (m)	6.0	38.9	7.2	83.4	4.2	54.0	92.3	69.2
Queue Length 95th (m)	#16.2	53.9	14.8	#122.8	10.4	72.8	#131.4	84.5
Internal Link Dist (m)		472.2		294.9		143.6		163.0
Turn Bay Length (m)	15.0		30.0		25.0		35.0	
Base Capacity (vph)	74	570	257	597	201	414	641	974
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.44	0.19	0.97	0.13	0.72	0.98	0.56

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis Future Total 2033 - Signal Improvements
 4: Sixth Line & McCraney Street West/McCraney Street East AM Peak Hr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	160	43	39	93	375	21	190	50	509	420	23
Future Volume (vph)	29	160	43	39	93	375	21	190	50	509	420	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	0.99		1.00	0.94		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.98	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.88		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	1842		1678	1506		1801	1749		1768	1779	
Flt Permitted	0.13	1.00		0.48	1.00		0.46	1.00		0.29	1.00	
Satd. Flow (perm)	244	1842		844	1506		872	1749		531	1779	
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	36	198	53	48	115	463	26	235	62	628	519	28
RTOR Reduction (vph)	0	9	0	0	138	0	0	9	0	0	2	0
Lane Group Flow (vph)	36	242	0	48	440	0	26	288	0	628	545	0
Confl. Peds. (#/hr)	22		11	11		22	13		8	8		
Heavy Vehicles (%)	0%	0%	0%	7%	0%	7%	0%	6%	4%	3%	7%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	31.5	31.5		31.5	31.5		24.2	24.2		57.2	57.2	
Effective Green, g (s)	31.5	31.5		31.5	31.5		24.2	24.2		57.2	57.2	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.23	0.23		0.55	0.55	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	73	554		254	453		201	404		633	972	
v/s Ratio Prot		0.13			c0.29			0.16		c0.27	0.31	
v/s Ratio Perm	0.15			0.06			0.03			c0.27		
v/c Ratio	0.49	0.44		0.19	0.97		0.13	0.71		0.99	0.56	
Uniform Delay, d1	30.0	29.4		27.1	36.1		31.9	37.0		22.0	15.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.2	0.6		0.4	34.5		1.3	10.2		33.6	2.3	
Delay (s)	35.2	30.0		27.4	70.6		33.2	47.2		55.6	17.8	
Level of Service	D	C		C	E		C	D		E	B	
Approach Delay (s)		30.6			67.3			46.1			38.0	
Approach LOS		C			E			D			D	
Intersection Summary												
HCM 2000 Control Delay			45.8				HCM 2000 Level of Service				D	
HCM 2000 Volume to Capacity ratio			0.98									
Actuated Cycle Length (s)			104.6				Sum of lost time (s)			16.9		
Intersection Capacity Utilization			93.0%				ICU Level of Service			F		
Analysis Period (min)			15									

c Critical Lane Group

Intersection: 4: Sixth Line & McCraney Street West/McCraney Street East

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	17.4	137.1	32.3	215.6	27.2	78.8	94.8	135.8
Average Queue (m)	10.9	51.1	15.4	98.9	4.9	41.0	62.3	52.6
95th Queue (m)	21.0	145.1	37.5	189.3	16.9	67.2	93.6	98.2
Link Distance (m)		488.4		311.0		159.8		174.7
Upstream Blk Time (%)				0				0
Queuing Penalty (veh)				0				1
Storage Bay Dist (m)	15.0		30.0		25.0		35.0	
Storage Blk Time (%)	28	33	0	50	0	25	28	12
Queuing Penalty (veh)	57	9	2	19	0	5	125	62

Appendix G

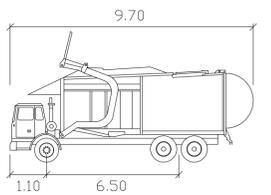
AutoTURN Swept Path Analysis



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Halton-Front-End
Width : 2.70 meters
Track : 2.70
Lock to Lock Time 6.0
Steering Angle : 30.0

3	Third Submission	W.M	W.M	3/11/26
2	Second Submission	W.M	W.M	1/16/26
1	First Submission	W.M	W.M	7/24/25
No.	Issue	Checked	Approved	Date

Author	RA	Designer	RA
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

Client
Innovative SHS

Project
1493 Sixth Line

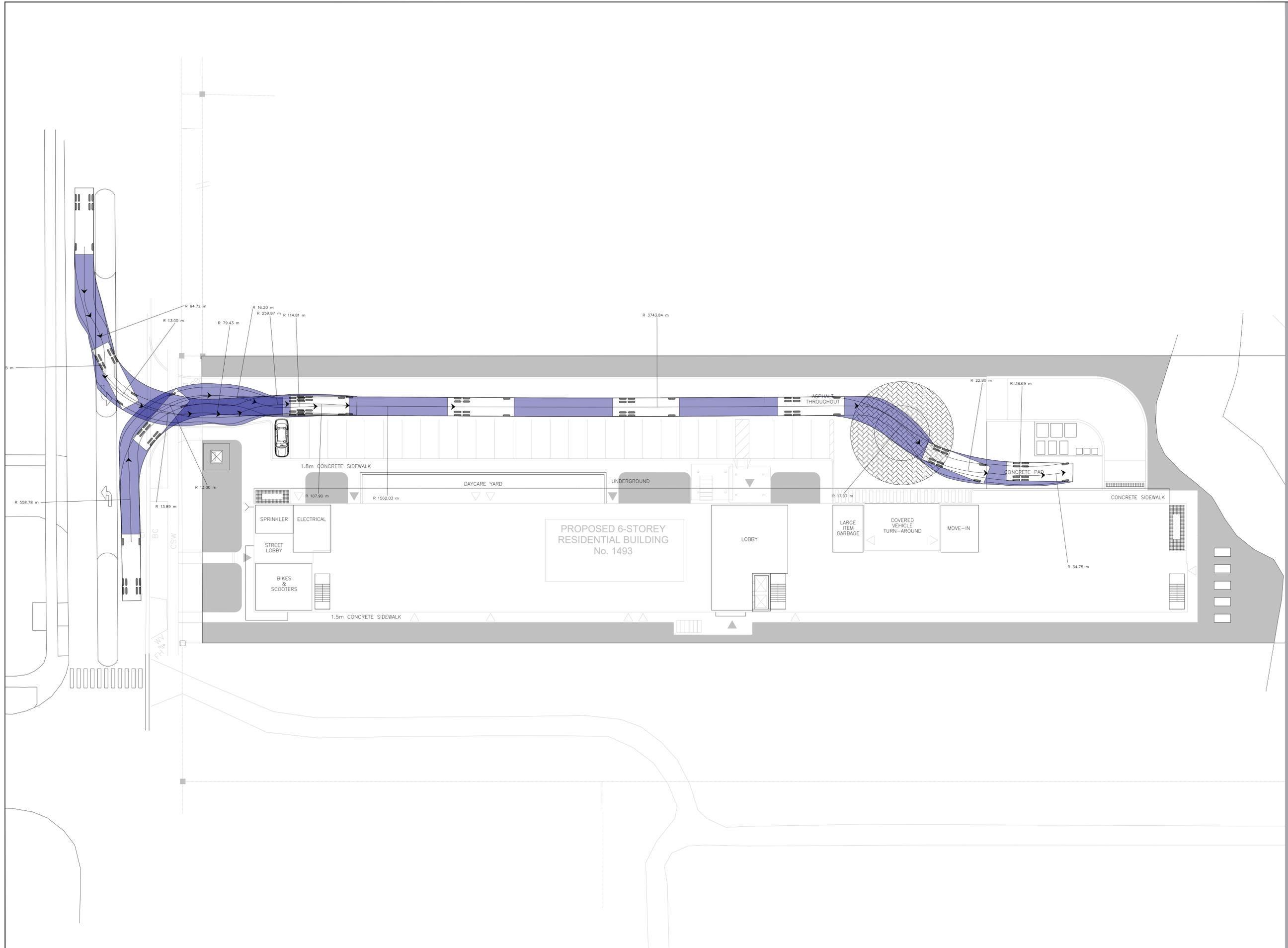
Date January 16, 2026 Scale NTS

Project No. -

Title
VEHICLE MANEUVERING DIAGRAM - WASTE COLLECTION (INBOUND)

