Creditmills Development Group

TRANSPORTATION IMPACT STUDY UPDATE

Proposed Residential Development
1295 Sixth Line, Town of Oakville

November 2024

23400

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November 29, 2024

Reference Number: 23400

Bernard Filice
Creditmills Development Group
421 Dorlan Road
Oakville, ON
L6J 6B3

Dear Bernard Filice,

RE: Transportation Impact Study
Proposed Residential Development
1295 Sixth Line, Town of Oakville

LEA Consulting Ltd. (LEA) is pleased to provide this Transportation Impact Study Update and Comment Response Letter in support of the proposed residential development located at 1295 Sixth Line in the Town of Oakville (herein referred to as the "subject site"). Previously, LEA submitted a Transportation Impact Study Brief dated February 2024. Comments were subsequently received from Town of Oakville Transportation Services – Transportation Planning and Region of Halton Planning & Public Works Department.

As such, the attached *TIS Update* has been prepared to address the comments and provide an update on the development. The comments received regarding transportation are provided below by the respective Town or Region division, followed by LEA's response. Comments are shown as provided.

1 RESPONSE TO COMMENTS

1.1 TRANSPORTATION SERVICES – TRANSPORTATION PLANNING

Site Plan

Comment 6.1: Please indicate the type of bike rack and its dimensions, for visitors and owner bike parking, including in between the racks and in association to adjacent objects, as per Ontario Traffic Manual, Book 18 (June 2021).

LEA Response: Acknowledged. This will be addressed through future iterations of the site plan at the Site Plan Control (SPA) stage.

Comment 6.2: Please consider bike ramps at both stair locations to the basement bike storage parking.

LEA Response: Acknowledged. This will be addressed through future iterations of the site plan at the Site Plan Control (SPA) stage.

Comment 6.3: Please redesign the egress of the bike storage spaces, at basement level 1 as it exits onto a vehicle lane.

LEA Response: Acknowledged. This will be addressed through future iterations of the site plan at the Site Plan Control (SPA) stage.

Comment 6.4: It is recommended in the OTM Book 18 Manual, that bike parking storage be enclosed completed, either in a room or a cage like area, in the interest of safety and security. Please indicate how all the basement level bike storage spaces will be enclosed.

LEA Response: It is anticipated that bike parking will be provided in a secure storage room in the basement level. This will be addressed through future iterations of the site plan at the Site Plan Control (SPA) stage.

Comment 6.5: Please indicate where the bike repair station is located, as indicated in the TIS.

LEA Response: Acknowledged. This will be addressed through future iterations of the site plan at the Site Plan Control (SPA) stage.

Transportation Demand Management Measures

Comment 6.6: Please include in the Transportation Demand Management Plan within the TIS that a "high density land use designation" will result in additional requirements, such as a residential TDM strategy, to be developed with the town of Oakville Sustainable Transportation Program Coordinator.

LEA Response: Noted. Please refer to Section 8 in the enclosed TIS Update for the notation.

Oakville Transit

Comment 6.9: TIS – Section 2.2 – The description for route 19 is incorrect. The information provided is for route 18. Please update to explain Route 19 service.

LEA Response: Noted. The transit route information has been updated, please refer to Section 2.2 in the enclosed TIS Update.

Comment 6.10: TIS – Section 2.2 – Please add a description for our care-A-van service: Oakville Transit provides door-to-door paratransit service called care-A-van for persons with disabilities. Service is provided by low-floor, fully accessible 26ft buses with a ramp.

LEA Response: Noted. The transit route information has been updated, please refer to Section 2.2 in the enclosed TIS Update.

Comment 6.11: For our care-A-van service – please note the ramp will be deployed on the right side of the vehicle; drivers will leave the vehicle and escort the customer to/from the first accessible public entrance and the vehicle must remain visible to drivers at all times. The vehicle may occupy a drive aisle during this process.

LEA Response: Noted.

Comment 6.13: Traffic Impact Assessment/Study

a) *Although this is a transportation impact memo, please provide the trip distribution and the capacity analysis for the development even though there may not be critical impacts.*

LEA Response: Noted. Intersection capacity analysis has been completed. Please refer to Section 4.3 in the enclosed TIS Update for the trip distribution and Section 6 for the intersection capacity analysis.

b) *Please include the following intersections in the analysis:*

i. *Sixth Line & McCraney St E/W*
ii. *Sixth Line & Sewell Drive*
iii. *Sixth Line & Site Access*

LEA Response: Please refer to Section 6 in the enclosed TIS Update for intersection capacity analysis.

c) *Please use a 1% growth rate for the following horizons: Existing, buildout and 5 years post build-out.*

LEA Response: A 1% growth rate has been adopted for the future scenarios. Please refer to Section 3.1 in the enclosed TIS Update.

d) *Section 3: Based on the findings from 2016 TTS data, 51% of trips are expected to be auto trips and 49% are non-auto trips, please clarify the use of this information in Table 3-1 which identifies non-auto trips at 37%.*

LEA Response: The modal split data has been revised and is provided in Table 4-1 in the enclosed TIS Update. Based on the 2016 TTS data for home-based work trips for traffic zones 4030 and 4031, 81% of trips are expected to be auto driver trips and 13% are non-auto trips. In the latest assessment, the average ITE person trip rates and non-auto mode reduction (13%) were applied.

e) *Please clarify why trip reduction volumes were applied when this area is considered being "car-dependent".*

LEA Response: The methodology considers the modal split characteristics of the subject site area. While the number of person trips for the subject site is estimated using ITE person trip rates, the non-auto mode trips (13%) are removed based on TTS data to derive the auto-mode trip generations. According to the TTS data for both home-based work and home-based school trips in the area, the non-auto modal split is 35%, potentially contributed by the students of the existing Sheridan Collee Trafalgar Road campus living in the neighbourhood. However, as it is uncertain the proportion of potential students living around the subject site, for a conservative estimate the non-mode split reduction of 13% was applied based on the home-based work trips from the TTS data (i.e. less non-auto mode trips are removed).

f) *Section 4.2: Please justify the shortfall in parking spaces and how one space is "considered acceptable" since the previous section identified this area within the subject site to be "car-dependent".*

LEA Response: According to Zoning By-law 2014-014 the development is required to provide a minimum of 81 parking spaces, consisting of 63 resident and 18 visitor spaces. The development will provide a total of 80 parking spaces. Although the site is deficient by one (1) residential space, the deficiency is minor. The deficiency will not strongly impact residents as the development is considering providing unbundled parking, meaning spaces can be purchased separately from the unit. It is anticipated that not all units will choose to purchase a space.

Comment 6.14: Pedestrian Circulation Plans – Staff has no comments at this time.

LEA Response: Noted.

Comment 6.15: Turning Movement Plans

a) *Drawing 004: Staff recommends the applicant include a curb radius for the ramp on the south side for vehicles existing the parking garage.*

LEA Response: Noted. The Functional Design Review has been updated and is provided in Appendix I in the enclosed TIS Update.

b) *Drawing 005: The aisle width of 6.0m is acceptable, however the vehicles are overlapping with maneuvering around the bends, please provide recommendation for an increased radius to avoid the overlapping.*

LEA Response: Noted. This will be refined further through the Site Plan Control application.

Comment 6.16: Parking Justification Study/Parking Plan – Staff have no comments at this time.

LEA Response: Noted.

Comment 6.17: Preliminary Construction/Temporary Traffic Control Management Plan – Please submit a Preliminary Construction Traffic Control Management Plan Memo detailing mitigative measures before construction, during construction and post construction phases as per Ontario Traffic Manual (OTM) Book 7.

LEA Response: Noted. This will be addressed through subsequent development applications.

1.2 REGION OF HALTON – PLANNING & PUBLIC WORKS DEPARTMENT

Waste Management

Comment 12.13: Indicate all turning radii along waste collection vehicle path. Turning radius must be minimum of 13 m and should be shown on plans.

LEA Response: The Functional Design Review has been updated and is provided in Appendix I in the enclosed TIS Update.

Comment 12.14: Head-on approach of waste collection vehicle to waste bins must be 18m straight. If entering an internal Waste Loading area, the waste collection vehicle should be entering it straight and not on a turn.

LEA Response: The Functional Design Review has been updated and is provided in Appendix I in the enclosed TIS Update.

Should you have any questions regarding the enclosed TIS Update or this letter, please do not hesitate to contact the undersigned.

Yours truly,

LEA CONSULTING LTD.

Jocelyn Wallen, P. Eng.
Assistant Manager, Transportation Engineering & Planning

Trevor Vanderwoerd, M.A.Sc.
Project Coordinator

Encl. Transportation Impact Study Update (November 2024)

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1 INTRODUCTION

LEA Consulting Ltd. (LEA) was retained by Creditmills Development Group to conduct a Transportation Impact Study Update for the proposed residential development located at 1295 Sixth Line (herein referred to as the "subject site") in the Town of Oakville. The subject site is located at the southeast corner of Sixth Line and Culham Street. Figure 1-1 illustrates the location of the subject site.

By way of background, LEA previously prepared a Transportation Impact Study Brief dated February 2024 that accompanied the first submission of the application. Since then, comments were received from the Town of Oakville and Region of Halton which indicated that a full Transportation Impact Study with capacity analysis would be required. As such, this update reviews the latest site plan and responds to the transportation-related comments received regarding the previous submission.

Figure 1-1: Subject Site Location

Source: Google Earth, accessed January 2024

The purpose of this study is to assess the proposed development from a transportation perspective, and to determine the traffic impacts to the adjacent road network over a 5-year horizon to the year 2029 and a second horizon 10 years later to the year 2034 to identify any mitigation measures. Furthermore, this study reviews the parking and loading supply for the development as well as provides a Transportation Demand Management Plan. The study scope is consistent with the *Town of Oakville's Development Application Guidelines, Transportation Impact Analysis*.

1.1 PROPOSED DEVELOPMENT

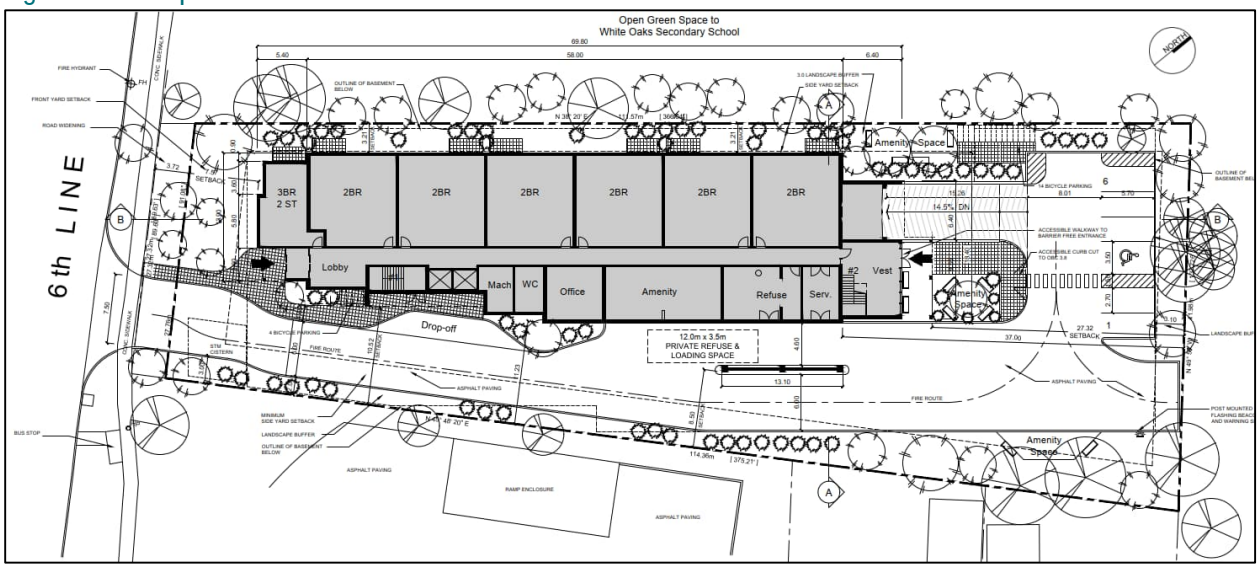
The proposed development consists of a six (6) storey residential building with 70 units. Access to the proposed development is via Sixth Line. In total, 80 parking spaces are proposed. A summary of the site statistics is provided in Table 1-1. Of note, the site statistics have not changed since the February 2024 submission.

Table 1-1: Site Statistics

Unit Type	Unit Count
One-Bedroom	42 units
Two-Bedroom	24 units
Three-Bedroom	4 units
Total	**70 units**

Figure 1-2 illustrates the proposed site plan.

Figure 1-2: Proposed Site Plan



Source: Rick Brown & Associates Inc., November 2024

2 EXISTING TRANSPORTATION CONDITIONS

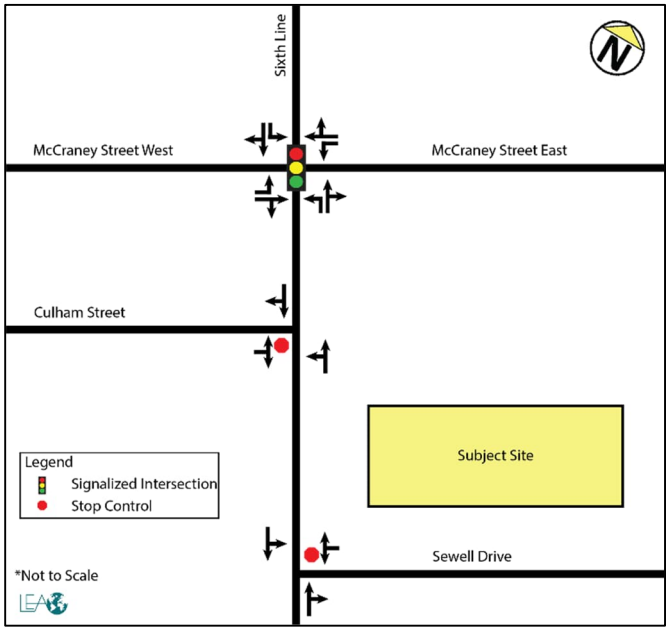
This section will identify and assess the existing transportation conditions present in the study area, including the road, transit, cycling, and pedestrian network. The study area was determined by assessing the size of the proposed development and its anticipated transportation impact. The terms of reference and correspondence with the City is included in Appendix A. The study area includes the following intersections:

- Sixth Line & McCraney Street East/McCraney Street West (Signalized);
- Sixth Line & Sewell Drive (Unsignalized); and
- Sixth Line & Culham Street (Unsignalized).

2.1 EXISTING ROAD NETWORK

The road network and lane configurations in the immediate surrounding area, as described in this section, are illustrated in Figure 2-1. All roadways are under the jurisdiction of the Town of Oakville.

Figure 2-1: Existing Road Network



Sixth Line is a north-south minor arterial road that runs from North Service Road East in the south to past the northern limit of the Town of Oakville. Within the study area, the road operates with a two-lane cross-section (one lane per direction). The posted speed limit along Sixth Line is 50 km/h. Cycling lanes are provided on both sides of the road. No on-street parking is permitted.

McCraney Street is a collector roadway that generally runs in an east-west direction from Oxford Avenue in the west to Trafalgar Road in the east. The roadway operates with a two-lane cross-section (one lane per direction). The roadway operates with a posted speed limit of 40 km/h within the study area. On-street parking is permitted for up to three (3) hours maximum on the south side of McCraney Street West. No parking is permitted between 2:00 am to 6:00 am between November 15th to April 15th. Cycling lanes are provided along both sides of McCraney Street East.

Culham Street is an east-west local road that runs from Sixth Line in the east to Oxford Avenue in the west. The road operates with a two-lane cross-section (one lane per direction). The posted speed limit along Culham Street is 50 km/h. On-street parking is permitted along the north side of Culham Street for up to three (3) hours maximum. No parking is permitted between 2:00 am to 6:00 am between November 15th to April 15th.

Sewell Drive is an east-west local road that runs from Sixth Line in the west to McCraney Street in the east. The roadway operates with a two-lane cross-section (one lane per direction). The roadway operates with a posted speed limit of 50 km/h with on-street parking permitted for up to three (3) hours maximum on both sides of the street. No parking is permitted between 2:00 am to 6:00 am between November 15th to April 15th.

2.2 EXISTING TRANSIT NETWORK

The subject site is located in an area serviced by Oakville Transit. Two types of routes are operated, regular scheduled routes and school specials. The existing transit network within the vicinity of the study area is illustrated in Figure 2-2 and Figure 2-3. The subject site receives a Transit Score of 47/100, which is classified as "Some Transit" available nearby, when entered into the WalkScore[1] application, indicating transit is convenient for some trips to and from the subject site.

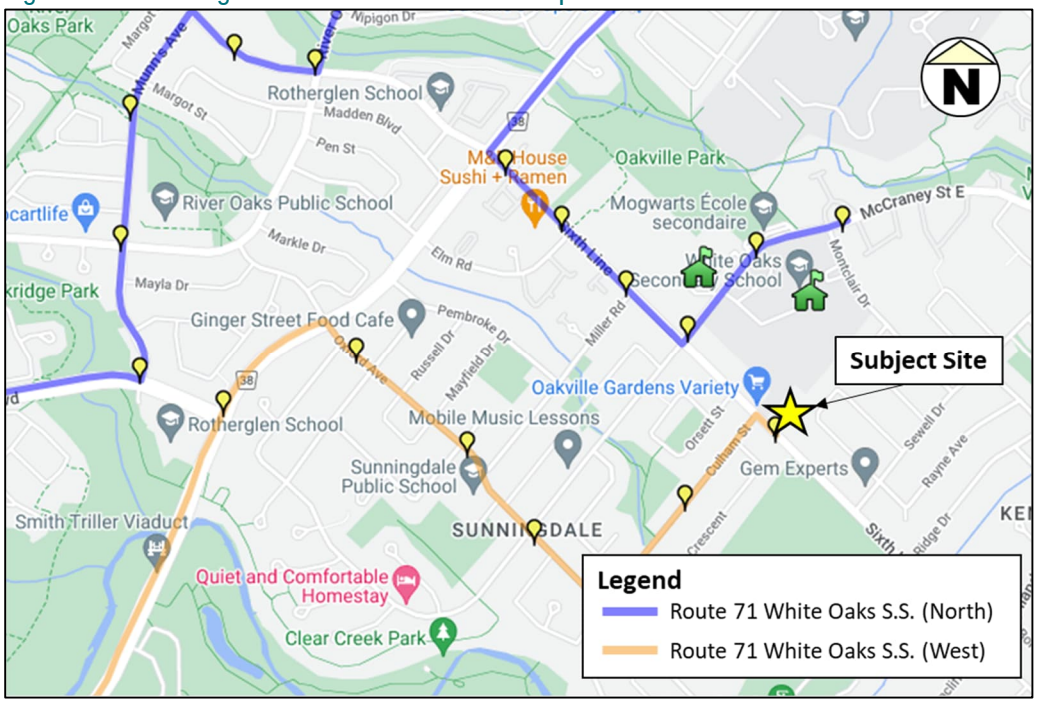
In addition to the transit services below, Oakville Transit provides door-to-door paratransit service called "care-A-van" for persons with disabilities. Service is provided by low-floor, fully accessible 26ft buses with a ramp. The care-A-van service will be provided to future residents of the development.

Figure 2-2: Existing Transit Network – Regular Schedules

Source: Oakville Transit, September 2021

[1] https://www.walkscore.com/score/1295-sixth-line-oakville-on-canada

Figure 2-3: Existing Transit Network - School Specials



Source: Oakville Transit, October 2023

Oakville Transit Route 13 Westoak Trails is a bus route generally operating in the east-west direction. Route 13 operates between Oakville GO and Bronte GO. The route operates seven days a week. During weekdays, the route operates between 6:10 am to 11:15 pm with 30-minute frequencies. The bus stops along the route are accessible.

> *Access Location:* Oakville Transit Route 13 is accessible in the study area along Sixth Line immediately to the south of the subject site, as well as along Culham Street just west of the intersection of Culham Street and Sixth Line.

Oakville Transit Route 19 River Oaks is a bus route that operates generally in a north-south direction. Route 19 operates between Uptown Core and Oakville GO. The route operates seven days a week between 6:10 am to 10:40 pm with 30-minute headways. The bus stops along the route are accessible.

> *Access Location:* Oakville Transit Route 19 is accessible in the study area at the northeast corner of the intersection of Sixth Line and McCraney Street West, approximately 300 m north of the subject site.

Oakville Transit Route 71 White Oaks School Special is a bus route generally operating in the east-west direction. Route 71 operates between Sixth Line and Culham to Westoak Trails and Bronte during weekdays. The route operates based on current known start and finish times of the schools, with afternoon service departing from Sixth Line and Culham at 2:50 pm.

> *Access Location:* Oakville Transit Route 71 is accessible in the study area at the southeast corner of the intersection of Sixth Line and Culham Street, just north of the subject site.

2.3 EXISTING CYCLING NETWORK

Cycling facilities located nearby the subject site consist of bicycle lanes along Sixth Line and McCraney Street East, and a signed bike route along McCraney Street West. These bicycle lanes provide north-south and east-west connectivity to and from the subject site.

The subject site receives a Bike Score of 60/100, or "bikeable" when entered into the WalkScore[2] application, indicating biking is convenient for some trips. The existing cycling network surrounding the subject site is illustrated in Figure 2-4.

Figure 2-4: Existing Cycling Network

Source: Town of Oakville, accessed January 2024

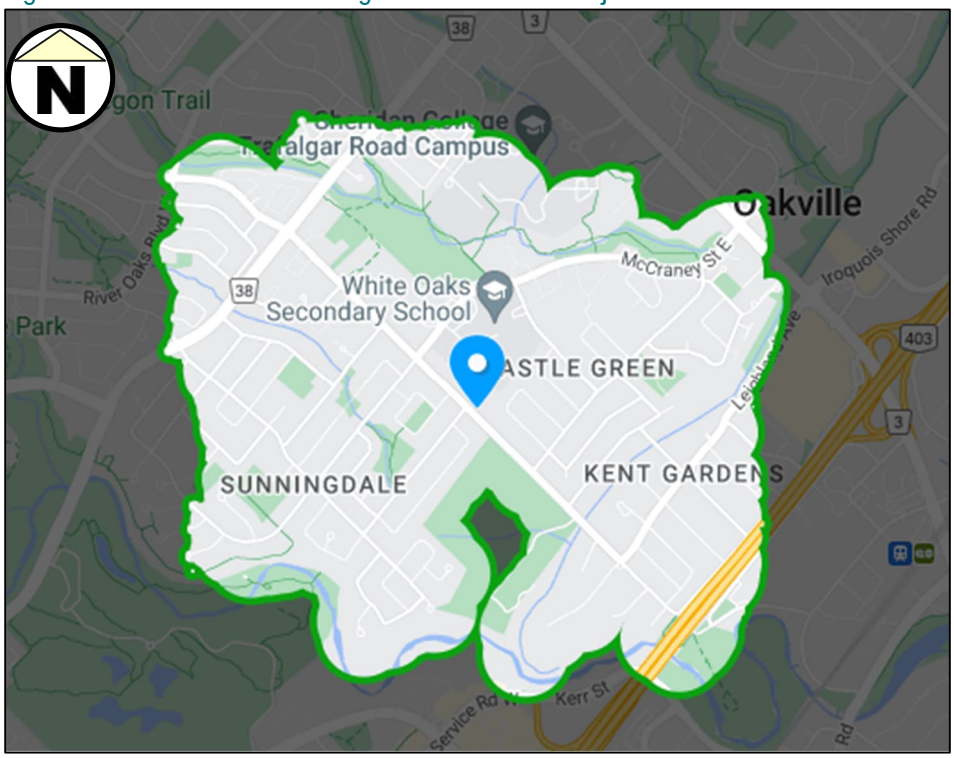
2.4 EXISTING PEDESTRIAN NETWORK

The area in which the subject site is located is walkable, with continuous sidewalks available on both sides of each street in the study area.