Size
ANSI D

Sheet No.
AT-101

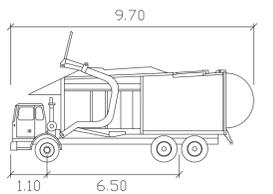




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Halton-Front-End meters
Width : 2.70
Track : 2.70
Lock to Lock Time : 6.0
Steering Angle : 30.0

3	Third Submission	W.M	W.M	3/11/26
2	Second Submission	W.M	W.M	1/16/26
1	First Submission	W.M	W.M	7/24/25

No.	Issue	Checked	Approved	Date
Author	R.A		Designer	R.A
Drafting Check	W.M		Design Check	W.M
Project Manager	W.M		Project Director	W.M

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Innovative SHS

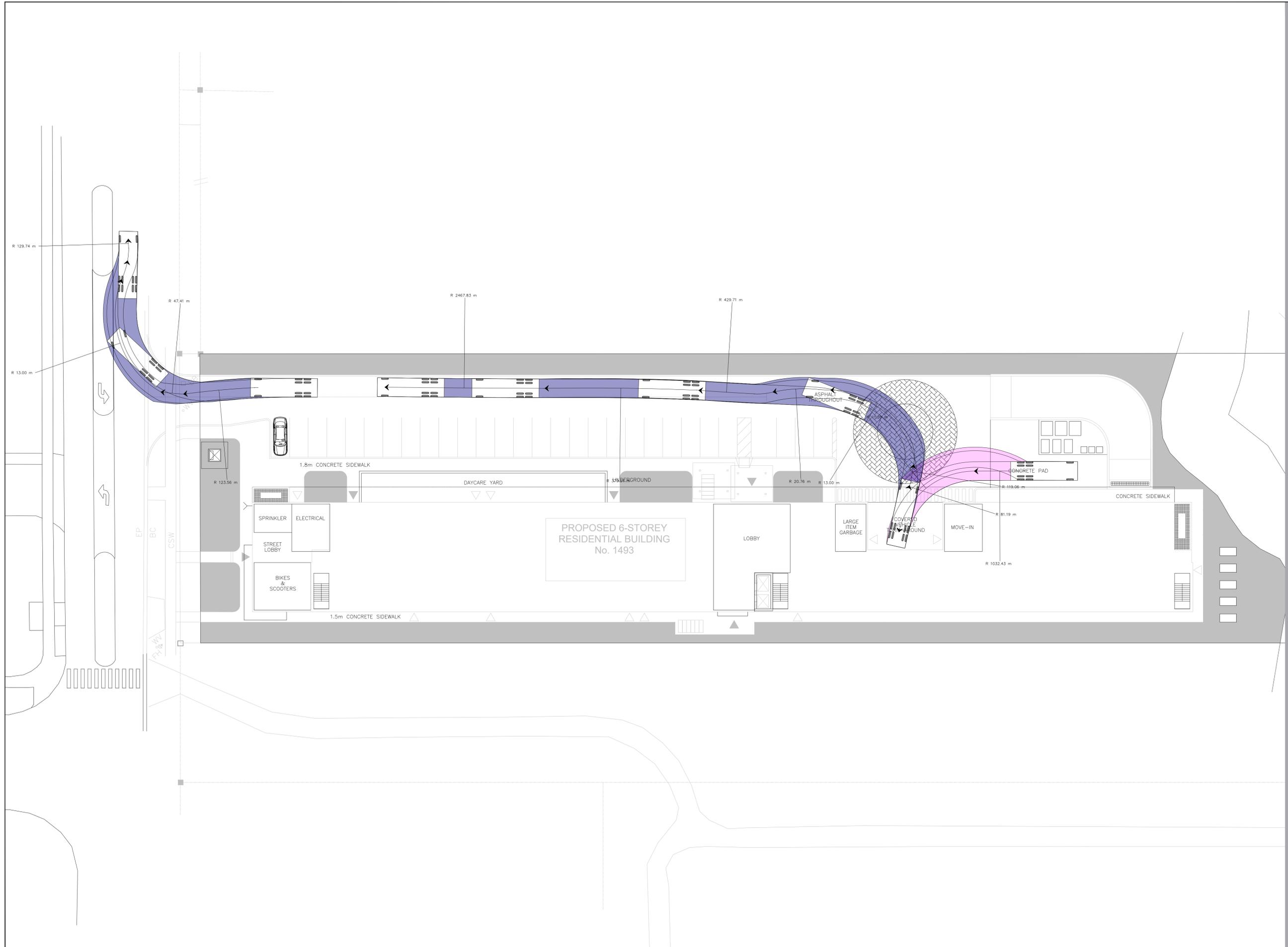
Project
1493 Sixth Line

Date January 16, 2026 Scale NTS

Project No. -

Title
VEHICLE MANEUVERING DIAGRAM - WASTE COLLECTION (OUTBOUND)

Size
ANSI D
Sheet No.
AT-102

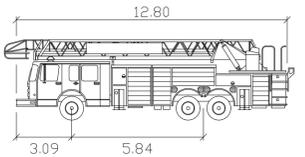




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Aerial Fire meters
Width : 2.54
Track : 2.54
Lock to Lock Time : 6.0
Steering Angle : 37.0

3	Third Submission	W.M	W.M	3/11/26
2	Second Submission	W.M	W.M	1/16/26
1	First Submission	W.M	W.M	7/24/25
No.	Issue	Checked	Approved	Date

Author	RA	Designer	RA
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

Client
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Project
1493 Sixth Line

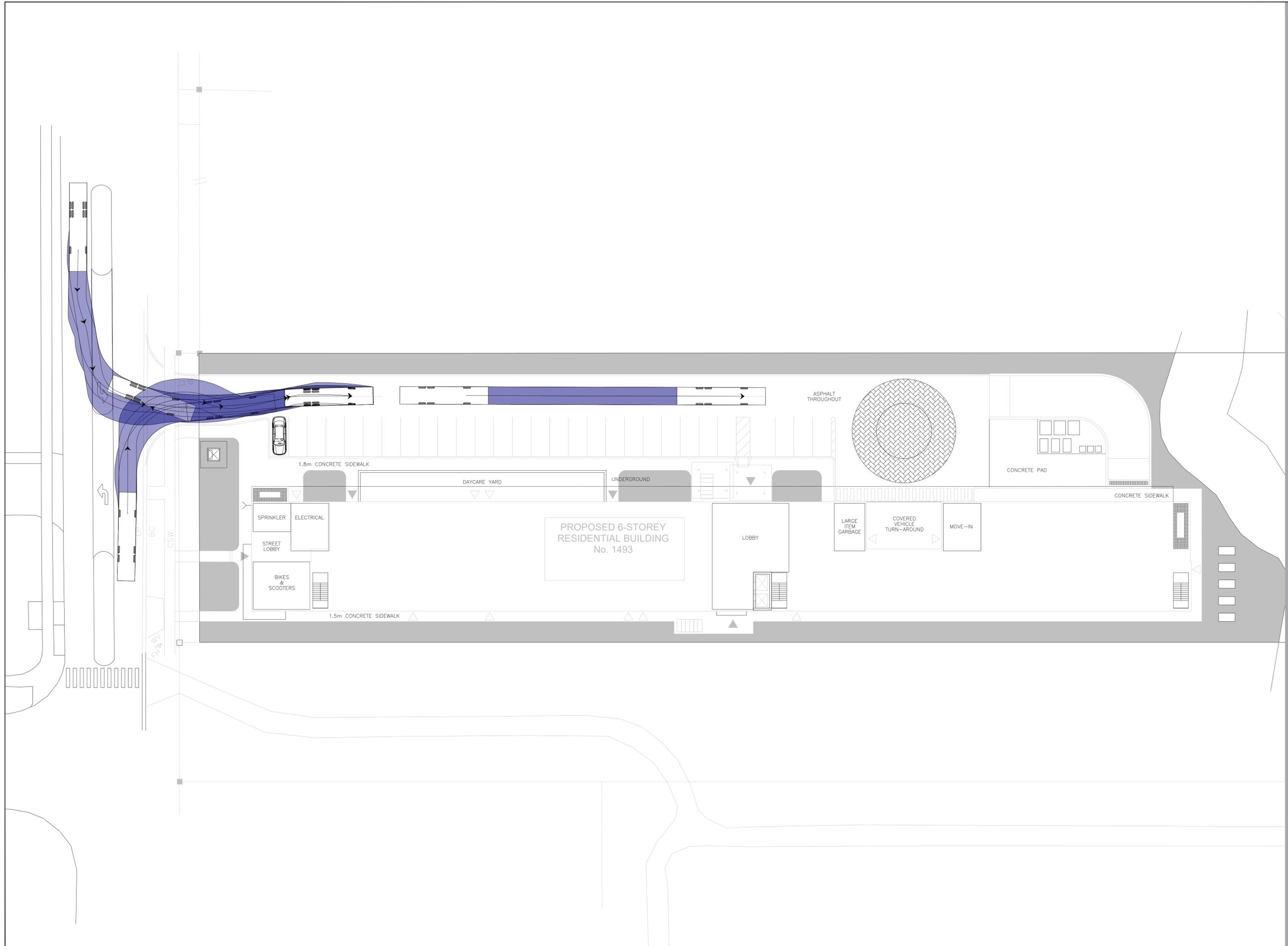
Date January 16, 2026 Scale NTS

Project No. -

Title
VEHICLE MANEUVERING DIAGRAM - FIRE TRUCK (INBOUND)