As shown in Figure 2-5, a 20-minute walk from the subject site could permit an individual to reach several public schools, the Sheridan College Trafalgar Road Campus, the plaza located on the northwest corner of Sixth Line and Elm Road containing several restaurants and retail stores, the Oakville Golf Club, and Oakville Place, a shopping centre with several retail stores and restaurants.

[2] https://www.walkscore.com/score/1295-sixth-line-oakville-on-canada

Figure 2-5: 20-Minute Walking Distance from Subject Site



Source: walkscore.com, 2024

2.5 TRAFFIC DATA COLLECTION

Turning movement counts (TMCs) were used as the source of traffic data in the intersection capacity analysis. Traffic counts were collected by LEA on Tuesday September 24, 2024, between 7:30 AM – 9:30 AM and 4:00 PM – 6:00 PM to capture the weekday AM and PM peak periods.

Signal timing plans at the signalized intersection were obtained from the Town of Oakville. A summary of the TMC data collected is outlined in Table 2-1 with detailed traffic counts and signal timing plans available in Appendix B.

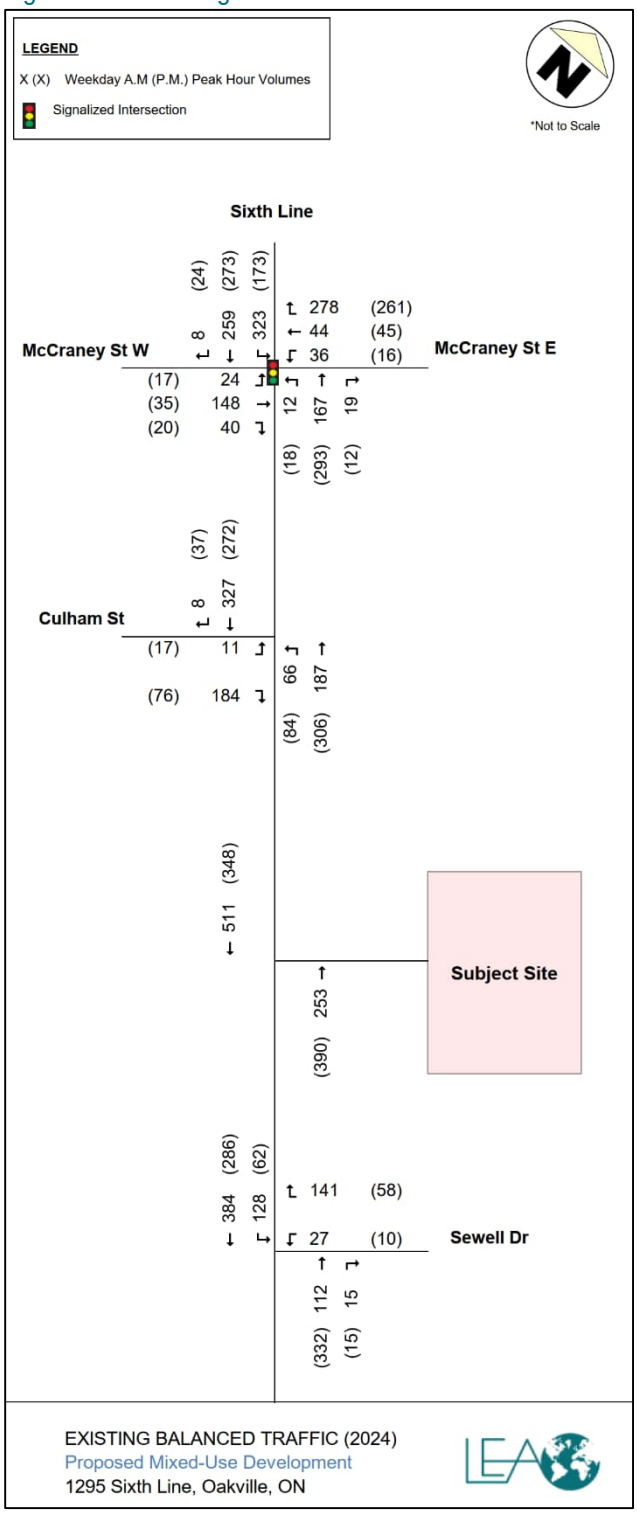
Table 2-1: Data Collection Summary

Intersection	TMC Date	Source
Sixth Line & McCraney Street East/McCraney Street West	Tuesday September 24, 2024	LEA Consulting
Sixth Line & Sewell Drive		
Sixth Line & Culham Street		

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



3 FUTURE BACKGROUND TRANSPORTATION CONDITIONS

For the analysis of future background traffic conditions, this study considers a 5-year horizon from the existing year 2024 to future year 2029 and a second horizon 10 years later to the year 2034. Future background conditions include traffic added to the network from other future developments, corridor growth and considers overall improvements to the transportation network. The future background conditions will be used as the baseline for evaluating the impact of the proposed development.

3.1 CORRIDOR GROWTH

As requested in the comments provided by the Town office, a growth rate of 1% was adopted for Sixth Line in both future scenarios.

3.2 BACKGROUND DEVELOPMENTS

One (1) background development was included in the future background analysis as per the Town of Oakville's website, as summarized in Table 3-1. Excerpts from the study providing details of the background development trips are provided in Appendix C.

Table 3-1: Background Developments

Location	Proposed Development	Source
1105 McCraney Street East	9-storey Retirement Residence with a total of 219 units.	TIS Report (October 2019) by GHD (Figure 6)

3.3 FUTURE BACKGROUND TRAFFIC VOLUMES

The future background traffic volumes for the weekday AM and PM peak hours under the 2029 horizon and 2034 horizon years are illustrated in Figure 3-1 and Figure 3-2, respectively.

Figure 3-1: 2029 Future Background Peak Hour Traffic Volumes

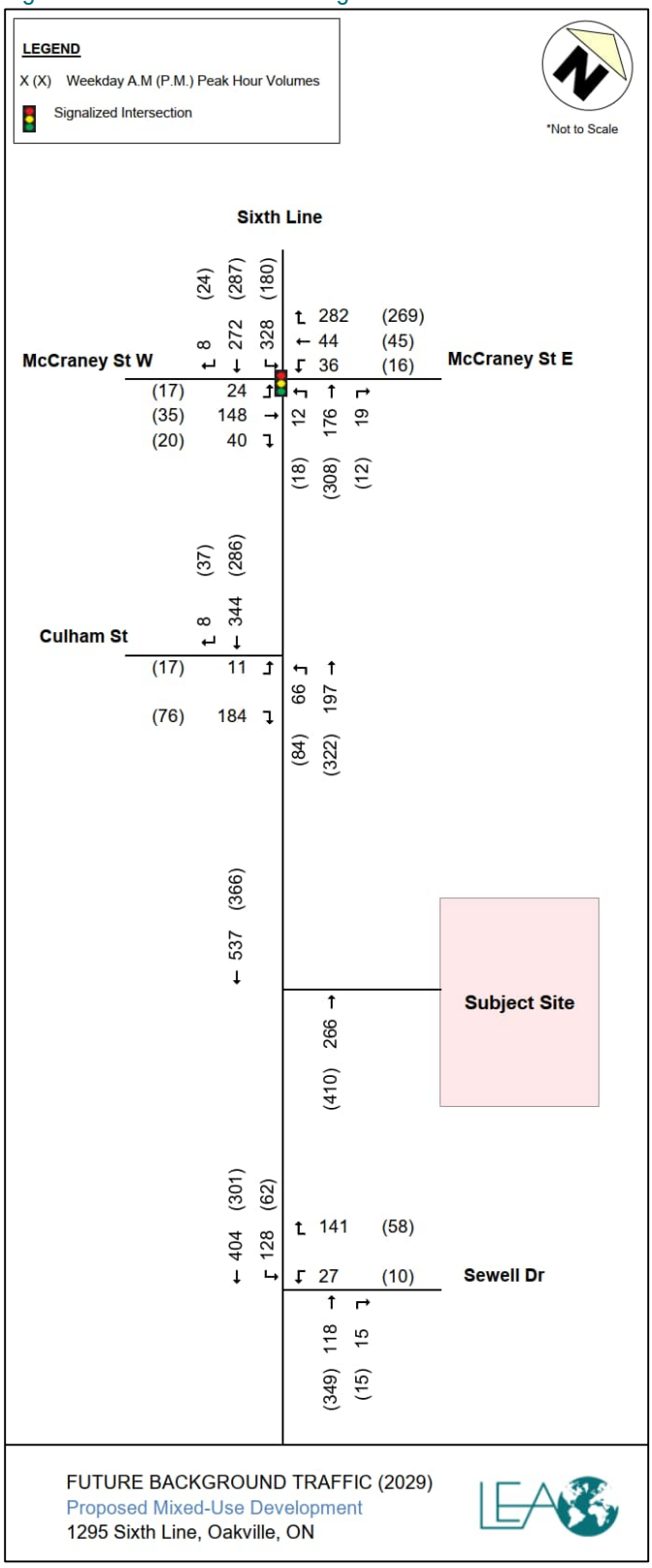
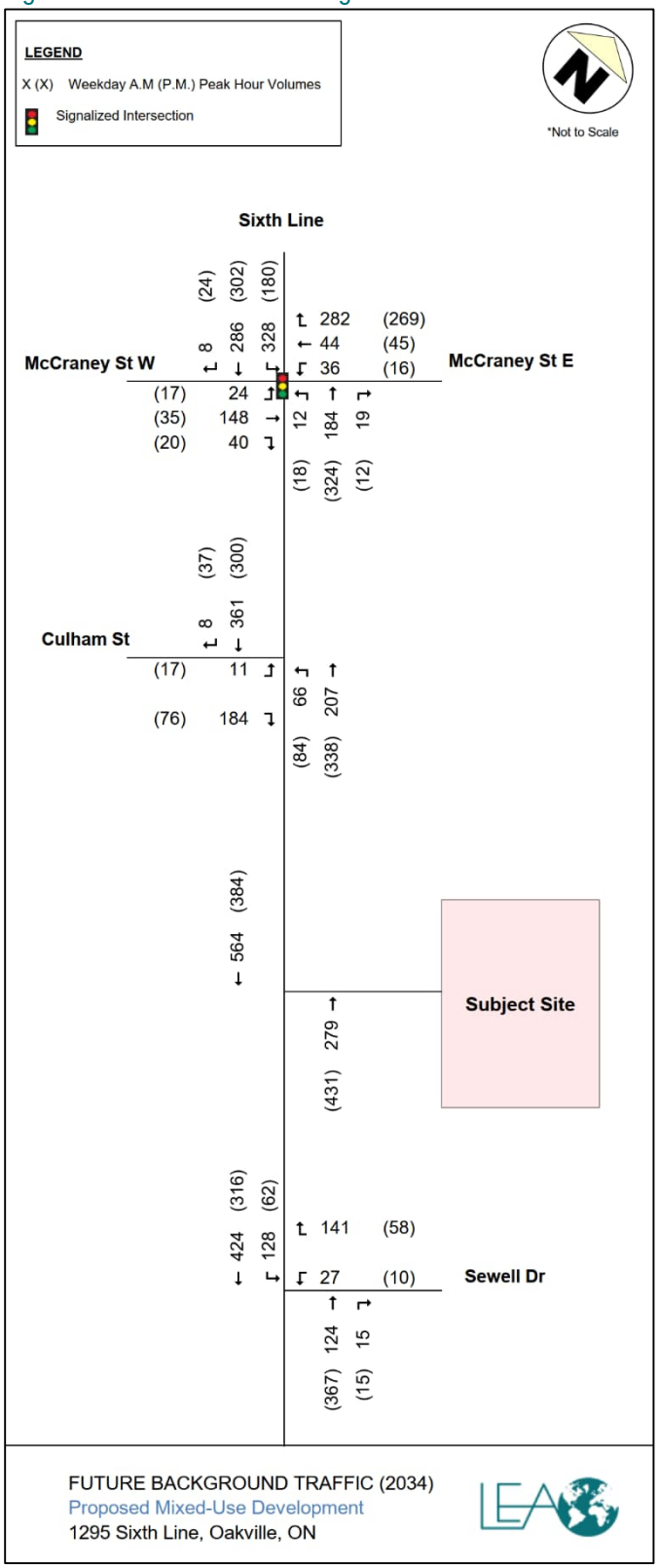


Figure 3-2: 2034 Future Background Peak Hour Traffic Volumes



4 SITE GENERATED TRAFFIC

The proposed development consists of a six (6) storey residential building with 70 units. Access to the development is proposed via an unsignalized all-moves driveway along Sixth Line. The sections below discuss the calculation, distribution, and assignment of site-generated vehicle trips.

4.1 MODE SPLIT

The existing mode split was determined using 2016 Transportation Tomorrow Survey (TTS) data for home-based work trips in traffic analysis zones (TAZs) 4030 and 4031. The modal split for "GO Transit Only" has been included in the total of auto-driver mode as it has been assumed these are park-and-ride trips. The modal split is summarized in Table 4-1. Detailed TTS data is provided in Appendix D.

Table 4-1: Mode Splits

Mode	Split
Auto including GO Transit Only	81%
Auto Passenger	6%
Transit excluding GO Transit Only	10%
Walk	2%
Cycle	1%
Total	**100%**

4.2 TRIP GENERATION

The vehicular trip generation for the proposed development was determined using the trip generation rates for Multifamily Housing (Mid-Rise) (ITE LUC 221): general urban/suburban, weekday AM/PM peak hours, person trip rates, from the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition*. Table 4-2 summarizes the trip generation rate for the subject site.

Table 4-2: Auto Trip Generation of the Subject Site

Land Use	Description	In	Out	Total	In	Out	Total
Residential 70 Units	ITE Distribution (Person)	23%	77%	100%	59%	41%	100%
	Fitted Curve Formula – Person Trips	T = 0.58 (X) – 16.32			T = 0.49 (X) + 5.76		
	ITE Person Trips	6	18	24	24	16	40
	Non-Auto Mode Split Reduction (13%)	-1	-2	-3	-3	-2	-5
	Proposed Residential - External Auto Trips	**5**	**16**	**21**	**21**	**14**	**35**

The proposed development is anticipated to generate 21 two-way auto trips during the AM peak hour (5 inbound and 16 outbound) and 35 two-way auto trips during the PM peak hour (21 inbound and 14 outbound).

4.3 TRIP DISTRIBUTION AND ASSIGNMENT

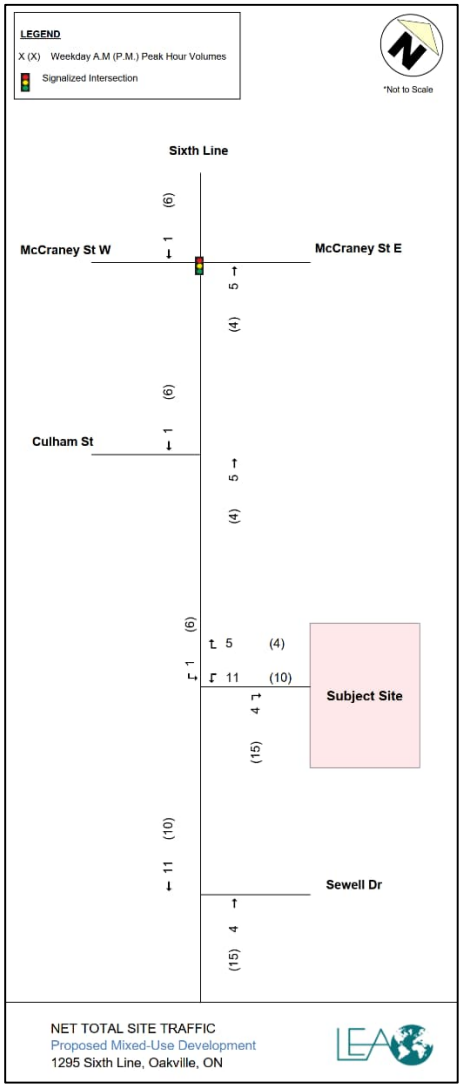
The trip distribution of site traffic was estimated using Transportation Tomorrow Survey (TTS) 2016 data. Trips were filtered for the inbound trips based on the PM peak hour and outbound based on the AM peak hour for traffic zones 4030 and 4031. Site traffic was assigned to the road network based on 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.

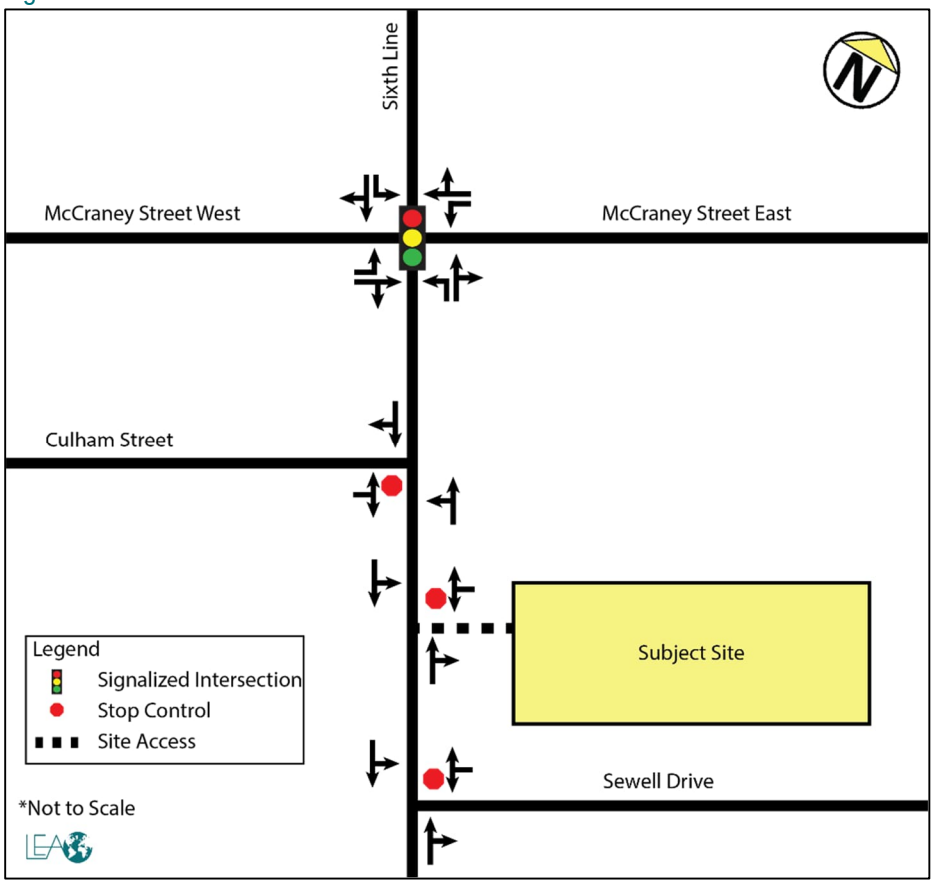
Figure 4-1: Site Generated Peak Hour Traffic Volumes



5 FUTURE TOTAL TRANSPORTATION CONDITIONS

Future total traffic conditions include the addition of site trips to the 2029 and 2034 future background volumes. Figure 5-1 illustrates the future road network with the development's site access.

Figure 5-1: Future Road Network



5.1 FUTURE TOTAL TRAFFIC VOLUMES

The future total traffic volumes for the weekday AM and PM peak hours during the 2029 and 2034 horizon years are illustrated in Figure 5-2 and Figure 5-3, respectively.

Figure 5-2: 2029 Future Total Peak Hour Traffic Volumes

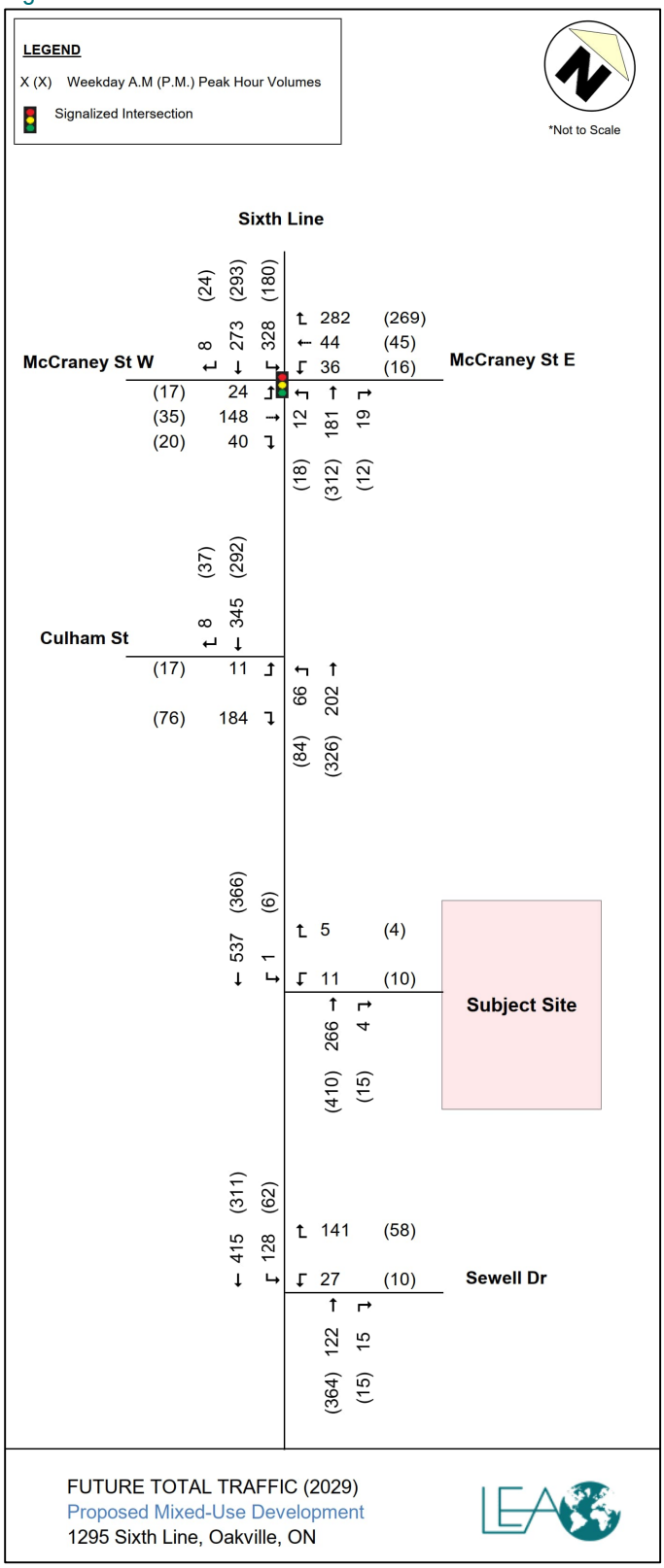
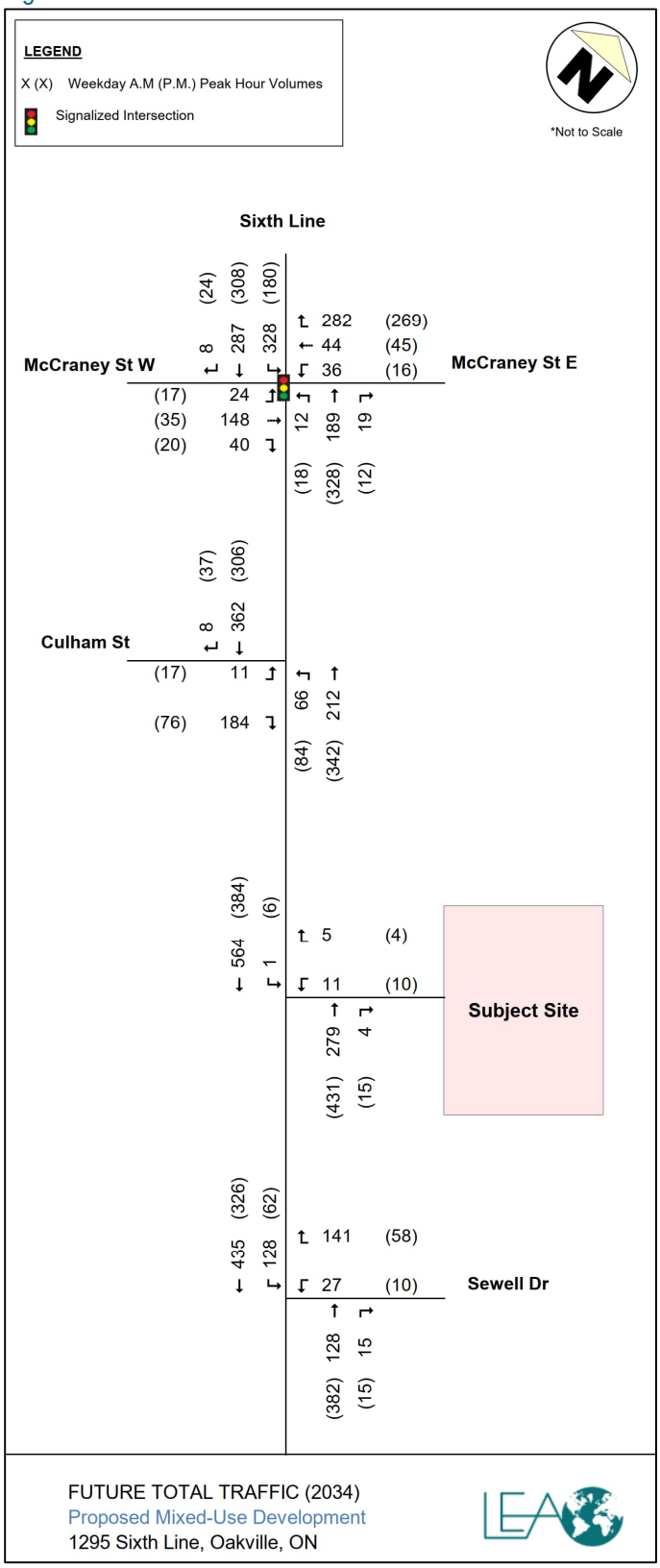


Figure 5-3: 2034 Future Total Peak Hour Traffic Volumes



6 INTERSECTION CAPACITY ANALYSIS

The intersection capacity analysis was undertaken using Synchro 11.0, which is based on the Highway Capacity Manual (2000) methodology and adheres to the Region of Halton Transportation Impact Study Guidelines (January 2015). As per the guidelines, the analysis should include the mitigation of impacts to signalized intersections where the volume-to-capacity (V/C) ratios for overall intersection operations, through movements, or shared through/turning movements are greater than 0.85 and a V/C greater than 0.95 for exclusive movements, and queues for individual movements are projected to exceed available turning storage. For unsignalized intersections, mitigation is required where the level of service (LOS) is "D" or greater for individual movements or the estimated 95th percentile queue length for an individual movement exceeds the available queue storage.