Size
ANSI D

Sheet No.
AT-103

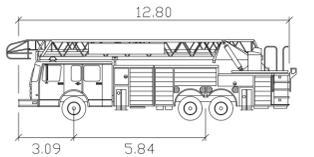




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Aerial Fire
Width : 2.54 meters
Track : 2.54
Lock to Lock Time : 6.0
Steering Angle : 37.0

No.	Issue	Checked	Approved	Date
3	Third Submission	W.M	W.M	3/11/26
2	Second Submission	W.M	W.M	1/16/26
1	First Submission	W.M	W.M	7/24/25

Author	RA	Designer	RA
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

Client
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Project
1493 Sixth Line

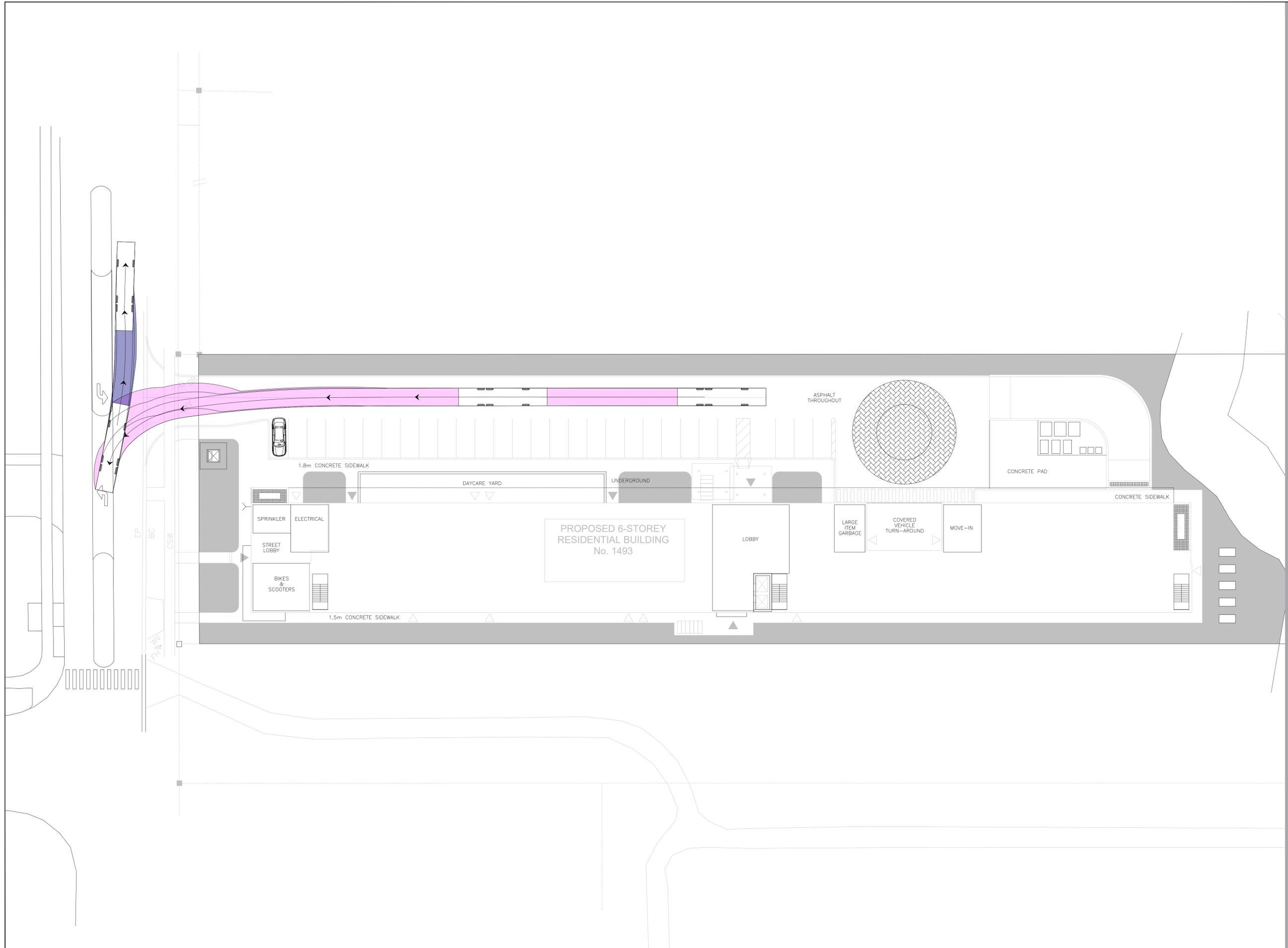
Date January 16, 2026 Scale NTS

Project No. -

Title
VEHICLE MANEUVERING DIAGRAM - FIRE TRUCK (OUTBOUND)

Size
ANSI D

Sheet No.
AT-104

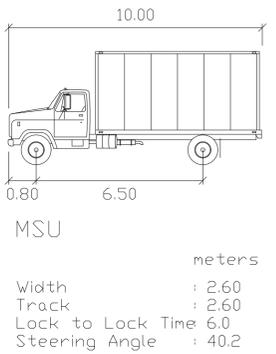




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2	Second Submission	W.M	W.M	1/16/26
1	First Submission	W.M	W.M	7/24/25

No.	Issue	Checked	Approved	Date
Author	RA		Designer	RA
Drafting	W.M		Design	W.M
Check			Check	
Project	W.M		Project	W.M
Manager			Director	