The sections below outline a comparison of the capacity analysis results under future background and future total conditions only. Detailed capacity analysis results are provided in the following appendices:

- Appendix F: Existing Intersection Capacity Analysis;
- Appendix G: 2029 & 2034 Future Background Intersection Capacity Analysis;
- Appendix H: 2029 & 2034 Future Total Intersection Capacity Analysis.

6.1 SYNCHRO MODEL INPUTS AND ASSUMPTIONS

6.1.1 Synchro Callibrations/Parameters

6.1.1.1 Existing Conditions Synchro Model Inputs

Existing traffic operations were assessed to provide a baseline for future traffic operations. The existing analysis incorporates the most recent signal timing plans for the study intersections. The peak hour factor (PHF) values were calculated based on surveyed counts.

6.1.1.2 Future Background and Future Total Synchro Model Inputs

At the subject site access, the PHF value used at the intersection of Sixth Line and Culham Street was utilized. All other input parameters from the existing conditions were maintained with the corresponding future background and future total volumes.

6.2 2029 SIGNALIZED INTERSECTIONS

The results for the studied signalized intersections under each traffic scenario for the 2029 horizon year during the weekday AM and PM peak hours are summarized in the sections below.

6.2.1 Sixth Line and McCraney Street West/McCraney Street East

The intersection capacity analysis results at Sixth Line and McCraney Street West/McCraney Street East during the AM and PM peak hours are summarized in Table 6-1.

Table 6-1: 2029 Intersection Capacity Analysis - Sixth Line & McCraney Street West/East

AM	Existing				2029 Future Background				2029 Future Total Traffic Condition			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
Overall	-	0.65	C (22)	-/-	-	0.67	C (22)	-/-	-	0.67	C (22)	-/-
EBL	24	0.40	C (34)	5/12	24	0.40	C (34)	5/12	24	0.40	C (34)	5/12
EBTR	188	0.58	C (33)	37/51	188	0.57	C (33)	37/51	188	0.57	C (33)	37/51
WBL	36	0.32	C (31)	7/15	36	0.32	C (31)	7/15	36	0.32	C (31)	7/15
WBTR	322	0.54	C (33)	13/29	326	0.54	C (33)	13/29	326	0.54	C (33)	13/29
NBL	12	0.04	B (17)	2/5	12	0.04	B (18)	2/5	12	0.04	B (18)	2/5
NBTR	186	0.34	C (21)	30/44	195	0.36	C (21)	31/46	200	0.36	C (21)	32/48
SBL	323	0.67	B (13)	35/51	328	0.69	B (14)	36/52	328	0.70	B (14)	36/52
SBTR	267	0.31	A (10)	28/41	280	0.32	A (10)	29/43	281	0.33	B (10)	30/43
PM	Existing				2029 Future Background				2029 Future Total Traffic Condition			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
Overall	-	0.41	B (19)	-/-	-	0.43	B (19)	-/-	-	0.44	B (19)	-/-
EBL	17	0.14	C (28)	3/8	17	0.15	C (28)	3/8	17	0.15	C (28)	3/8
EBTR	55	0.13	C (27)	5/14	55	0.13	C (27)	5/14	55	0.13	C (27)	5/14
WBL	16	0.07	C (23)	2/7	16	0.07	C (23)	2/7	16	0.07	C (23)	2/7
WBTR	306	0.33	C (25)	7/27	314	0.34	C (25)	7/27	314	0.34	C (25)	7/27
NBL	18	0.05	B (16)	2/7	18	0.06	B (17)	2/7	18	0.06	B (17)	2/7
NBTR	305	0.50	C (22)	41/67	320	0.52	C (23)	44/72	324	0.53	C (23)	45/73
SBL	173	0.40	B (11)	14/24	180	0.43	B (11)	15/25	180	0.43	B (11)	15/25
SBTR	297	0.34	B (11)	27/42	311	0.35	B (11)	29/44	317	0.36	B (12)	30/45

Existing Conditions: Under existing conditions, the intersection of Sixth Line & McCraney Street West/ McCraney Street East operates well during both weekday peak hours. All movements operate with residual capacity and acceptable delays. All existing 95th percentile queues can be accommodated by their available storage lanes. No critical movements have been identified.

Future Background Conditions: Under 2029 future background conditions, the intersection is expected to generally operate similar to existing conditions with acceptable increases in V/C ratios and delay. No major constraints are noted.

Future Total Conditions: Under 2029 future total conditions, the addition of site traffic is expected to have an acceptable impact on intersection operations, with all movements operating similar to future background conditions. No intersection modifications are recommended.

6.3 2029 UNSIGNALIZED INTERSECTIONS

The results for the studied unsignalized intersections under each traffic scenario for the 2029 horizon year during the weekday AM and PM peak hours are summarized in the sections below.

6.3.1 Sixth Line and Culham Street

The intersection capacity analysis results at Sixth Line and Culham Street during the AM and PM peak hours are summarized in Table 6-2.

Table 6-2: 2029 Intersection Capacity Analysis - Sixth Line & Culham Street

AM	Existing				2029 Future Background				2029 Future Total Traffic Condition			
Mvmt	Vol	V/C	LOS (Delay)	95th Queues (veh)	Vol	V/C	LOS (Delay)	95th Queues (veh)	Vol	V/C	LOS (Delay)	95th Queues (veh)
Overall	-	-	B (13)	-	-	-	B (13)	-	-	-	B (14)	-
NBLT	253	0.44	B (12)	2	263	0.46	B (13)	2	268	0.47	B (13)	3
EBLR	195	0.34	B (11)	2	195	0.35	B (11)	2	195	0.35	B (11)	2
SBTR	335	0.56	B (14)	4	352	0.59	C (15)	4	353	0.59	C (15)	4
PM	Existing				2029 Future Background				2029 Future Total Traffic Condition			
Mvmt	Vol	V/C	LOS (Delay)	95th Queues (veh)	Vol	V/C	LOS (Delay)	95th Queues (veh)	Vol	V/C	LOS (Delay)	95th Queues (veh)
Overall	-	-	B (12)	-	-	-	B (13)	-	-	-	B (13)	-
NBLT	390	0.58	B (14)	4	406	0.61	B (15)	4	410	0.61	B (15)	4
EBLR	93	0.16	A (9)	1	93	0.16	A (9)	1	93	0.16	A (9)	1
SBTR	309	0.46	B (12)	2	323	0.48	B (12)	3	329	0.49	B (12)	3

Existing Conditions: Under existing conditions, the intersection of Sixth Line and Culham Street operates well during both weekday peak hours. All movements operate with residual capacity and acceptable delays. All existing 95th percentile queues can be accommodated by their available storage lanes. No critical movements have been identified.

Future Background Conditions: Under future background 2029 conditions, the intersection is expected to generally operate similar to existing conditions with acceptable increases in V/C ratios and delay. No major constraints are noted.

Future Total Conditions: Under future total 2029 conditions, the addition of site traffic is expected to have an acceptable impact on intersection operations, with all movements operating similar to future background conditions. No intersection modifications are recommended.

6.3.2 Sixth Line and Sewell Drive

The intersection capacity analysis results at Sixth Line and Sewell Drive during the AM and PM peak hours are summarized in Table 6-3.

Table 6-3: 2029 Intersection Capacity Analysis - Sixth Line & Sewell Drive

AM	Existing				2029 Future Background				2029 Future Total Traffic Condition			
Mvmt	Vol	V/C	LOS (Delay)	95th Queues (veh)	Vol	V/C	LOS (Delay)	95th Queues (veh)	Vol	V/C	LOS (Delay)	95th Queues (veh)
Overall	-	-	- (4)	-	-	-	- (4)	-	-	-	- (4)	-
WBLR	168	0.29	B (13)	1	168	0.30	B (13)	1	168	0.30	B (13)	1
SBL	128	0.10	A (8)	0	128	0.10	A (8)	0	128	0.10	A (8)	0
PM	Existing				2029 Future Background				2029 Future Total Traffic Condition			
Mvmt	Vol	V/C	LOS (Delay)	95th Queues (veh)	Vol	V/C	LOS (Delay)	95th Queues (veh)	Vol	V/C	LOS (Delay)	95th Queues (veh)
Overall	-	-	- (2)	-	-	-	- (2)	-	-	-	- (2)	-
WBLR	68	0.13	B (12)	0	68	0.13	B (13)	1	68	0.14	B (13)	1
SBL	62	0.06	A (8)	0	62	0.06	A (8)	0	62	0.06	A (8)	0

Existing Conditions: Under existing conditions, the intersection of Sixth Line and Sewell Driver operates well during both weekday peak hours. All movements operate with residual capacity and acceptable delays. All existing 95th percentile queues can be accommodated by their available storage lanes. No critical movements have been identified.

Future Background Conditions: Under future background 2029 conditions, the intersection is expected to generally operate similar to existing conditions with acceptable increases in V/C ratios and delay. No major constraints are noted.

Future Total Conditions: Under future total 2029 conditions, the addition of site traffic is expected to have an acceptable impact on intersection operations, with all movements operating similar to future background conditions. No intersection modifications are recommended.

6.3.3 Sixth Line and Site Access

The intersection capacity analysis results at Sixth Line and Site Access during the AM and PM peak hours are summarized in Table 6-4.

Table 6-4: 2029 Intersection Capacity Analysis - Sixth Line & Site Access

AM	2029 Future Total			
Mvmt	Vol	V/C	LOS (Delay)	95th Queue (veh)
Overall	-	-	- (0)	-
WBLR	16	0.06	C (16)	0
SBL	1	0.00	A (8)	0
PM	**2029 Future Total**			
Mvmt	Vol	V/C	LOS (Delay)	95th Queue (veh)
Overall	-	-	- (0)	-
WBLR	14	0.05	C (16)	0
SBL	6	0.01	A (8)	0

Future Total Conditions: Under future total 2029 conditions, the intersection of Sixth Line and Subject Site Access are anticipated to operate well during both weekday peak hours. All movements will operate with residual capacity and acceptable delays. All existing 95th percentile queues can be accommodated by their available storage lanes. No critical movements have been identified.

6.4 2034 SIGNALIZED INTERSECTIONS

The results for the studied signalized intersections under each traffic scenario for the 2034 horizon year during the weekday AM and PM peak hours are summarized in the sections below.

6.4.1 Sixth Line and McCraney Street West/McCraney Street East

The intersection capacity analysis results at Sixth Line and McCraney Street West/McCraney Street East during the AM and PM peak hours are summarized in Table 6-5.

Table 6-5: 2034 Intersection Capacity Analysis - Sixth Line & McCraney Street West/East

AM	2034 Future Background				2034 Future Total			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
Overall	-	0.68	C (22)	-/-	-	0.68	C (22)	-/-
EBL	24	0.40	C (34)	5/12	24	0.40	C (34)	5/12
EBTR	188	0.57	C (33)	37/51	188	0.58	C (33)	37/51
WBL	36	0.32	C (31)	7/15	36	0.32	C (31)	7/15
WBTR	326	0.54	C (33)	13/29	326	0.54	C (33)	13/29
NBL	12	0.04	B (18)	2/5	12	0.04	B (18)	2/5
NBTR	203	0.37	C (21)	33/48	208	0.38	C (22)	34/49
SBL	328	0.70	B (14)	36/52	328	0.71	B (14)	36/52
SBTR	294	0.34	B (10)	31/45	295	0.34	B (10)	31/45
PM	2034 Future Background				2034 Future Total			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
Overall	-	0.45	B (19)	-/-	-	0.45	B (19)	-/-
EBL	17	0.15	C (28)	3/8	17	0.15	C (28)	3/8
EBTR	55	0.13	C (27)	5/14	55	0.13	C (27)	5/14
WBL	16	0.07	C (23)	2/7	16	0.07	C (23)	2/7
WBTR	314	0.34	C (25)	7/27	314	0.34	C (25)	7/27
NBL	18	0.06	B (17)	2/7	18	0.06	B (17)	2/7
NBTR	336	0.55	C (23)	47/76	340	0.56	C (23)	48/77
SBL	180	0.44	B (11)	15/25	180	0.44	B (11)	15/25
SBTR	326	0.37	B (12)	31/47	332	0.38	B (12)	32/47

Future Background Conditions: Under 2034 future background conditions, the intersection is expected to generally operate similar to existing conditions with acceptable increases in V/C ratios and delay. No major constraints are noted.

Future Total Conditions: Under 2034 future total conditions, the addition of site traffic is expected to have an acceptable impact on intersection operations, with all movements operating similar to future background conditions. No intersection modifications are recommended.

6.5 2034 UNSIGNALIZED INTERSECTIONS

The results for the studied unsignalized intersections under each traffic scenario for the 2034 horizon year during the weekday AM and PM peak hours are summarized in the sections below.

6.5.1 Sixth Line and Culham Street

The intersection capacity analysis results at Sixth Line and Culham Street during the AM and PM peak hours are summarized in Table 6-6.

Table 6-6: 2034 Intersection Capacity Analysis - Sixth Line & Culham Street

AM	2034 Future Background				2034 Future Total			
Mvmt	Vol	V/C	LOS (Delay)	95th Queues (veh)	Vol	V/C	LOS (Delay)	95th Queues (veh)
Overall	-	-	B (14)	-	-	-	B (14)	-
NBLT	273	0.48	B (13)	3	278	0.49	B (13)	3
EBLR	195	0.35	B (11)	2	195	0.35	B (11)	2
SBTR	369	0.62	C (16)	4	370	0.63	C (16)	5
PM	2034 Future Background				2034 Future Total			
Mvmt	Vol	V/C	LOS (Delay)	95th Queues (veh)	Vol	V/C	LOS (Delay)	95th Queues (veh)
Overall	-	-	B (14)	-	-	-	B (14)	-
NBLT	422	0.63	C (16)	5	426	0.64	C (16)	5
EBLR	93	0.16	A (10)	1	93	0.16	A (10)	1
SBTR	337	0.51	B (12)	3	343	0.52	B (13)	3

Future Background Conditions: Under future background 2034 conditions, the intersection is expected to generally operate similar to existing conditions with acceptable increases in V/C ratios and delay. No major constraints are noted.

Future Total Conditions: Under future total 2034 conditions, the addition of site traffic is expected to have an acceptable impact on intersection operations, with all movements operating similar to future background conditions. No intersection modifications are recommended.

6.5.2 Sixth Line and Sewell Drive

The intersection capacity analysis results at Sixth Line and Sewell Drive during the AM and PM peak hours are summarized in Table 6-7.

Table 6-7: 2034 Intersection Capacity Analysis - Sixth Line & Sewell Drive

AM	2034 Future Background				2034 Future Total			
Mvmt	Vol	V/C	LOS (Delay)	95th Queue (veh)	Vol	V/C	LOS (Delay)	95th Queue (veh)
Overall	-	-	- (4)	-	-	-	- (4)	-
WBLR	168	0.30	B (13)	1	168	0.31	B (13)	1
SBL	128	0.10	A (8)	0	128	0.10	A (8)	0
PM	2034 Future Background				2034 Future Total			
Mvmt	Vol	V/C	LOS (Delay)	95th Queue (veh)	Vol	V/C	LOS (Delay)	95th Queue (veh)
Overall	-	-	- (2)	-	-	-	- (2)	-
WBLR	68	0.14	B (13)	1	68	0.14	B (13)	1
SBL	62	0.06	A (8)	0	62	0.06	A (8)	0

Future Background Conditions: Under future background 2034 conditions, the intersection is expected to generally operate similar to existing conditions with acceptable increases in V/C ratios and delay. No major constraints are noted.

Future Total Conditions: Under future total 2034 conditions, the addition of site traffic is expected to have an acceptable impact on intersection operations, with all movements operating similar to future background conditions. No intersection modifications are recommended.

6.5.3 Sixth Line and Site Access

The intersection capacity analysis results at Sixth Line and Site Access during the AM and PM peak hours are summarized in Table 6-8.

Table 6-8: 2034 Intersection Capacity Analysis - Sixth Line & Site Access

AM	2034 Future Total			
Mvmt	Vol	V/C	LOS (Delay)	95th Queue (veh)
Overall	-	-	- (0)	-
WBLR	16	0.06	C (17)	0
SBL	1	0.00	A (8)	0
PM	2034 Future Total			
Mvmt	Vol	V/C	LOS (Delay)	95th Queue (veh)
Overall	-	-	- (0)	-
WBLR	14	0.05	C (16)	0
SBL	6	0.01	A (8)	0

Future Total Conditions: Under future total 2034 conditions, the intersection of Sixth Line and Subject Site Access are anticipated to operate well during both weekday peak hours. All movements will operate with residual capacity and acceptable delays. All existing 95th percentile queues can be accommodated by their available storage lanes. No critical movements have been identified.

6.6 ANALYSIS SUMMARY

The analysis results indicate that the proposed development is expected to have an acceptable impact on road network operations in the surrounding area. In addition, the proposed site access is expected to operate well with the addition of site traffic.

7 PARKING AND LOADING ASSESSMENT

This section reviews the parking and loading standards based on the zoning by-law requirements applicable to the subject site.

7.1 BICYCLE PARKING REVIEW

The Town of Oakville Zoning By-Law 2014-014 was reviewed for bicycle parking requirements. The bicycle parking requirements for the proposed uses are summarized in Table 7-1.

Table 7-1: Zoning By-law 2014-014 Bicycle Parking Standards

Land Use	Unit Count	Required Bicycle Parking		Proposed Supply
		Bicycle Parking Rate(1)	Required Number of Bicycle Parking Spaces	
Residential: Apartment Dwelling	70 units	1.0 spaces per unit up to 30 spaces, 0.25 of which is designated as visitor bicycle parking spaces	22 spaces	52 spaces
Visitor			8 spaces	18 spaces
		Total	**30 spaces**	**70 spaces**

(1) As per ZBL 2014-014 Section 5.4.1.b "In no circumstance shall the number of minimum bicycle parking spaces required on a lot be greater than 30."

It is noted that as per the By-law, 0.25 of the bicycle parking spaces required per dwelling unit shall be designated as visitor bicycle parking spaces.

Based on the minimum bicycle parking requirements under the Town of Oakville Zoning By-law 2014-014, the proposed development is required to provide 30 bicycle parking spaces, consisting of 22 resident bicycle parking spaces and 8 visitor bicycle parking spaces. The development will exceed this requirement by providing 70 bicycle parking spaces, consisting of 52 resident and 18 visitor spaces.

7.2 VEHICLE PARKING REVIEW

The subject site governed by the Town of Oakville Zoning By-law 2014-014 and are outlined in Table 7-2 alongside the proposed parking supply. It is noted that as per the rounding provision within the By-law, if the application of any ratio in the By-law results in a fraction of a parking space, then the minimum number of spaces required was increased to the next highest whole number if the fraction was greater than 0.25.

Table 7-2: Zoning By-law 2014-014 Vehicle Parking Standards

Town of Oakville Zoning By-law 2014-014					
Land Use		Number of Units	Minimum Requirements		Proposed Parking Supply
			Parking Rate	Parking Spaces	
Apartment Dwelling	Units Less than 75 m^2 NFA	51	0.75 per dwelling for unit	39	80
Visitor			0.25 spaces per unit	13	
Apartment Dwelling	Units Greater than 75 m^2 NFA	19	1.25 per dwelling	24	
Visitor			0.25 spaces per unit	5	
			Total	**81**	**80**

According to Zoning By-law 2014-014 the development is required to provide a minimum of 81 parking spaces, consisting of 63 resident and 18 visitor spaces. The development will provide a total of 80 parking spaces. Although the site is deficient by one (1) residential space, the deficiency is minor. The deficiency will not strongly impact residents as the development is considering providing unbundled parking, meaning spaces can be purchased separately from the unit. It is anticipated that not all units will choose to purchase a space.

Additionally, with regards to barrier-free parking, the development is required to provide one (1) barrier free visitor space. The development satisfies this requirement by providing two (2) barrier free spaces, one for visitors and one for residents.

7.3 LOADING REVIEW

Based on the Town of Oakville Zoning By-law 2014-014, there are no minimum loading space requirements. However, one (1) loading space is provided for the site.

A review of the functionality and accessibility of the proposed loading space indicates that the proposed loading space can be safely accessed and egressed by a garbage truck. The functionality of the proposed parking spaces was also confirmed. A Functional Design Review (FDR) has been prepared and is attached in Appendix I.

8 TRANSPORTATION DEMAND MANAGEMENT (TDM)

Transportation Demand Management (TDM) refers to a set of strategies which strive towards a more efficient transportation network by influencing travel behaviour. Effective TDM measures can reduce vehicle usage and encourage people to engage in more sustainable methods of travel. There are several opportunities to incorporate TDM measures to promote alternate modes of transportation and support existing and future planned infrastructure. The recommendations should enhance non-single occupant vehicle trips for future residents of the subject site.

The following multimodal infrastructure strategies and TDM measures are recommended for consideration. It is understood that a "high density land use designation" will result in additional requirements, such as a residential TDM strategy and a TDM monitoring program, to be developed with the Town of Oakville Sustainable Transportation Program Coordinator. The details of the strategy will continue to be developed as the subject site goes through the development application process.

8.1 PARKING-BASED STRATEGIES

Minimal Parking On-Site

As discussed in Section 7, 80 parking spaces are proposed for the subject site, which is deficient by one (1) space from the minimum requirements for the proposed development.

A purchased parking space, either separately or as part of the purchase of a residence, represents a fixed cost for future residents. Consequently, the more the space gets used, the more value the owner will perceive in their purchase. If the owner does not already own a car prior to their purchases, the perception that the parking space should be used can lead to two separate outcomes: (1) The owner will purchase a vehicle to occupy the spot, or (2) the owner will lease out the spot for somebody else to use.

By providing minimal on-site parking, the site will not encourage oversupplying parking, and residents will be encouraged to take advantage of existing transit.

Unbundled Parking

The proposed development is considering providing unbundled parking, meaning that for each unit, parking spaces will be available for purchase separately from the unit. It is anticipated that parking spaces will be offered at a price point determined based on market conditions. This will facilitate residents to shift to other travel alternatives to reduce auto-dependency.

Provide Dedicated Pick-Up/Drop-Off (PUDO) Space

A dedicated pick-up/drop-off space is proposed on site to facilitate shared mobility, Oakville Transit's paratransit service called "care-A-van", rideshare services, and taxis. These spaces will allow for short-term parking for the subject site and provide convenient access for residents to use without impeding the flow of traffic.

8.2 CYCLING-BASED STRATEGIES

Provision of Bicycle Parking Supply

Bicycle parking is proposed for the subject site. This will supplement the proposed vehicle parking supply. Short-term bicycle parking is provided on the ground floor near the building entrances and access to long-term bicycle parking will be provided in secure bike lockers on the basement level.

Provision of Bicycle Repair Facilities

Providing basic equipment for keeping bicycles in good working condition can encourage residents to use the cycling networks in the vicinity of the subject site. Bicycle repair facilities include hand tools, tire gauges, and tire pumps. A bicycle repair station is proposed within the long-term bicycle parking, providing basic repair tools for residents to use for bicycle maintenance.

Promote and Increase Cycling Awareness and Multi-Modal Transport

It is recommended that information packages be provided to residents of the proposed development to help encourage active transportation and increase awareness of different travel alternatives. The package should include information regarding the environmental and health benefits of cycling, rules of the road, as well as maps of active transportation infrastructure available in the surrounding area.

8.3 PEDESTRIAN-BASED STRATEGIES

Building Entrances Oriented Close to the Street

The proposed pedestrian entrances face the internal driveway with sidewalks providing safe and easy access to Sixth Line. This will provide convenient access for pedestrians, transit users, and cyclists via continuous sidewalks and feature landscaping to provide an overall comfortable and convenient pedestrian environment.

8.4 TRANSIT-BASED STRATEGIES

Transit Incentive Program

As PRESTO becomes a dominant form of payment for transit throughout the Greater Toronto and Hamilton Area (GTHA), it is recommended that pre-loaded PRESTO cards be offered to units in their welcome package. This incentive, coupled with the site's proximity to transit, provides an opportunity for residents to experience the benefits of using adjacent transit facilities.

8.5 IMPACT OF TDM MEASURES

The proposed TDM measures are expected to further support the site's proposed parking strategy by increasing the convenience and attractiveness of taking transit, walking, or cycling to/from the subject site. The proposed TDM measures will help further reduce vehicle activity associated with the subject site and encourage a lifestyle that largely relies upon transit and active transportation. Table 8-1 summarizes the proposed strategies and the expected auto trip reductions.

Table 8-1: Summary of TDM Strategies

Recommended TDM Measures	Benefits
Parking-Based Strategies	
Minimal Parking On-Site	+ Providing minimal parking encourages pedestrian activity at-grade + Allows individuals to connect to transit or travel by bike/walking to nearby destinations.
Unbundled Parking	+ Encourages residents to shift to other travel alternatives to reduce auto-dependency
Dedicated PUDO Space	+ Provides convenient access for residents to use without impeding flow of traffic
Cycling-Based Strategies	
Provision of Bicycle Parking Supply	+ Support cycling as an alternative to SOV trips
Provision of Bicycle Repair Facilities	+ Reduces barriers to cycling
Promote and Increase Cycling Awareness and Multi-modal Transport	+ Encourages active transportation and increase awareness of active travel alternatives. +Spreads awareness of the benefits of cycling
Pedestrian-Based Strategies	
Building Entrances Oriented Close to the Street	+ Encourages walking and improves the pedestrian realm
Transit-Based Strategies	
Transit Incentive Program	+ Provides financial incentive to utilize transit

The combination of these TDM strategies listed above is expected to reduce the auto-dependency of residents and visitors in the subject development and encourage more sustainable travel habits.

Furthermore, it is recommended that ongoing monitoring and evaluation be undertaken to collect data and information regarding TDM performance measures. The key goal of performance measuring is to provide useful information on identifying successful program activities, improvements to existing programming, as well as the potential development of future programs. The owners should perform periodic evaluations to assess how well the TDM Programs are achieving the goal of reducing the number of single-occupant vehicle trips generated by the subject site. A baseline survey and annual monitoring for five (5) years onward is recommended to ensure effective monitoring.

9 CONCLUSIONS AND RECOMMENDATIONS

- The development proposal consists of a six (6) storey residential building with 70 units. Access to the proposed development is via Sixth Line. In total, 80 parking spaces are proposed.
- The subject site is located in an area serviced by Oakville Transit. Two types of routes are operated, regular scheduled routes and school specials. In addition, Oakville Transit provides door-to-door paratransit service called “care-A-van” for persons with disabilities. Service is provided by low-floor, fully accessible 26 ft buses with a ramp. The care-A-van service will be provided to future residents of the development
- The proposed development is anticipated to generate 21 two-way auto trips during the AM peak hour (5 inbound and 16 outbound) and 35 two-way auto trips during the PM peak hour (21 inbound and 14 outbound).
- The intersection capacity analysis findings indicate that the proposed development will have an acceptable impact on the surrounding road network. The site access is anticipated to operate well. Minimal changes in operations with the addition of the site traffic in future total conditions was observed and no constraints were identified.
- The development will exceed the bicycle parking requirements under the Town of Oakville Zoning By-law 2010-014 by providing 70 bicycle parking spaces, consisting of 52 resident and 18 visitor spaces
- A set of Transportation Demand Management (TDM) measures have been recommended to reduce single-occupant vehicle trips. It is understood that a “high density land use designation” will result in additional requirements, such as a residential TDM strategy, to be developed with the Town of Oakville Sustainable Transportation Program Coordinator. The details of the strategy will continue to be developed as the subject site goes through the development application process.

APPENDIX A

Terms of Reference

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October 3, 2024

Reference Number: 23400

Aquisha Khan
Transportation Engineer
Transportation and Engineering Department, Town of Oakville
1225 Trafalgar Road,
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Email: aquisha.khan@oakville.ca

Dear Ms. Khan,

RE: Terms of Reference – Transportation Impact Study
Proposed Development at 1295 Sixth Line, Town of Oakville

LEA Consulting Ltd. (LEA) was retained by Creditmills Development Group to conduct a Transportation Impact Study for the proposed residential development located at 1295 Sixth Line (herein referred to as the "subject site") in the Town of Oakville. The subject site is located near the southeast corner of Sixth Line and Culham Street. Figure 1 illustrates the location of the subject site.

A Traffic Impact Study Brief was previously submitted on February 12th, 2024 and comments from your office were received. Subsequently, we would like to confirm the study parameters for the Transportation Impact Study.

Figure 1: Subject Site Location

Source: Google Earth, accessed January 2024

The TIS for the proposed development will be conducted in accordance with the Transportation Impact Study Guidelines by Halton Region. Study assumptions requiring confirmation from the city is detailed below.

STUDY AREA & TRAFFIC DATA

The study will assess the weekday AM (7:00 am to 9:30 am) and weekday PM (2:00 pm to 6:00 pm) peak hours. The proposed study area will include an analysis of the following intersections:

- Sixth Line & McCraney St E/ McCraney St W (Signalized)
- Sixth Line & Sewell Dr (Unsignalized)
- Sixth Line & Culham St (Unsignalized)

The location of signalized (red) and unsignalized (blue) intersections is provided below in Figure 2. LEA will be surveying turning movements counts (TMC) for the weekday AM and PM peak periods.

Figure 2: Survey Locations

Source: Town of Oakville, accessed September 2024

FUTURE ANALYSIS

The impacts of the proposed development on the surrounding road network will be assessed based on a study horizon of 2029 and 2034, representing the full build-out of the proposed site and 5 years post build out. This analysis will include traffic from nearby developments and general corridor growth.

Background Developments

Based on a review of the Town of Oakville's website, the background developments within or near the study area were identified and shown in Table 1.

Table 1 Background Developments

#	Location	Proposed Development
1	1105 Mccraney St. E Oakville	10 storey residential apartment building

It is requested that the Town staff identify and provide traffic studies for any additional developments which should be included in this TIS analysis.

Corridor Growth

As requested in the comments provided by the Town office, a growth rate of 1% will be adopted for the future scenarios.

Background Network Changes

LEA is not aware of any planned road network improvements within the study area. If the city is aware of any changes, please contact us.

Site Traffic

Trip generation for the proposed development will be forecasted based on the ITE Trip Generation Manual 11th Edition. Vehicle trip distribution and assignment will be based on a review of 2016 TTS data as well as observations of traffic patterns and existing turn permissions/ prohibitions.

FUTURE TRAFFIC SCENARIOS

Future background and future total analyses for the aforementioned intersections within the study area will be conducted for the year 2029 and 2034. Traffic capacity analysis will use Highway Capacity Manual (HCM 6th edition) methods with the aid of Synchro 11 software.

REMEDIAL MEASURES

Any movements at the studied intersections that exceed a V/C ratio of 1.00 under future total conditions will be identified. If remedial actions such as signal optimization are unsuccessful, this will also be identified. If remedial measures are to be employed, a scenario will be provided demonstrating the change in intersection operations.

PARKING AND LOADING REVIEW

A parking and loading assessment will be undertaken to ensure that the proposed supply meets the zoning by-law requirements for vehicle parking, bicycle parking, and loading. If a shortfall from the requirements is proposed, justification will be provided to demonstrate adequacy of the proposed supply.

TRANPSORTATION DEMAND MANAGEMENT (TDM) PLAN

A comprehensive TDM Plan will be completed to provide recommendations to shift and reduce vehicle demand associated with the proposed development's site traffic.

Should you have any comments with our assumptions or have any concerns, please contact the undersigned at tvanderwoerd@lea.ca.

Yours truly,

LEA CONSULTING LTD.

Trevor Vanderwoerd, M.A.Sc.

Project Coordinator

Trevor Vanderwoerd

From: Aquisha Khan <aquisha.khan@oakville.ca>
Sent: October 9, 2024 11:49
To: Trevor Vanderwoerd
Cc: Jocelyn Wallen
Subject: RE: [EXTERNAL] Transportation Impact Study Terms of Reference: 1295 Sixth Line

External Sender

Hi Trevor,

Thank you for the opportunity to review your TOR. At this time staff has not concerns with the proposed. Please proceed with the study.
If you have any further questions, please feel free to contact me.

Have a wonderful day and great Thanksgiving weekend.

Regards
Aquisha

Aquisha Khan, (She/Her/Hers), P. Eng.
Transportation Engineer
Transportation and Engineering
Town of Oakville | 905-845-6601, ext. 3236 | www.oakville.ca

From: Trevor Vanderwoerd <TVanderwoerd@lea.ca>
Sent: Thursday, October 3, 2024 4:31 PM
To: Aquisha Khan <aquisha.khan@oakville.ca>
Cc: Jocelyn Wallen <JWallen@lea.ca>
Subject: [EXTERNAL] Transportation Impact Study Terms of Reference: 1295 Sixth Line

Hi Aquisha,

To follow up on the discussion we had a few weeks ago about study parameters for 1295 Sixth Line, I'm sending a Terms of Reference. As we've already discussed the project scope, there shouldn't be any surprises but I wanted to provide you with an opportunity to give any additional input.

Thanks,

Trevor Vanderwoerd, M.A.Sc.
Project Coordinator, Transportation Analyst
T: 905 470 0015 ext. 358 **E:** tvanderwoerd@lea.ca **W:** www.LEA.ca
LEA Consulting Ltd.

APPENDIX B

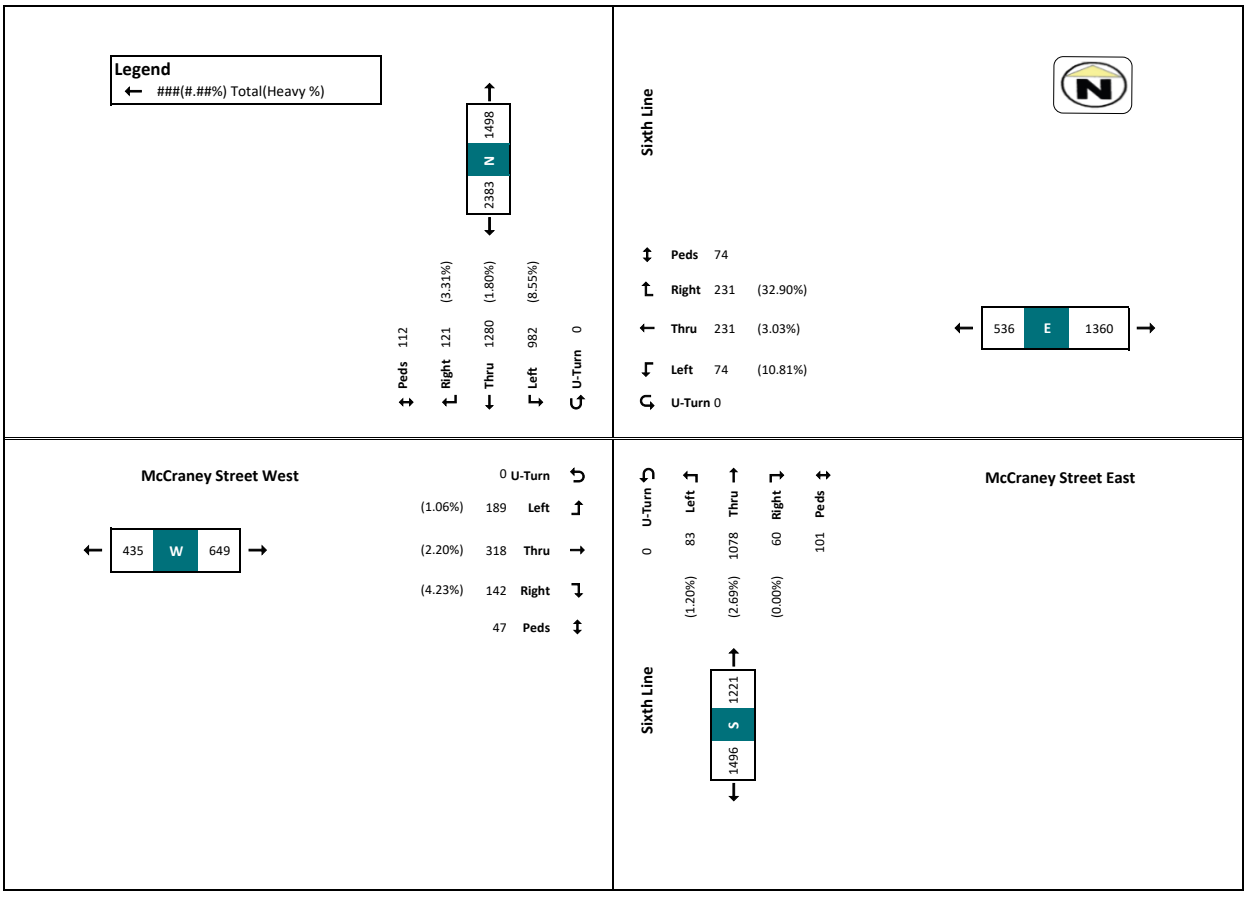
Traffic Data and Signal Timing Plans

LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Sixth Line & McCraney Street West
Survey Date : September 24, 2024
Project No. : 23400
Count ID : 24349

Turning Movement Count - Sixth Line & McCraney Street West

	Sixth Line Southbound						McCraney Street East Westbound						Sixth Line Northbound						McCraney Street West Eastbound						
Start Time	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	Grand Total
7:00	0	21	37	2	2	60	0	0	1	20	0	21	0	1	10	2	0	13	0	2	6	3	2	11	105
7:15	0	52	37	1	1	90	0	1	6	19	2	26	0	2	14	0	1	16	0	8	16	4	0	28	160
7:30	0	99	55	1	7	155	0	5	7	57	3	69	0	1	44	2	2	47	0	5	18	7	4	30	301
7:45	0	108	39	3	22	150	0	7	16	78	8	101	0	3	33	12	19	48	0	4	65	13	7	82	381
Hourly Total	0	280	168	7	32	455	0	13	30	174	13	217	0	7	101	16	22	124	0	19	105	27	13	151	947
8:00	0	90	59	1	9	150	0	16	17	101	4	134	0	4	51	4	10	59	0	7	58	7	3	72	415
8:15	0	26	60	3	7	89	0	1	4	42	3	47	0	4	39	1	10	44	0	8	7	6	3	21	201
8:30	0	27	74	3	8	104	0	0	3	30	0	33	0	3	38	0	10	41	0	4	12	11	6	27	205
8:45	0	53	71	3	3	127	0	2	16	27	5	45	0	4	47	5	8	56	0	10	16	12	5	38	266
Hourly Total	0	196	264	10	27	470	0	19	40	200	12	259	0	15	175	10	38	200	0	29	93	36	17	158	1087
9:00	0	34	54	4	8	92	0	2	14	19	3	35	0	7	26	1	0	34	0	6	12	4	0	22	183
9:15	0	43	46	6	4	95	0	1	8	36	0	45	0	6	26	2	2	34	0	8	16	7	0	31	205
Hourly Total	0	77	100	10	12	187	0	3	22	55	3	80	0	13	52	3	2	68	0	14	28	11	0	53	388
* break *																									
14:00	0	21	51	5	0	77	0	2	3	17	12	22	0	2	52	5	1	59	0	0	2	3	0	5	163
14:15	0	41	54	3	2	98	0	1	4	18	12	23	0	1	43	2	1	46	0	3	4	2	0	9	176
14:30	0	63	44	6	7	113	0	11	7	41	0	59	0	5	40	3	4	48	0	4	12	4	0	20	240
14:45	0	46	61	3	18	110	0	19	18	109	6	146	0	6	76	5	26	87	0	3	10	4	2	17	360
Hourly Total	0	171	210	17	27	398	0	33	32	185	30	250	0	14	211	15	32	240	0	10	28	13	2	51	939
15:00	0	33	42	6	6	81	0	5	16	44	20	65	0	4	54	4	2	62	0	5	11	7	0	23	231
15:15	0	39	56	7	7	102	0	1	12	55	4	68	0	4	49	1	6	54	0	2	5	3	0	10	234
15:30	0	31	55	13	2	99	0	0	11	64	2	75	0	3	67	1	11	71	0	6	5	3	3	14	259
15:45	0	50	58	9	0	117	0	1	6	42	2	49	0	4	54	1	4	59	0	5	12	11	3	28	253
Hourly Total	0	153	211	35	15	399	0	7	45	205	28	257	0	15	224	7	23	246	0	18	33	24	6	75	977
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	5	1	114	0	5	11	51	5	67	0	7	71	3	2	81	0	6	6	5	1	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	2	16	326
16:45	0	35	65	5	6	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
17:00	0	23	61	10	7	94	0	5	11	50	2	66	0	5	70	2	1	77	0	6	4	6	0	16	253
17:15	0	23	71	5	0	99	0	5	17	39	1	61	0	8	73	6	1	87	0	5	7	10	2	22	269
17:30	0	21	62	10	0	93	0	4	11	37	3	52	0	2	74	3	1	79	0	3	9	2	0	14	238
17:45	0	36	81	10	2	127	0	2	10	32	1	44	0	2	58	3	1	63	0	6	4	6	2	16	250
Hourly Total	0	103	275	35	9	413	0	16	49	158	7	223	0	17	275	14	4	306	0	20	24	24	4	68	1010
Grand Total	0	1153	1490	138	139	2781	0	107	263	1238	104	1608	0	97	1289	75	133	1461	0	127	346	155	49	628	6478
Approach %	0.0%	41.5%	53.6%	5.0%	-	-	0.0%	6.7%	16.4%	77.0%	-	-	0.0%	6.6%	88.2%	5.1%	-	-	0.0%	20.2%	55.1%	24.7%	-	-	-
Total %	0.0%	17.8%	23.0%	2.1%	-	42.9%	0.0%	1.7%	4.1%	19.1%	-	24.8%	0.0%	1.5%	19.9%	1.2%	-	22.6%	0.0%	2.0%	5.3%	2.4%	-	9.7%	
Lights	0	1069	1467	134	-	2670	0	99	256	1162	-	1517	0	96	1260	75	-	1431	0	125	339	149	-	613	6231
% Lights	-	92.7%	98.5%	97.1%	-	96.0%	-	92.5%	97.3%	93.9%	-	94.3%	-	99.0%	97.8%	100.0%	-	97.9%	-	98.4%	98.0%	96.1%	-	97.6%	96.2%
Buses	-	82	13	2	-	97	-	8	6	74	-	88	-	1	22	0	-	23	-	0	5	4	-	9	217
% Buses	-	7.1%	0.9%	1.4%	-	3.5%	-	7.5%	2.3%	6.0%	-	5.5%	-	1.0%	1.7%	0.0%	-	1.6%	-	0.0%	1.4%	2.6%	-	1.4%	3.3%
Trucks	-	2	10	2	-	14	-	0	1	2	-	3	-	0	7	0	-	7	-	2	2	2	-	6	30
% Trucks	-	0.2%	0.7%	-	-	0.5%	-	0.0%	0.4%	0.2%	-	0.2%	-	0.0%	0.5%	0.0%	-	0.5%	-	1.6%	0.6%	1.3%	-	1.0%	0.5%
Bicycles	-	-	-	-	25	25	-	-	-	-	13	13	-	-	-	-	16	16	-	-	-	-	15	15	69
Pedestrians	-	-	-	-	139	-	-	-	-	-	104	-	-	-	-	-	133	-	-	-	-	-	49	-	425