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Project
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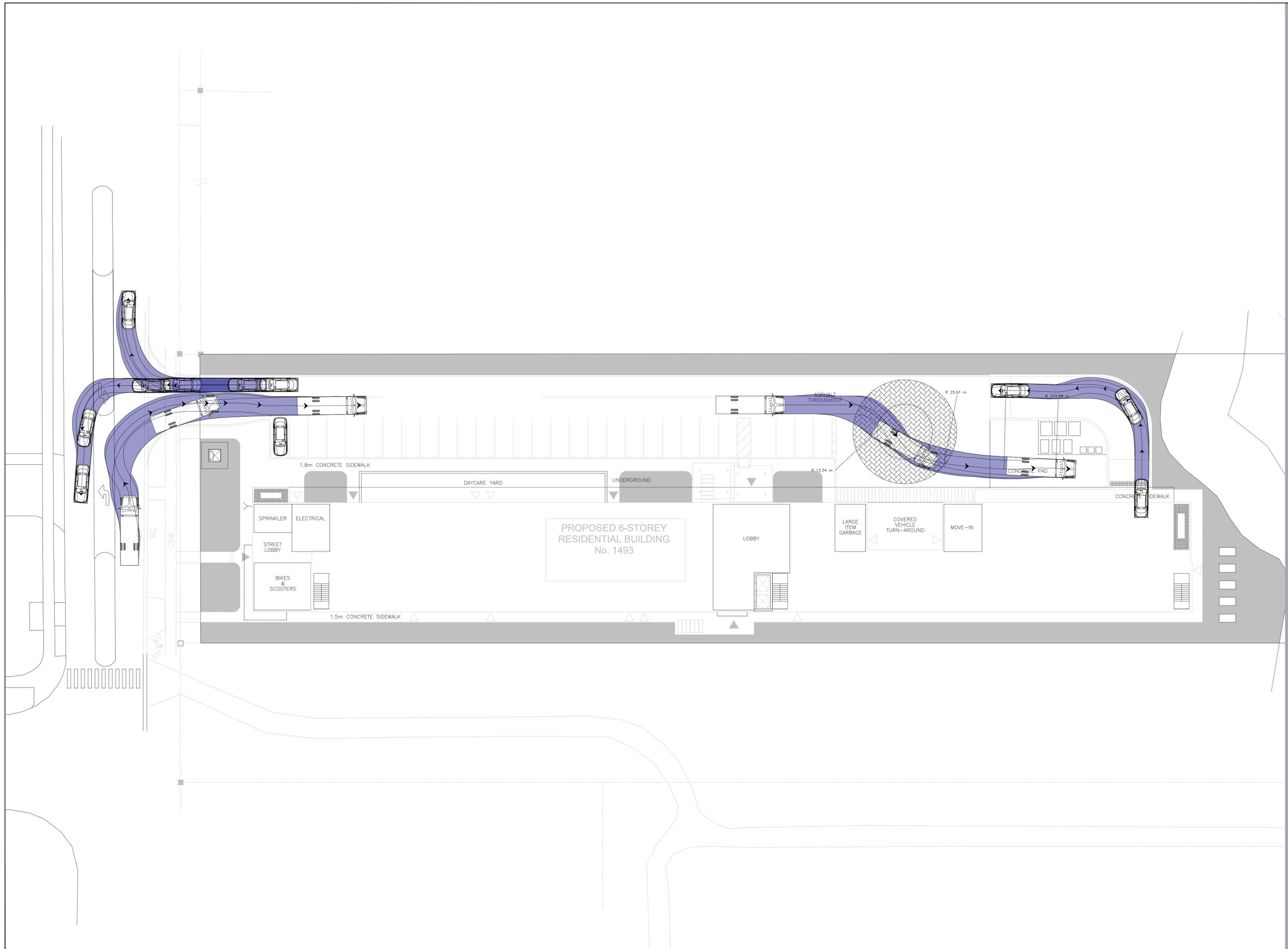
Date January 16, 2026 Scale NTS

Project No. -

Title
**VEHICLE MANEUVERING
DIAGRAM -
MSU (INBOUND)**

Size
ANSI D

Sheet No.
AT-105

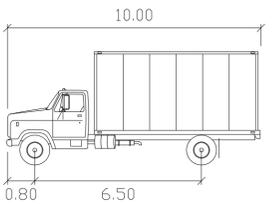




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MSU
Width : 2.60 meters
Track : 2.60
Lock to Lock Time : 6.0
Steering Angle : 40.2

No.	Issue	Checked	Approved	Date
3	Third Submission	W.M	W.M	3/11/26
2	Second Submission	W.M	W.M	1/16/26
1	First Submission	W.M	W.M	7/24/25

Author	RA	Designer	RA
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

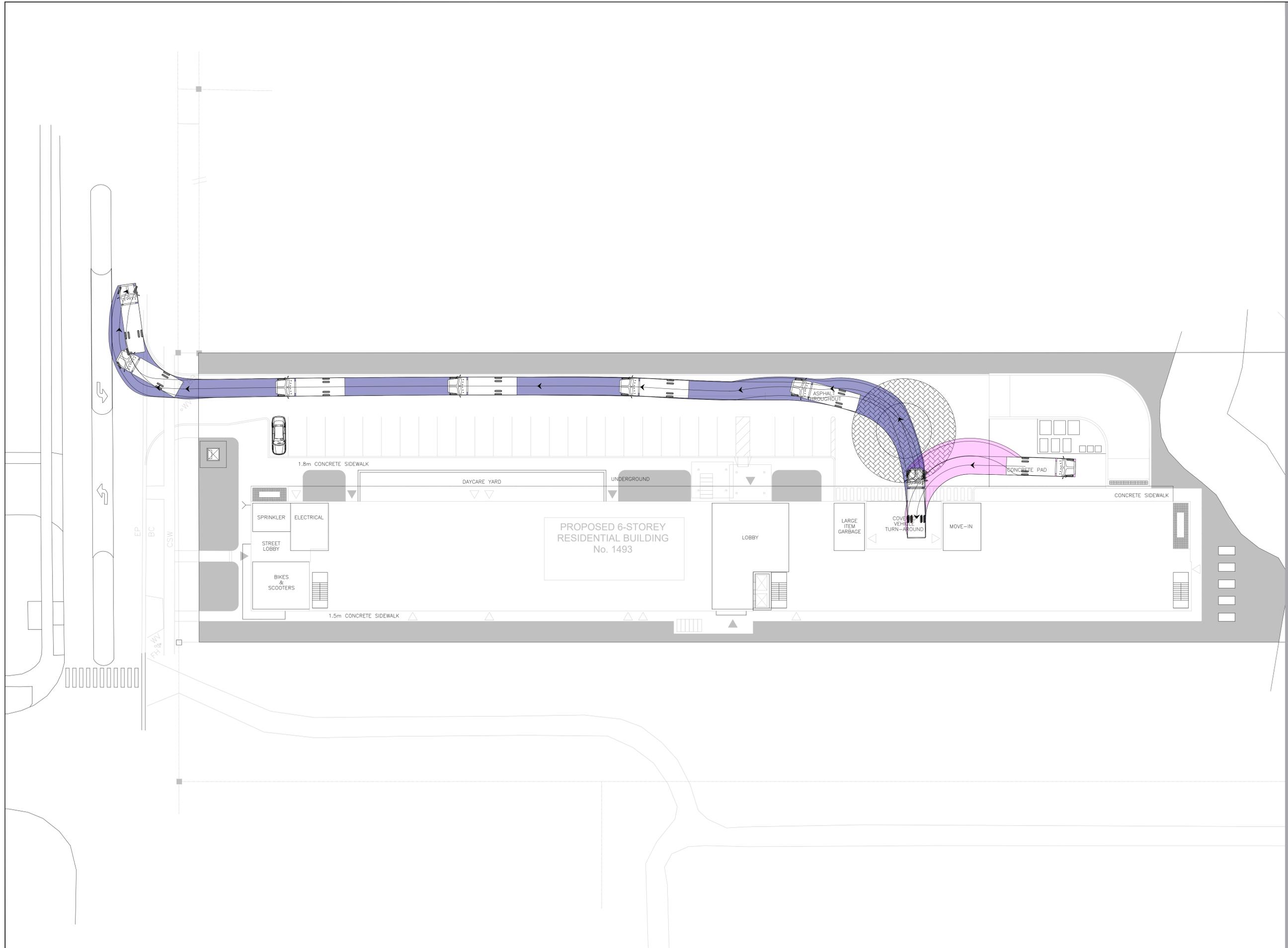
Client
Innovative SHS
Project
1493 Sixth Line

Date January 16, 2026 Scale NTS

Project No. -

Title
VEHICLE MANEUVERING DIAGRAM - MSU (OUTBOUND)
Size
ANSI D

Sheet No.
AT-106

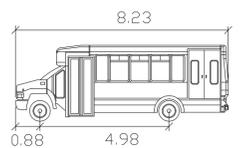




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Oakville Care-A-Van
meters
Width : 2.43
Track : 2.40
Lock to Lock Time : 6.0
Steering Angle : 37.8

3	Third Submission	W.M	W.M	3/11/26
2	Second Submission	W.M	W.M	1/16/26
1	First Submission	W.M	W.M	7/24/25
No.	Issue	Checked	Approved	Date