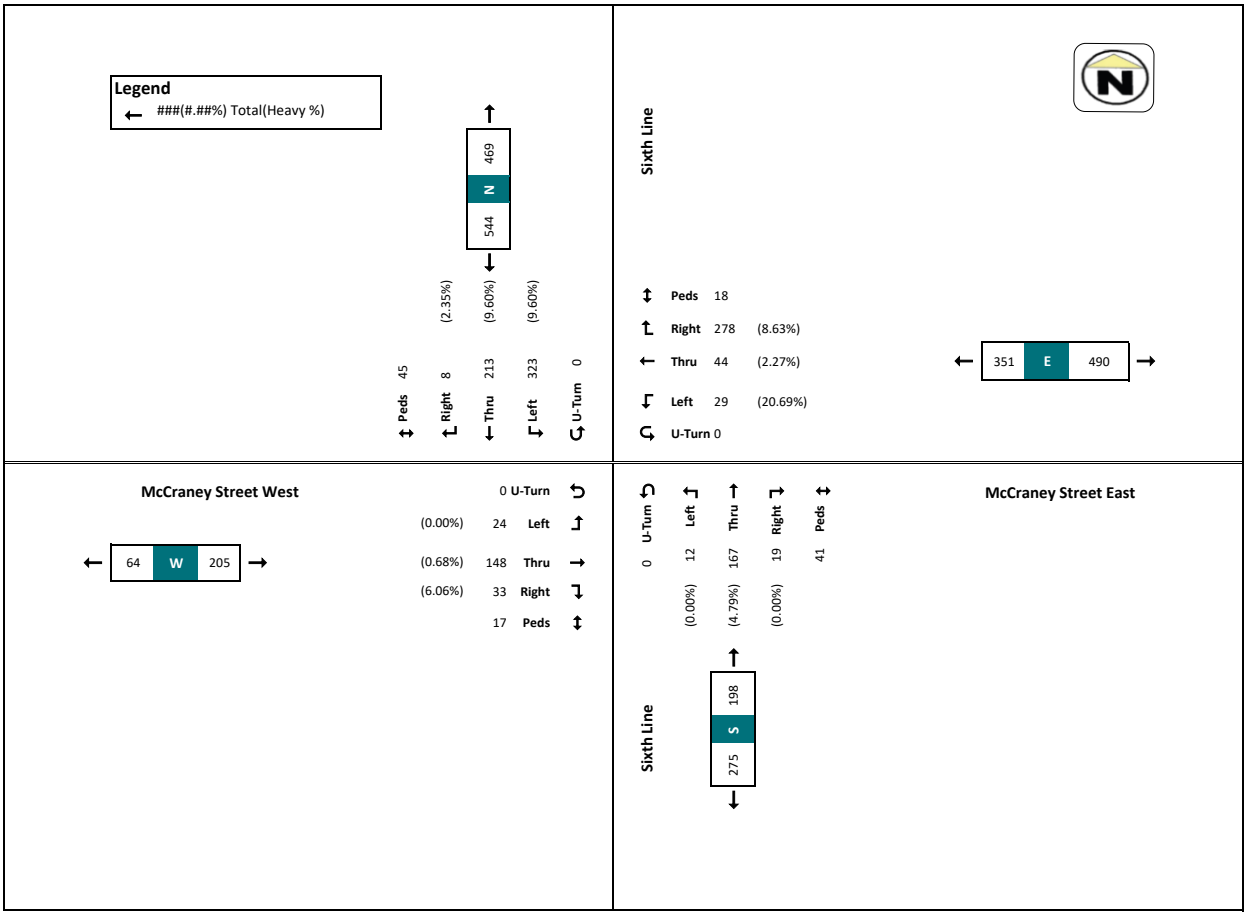


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Sixth Line & McCraney Street West
Survey Date : September 24, 2024
Project No. : 23400
Count ID : 24349

AM Peak Hour - Sixth Line & McCraney Street West

	Sixth Line Southbound						McCraney Street East Westbound						Sixth Line Northbound						McCraney Street West Eastbound						
Start Time	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	Grand Total
7:30	0	99	55	1	7	155	0	5	7	57	3	69	0	1	44	2	2	47	0	5	18	7	4	30	301
7:45	0	108	39	3	22	150	0	7	16	78	8	101	0	3	33	12	19	48	0	4	65	13	7	82	381
8:00	0	90	59	1	9	150	0	16	17	101	4	134	0	4	51	4	10	59	0	7	58	7	3	72	415
8:15	0	26	60	3	7	89	0	1	4	42	3	47	0	4	39	1	10	44	0	8	7	6	3	21	201
Hourly Total	0	323	213	8	45	544	0	29	44	278	18	351	0	12	167	19	41	198	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%	-	41.9%	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%	-	15.8%	-
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	0.78
Lights	0	292	208	7	-	507	0	23	43	254	-	320	0	12	159	19	-	190	0	24	147	31	-	202	1219
% Lights	-	90.4%	97.7%	87.5%	-	93.2%	-	79.3%	97.7%	91.4%	-	91.2%	-	100.0%	95.2%	100.0%	-	96.0%	-	100.0%	99.3%	93.9%	-	98.5%	93.9%
Buses	-	31	2	1	-	34	-	6	1	24	-	31	-	0	7	0	-	7	-	0	1	2	-	3	75
% Buses	-	9.6%	0.9%	12.5%	-	6.3%	-	20.7%	2.3%	8.6%	-	8.8%	-	0.0%	4.2%	0.0%	-	3.5%	-	0.0%	0.7%	6.1%	-	1.5%	5.8%
Trucks	-	0	3	0	-	3	-	0	0	0	-	0	-	0	1	0	-	1	-	0	0	0	-	0	4
% Trucks	-	0.0%	1.4%	0.0%	-	0.6%	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.6%	0.0%	-	0.5%	-	0.0%	0.0%	0.0%	-	0.0%	0.3%
Bicycles	-	-	-	-	9	9	-	-	-	-	4	4	-	-	-	-	1	1	-	-	-	-	1	1	15
Pedestrians	-	-	-	-	45	-	-	-	-	-	18	-	-	-	-	-	0	-	-	-	-	-	17	-	80

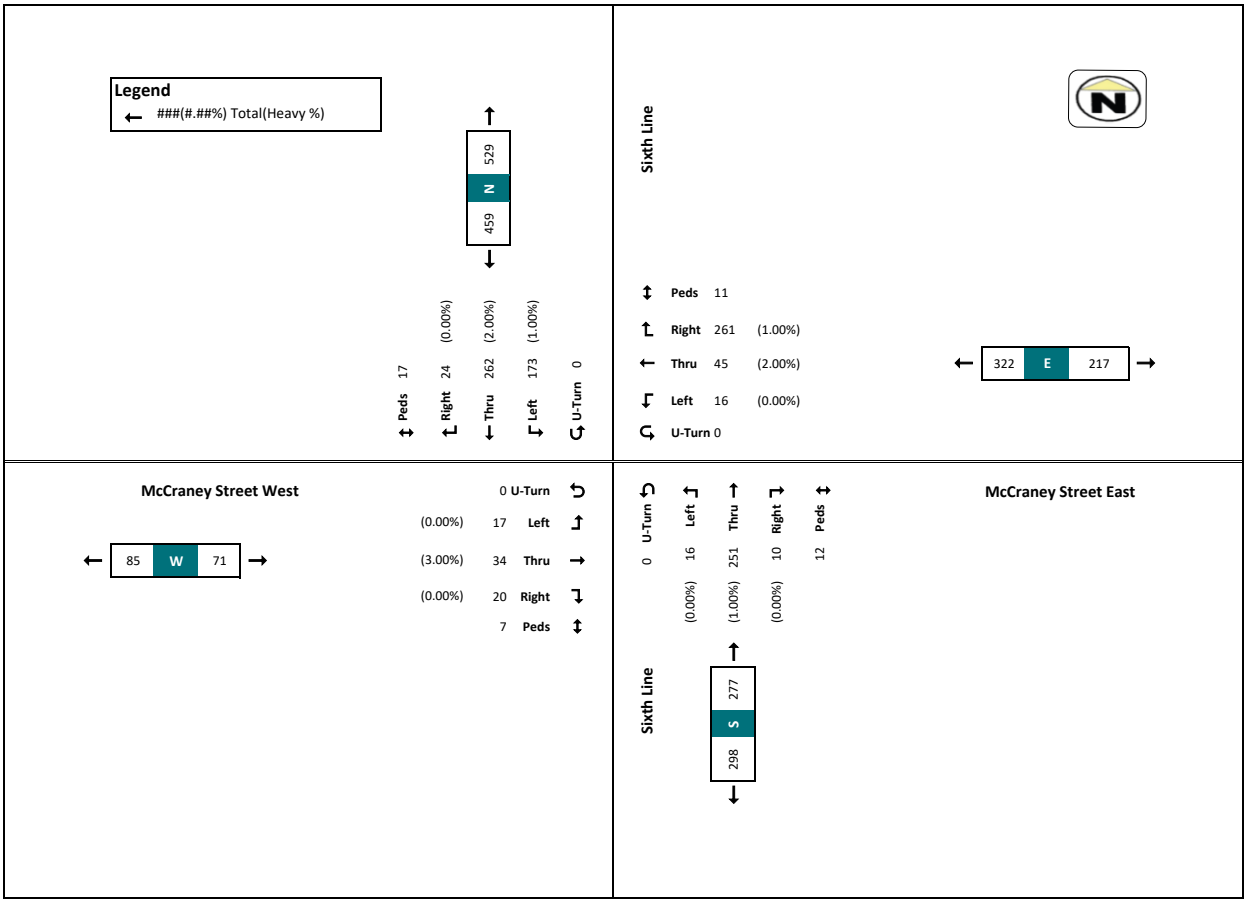


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Sixth Line & McCraney Street West
Survey Date : September 24, 2024
Project No. : 23400
Count ID : 24349

PM Peak Hour - Sixth Line & McCraney Street West

	Sixth Line Southbound						McCraney Street East Westbound						Sixth Line Northbound						McCraney Street West Eastbound						
Start Time	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	Grand 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	5	1	114	0	5	11	51	5	67	0	7	71	3	2	81	0	6	6	5	1	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	2	16	326
16:45	0	35	65	5	6	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%	-	-	0.0%	5.0%	14.0%	81.1%	-	-	0.0%	5.8%	90.6%	3.6%	-	-	0.0%	23.6%	48.6%	27.8%	-	-	-
Total %	0.0%	15.3%	23.2%	2.1%	-	40.6%	0.0%	1.2%	3.5%	23.1%	-	28.5%	0.0%	1.2%	19.3%	0.8%	-	24.5%	0.0%	1.3%	2.7%	1.5%	-	6.4%	
PHF	0	0.9	0.91	0.75	-	0.9	0	0.5	0.94	0.73	-	0.79	0	0.57	0.88	0.83	-	0.85	0	0.71	0.8	0.63	-	0.86	0.87
Lights	0	172	258	24	-	454	0	16	44	258	-	318	0	16	248	10	-	274	0	17	34	20	-	71	1117
% Lights	-	99.4%	98.5%	100.0%	-	98.9%	-	100.0%	97.8%	98.9%	-	98.8%	-	100.0%	98.8%	100.0%	-	98.9%	-	100.0%	97.1%	100.0%	-	98.6%	98.8%
Buses	-	1	2	0	-	3	-	0	1	3	-	4	-	0	3	0	-	3	-	0	0	0	-	0	10
% Buses	-	0.6%	0.8%	0.0%	-	0.7%	-	0.0%	2.2%	1.1%	-	1.2%	-	0.0%	1.2%	0.0%	-	1.1%	-	0.0%	0.0%	0.0%	-	0.0%	0.9%
Trucks	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	-	0	1	0	-	1	1
% 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%	-	0.0%	2.9%	0.0%	-	1.4%	0.1%
Bicycles	-	-	-	-	8	8	-	-	-	-	1	1	-	-	-	-	4	4	-	-	-	-	4	4	17
Pedestrians	-	-	-	-	17	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	17



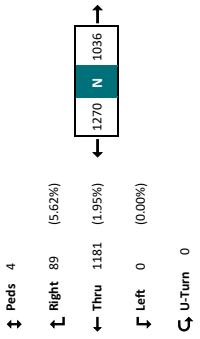
LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Sixth Line & Culham Street
Survey Date : September 24, 2024
Project No. : 23400
Count ID : 24350

Turning Movement Count - Sixth Line & Culham Street

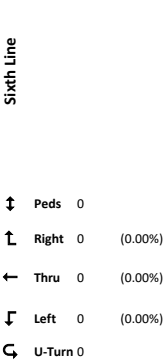
	Sixth Line Southbound						N/A Westbound						Sixth Line Northbound						Culham Street Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
7:00	0	0	45	2	0	47	0	0	0	0	0	0	0	3	7	0	1	10	0	3	0	16	0	19	76
7:15	0	0	47	0	0	47	0	0	0	0	0	0	0	4	17	0	5	21	0	3	0	27	1	30	98
7:30	0	0	63	5	0	68	0	0	0	0	0	0	0	4	36	0	3	40	0	7	0	43	0	50	158
7:45	0	0	60	2	0	62	0	0	0	0	0	0	0	11	46	0	28	57	0	9	0	59	1	68	187
Hourly Total	0	0	215	9	0	224	0	0	0	0	0	0	0	22	106	0	37	128	0	22	0	145	2	167	519
8:00	0	0	80	0	1	80	0	0	0	0	0	0	0	25	50	0	3	75	0	5	0	73	1	78	233
8:15	0	0	71	1	0	72	0	0	0	0	0	0	0	9	38	0	3	47	0	4	0	37	1	41	160
8:30	0	0	91	3	1	94	0	0	0	0	0	0	0	9	37	0	5	46	0	2	0	36	0	38	178
8:45	0	0	85	4	0	89	0	0	0	0	0	0	0	23	51	0	4	74	0	0	0	38	2	38	201
Hourly Total	0	0	327	8	2	335	0	0	0	0	0	0	0	66	176	0	15	242	0	11	0	184	4	195	772
9:00	0	0	52	3	0	55	0	0	0	0	0	0	0	15	27	0	4	42	0	2	0	17	0	19	116
9:15	0	0	54	2	1	56	0	0	0	0	0	0	0	10	25	0	4	35	0	5	0	22	0	27	118
Hourly Total	0	0	106	5	1	111	0	0	0	0	0	0	0	25	52	0	8	77	0	7	0	39	0	46	234
* Break *																									
14:00	0	0	52	6	0	58	0	0	0	0	0	0	0	20	58	0	5	78	0	5	0	17	0	22	158
14:15	0	0	48	7	0	55	0	0	0	0	0	0	0	18	59	0	1	77	0	2	0	19	0	21	153
14:30	0	0	63	5	0	68	0	0	0	0	0	0	0	13	71	0	4	94	0	6	0	19	1	25	187
14:45	0	0	62	3	0	65	0	0	0	0	0	0	0	19	47	0	1	66	0	4	0	18	2	22	153
Hourly Total	0	0	225	21	0	246	0	0	0	0	0	0	0	80	235	0	11	315	0	17	0	73	3	90	651
15:00	0	0	64	3	0	67	0	0	0	0	0	0	0	22	59	0	2	81	0	4	0	13	0	17	165
15:15	0	0	61	12	0	73	0	0	0	0	0	0	0	24	71	0	0	95	0	7	0	13	0	20	188
15:30	0	0	67	7	0	74	0	0	0	0	0	0	0	16	81	0	0	97	0	4	0	14	0	18	189
15:45	0	0	74	8	0	82	0	0	0	0	0	0	0	17	62	0	4	79	0	4	0	17	2	21	182
Hourly Total	0	0	266	30	0	296	0	0	0	0	0	0	0	79	273	0	6	352	0	19	0	57	2	76	724
16:00	0	0	54	10	1	64	0	0	0	0	0	0	0	21	78	0	5	99	0	3	0	27	0	30	193
16:15	0	0	77	12	0	89	0	0	0	0	0	0	0	30	85	0	1	115	0	6	0	18	0	24	228
16:30	0	0	54	7	0	61	0	0	0	0	0	0	0	20	79	0	1	99	0	3	0	15	3	18	178
16:45	0	0	82	8	0	90	0	0	0	0	0	0	0	20	57	0	2	77	0	2	0	23	1	25	192
Hourly Total	0	0	267	37	1	304	0	0	0	0	0	0	0	91	299	0	9	390	0	14	0	83	4	97	791
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	1406	110	4	1516	0	0	0	0	0	0	0	363	1141	0	86	1504	0	90	0	581	15	671	3691
Approach %	0.0%	0.0%	92.7%	7.3%	-	-	-	-	-	-	-	-	0.0%	24.1%	75.9%	0.0%	-	-	0.0%	13.4%	0.0%	86.6%	-	-	-
Total %	0.0%	0.0%	38.1%	3.0%	-	41.1%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	9.8%	30.9%	0.0%	-	40.7%	0.0%	2.4%	0.0%	15.7%	-	18.2%	-
Lights	0	0	1383	105	-	1488	0	0	0	0	-	0	0	349	1122	0	-	1471	0	89	0	562	-	651	3610
% Lights	-	-	98.4%	95.5%	-	98.2%	-	-	-	-	-	-	-	96.1%	98.3%	-	-	97.8%	-	98.9%	-	96.7%	-	97.0%	97.8%
Buses	-	0	18	1	-	19	-	0	0	0	-	0	-	14	13	0	-	27	-	1	0	17	-	18	64
% Buses	-	-	1.3%	0.9%	-	1.3%	-	-	-	-	-	-	-	3.9%	1.1%	-	-	1.8%	-	1.1%	-	2.9%	-	2.7%	1.7%
Trucks	-	0	5	4	-	9	-	0	0	0	-	0	-	0	6	0	-	6	-	0	0	2	-	2	17
% Trucks	-	-	0.4%	-	-	0.6%	-	-	-	-	-	-	-	0.0%	0.5%	-	-	0.4%	-	0.0%	-	0.3%	-	0.3%	0.5%
Bicycles	-	-	-	-	6	6	-	-	-	-	0	0	-	-	-	-	3	3	-	-	-	-	0	0	9
Pedestrians	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	86	-	-	-	-	-	15	-	105

Legend
← ###(#.##%) Total(Heavy %)



Sixth Line

Peds	4		
Right	89	(5.62%)	
Thru	1181	(1.95%)	
Left	0	(0.00%)	
U-Turn	0		



Culham Street

0	U-Turn	
(0.77%)	130	Left
(0.00%)	0	Thru
(3.74%)	508	Right
	12	Peds

N/A

U-Turn	Left	Thru	Right	Peds
0	283	906	0	75
	(4.95%)	(2.10%)	(0.00%)	

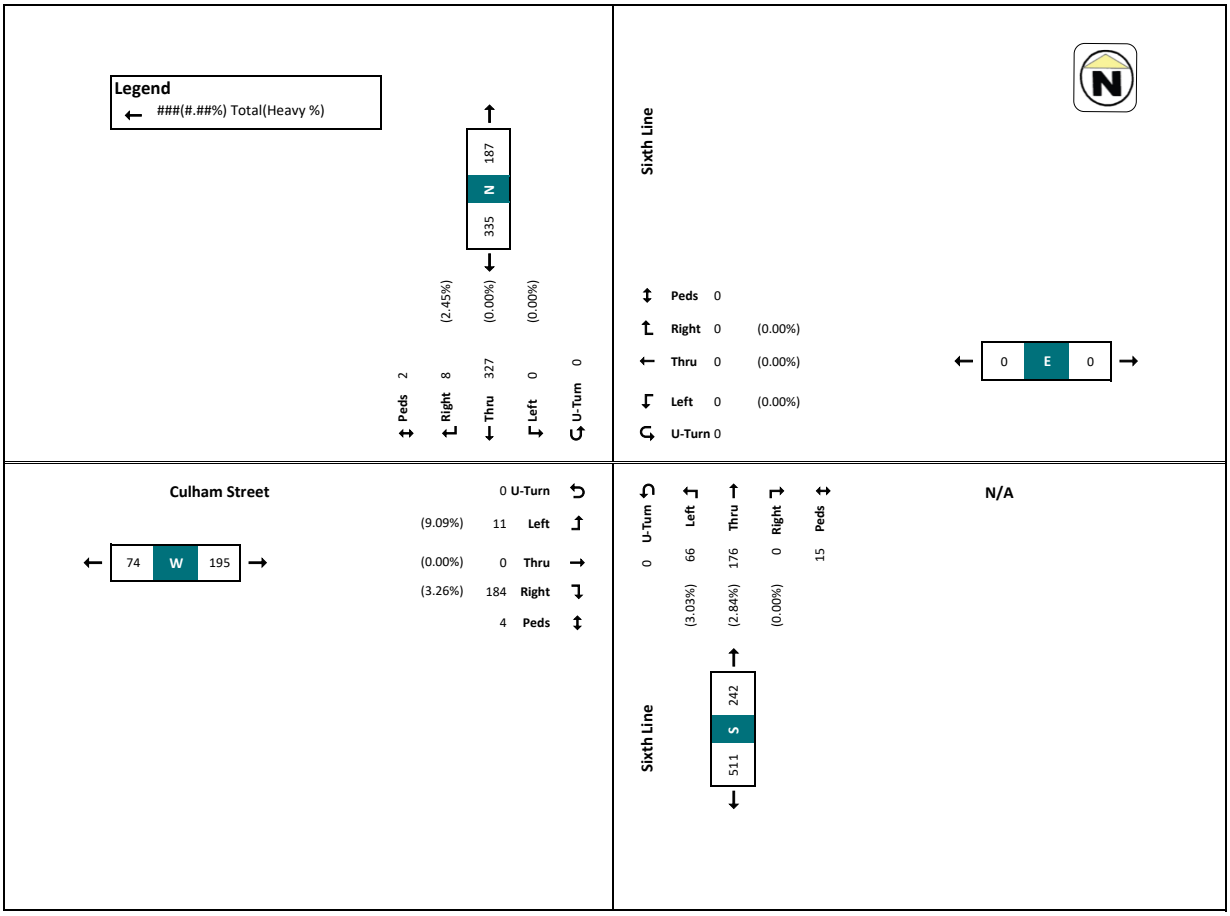
Sixth Line

LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Sixth Line & Culham Street
Survey Date : September 24, 2024
Project No. : 23400
Count ID : 24350

AM Peak Hour - Sixth Line & Culham Street

	Sixth Line Southbound						N/A Westbound						Sixth Line Northbound						Culham Street Eastbound						
Start Time	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	Grand Total
8:00	0	0	80	0	1	80	0	0	0	0	0	0	0	25	50	0	3	75	0	5	0	73	1	78	233
8:15	0	0	71	1	0	72	0	0	0	0	0	0	0	9	38	0	3	47	0	4	0	37	1	41	160
8:30	0	0	91	3	1	94	0	0	0	0	0	0	0	9	37	0	5	46	0	2	0	36	0	38	178
8:45	0	0	85	4	0	89	0	0	0	0	0	0	0	23	51	0	4	74	0	0	0	38	2	38	201
Hourly Total	0	0	327	8	2	335	0	0	0	0	0	0	0	66	176	0	15	242	0	11	0	184	4	195	772
Approach %	0.0%	0.0%	97.6%	2.4%	-	-	-	-	-	-	-	-	0.0%	27.3%	72.7%	0.0%	-	-	0.0%	5.6%	0.0%	94.4%	-	-	-
Total %	0.0%	0.0%	42.4%	1.0%	-	43.4%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	8.5%	22.8%	0.0%	-	31.3%	0.0%	1.4%	0.0%	23.8%	-	25.3%	-
PHF	0	0	0.9	0.5	-	0.89	0	0	0	0	-	0	0	0.66	0.86	0	-	0.81	0	0.55	0	0.63	-	0.63	0.83
Lights	0	0	319	6	-	325	0	0	0	0	-	0	0	64	171	0	-	235	0	10	0	178	-	188	748
% Lights	-	-	97.6%	75.0%	-	97.0%	-	-	-	-	-	-	-	97.0%	97.2%	-	-	97.1%	-	90.9%	-	96.7%	-	96.4%	96.9%
Buses	-	0	6	0	-	8	-	0	0	0	-	0	-	2	4	0	-	6	-	1	0	6	-	7	19
% Buses	-	-	1.8%	0.0%	-	1.8%	-	-	-	-	-	-	-	3.0%	2.3%	-	-	2.5%	-	9.1%	-	3.3%	-	3.6%	2.5%
Trucks	-	0	2	2	-	4	-	0	0	0	-	0	-	0	1	0	-	1	-	0	0	0	-	0	5
% Trucks	-	-	0.6%	25.0%	-	1.2%	-	-	-	-	-	-	-	0.0%	0.6%	-	-	0.4%	-	0.0%	-	0.0%	-	0.0%	0.6%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	1	1	-	-	-	-	0	0	1
Pedestrians	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	4	-	6