Author	RA	Designer	RA
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

Client
Innovative SHS

Project
1493 Sixth Line

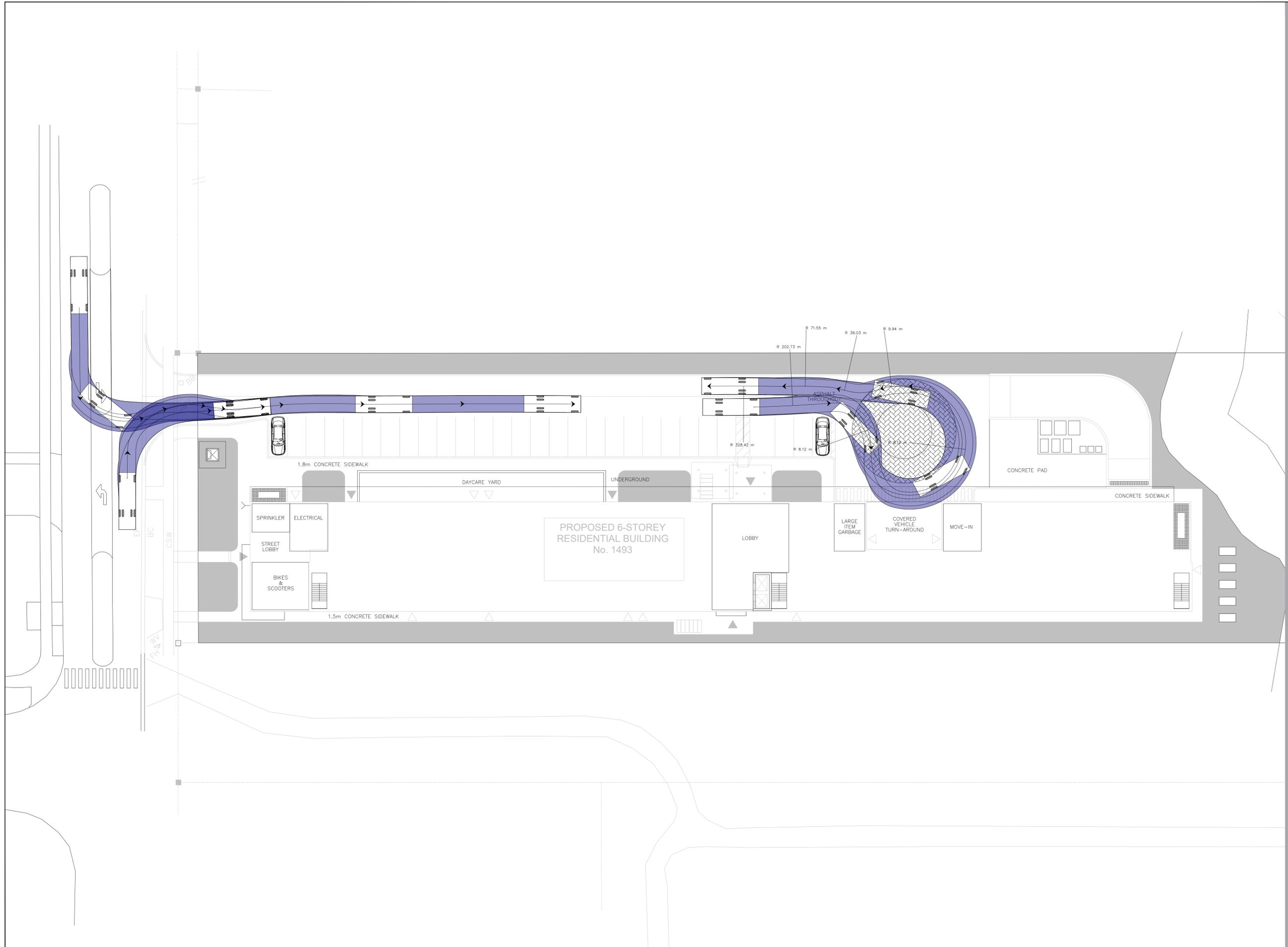
Date January 16, 2026 Scale NTS

Project No. -

Title
VEHICLE MANEUVERING DIAGRAM - PARATRANSIT VEHICLE (INBOUND)

Size
ANSI D

Sheet No.
AT-107

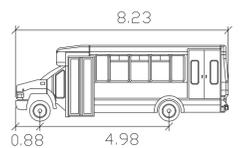




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Oakville Care-A-Van
meters
Width : 2.43
Track : 2.40
Lock to Lock Time : 6.0
Steering Angle : 37.8

3	Third Submission	W.M	W.M	3/11/26
2	Second Submission	W.M	W.M	1/16/26
1	First Submission	W.M	W.M	7/24/25
No.	Issue	Checked	Approved	Date

Author	RA	Designer	RA
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

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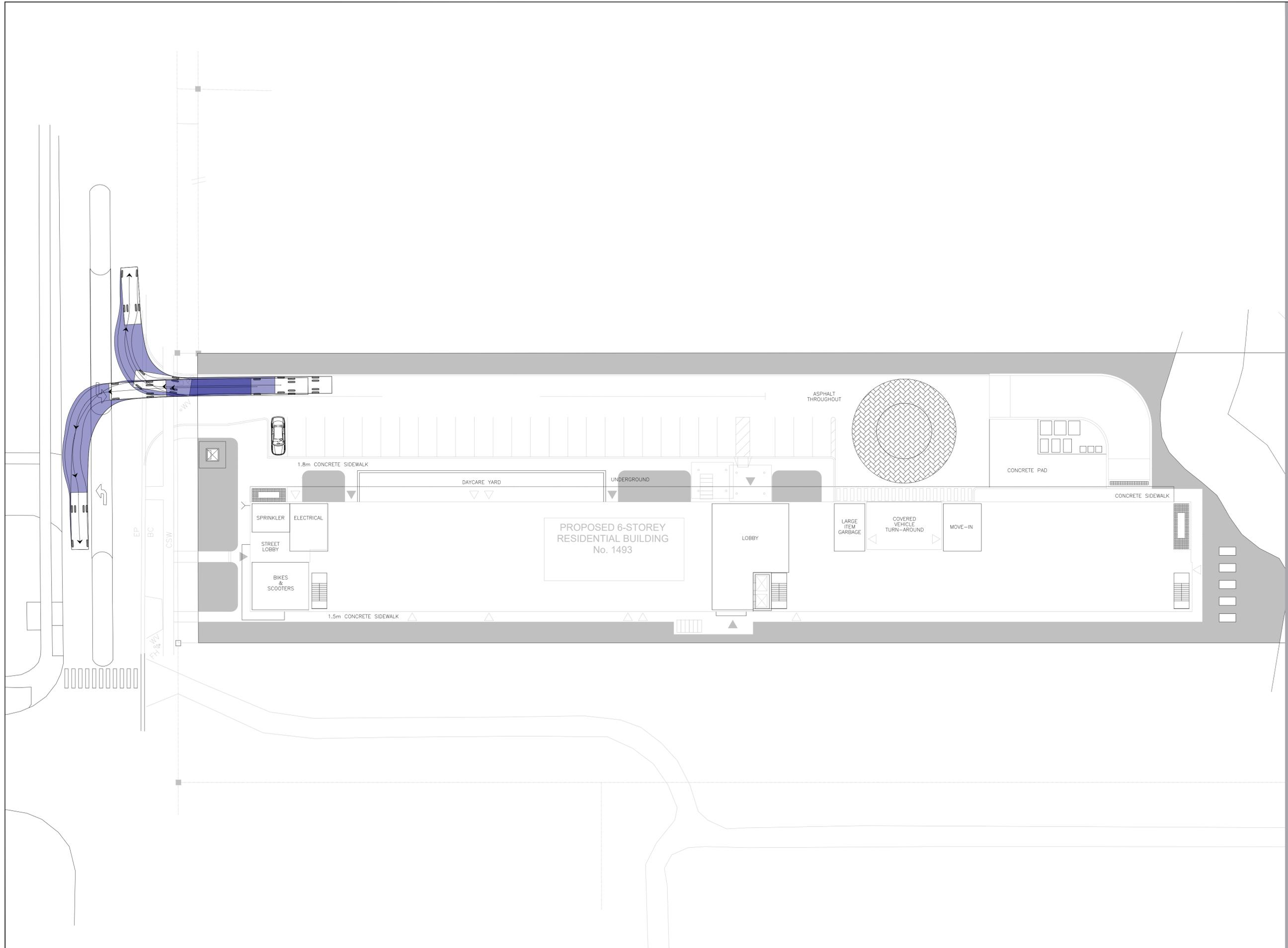
Project
1493 Sixth Line

Date January 16, 2026 Scale NTS

Project No. -

Title
VEHICLE MANEUVERING DIAGRAM - PARATRANSIT VEHICLE (OUTBOUND)

Size
ANSI D
Sheet No.
AT-108

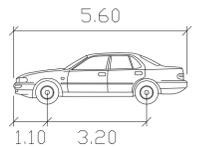




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P
Width : 2.00 meters
Track : 2.00
Lock to Lock Time: 6.0
Steering Angle : 35.9

No.	Issue	Checked	Approved	Date
3	Third Submission	W.M	W.M	3/11/26
2	Second Submission	W.M	W.M	1/16/26
1	First Submission	W.M	W.M	7/24/25