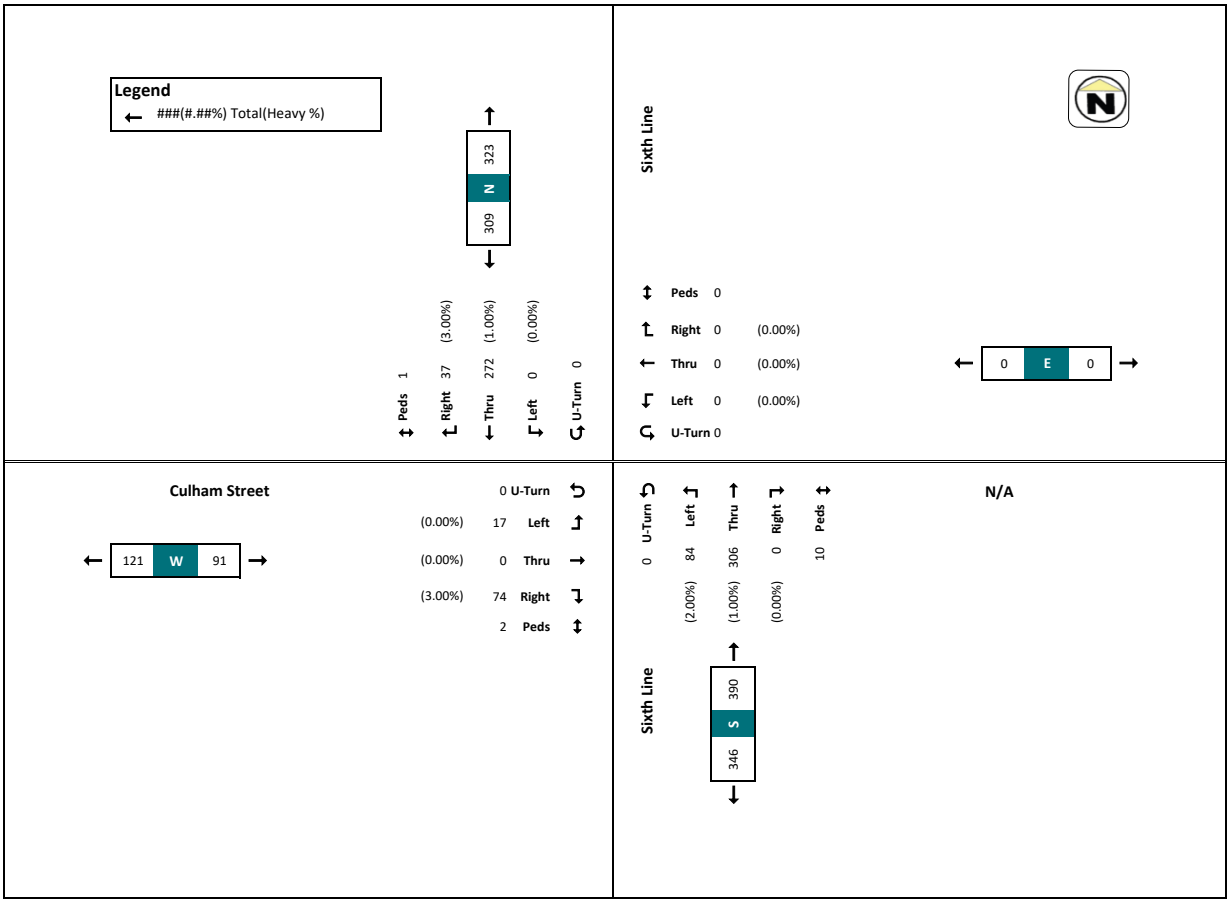


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Sixth Line & Culham Street
Survey Date : September 24, 2024
Project No. : 23400
Count ID : 24350

PM Peak Hour - Sixth Line & Culham Street

	Sixth Line Southbound						N/A Westbound						Sixth Line Northbound						Culham Street Eastbound						
Start Time	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	Grand Total
15:30	0	0	67	7	0	74	0	0	0	0	0	0	0	16	81	0	0	97	0	4	0	14	0	18	189
15:45	0	0	74	8	0	82	0	0	0	0	0	0	0	17	62	0	4	79	0	4	0	17	2	21	182
16:00	0	0	54	10	1	64	0	0	0	0	0	0	0	21	78	0	5	99	0	3	0	27	0	30	193
16:15	0	0	77	12	0	89	0	0	0	0	0	0	0	30	85	0	1	115	0	6	0	18	0	24	228
Hourly Total	0	0	272	37	1	309	0	0	0	0	0	0	0	84	306	0	10	390	0	17	0	76	2	93	792
Approach %	0.0%	0.0%	88.0%	12.0%	-	-	-	-	-	-	-	-	0.0%	21.5%	78.5%	0.0%	-	-	0.0%	18.3%	0.0%	81.7%	-	-	-
Total %	0.0%	0.0%	34.3%	4.7%	-	39.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	10.9%	39.6%	0.0%	-	49.2%	0.0%	2.2%	0.0%	9.8%	-	11.7%	-
PHF	0	0	0.88	0.77	-	0.87	0	0	0	0	-	0	0	0.7	0.9	0	-	0.85	0	0.71	0	0.7	-	0.78	0.87
Lights	0	0	270	36	-	306	0	0	0	0	-	0	0	82	304	0	-	386	0	17	0	74	-	91	783
% Lights	-	-	99.3%	97.3%	-	99.0%	-	-	-	-	-	-	-	97.6%	99.3%	-	-	99.0%	-	100.0%	-	97.4%	-	97.8%	98.9%
Buses	-	0	6	0	-	6	-	0	0	0	-	0	-	2	1	0	-	3	-	0	0	2	-	2	11
% Buses	-	-	2.2%	0.0%	-	1.9%	-	-	-	-	-	-	-	2.4%	0.3%	-	-	0.8%	-	0.0%	-	2.6%	-	2.2%	1.4%
Trucks	-	0	0	1	-	1	-	0	0	0	-	0	-	0	1	0	-	1	-	0	0	0	-	0	2
% Trucks	-	-	0.0%	2.7%	-	0.3%	-	-	-	-	-	-	-	0.0%	0.3%	-	-	0.3%	-	0.0%	-	0.0%	-	0.0%	0.3%
Bicycles	-	-	-	-	1	1	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	1
Pedestrians	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	1

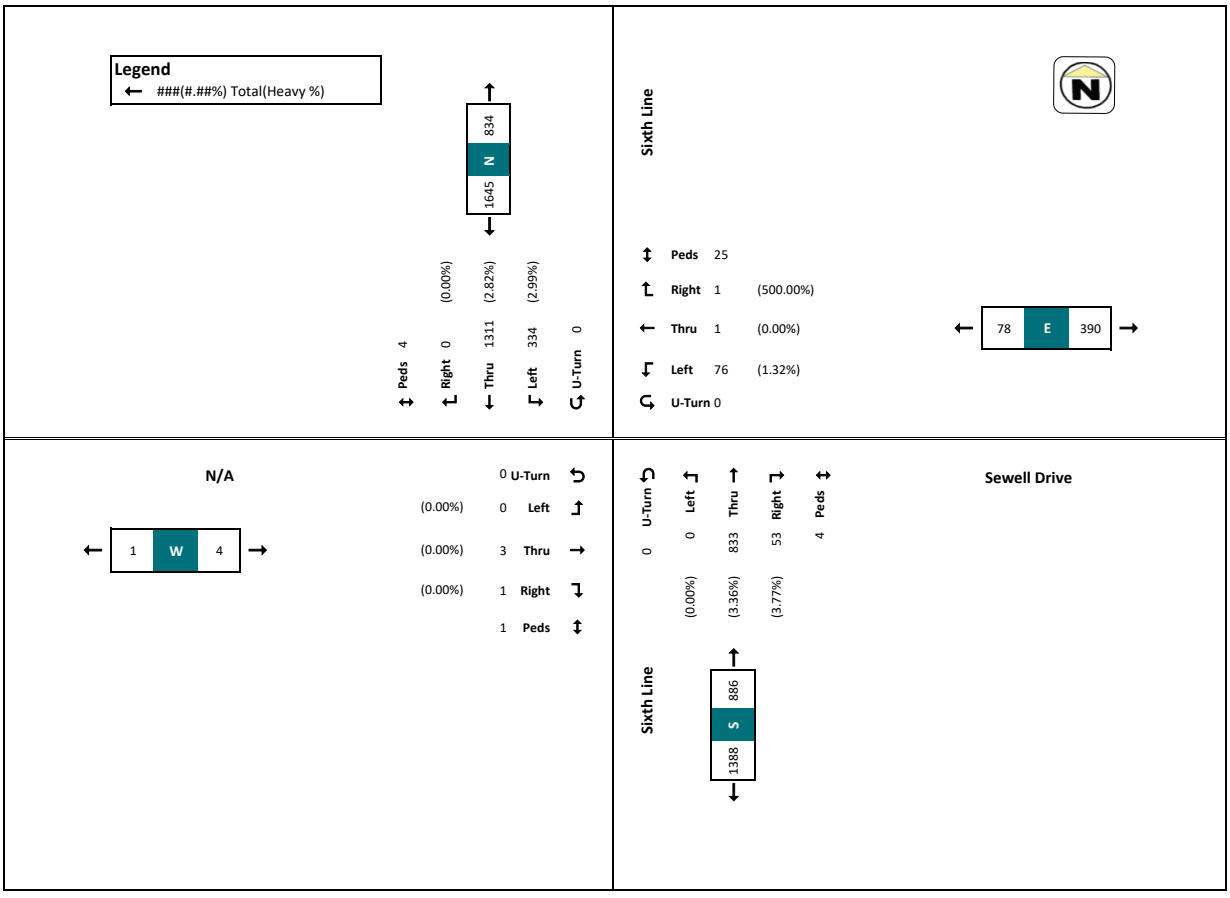


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Sixth Line & Sewell Drive
Survey Date : September 24, 2024
Project No. : 23400
Count ID : 24351

Turning Movement Count - Sixth Line & Sewell Drive

	Sixth Line Southbound						Sewell Drive Westbound						Sixth Line Northbound						N/A Eastbound						
Start Time	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	Grand Total
7:00	0	3	55	0	0	58	0	3	0	4	0	7	0	0	6	0	0	6	0	0	0	0	0	0	71
7:15	0	4	73	0	0	77	0	3	0	5	1	8	0	0	15	1	0	16	0	0	0	0	0	0	101
7:30	0	20	90	0	0	110	0	6	0	16	2	22	0	0	22	1	0	23	0	0	0	0	0	0	155
7:45	0	31	89	0	1	120	0	5	0	25	1	30	0	0	31	4	0	35	0	0	0	0	0	0	185
Hourly Total	0	58	307	0	1	365	0	17	0	50	4	67	0	0	74	6	0	80	0	0	0	0	0	0	512
8:00	0	46	100	0	0	146	0	5	0	41	1	46	0	0	31	6	0	37	0	0	0	0	0	0	229
8:15	0	14	104	0	0	118	0	7	0	20	0	27	0	0	30	1	0	31	0	0	0	0	0	0	176
8:30	0	38	85	0	0	123	0	8	0	21	2	29	0	0	24	5	0	29	0	0	0	0	0	0	181
8:45	0	30	95	0	0	125	0	7	0	51	0	58	0	0	21	3	0	24	0	0	0	0	0	0	207
Hourly Total	0	128	384	0	0	512	0	27	0	133	3	160	0	0	106	15	0	121	0	0	0	0	0	0	793
9:00	0	14	57	0	0	71	0	4	0	18	2	22	0	0	23	2	0	25	0	0	0	0	0	0	118
9:15	0	15	64	0	0	79	0	9	0	12	0	21	0	0	25	1	0	26	0	0	0	0	0	0	126
Hourly Total	0	29	121	0	0	150	0	13	0	30	2	43	0	0	48	3	0	51	0	0	0	0	0	0	244
* Break *																									
14:00	0	21	48	0	0	69	0	1	0	20	0	21	0	0	57	6	0	63	0	0	0	0	0	0	153
14:15	0	11	53	0	0	64	0	8	0	33	1	41	0	0	46	6	0	52	0	0	0	0	0	0	157
14:30	0	7	63	0	0	70	0	5	0	26	1	31	0	0	64	3	0	67	0	0	0	0	0	0	168
14:45	0	22	69	0	1	91	0	2	0	9	0	11	0	0	59	5	0	64	0	0	0	0	0	0	166
Hourly Total	0	61	233	0	1	294	0	16	0	88	2	104	0	0	226	20	0	246	0	0	0	0	0	0	644
15:00	0	18	60	0	0	78	0	0	0	13	2	13	0	0	70	6	0	76	0	0	0	0	0	0	167
15:15	0	11	59	0	1	70	0	2	0	13	5	15	0	0	76	3	2	79	0	0	0	0	0	0	164
15:30	0	16	54	0	0	70	0	3	1	11	2	15	0	0	72	3	0	75	0	0	3	1	0	4	164
15:45	0	18	70	0	0	88	0	4	0	10	1	14	0	0	69	2	2	71	0	0	0	0	0	0	173
Hourly Total	0	63	243	0	1	306	0	9	1	47	10	57	0	0	287	14	4	301	0	0	3	1	0	4	668
16:00	0	12	65	0	0	77	0	2	0	14	3	16	0	0	82	3	0	85	0	0	0	0	1	0	178
16:15	0	12	67	0	0	79	0	3	0	18	0	21	0	0	90	4	0	94	0	0	0	0	0	0	194
16:30	0	14	52	0	0	66	0	1	0	12	0	13	0	0	79	2	0	81	0	0	0	0	0	0	160
16:45	0	18	72	0	2	90	0	4	0	11	2	15	0	0	67	6	0	73	0	0	0	0	0	0	178
Hourly Total	0	56	256	0	2	312	0	10	0	55	6	65	0	0	318	15	0	333	0	0	0	0	1	0	710
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	395	1544	0	5	1939	0	92	1	403	27	496	0	0	1059	73	4	1132	0	0	3	1	1	4	3571
Approach %	0.0%	20.4%	79.6%	0.0%	-	-	0.0%	18.5%	0.2%	81.3%	-	-	0.0%	0.0%	93.6%	6.4%	-	-	0.0%	0.0%	75.0%	25.0%	-	-	-
Total %	0.0%	11.1%	43.2%	0.0%	-	54.3%	0.0%	2.6%	0.0%	11.3%	-	13.9%	0.0%	0.0%	29.7%	2.0%	-	31.7%	0.0%	0.0%	0.1%	0.0%	-	0.1%	-
Lights	0	385	1507	0	-	1892	0	91	1	398	-	490	0	0	1031	71	-	1102	0	0	3	1	-	4	3488
% Lights	-	97.5%	97.6%	-	-	97.6%	-	98.9%	100.0%	98.8%	-	98.8%	-	-	97.4%	97.3%	-	97.3%	-	-	100.0%	100.0%	-	100.0%	97.7%
Buses	-	8	25	0	-	33	-	0	0	5	-	5	-	0	22	2	-	24	-	0	0	0	-	0	62
% Buses	-	2.0%	1.6%	-	-	1.7%	-	0.0%	0.0%	1.2%	-	1.0%	-	-	2.1%	2.7%	-	2.1%	-	-	0.0%	0.0%	-	0.0%	1.7%
Trucks	-	2	12	0	-	14	-	1	0	0	-	1	-	0	6	0	-	6	-	0	0	0	-	0	21
% Trucks	-	0.5%	0.8%	-	-	0.7%	-	1.1%	0.0%	0.0%	-	0.2%	-	-	0.6%	0.0%	-	0.5%	-	-	0.0%	0.0%	-	0.0%	0.6%
Bicycles	-	-	-	-	12	12	-	-	-	-	0	0	-	-	-	-	8	8	-	-	-	-	0	0	20
Pedestrians	-	-	-	-	5	-	-	-	-	-	27	-	-	-	-	-	4	-	-	-	-	-	1	-	37

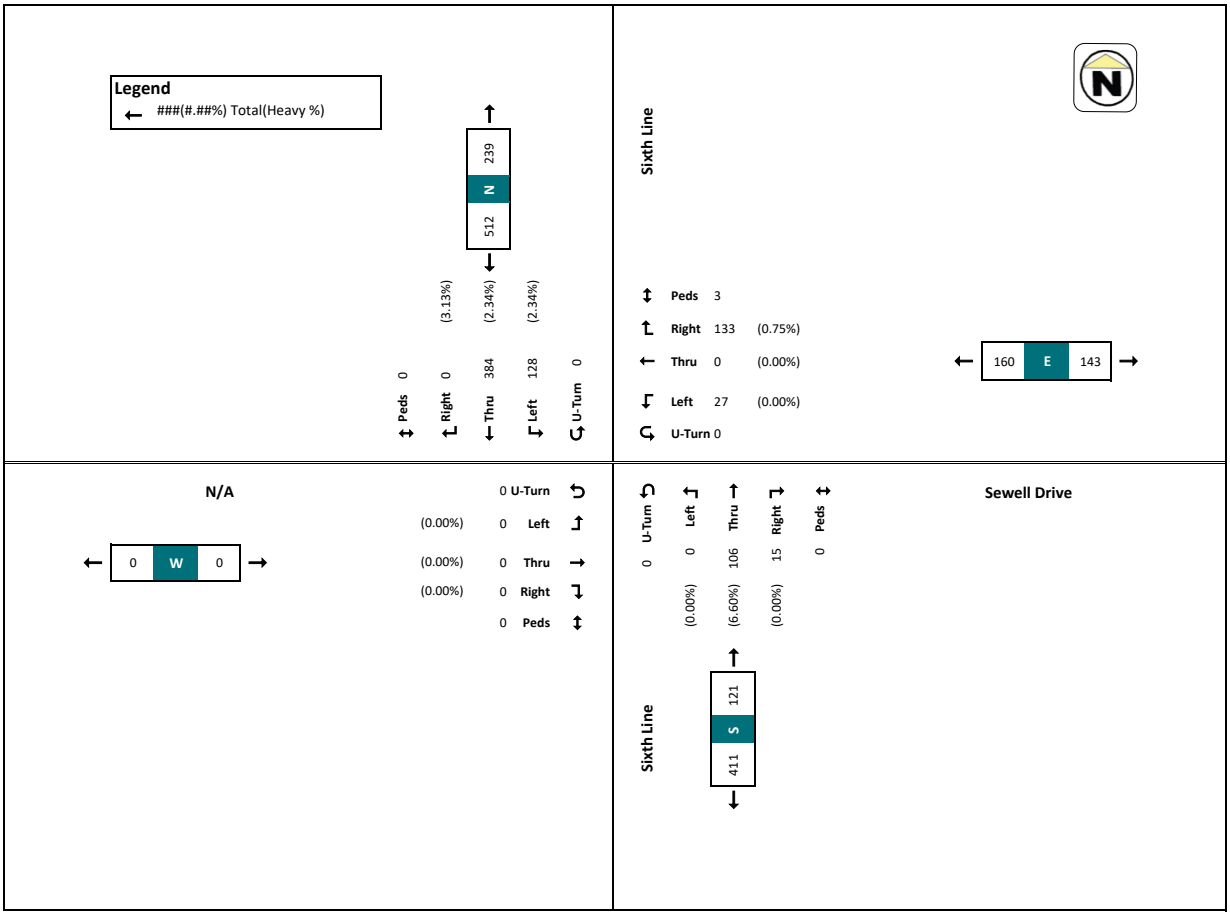


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Sixth Line & Sewell Drive
Survey Date : September 24, 2024
Project No. : 23400
Count ID : 24351

AM Peak Hour - Sixth Line & Sewell Drive

	Sixth Line Southbound						Sewell Drive Westbound						Sixth Line Northbound						N/A Eastbound						
Start Time	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	Grand Total
8:00	0	46	100	0	0	146	0	5	0	41	1	46	0	0	31	6	0	37	0	0	0	0	0	0	229
8:15	0	14	104	0	0	118	0	7	0	20	0	27	0	0	30	1	0	31	0	0	0	0	0	0	176
8:30	0	38	85	0	0	123	0	8	0	21	2	29	0	0	24	5	0	29	0	0	0	0	0	0	181
8:45	0	30	95	0	0	125	0	7	0	51	0	58	0	0	21	3	0	24	0	0	0	0	0	0	207
Hourly Total	0	128	384	0	0	512	0	27	0	133	3	160	0	0	106	15	0	121	0	0	0	0	0	0	793
Approach %	0.0%	25.0%	75.0%	0.0%	-	-	0.0%	16.9%	0.0%	83.1%	-	-	0.0%	0.0%	87.6%	12.4%	-	-	-	-	-	-	-	-	-
Total %	0.0%	16.1%	48.4%	0.0%	-	64.6%	0.0%	3.4%	0.0%	16.8%	-	20.2%	0.0%	0.0%	13.4%	1.9%	-	15.3%	0.0%	0.0%	0.0%	0.0%	-	0.0%	-
PHF	0	0.7	0.92	0	-	0.88	0	0.84	0	0.65	-	0.69	0	0	0.85	0.63	-	0.82	0	0	0	0	-	0	0.87
Lights	0	125	372	0	-	497	0	27	0	132	-	159	0	0	99	15	-	114	0	0	0	0	-	0	770
% Lights	-	97.7%	96.9%	-	-	97.1%	-	100.0%	-	99.2%	-	99.4%	-	-	93.4%	100.0%	-	94.2%	-	-	-	-	-	-	97.1%
Buses	-	3	10	0	-	13	-	0	0	1	-	1	-	0	5	0	-	5	-	0	0	0	-	0	19
% Buses	-	2.3%	2.6%	-	-	2.5%	-	0.0%	-	0.8%	-	0.6%	-	-	4.7%	0.0%	-	4.1%	-	-	-	-	-	-	2.4%
Trucks	-	0	2	0	-	2	-	0	0	0	-	0	-	0	2	0	-	2	-	0	0	0	-	0	4
% Trucks	-	0.0%	0.5%	-	-	0.4%	-	0.0%	-	0.0%	-	0.0%	-	-	1.9%	0.0%	-	1.7%	-	-	-	-	-	-	0.5%
Bicycles	-	-	-	-	4	4	-	-	-	-	0	0	-	-	-	-	1	1	-	-	-	-	0	0	5
Pedestrians	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	0	-	3