Author	RA	Designer	RA
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

Client
Innovative SHS
Project
1493 Sixth Line

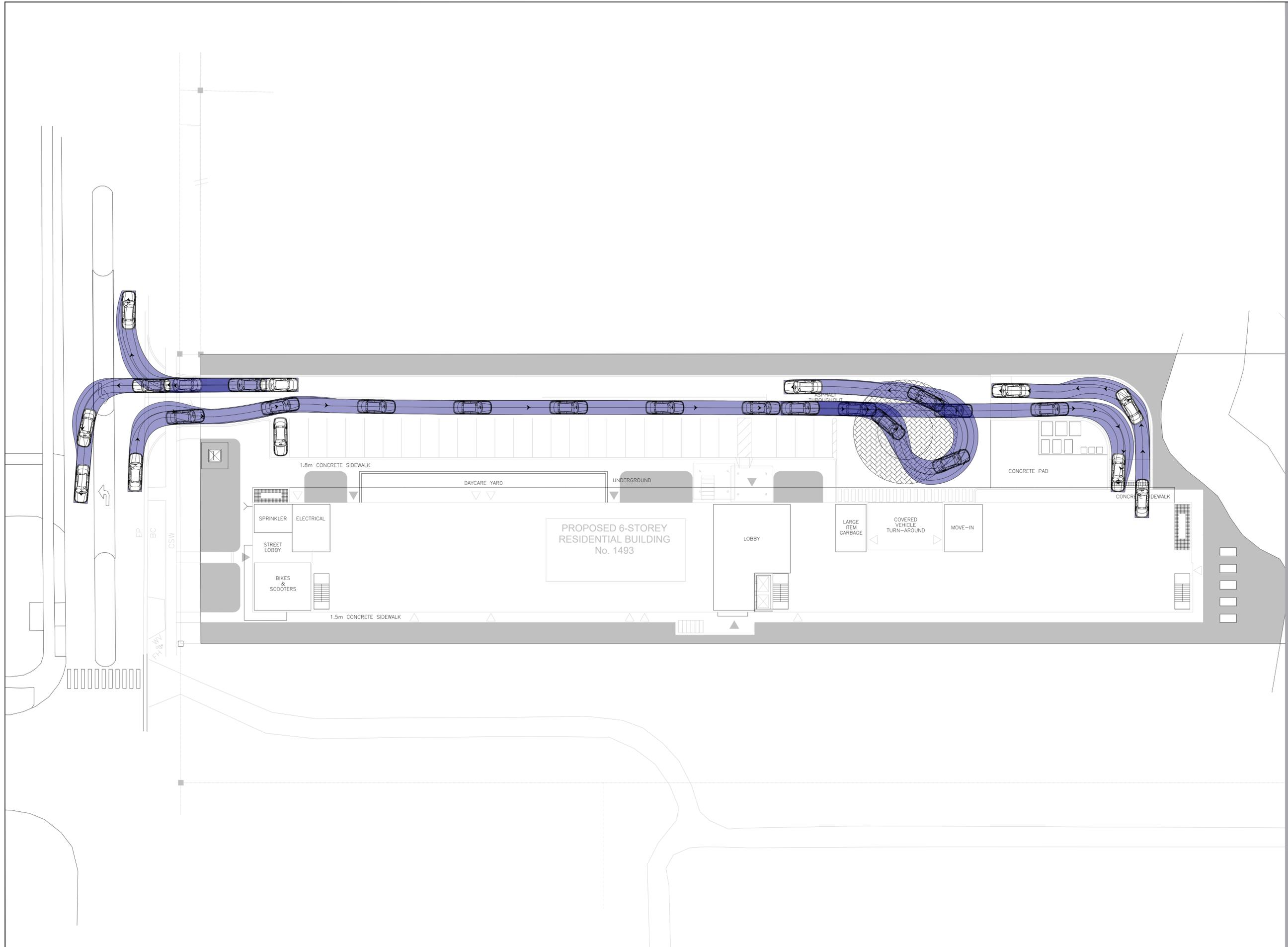
Date January 16, 2026 Scale NTS

Project No. -

Title
VEHICLE MANEUVERING DIAGRAM - PASSENGER VEHICLE (INBOUND)

Size
ANSI D

Sheet No.
AT-109

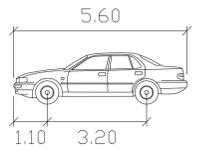




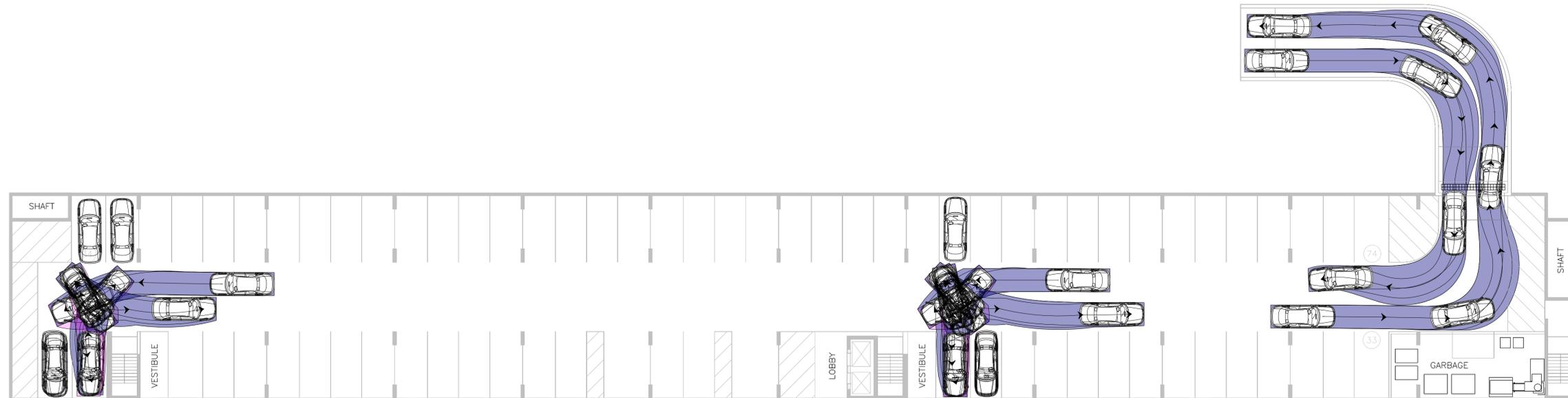
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P meters
Width : 2.00
Track : 2.00
Lock to Lock Time : 6.0
Steering Angle : 35.9



No.	Issue	Checked	Approved	Date
3	Third Submission	W.M	W.M	3/11/26
2	Second Submission	W.M	W.M	1/16/26
1	First Submission	W.M	W.M	7/24/25

Author	RA	Designer	RA
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

Client
Innovative SHS
Project
1493 Sixth Line

Date January 16, 2026 Scale NTS

Project No. -

Title
VEHICLE MANEUVERING DIAGRAM - PASSENGER VEHICLE (UNDERGROUND PART 1)

Size
ANSI D

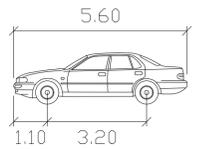
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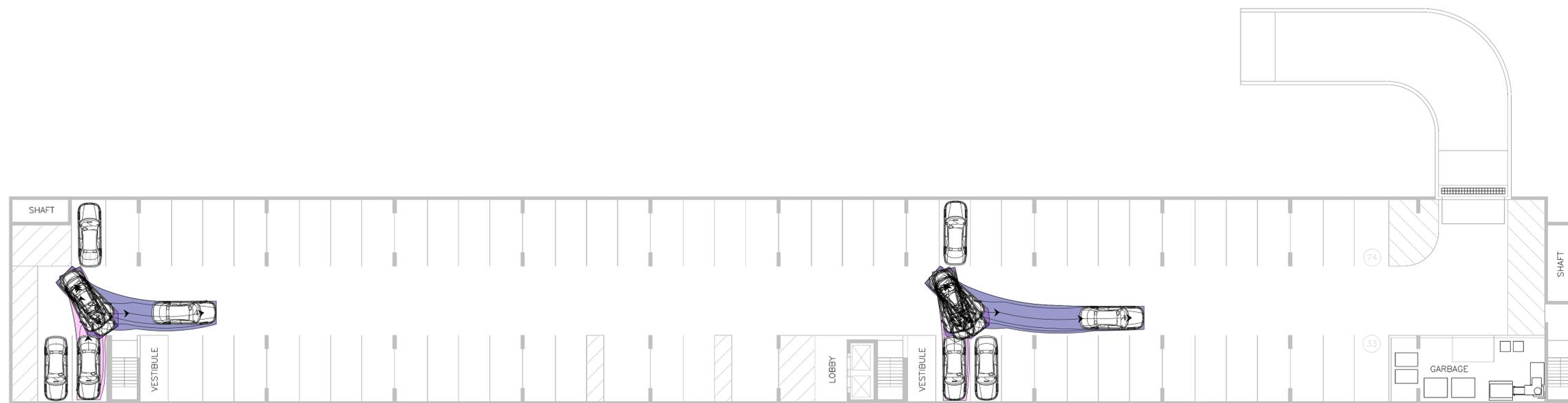
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P meters
Width : 2.00
Track : 2.00
Lock to Lock Time: 6.0
Steering Angle : 35.9