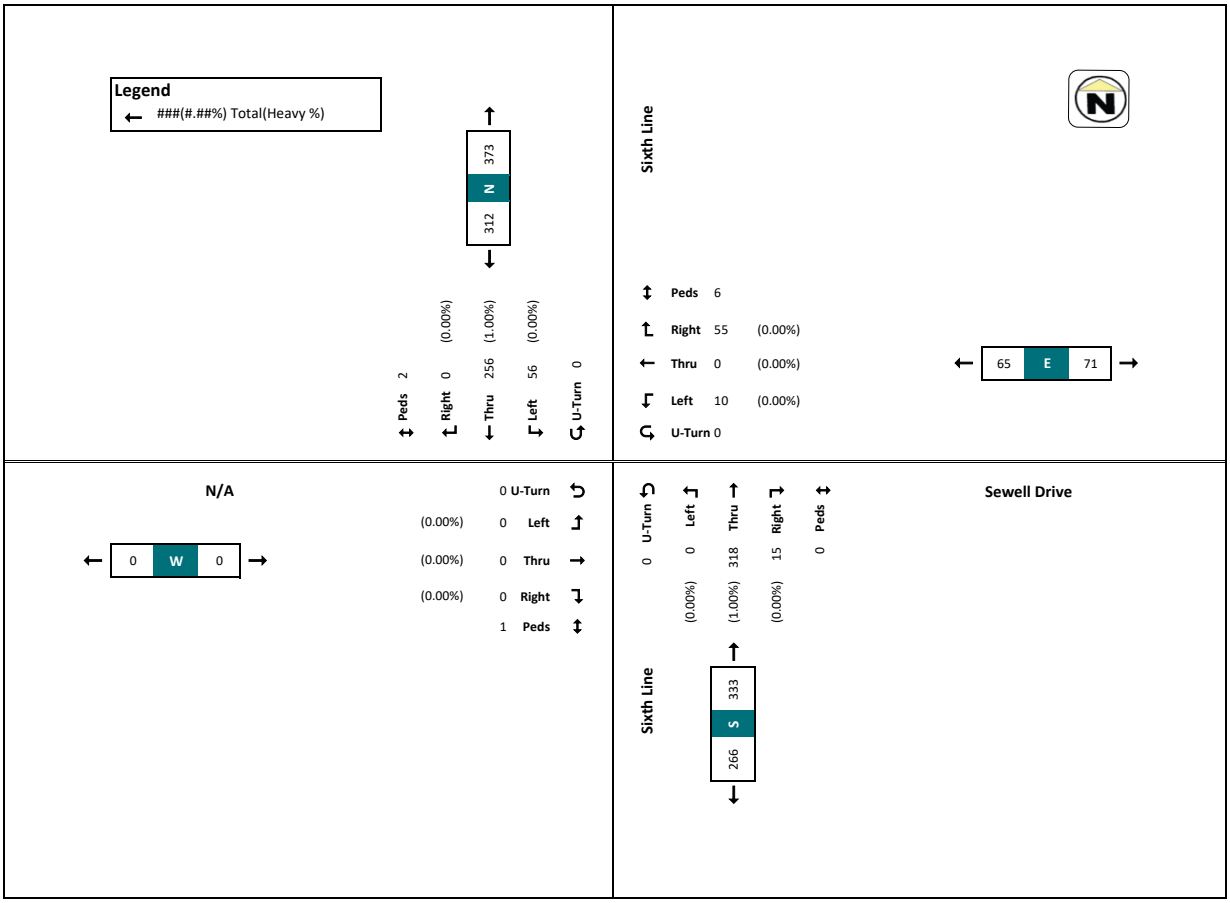


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Sixth Line & Sewell Drive
Survey Date : September 24, 2024
Project No. : 23400
Count ID : 24351

PM Peak Hour - Sixth Line & Sewell Drive

	Sixth Line Southbound						Sewell Drive Westbound						Sixth Line Northbound						N/A Eastbound						
Start Time	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	Grand Total
16:00	0	12	65	0	0	77	0	2	0	14	3	16	0	0	82	3	0	85	0	0	0	0	1	0	178
16:15	0	12	67	0	0	79	0	3	0	18	0	21	0	0	90	4	0	94	0	0	0	0	0	0	194
16:30	0	14	52	0	0	66	0	1	0	12	1	13	0	0	79	2	0	81	0	0	0	0	0	0	160
16:45	0	18	72	0	2	90	0	4	0	11	2	15	0	0	67	6	0	73	0	0	0	0	0	0	178
Hourly Total	0	56	256	0	2	312	0	10	0	55	6	65	0	0	318	15	0	333	0	0	0	0	1	0	710
Approach %	0.0%	17.9%	82.1%	0.0%	-	-	0.0%	15.4%	0.0%	84.6%	-	-	0.0%	0.0%	95.5%	4.5%	-	-	-	-	-	-	-	-	-
Total %	0.0%	7.9%	36.1%	0.0%	-	43.9%	0.0%	1.3%	0.0%	7.7%	-	9.2%	0.0%	0.0%	40.1%	1.9%	-	46.9%	0.0%	0.0%	0.0%	0.0%	-	0.0%	-
PHF	0	0.78	0.89	0	-	0.87	0	0.63	0	0.76	-	0.77	0	0	0.88	0.63	-	0.89	0	0	0	0	-	0	0.91
Lights	0	56	253	0	-	309	0	10	0	55	-	65	0	0	316	15	-	331	0	0	0	0	-	0	705
% Lights	-	100.0%	98.8%	-	-	99.0%	-	100.0%	-	100.0%	-	100.0%	-	-	99.4%	100.0%	-	99.4%	-	-	-	-	-	-	99.3%
Buses	-	0	10	0	-	10	-	0	0	0	-	0	-	0	1	0	-	1	-	0	0	0	-	0	11
% Buses	-	0.0%	3.9%	-	-	3.2%	-	0.0%	-	0.0%	-	0.0%	-	-	0.3%	0.0%	-	0.3%	-	-	-	-	-	-	1.5%
Trucks	-	0	1	0	-	1	-	0	0	0	-	0	-	0	1	0	-	1	-	0	0	0	-	0	2
% Trucks	-	0.0%	0.4%	-	-	0.3%	-	0.0%	-	0.0%	-	0.0%	-	-	0.3%	0.0%	-	0.3%	-	-	-	-	-	-	0.3%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	1	1	-	-	-	-	0	0	1
Pedestrians	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	2



Town of Oakville, ON

ECONOLITE

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

APPENDIX C

Background Developments

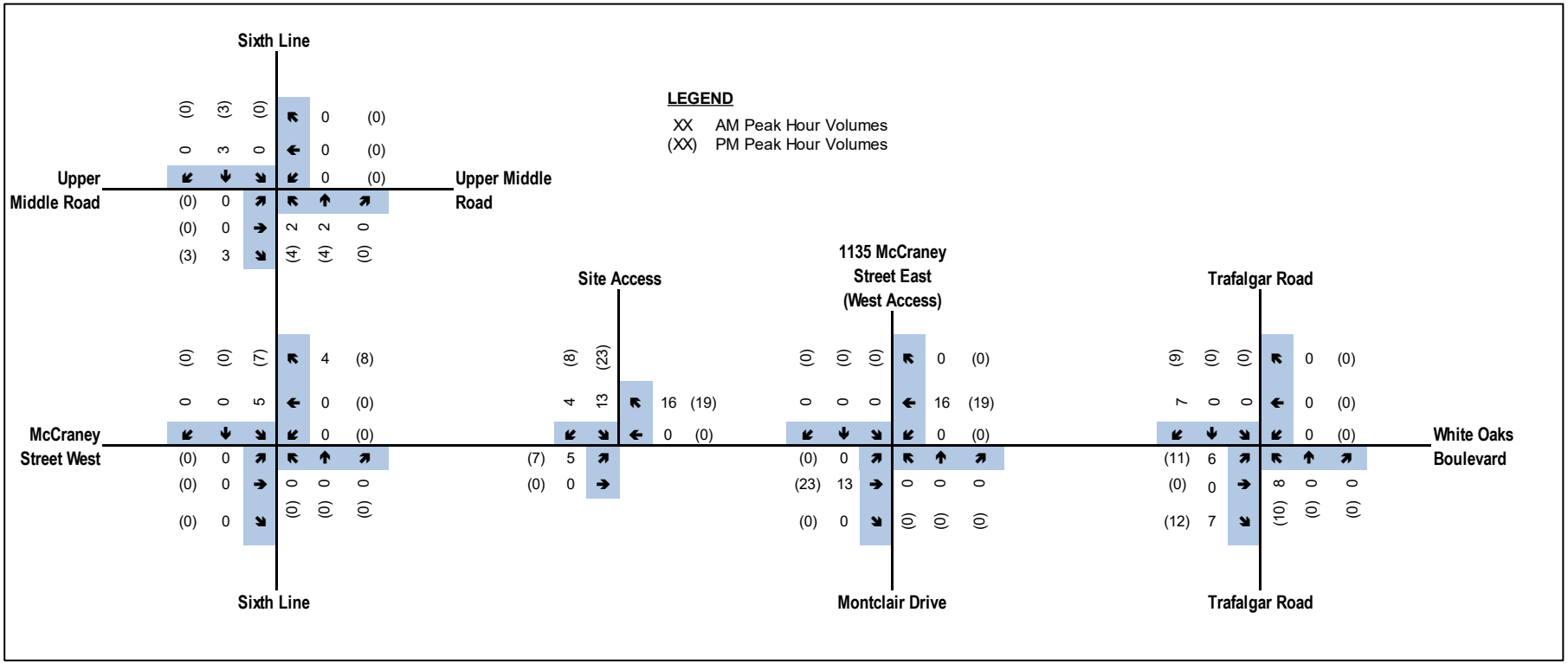


Figure 6 Estimated Site Trips

APPENDIX D

TTS Modal Split Data

TTS Mode Split

Fri Nov 08 2024 16:25:16 GMT-0500 (Eastern Standard Time) - Run Time: 1874ms

Cross Tabulation Query Form - Trip - 2016

Row: Type of dwelling unit - dwell_type
Column: Primary travel mode of trip - mode_prime

Filters:
2006 GTA zone of household - gta06_hhld In 4030, 4031
and
Trip purpose - trip_purp In 1

undefined
ROW : dwell_type
COLUMN : mode_prime

dwell_type	mode_prim	total	Mode
1	B	216	Transit excluding GO rail
1	C	51	Cycle
1	D	3064	Auto driver
1	G	180	GO rail only
1	J	181	Joint GO rail and local transit
1	P	191	Auto passenger
2	D	161	Auto driver
2	G	6	GO rail only
3	B	44	Transit excluding GO rail
3	D	982	Auto driver
3	J	127	Joint GO rail and local transit
3	P	121	Auto passenger
3	W	107	Walk
		5431	

Row Labels	Sum of total	Sum of total2
Auto driver	4207	77%
Auto passenger	312	6%
Cycle	51	1%
GO rail only	186	3%
Joint GO rail and local transit	308	6%
Transit excluding GO rail	260	5%
Walk	107	2%
Grand Total	**5431**	**100%**

Mode	%
Auto including "GO Transit Only"	81%
Auto Passenger	6%
Transit excluding "GO Transit Only" (Assume must drive to station)	10%
Walk	2%
Cycle	1%
	100%

APPENDIX E

TTS Trip Distribution Data

TTS - Residential AM Outbound

Fri Nov 08 2024 08:12:07 GMT-0500 (Eastern Standard Time) - Run Time: 3146ms

Cross Tabulation Query Form - Trip - 2016

Row: Planning district of destination - pd_dest
Column: 2006 GTA zone of origin - gta06_orig

RowG:
ColG:(4030,4031)
TblG:

Filters:
Start time of trip - start_time In 0600-1000
and
Trip purpose of origin - purp_orig In H
and
Primary travel mode of trip - mode_prime In D, M, P, T

undefined
ROW : pd_dest
COLUMN : gta06_orig

pd_dest	gta06_orig	total	Gateway
1	1	57	Sixth Line (S)
2	1	215	Sixth Line (S)
7	1	54	Sixth Line (S)
8	1	43	Sixth Line (S)
10	1	151	Sixth Line (S)
33	1	47	Sixth Line (S)
35	1	157	Sixth Line (S)
36	1	576	Sixth Line (S)
37	1	14	Sixth Line (N)
38	1	126	Sixth Line (N)
39	1	1527	
40	1	122	Sixth Line (S)
54	1	33	Sixth Line (S)
64	1	15	Sixth Line (N)
		3137	

Row Labels	Sum of total	Sum of total2
Sixth Line (N)	807	29%
Sixth Line (S)	1943	71%
Grand Total	**2750**	**100%**

Fri Nov 08 2024 08:13:18 GMT-0500 (Eastern Standard Time) - Run Time: 2926ms

Cross Tabulation Query Form - Trip - 2016

Row: 2006 GTA zone of destination - gta06_dest
Column: 2006 GTA zone of origin - gta06_orig

RowG:
ColG:(4030,4031)
TblG:

Filters:
Start time of trip - start_time In 0600-1000
and
Trip purpose of origin - purp_orig In H
and
Primary travel mode of trip - mode_prime In D, M, P, T
and
Planning district of destination - pd_dest In 39

undefined
ROW : gta06_dest
COLUMN : gta06_orig

gta06_dest	gta06_orig	total	
4003	1	13	Sixth Line (S)
4006	1	13	Sixth Line (S)
4008	1	44	Sixth Line (S)
4009	1	55	Sixth Line (S)
4011	1	13	Sixth Line (S)
4012	1	138	Sixth Line (S)
4014	1	65	Sixth Line (S)
4016	1	47	Sixth Line (S)
4018	1	4	Sixth Line (S)
4021	1	96	Sixth Line (S)
4024	1	18	Sixth Line (N)
4025	1	228	Sixth Line (N)
4029	1	110	Sixth Line (N)
4030	1	129	Internal
4031	1	259	Internal
4032	1	14	Sixth Line (N)
4034	1	5	Sixth Line (N)
4035	1	15	Sixth Line (N)
4036	1	51	Sixth Line (N)
4037	1	94	Sixth Line (N)
4038	1	33	Sixth Line (N)
4039	1	28	Sixth Line (N)
4040	1	7	Sixth Line (N)
4041	1	17	Sixth Line (N)
4042	1	19	Sixth Line (N)
4185	1	13	Sixth Line (N)
		1528	

TTS - Residential PM Inbound

Fri Nov 08 2024 08:44:12 GMT-0500 (Eastern Standard Time) - Run Time: 2720ms

Cross Tabulation Query Form - Trip - 2016

Row: Planning district of origin - pd_orig
Column: 2006 GTA zone of destination - gta06_dest

RowG:
ColG:(4030,4031)
TblG:

Filters:
Start time of trip - start_time In 1400-1900
and
Trip purpose of destination - purp_dest In H
and
Primary travel mode of trip - mode_prime In D, M, P, T

undefined
ROW : pd_orig
COLUMN : gta06_dest

pd_orig	gta06_de:	total	Gateway
1	1	25	Sixth Line (S)
2	1	105	Sixth Line (S)
7	1	15	Sixth Line (S)
8	1	104	Sixth Line (S)
9	1	12	Sixth Line (S)
10	1	9	Sixth Line (S)
33	1	18	Sixth Line (S)
34	1	19	Sixth Line (S)
35	1	158	Sixth Line (S)
36	1	528	Sixth Line (S)
37	1	14	Sixth Line (N)
38	1	126	Sixth Line (N)
39	1	1755	Internal
40	1	143	Sixth Line (S)
46	1	15	Sixth Line (S)
63	1	12	Sixth Line (N)
		3058	

Row Labels	Sum of total	Sum of total2
Sixth Line (N)	723	27%
Sixth Line (S)	1933	73%
Grand Total	**2656**	**100%**

Fri Nov 08 2024 08:44:52 GMT-0500 (Eastern Standard Time) - Run Time: 3004ms

Cross Tabulation Query Form - Trip - 2016

Row: 2006 GTA zone of origin - gta06_orig
Column: 2006 GTA zone of destination - gta06_dest

RowG:
ColG:(4030,4031)
TblG:

Filters:
Start time of trip - start_time In 1400-1900
and
Trip purpose of destination - purp_dest In H
and
Primary travel mode of trip - mode_prime In D, M, P, T
and
Planning district of origin - pd_orig In 39

undefined
ROW : gta06_orig
COLUMN : gta06_dest

gta06_ori	gta06_de:	total	Gateway
4003	1	13	Sixth Line (S)
4006	1	14	Sixth Line (S)
4008	1	32	Sixth Line (S)
4009	1	28	Sixth Line (S)
4011	1	105	Sixth Line (S)
4012	1	182	Sixth Line (S)
4014	1	80	Sixth Line (S)
4016	1	58	Sixth Line (S)
4018	1	4	Sixth Line (S)
4021	1	156	Sixth Line (S)
4022	1	26	Sixth Line (S)
4024	1	152	Sixth Line (N)
4025	1	60	Sixth Line (N)
4027	1	84	Sixth Line (S)
4029	1	42	Sixth Line (N)
4030	1	363	Internal
4031	1	42	Internal
4034	1	76	Sixth Line (N)
4035	1	102	Sixth Line (N)
4036	1	24	Sixth Line (N)
4038	1	33	Sixth Line (N)
4039	1	26	Sixth Line (N)
4040	1	10	Sixth Line (N)
4041	1	13	Sixth Line (N)
4045	1	20	Sixth Line (N)
4185	1	13	Sixth Line (N)

APPENDIX F

Existing Intersection Capacity Analysis

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	253	0	0	511
Future Vol, veh/h	0	0	253	0	0	511
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	3	0	0	3
Mvmt Flow	0	0	305	0	0	616

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	921	305	0	0	305	0
Stage 1	305	-	-	-	-	-
Stage 2	616	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	303	740	-	-	1267	-
Stage 1	752	-	-	-	-	-
Stage 2	543	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	303	740	-	-	1267	-
Mov Cap-2 Maneuver	303	-	-	-	-	-
Stage 1	752	-	-	-	-	-
Stage 2	543	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1267	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Intersection Delay, s/veh	12.8
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	184	66	187	327	8
Future Vol, veh/h	11	184	66	187	327	8
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	9	3	3	3	2	25
Mvmt Flow	13	222	80	225	394	10
Number of Lanes	1	0	0	1	1	0

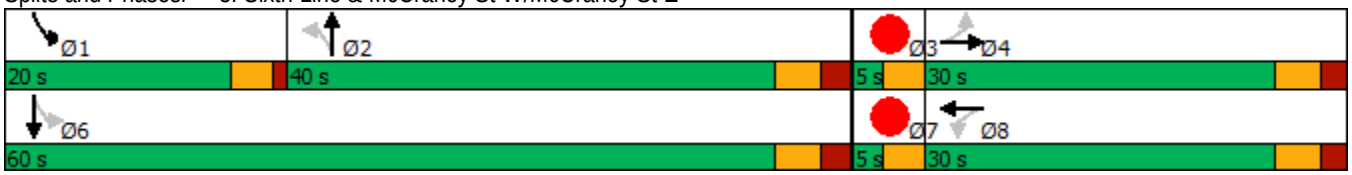
Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	11	12.3	14.3
HCM LOS	B	B	B

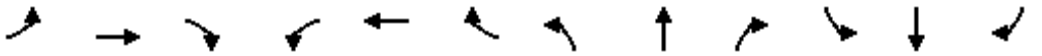
Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	26%	6%	0%
Vol Thru, %	74%	0%	98%
Vol Right, %	0%	94%	2%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	253	195	335
LT Vol	66	11	0
Through Vol	187	0	327
RT Vol	0	184	8
Lane Flow Rate	305	235	404
Geometry Grp	1	1	1
Degree of Util (X)	0.44	0.342	0.563
Departure Headway (Hd)	5.202	5.247	5.025
Convergence, Y/N	Yes	Yes	Yes
Cap	692	686	722
Service Time	3.23	3.281	3.025
HCM Lane V/C Ratio	0.441	0.343	0.56
HCM Control Delay	12.3	11	14.3
HCM Lane LOS	B	B	B
HCM 95th-tile Q	2.3	1.5	3.5

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations										
Traffic Volume (vph)	24	148	36	44	12	167	323	259		
Future Volume (vph)	24	148	36	44	12	167	323	259		
Lane Group Flow (vph)	31	241	46	412	15	238	414	342		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2	1	6	3	7
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	2.0	2.0
Minimum Split (s)	25.3	25.3	25.3	25.3	29.6	29.6	11.0	29.6	5.0	5.0
Total Split (s)	30.0	30.0	30.0	30.0	40.0	40.0	20.0	60.0	5.0	5.0
Total Split (%)	31.6%	31.6%	31.6%	31.6%	42.1%	42.1%	21.1%	63.2%	5%	5%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.0	3.3	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.3	2.3	1.0	2.3	0.0	0.0
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	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					Yes	Yes
Recall Mode	None	None	None	None	Max	Max	None	Max	Max	Max
v/c Ratio	0.40	0.59	0.32	0.75	0.04	0.34	0.66	0.31		
Control Delay	47.2	35.8	36.1	17.2	19.2	21.4	15.4	10.2		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	47.2	35.8	36.1	17.2	19.2	21.4	15.4	10.2		
Queue Length 50th (m)	4.9	37.4	7.1	13.2	1.7	29.5	35.3	27.6		
Queue Length 95th (m)	12.2	51.2	15.0	28.5	5.3	43.9	51.2	40.6		
Internal Link Dist (m)		71.2		129.4		239.0		151.2		
Turn Bay Length (m)	15.0		25.0		23.0		50.0			
Base Capacity (vph)	91	483	169	590	389	698	639	1102		
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	0.34	0.50	0.27	0.70	0.04	0.34	0.65	0.31		

Intersection Summary
Cycle Length: 95
Actuated Cycle Length: 91.2
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Sixth Line & McCraney St W/McCraney St E





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	148	40	36	44	278	12	167	19	323	259	8
Future Volume (vph)	24	148	40	36	44	278	12	167	19	323	259	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.3	3.6	3.5	3.3	3.6	3.5	3.3	3.6	3.5	3.3	3.6	3.5
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	
Frpb, ped/bikes	1.00	0.97		1.00	0.87		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.96	1.00		0.93	1.00		0.98	1.00		0.99	1.00	
Frt	1.00	0.97		1.00	0.87		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1680	1751		1342	1309		1710	1781		1570	1846	
Flt Permitted	0.19	1.00		0.45	1.00		0.56	1.00		0.50	1.00	
Satd. Flow (perm)	338	1751		631	1309		999	1781		834	1846	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	31	190	51	46	56	356	15	214	24	414	332	10
RTOR Reduction (vph)	0	11	0	0	251	0	0	4	0	0	1	0
Lane Group Flow (vph)	31	230	0	46	161	0	15	234	0	414	341	0
Confl. Peds. (#/hr)	45		41	41		45	17		18	18		17
Confl. Bikes (#/hr)			1			4			1			9
Heavy Vehicles (%)	0%	1%	6%	21%	2%	9%	0%	5%	0%	10%	2%	13%
Bus Blockages (#/hr)	0	0	0	0	4	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		
Actuated Green, G (s)	20.9	20.9		20.9	20.9		35.6	35.6		54.5	54.5	
Effective Green, g (s)	20.9	20.9		20.9	20.9		35.6	35.6		54.5	54.5	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.39	0.39		0.60	0.60	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Vehicle Extension (s)	3.5	3.5		3.5	3.5		5.5	5.5		2.5	5.5	
Lane Grp Cap (vph)	77	400		144	299		389	694		617	1101	
v/s Ratio Prot		c0.13			0.12			0.13		c0.11	0.18	
v/s Ratio Perm	0.09			0.07			0.02			c0.29		
v/c Ratio	0.40	0.58		0.32	0.54		0.04	0.34		0.67	0.31	
Uniform Delay, d1	29.9	31.3		29.3	30.9		17.2	19.6		10.5	9.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.0	2.2		1.5	2.1		0.2	1.3		2.6	0.7	
Delay (s)	33.9	33.4		30.8	33.0		17.4	20.9		13.1	9.8	
Level of Service	C	C		C	C		B	C		B	A	
Approach Delay (s)		33.5			32.8			20.7			11.6	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	91.3	Sum of lost time (s)	17.9
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	141	112	15	128	384
Future Vol, veh/h	27	141	112	15	128	384
Conflicting Peds, #/hr	0	0	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	1	7	0	2	3
Mvmt Flow	31	162	129	17	147	441