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2	Second Submission	W.M	W.M	1/16/26
1	First Submission	W.M	W.M	7/24/25
No.	Issue	Checked	Approved	Date

Author	RA	Designer	RA
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

Client
Innovative SHS
Project
1493 Sixth Line

Date January 16, 2026 Scale NTS

Project No. -

Title
VEHICLE MANEUVERING DIAGRAM - PASSENGER VEHICLE (UNDERGROUND PART 2)

Size
ANSI D

Sheet No.
AT-111

Appendix H

Sightline Assessment



**Proposed Sixth Line Site Access -
Intersection Sight Distance (ISD) Case B1
and Available Sight Distance (ASD)
Analysis**

Passenger Vehicle turning left from Stop
onto Sixth Line

- Posted Speed: 40 km/hr
- Design Speed: 50 km/hr
- Required ISD onto Sixth Line is 105 m (TAC Table 9.9.4)

The ASD meets and exceeds required ISD



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No.	Issue	Checked	Approved	Date
1	Second Submission	W.M	W.M	1/9/26
1	First Submission	W.M	W.M	8/28/25

Author	RA	Designer	RA
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

Client
Innovative SHS

Project
1493 Sixth Line

Date	August 28, 2025	Scale	NTS
------	-----------------	-------	-----

Project No.	12675638
-------------	----------

Title
**SIGHT DISTANCE
DIAGRAM - PASSENGER
VEHICLE**

Size
ANSI D

Sheet No.
SD-101

Appendix I

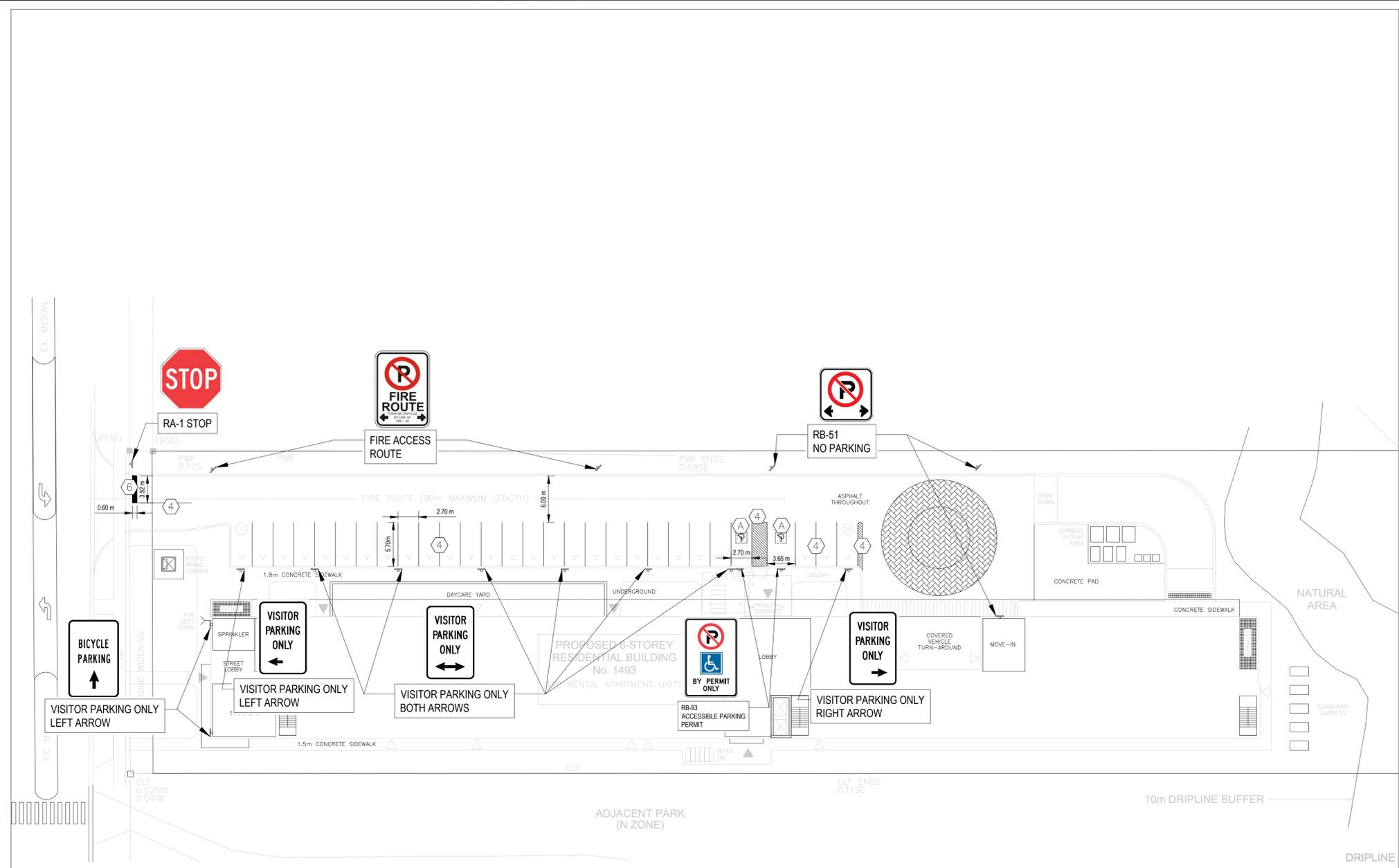
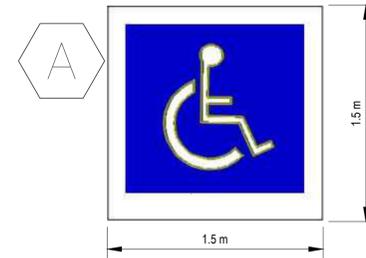
Pavement Marking and Signage Plan



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LEGEND
SIGN

PAVEMENT MARKING LEGEND			
IDENTIFICATION	TYPE	COLOUR	WIDTH (cm)
1	SOLID	WHITE	10
2	1-1-1 BROKEN	YELLOW	10
3	3-3-3 BROKEN	YELLOW	10
4	SOLID	YELLOW	10
5	3-6-3 BROKEN	YELLOW	10
6	SOLID	WHITE	60

PAVEMENT MARKING LEGEND TABLE NOTES
 1. 3-3-3, 3-6-3, 3-9-3, DENOTES PAVEMENT MARKING SPACING (I.E., 3m LINE, 3m GAP, 3m LINE)
 2. USE ☒ TO DENOTE PAVEMENT MARKING

TRAFFIC SIGN SCHEDULE			
SIGN NUMBER	SIGN NAME	QUANTITY	NOTE
Ra-1	STOP	1	
Rb-51	NO PARKING	3	
Rb-93	ACCESSIBLE PARKING PERMIT	2	
CUSTOM	FIRE ACCESS	2	
CUSTOM	VISITOR PARKING ONLY	1	Left Arrow
CUSTOM	VISITOR PARKING ONLY	1	Right Arrow
CUSTOM	VISITOR PARKING ONLY	6	Both Arrows
CUSTOM	BICYCLE PARKING	2	
TOTAL		18	

No.	Issue	Checked	Approved	Date
3	Third Submission	W.M	W.M	11/03/26
2	Second Submission	W.M	W.M	16/01/26
1	First Submission	W.M	W.M	28/08/25

Author RA Designer RA
 Drafting Check W.M Design Check W.M
 Project Manager W.M Project Director W.M

Client
Innovative SHS
 Project
1493 Sixth Line

Date August 28, 2025 Scale NTS

Project No. 12675638

Title
PAVEMENT MARKING AND SIGNAGE PLAN - GROUND FLOOR
 Status Code

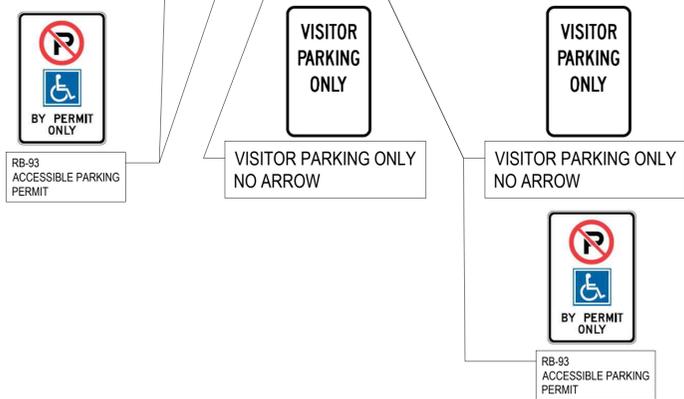
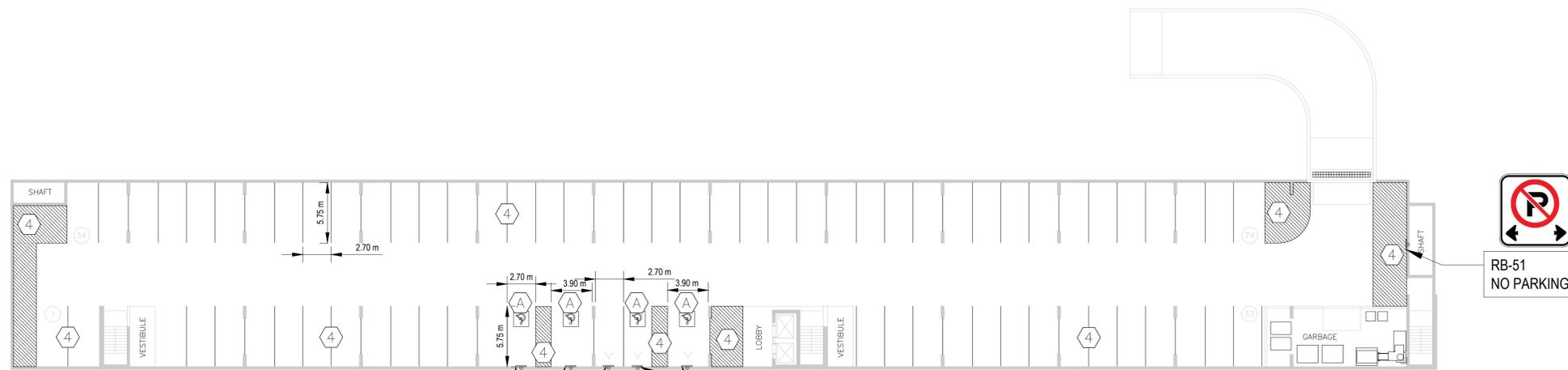
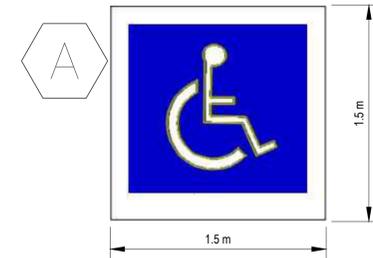
Sheet No. PMP-101
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LEGEND
SIGNS

PAVEMENT MARKING LEGEND			
IDENTIFICATION	TYPE	COLOUR	WIDTH (cm)
1	SOLID	WHITE	10
2	1-1-1 BROKEN	YELLOW	10
3	3-3-3 BROKEN	YELLOW	10
4	SOLID	YELLOW	10
5	3-6-3 BROKEN	YELLOW	10
6	SOLID	WHITE	60

- PAVEMENT MARKING LEGEND TABLE NOTES
- 3-3-3, 3-6-3, 3-9-3, DENOTES PAVEMENT MARKING SPACING (I.E., 3m LINE, 3m GAP, 3m LINE)
 - USE ☒ TO DENOTE PAVEMENT MARKING

TRAFFIC SIGN SCHEDULE			
SIGN NUMBER	SIGN NAME	QUANTITY	NOTE
Rb-51	NO PARKING	1	
Rb-93	ACCESSIBLE PARKING PERMIT	4	
CUSTOM	VISITOR PARKING ONLY	3	
TOTAL		8	

No.	Issue	Checked	Approved	Date
3	Third Submission	W.M	W.M	11/03/26
2	Second Submission	W.M	W.M	16/01/26
1	First Submission	W.M	W.M	28/08/25

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Drafting Check W.M Design Check W.M
Project Manager W.M Project Director W.M

Client
Innovative SHS
Project
1493 Sixth Line

Date August 28, 2025 Scale NTS

Project No. 12675638

Title
PAVEMENT MARKING AND SIGNAGE PLAN - UNDERGROUND PARKING
ANSI D
Status Code

Sheet No. PMP-102
of

Appendix J

Left-Turn Lane Warrant

AM PEAK HOUR

$V_L =$	23
$V_A =$	669
$V_O =$	522
LT % =	3.44%



PM PEAK HOUR

$V_L =$	37
$V_B =$	485
$V_O =$	584
LT % =	7.63%

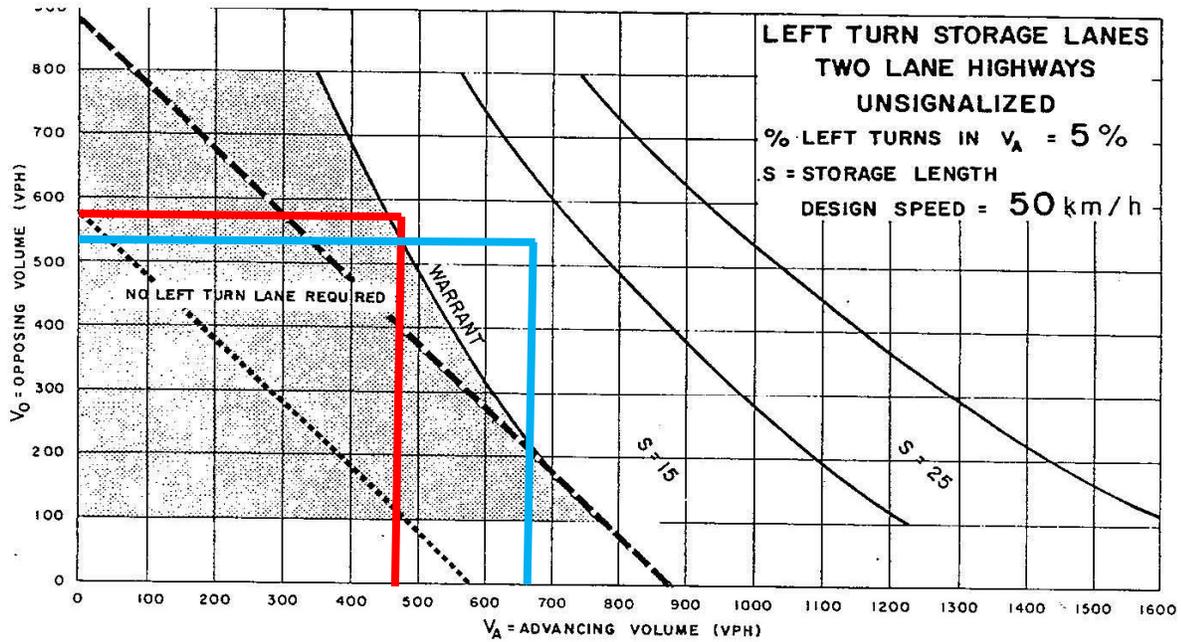


Left Lane Required? **Yes**

Left Lane Required? **Yes**

Storage Length Required **15 m**

Storage Length Required **15 m**



- TRAFFIC SIGNALS MAY BE WARRANTED IN RURAL AREAS OR URBAN AREAS WITH RESTRICTED FLOW
- TRAFFIC SIGNALS MAY BE WARRANTED IN "FREE FLOW" URBAN AREAS