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	876	141	0	0	149	0
Stage 1	141	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Critical Hdwy	6.4	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	322	910	-	-	1432	-
Stage 1	891	-	-	-	-	-
Stage 2	478	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	278	908	-	-	1429	-
Mov Cap-2 Maneuver	278	-	-	-	-	-
Stage 1	889	-	-	-	-	-
Stage 2	413	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.6	0	2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	666	1429	-
HCM Lane V/C Ratio	-	-	0.29	0.103	-
HCM Control Delay (s)	-	-	12.6	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.2	0.3	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	390	0	0	348
Future Vol, veh/h	0	0	390	0	0	348
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	0	0	448	0	0	400

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	848	449	0	0	448	0
Stage 1	448	-	-	-	-	-
Stage 2	400	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	334	614	-	-	1123	-
Stage 1	648	-	-	-	-	-
Stage 2	681	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	334	613	-	-	1123	-
Mov Cap-2 Maneuver	334	-	-	-	-	-
Stage 1	648	-	-	-	-	-
Stage 2	681	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1123	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	76	84	306	272	37
Future Vol, veh/h	17	76	84	306	272	37
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	3	2	1	1	3
Mvmt Flow	20	87	97	352	313	43
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.2	13.9	11.5
HCM LOS	A	B	B

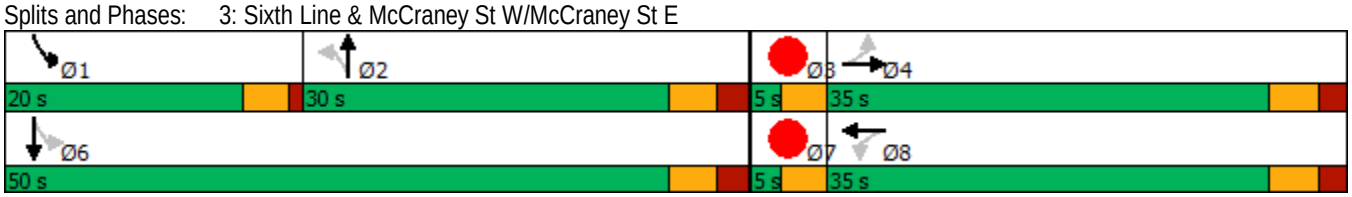
Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	22%	18%	0%
Vol Thru, %	78%	0%	88%
Vol Right, %	0%	82%	12%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	390	93	309
LT Vol	84	17	0
Through Vol	306	0	272
RT Vol	0	76	37
Lane Flow Rate	448	107	355
Geometry Grp	1	1	1
Degree of Util (X)	0.578	0.154	0.455
Departure Headway (Hd)	4.641	5.2	4.616
Convergence, Y/N	Yes	Yes	Yes
Cap	776	684	778
Service Time	2.69	3.277	2.668
HCM Lane V/C Ratio	0.577	0.156	0.456
HCM Control Delay	13.9	9.2	11.5
HCM Lane LOS	B	A	B
HCM 95th-tile Q	3.8	0.5	2.4

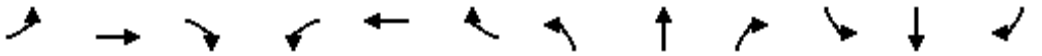
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations										
Traffic Volume (vph)	17	35	16	45	18	293	173	273		
Future Volume (vph)	17	35	16	45	18	293	173	273		
Lane Group Flow (vph)	20	63	18	352	21	351	199	342		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2	1	6	3	7
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	2.0	2.0
Minimum Split (s)	26.3	26.3	26.3	26.3	29.6	29.6	11.0	29.6	5.0	5.0
Total Split (s)	35.0	35.0	35.0	35.0	30.0	30.0	20.0	50.0	5.0	5.0
Total Split (%)	38.9%	38.9%	38.9%	38.9%	33.3%	33.3%	22.2%	55.6%	6%	6%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.0	3.3	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.3	2.3	1.0	2.3	0.0	0.0
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	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	Max	Max	None	Max	Max	Max
v/c Ratio	0.11	0.14	0.07	0.58	0.05	0.49	0.38	0.34		
Control Delay	25.3	17.6	24.2	9.8	17.4	22.2	10.6	10.8		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	25.3	17.6	24.2	9.8	17.4	22.2	10.6	10.8		
Queue Length 50th (m)	2.5	5.0	2.2	6.5	2.1	41.4	14.1	27.2		
Queue Length 95th (m)	7.9	13.9	7.3	27.1	6.8	67.4	23.6	41.8		
Internal Link Dist (m)		71.2		129.4		239.0		151.2		
Turn Bay Length (m)	15.0		25.0		23.0		50.0			
Base Capacity (vph)	268	652	357	750	387	716	601	1018		
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	0.07	0.10	0.05	0.47	0.05	0.49	0.33	0.34		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 80.3
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Sixth Line & McCraney St W/McCraney St E





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	35	20	16	45	261	18	293	12	173	273	24
Future Volume (vph)	17	35	20	16	45	261	18	293	12	173	273	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.3	3.6	3.5	3.3	3.6	3.5	3.3	3.6	3.5	3.3	3.6	3.5
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	
Frpb, ped/bikes	1.00	0.98		1.00	0.95		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.98	1.00		0.98	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.87		1.00	0.99		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)	1705	1726		1704	1525		1732	1868		1722	1837	
Flt Permitted	0.40	1.00		0.54	1.00		0.56	1.00		0.38	1.00	
Satd. Flow (perm)	725	1726		974	1525		1012	1868		693	1837	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	20	40	23	18	52	300	21	337	14	199	314	28
RTOR Reduction (vph)	0	18	0	0	222	0	0	1	0	0	3	0
Lane Group Flow (vph)	20	45	0	18	130	0	21	350	0	199	339	0
Confl. Peds. (#/hr)	17		12	12		17	7		11	11		7
Confl. Bikes (#/hr)			4			1			4			8
Heavy Vehicles (%)	0%	3%	0%	0%	2%	1%	0%	1%	0%	1%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	4	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		
Actuated Green, G (s)	16.0	16.0		21.1	21.1		30.8	30.8		44.4	44.4	
Effective Green, g (s)	16.0	16.0		21.1	21.1		30.8	30.8		44.4	44.4	
Actuated g/C Ratio	0.20	0.20		0.26	0.26		0.38	0.38		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)	3.5	3.5		3.5	3.5		5.5	5.5		2.5	5.5	
Lane Grp Cap (vph)	142	339		252	395		382	706		499	1002	
v/s Ratio Prot		0.03			c0.09			c0.19		c0.05	0.18	
v/s Ratio Perm	0.03			0.02			0.02			0.17		
v/c Ratio	0.14	0.13		0.07	0.33		0.05	0.50		0.40	0.34	
Uniform Delay, d1	27.0	27.0		22.8	24.4		16.1	19.4		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	0.5	0.2		0.1	0.6		0.3	2.5		0.4	0.9	
Delay (s)	27.6	27.2		22.9	25.0		16.3	21.8		10.8	11.2	
Level of Service	C	C		C	C		B	C		B	B	
Approach Delay (s)		27.3			24.9			21.5			11.1	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	81.4	Sum of lost time (s)	17.9
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	58	332	15	62	286
Future Vol, veh/h	10	58	332	15	62	286
Conflicting Peds, #/hr	0	2	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	11	64	365	16	68	314

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	829	381	0	0	387	0
Stage 1	379	-	-	-	-	-
Stage 2	450	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	343	671	-	-	1183	-
Stage 1	696	-	-	-	-	-
Stage 2	647	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	317	667	-	-	1177	-
Mov Cap-2 Maneuver	317	-	-	-	-	-
Stage 1	693	-	-	-	-	-
Stage 2	602	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.2	0	1.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	574	1177	-
HCM Lane V/C Ratio	-	-	0.13	0.058	-
HCM Control Delay (s)	-	-	12.2	8.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.2	-

APPENDIX G

2029 & 2034 Future Background Intersection Capacity Analysis

2029 Future Background Intersection Capacity Analysis

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	266	0	0	537
Future Vol, veh/h	0	0	266	0	0	537
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	3	0	0	3
Mvmt Flow	0	0	320	0	0	647

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	967	320	0	0	320	0
Stage 1	320	-	-	-	-	-
Stage 2	647	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	284	725	-	-	1251	-
Stage 1	741	-	-	-	-	-
Stage 2	525	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	284	725	-	-	1251	-
Mov Cap-2 Maneuver	284	-	-	-	-	-
Stage 1	741	-	-	-	-	-
Stage 2	525	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1251	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Intersection Delay, s/veh	13.4
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	184	66	197	344	8
Future Vol, veh/h	11	184	66	197	344	8
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	9	3	3	3	2	25
Mvmt Flow	13	222	80	237	414	10
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	11.2	12.7	15.2
HCM LOS	B	B	C

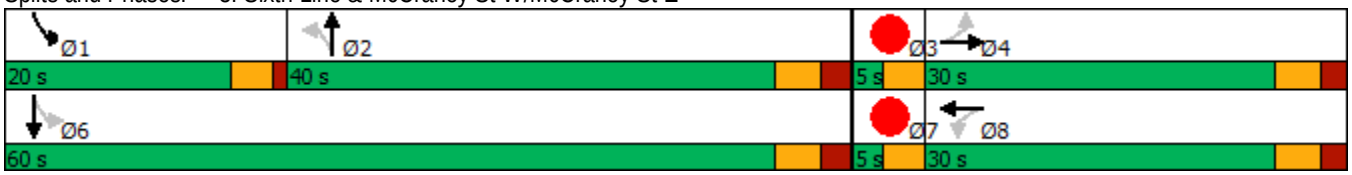
Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	25%	6%	0%
Vol Thru, %	75%	0%	98%
Vol Right, %	0%	94%	2%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	263	195	352
LT Vol	66	11	0
Through Vol	197	0	344
RT Vol	0	184	8
Lane Flow Rate	317	235	424
Geometry Grp	1	1	1
Degree of Util (X)	0.461	0.348	0.593
Departure Headway (Hd)	5.241	5.328	5.032
Convergence, Y/N	Yes	Yes	Yes
Cap	688	674	717
Service Time	3.271	3.363	3.059
HCM Lane V/C Ratio	0.461	0.349	0.591
HCM Control Delay	12.7	11.2	15.2
HCM Lane LOS	B	B	C
HCM 95th-tile Q	2.4	1.6	3.9

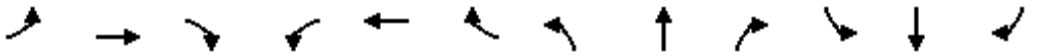
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations										
Traffic Volume (vph)	24	148	36	44	12	176	328	272		
Future Volume (vph)	24	148	36	44	12	176	328	272		
Lane Group Flow (vph)	31	241	46	418	15	250	421	359		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2	1	6	3	7
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	2.0	2.0
Minimum Split (s)	25.3	25.3	25.3	25.3	29.6	29.6	11.0	29.6	5.0	5.0
Total Split (s)	30.0	30.0	30.0	30.0	40.0	40.0	20.0	60.0	5.0	5.0
Total Split (%)	31.6%	31.6%	31.6%	31.6%	42.1%	42.1%	21.1%	63.2%	5%	5%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.0	3.3	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.3	2.3	1.0	2.3	0.0	0.0
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	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					Yes	Yes
Recall Mode	None	None	None	None	Max	Max	None	Max	Max	Max
v/c Ratio	0.40	0.59	0.32	0.76	0.04	0.36	0.68	0.33		
Control Delay	47.1	35.8	36.1	17.3	19.2	21.8	16.1	10.4		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	47.1	35.8	36.1	17.3	19.2	21.8	16.1	10.4		
Queue Length 50th (m)	4.9	37.4	7.1	13.3	1.7	31.4	36.1	29.3		
Queue Length 95th (m)	12.2	51.2	15.0	28.8	5.3	46.4	52.2	42.8		
Internal Link Dist (m)		71.2		129.4		239.0		151.2		
Turn Bay Length (m)	15.0		25.0		23.0		50.0			
Base Capacity (vph)	91	483	170	593	382	697	630	1102		
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	0.34	0.50	0.27	0.70	0.04	0.36	0.67	0.33		

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 91.2
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Sixth Line & McCraney St W/McCraney St E





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	148	40	36	44	282	12	176	19	328	272	8
Future Volume (vph)	24	148	40	36	44	282	12	176	19	328	272	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.3	3.6	3.5	3.3	3.6	3.5	3.3	3.6	3.5	3.3	3.6	3.5
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	
Frpb, ped/bikes	1.00	0.97		1.00	0.87		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.96	1.00		0.93	1.00		0.98	1.00		0.99	1.00	
Frt	1.00	0.97		1.00	0.87		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1682	1751		1342	1308		1711	1782		1571	1846	
Flt Permitted	0.19	1.00		0.45	1.00		0.55	1.00		0.49	1.00	
Satd. Flow (perm)	339	1751		631	1308		984	1782		812	1846	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	31	190	51	46	56	362	15	226	24	421	349	10
RTOR Reduction (vph)	0	11	0	0	255	0	0	4	0	0	1	0
Lane Group Flow (vph)	31	230	0	46	163	0	15	246	0	421	358	0
Confl. Peds. (#/hr)	45		41	41		45	17		18	18		17
Confl. Bikes (#/hr)			1			4			1			9
Heavy Vehicles (%)	0%	1%	6%	21%	2%	9%	0%	5%	0%	10%	2%	13%
Bus Blockages (#/hr)	0	0	0	0	4	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		
Actuated Green, G (s)	20.9	20.9		20.9	20.9		35.5	35.5		54.4	54.4	
Effective Green, g (s)	20.9	20.9		20.9	20.9		35.5	35.5		54.4	54.4	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.39	0.39		0.60	0.60	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Vehicle Extension (s)	3.5	3.5		3.5	3.5		5.5	5.5		2.5	5.5	
Lane Grp Cap (vph)	77	401		144	299		383	693		608	1101	
v/s Ratio Prot		c0.13			0.12			0.14		c0.11	0.19	
v/s Ratio Perm	0.09			0.07			0.02			c0.30		
v/c Ratio	0.40	0.57		0.32	0.54		0.04	0.36		0.69	0.32	
Uniform Delay, d1	29.8	31.2		29.2	31.0		17.3	19.7		10.7	9.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.0	2.1		1.5	2.3		0.2	1.4		3.1	0.8	
Delay (s)	33.9	33.3		30.8	33.2		17.5	21.2		13.8	10.0	
Level of Service	C	C		C	C		B	C		B	A	
Approach Delay (s)		33.4			33.0			21.0			12.0	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	91.2	Sum of lost time (s)	17.9
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	141	118	15	128	404
Future Vol, veh/h	27	141	118	15	128	404
Conflicting Peds, #/hr	0	0	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	1	7	0	2	3
Mvmt Flow	31	162	136	17	147	464

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	906	148	0	0	156	0
Stage 1	148	-	-	-	-	-
Stage 2	758	-	-	-	-	-
Critical Hdwy	6.4	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	309	901	-	-	1424	-
Stage 1	884	-	-	-	-	-
Stage 2	466	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	265	899	-	-	1421	-
Mov Cap-2 Maneuver	265	-	-	-	-	-
Stage 1	882	-	-	-	-	-
Stage 2	401	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.9	0	1.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	649	1421	-
HCM Lane V/C Ratio	-	-	0.298	0.104	-
HCM Control Delay (s)	-	-	12.9	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.2	0.3	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	410	0	0	366
Future Vol, veh/h	0	0	410	0	0	366
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	0	0	471	0	0	421

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	892	472	0	0	471	0
Stage 1	471	-	-	-	-	-
Stage 2	421	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	315	596	-	-	1101	-
Stage 1	632	-	-	-	-	-
Stage 2	667	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	315	595	-	-	1101	-
Mov Cap-2 Maneuver	315	-	-	-	-	-
Stage 1	632	-	-	-	-	-
Stage 2	667	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1101	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Intersection Delay, s/veh	13
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	76	84	322	286	37
Future Vol, veh/h	17	76	84	322	286	37
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	3	2	1	1	3
Mvmt Flow	20	87	97	370	329	43
Number of Lanes	1	0	0	1	1	0

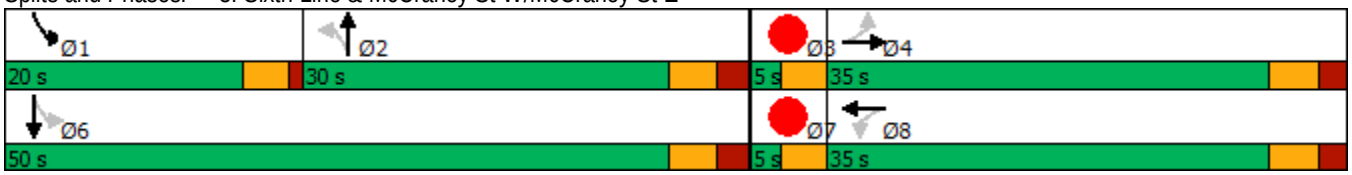
Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.4	14.7	11.9
HCM LOS	A	B	B

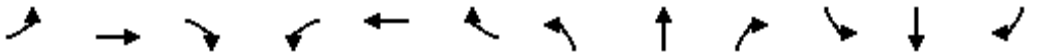
Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	21%	18%	0%
Vol Thru, %	79%	0%	89%
Vol Right, %	0%	82%	11%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	406	93	323
LT Vol	84	17	0
Through Vol	322	0	286
RT Vol	0	76	37
Lane Flow Rate	467	107	371
Geometry Grp	1	1	1
Degree of Util (X)	0.605	0.157	0.479
Departure Headway (Hd)	4.664	5.273	4.645
Convergence, Y/N	Yes	Yes	Yes
Cap	770	673	772
Service Time	2.716	3.358	2.702
HCM Lane V/C Ratio	0.606	0.159	0.481
HCM Control Delay	14.7	9.4	11.9
HCM Lane LOS	B	A	B
HCM 95th-tile Q	4.1	0.6	2.6

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations										
Traffic Volume (vph)	17	35	16	45	18	308	180	287		
Future Volume (vph)	17	35	16	45	18	308	180	287		
Lane Group Flow (vph)	20	63	18	361	21	368	207	358		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2	1	6	3	7
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	2.0	2.0
Minimum Split (s)	26.3	26.3	26.3	26.3	29.6	29.6	11.0	29.6	5.0	5.0
Total Split (s)	35.0	35.0	35.0	35.0	30.0	30.0	20.0	50.0	5.0	5.0
Total Split (%)	38.9%	38.9%	38.9%	38.9%	33.3%	33.3%	22.2%	55.6%	6%	6%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.0	3.3	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.3	2.3	1.0	2.3	0.0	0.0
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	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	Max	Max	None	Max	Max	Max
v/c Ratio	0.12	0.14	0.07	0.59	0.06	0.52	0.41	0.35		
Control Delay	25.5	17.6	24.2	9.8	17.6	22.9	11.0	11.0		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	25.5	17.6	24.2	9.8	17.6	22.9	11.0	11.0		
Queue Length 50th (m)	2.5	5.0	2.2	6.5	2.1	44.1	14.8	28.9		
Queue Length 95th (m)	7.9	13.9	7.3	27.4	6.9	71.6	24.6	43.9		
Internal Link Dist (m)		71.2		129.4		239.0		151.2		
Turn Bay Length (m)	15.0		25.0		23.0		50.0			
Base Capacity (vph)	255	652	357	756	379	711	589	1019		
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	0.08	0.10	0.05	0.48	0.06	0.52	0.35	0.35		

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 80.3
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Sixth Line & McCraney St W/McCraney St E





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	35	20	16	45	269	18	308	12	180	287	24
Future Volume (vph)	17	35	20	16	45	269	18	308	12	180	287	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.3	3.6	3.5	3.3	3.6	3.5	3.3	3.6	3.5	3.3	3.6	3.5
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	
Frpb, ped/bikes	1.00	0.98		1.00	0.95		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.98	1.00		0.98	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.87		1.00	0.99		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)	1706	1726		1704	1523		1732	1868		1723	1838	
Flt Permitted	0.38	1.00		0.54	1.00		0.55	1.00		0.36	1.00	
Satd. Flow (perm)	690	1726		974	1523		998	1868		658	1838	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	20	40	23	18	52	309	21	354	14	207	330	28
RTOR Reduction (vph)	0	18	0	0	229	0	0	1	0	0	3	0
Lane Group Flow (vph)	20	45	0	18	132	0	21	367	0	207	355	0
Confl. Peds. (#/hr)	17		12	12		17	7		11	11		7
Confl. Bikes (#/hr)			4			1			4			8
Heavy Vehicles (%)	0%	3%	0%	0%	2%	1%	0%	1%	0%	1%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	4	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		
Actuated Green, G (s)	16.0	16.0		21.1	21.1		30.6	30.6		44.4	44.4	
Effective Green, g (s)	16.0	16.0		21.1	21.1		30.6	30.6		44.4	44.4	
Actuated g/C Ratio	0.20	0.20		0.26	0.26		0.38	0.38		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)	3.5	3.5		3.5	3.5		5.5	5.5		2.5	5.5	
Lane Grp Cap (vph)	135	339		252	394		375	702		487	1002	
v/s Ratio Prot		0.03			c0.09			c0.20		c0.05	0.19	
v/s Ratio Perm	0.03			0.02			0.02			0.18		
v/c Ratio	0.15	0.13		0.07	0.34		0.06	0.52		0.43	0.35	
Uniform Delay, d1	27.1	27.0		22.8	24.5		16.2	19.7		10.6	10.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.2		0.1	0.6		0.3	2.8		0.4	1.0	
Delay (s)	27.7	27.2		22.9	25.1		16.5	22.5		11.0	11.4	
Level of Service	C	C		C	C		B	C		B	B	
Approach Delay (s)		27.3			25.0			22.2			11.3	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	81.4	Sum of lost time (s)	17.9
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	58	349	15	62	301
Future Vol, veh/h	10	58	349	15	62	301
Conflicting Peds, #/hr	0	2	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	11	64	384	16	68	331

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	865	400	0	0	406	0
Stage 1	398	-	-	-	-	-
Stage 2	467	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	327	654	-	-	1164	-
Stage 1	683	-	-	-	-	-
Stage 2	635	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	302	650	-	-	1159	-
Mov Cap-2 Maneuver	302	-	-	-	-	-
Stage 1	680	-	-	-	-	-
Stage 2	589	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.5	0	1.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	556	1159	-
HCM Lane V/C Ratio	-	-	0.134	0.059	-
HCM Control Delay (s)	-	-	12.5	8.3	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.2	-

2034 Future Background Intersection Capacity Analysis

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	279	0	0	564
Future Vol, veh/h	0	0	279	0	0	564
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	3	0	0	3
Mvmt Flow	0	0	336	0	0	680

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1016	336	0	0	336	0
Stage 1	336	-	-	-	-	-
Stage 2	680	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	266	711	-	-	1235	-
Stage 1	728	-	-	-	-	-
Stage 2	507	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	266	711	-	-	1235	-
Mov Cap-2 Maneuver	266	-	-	-	-	-
Stage 1	728	-	-	-	-	-
Stage 2	507	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1235	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Intersection Delay, s/veh	14.1
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	184	66	207	361	8
Future Vol, veh/h	11	184	66	207	361	8
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	9	3	3	3	2	25
Mvmt Flow	13	222	80	249	435	10
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	11.4	13.2	16.2
HCM LOS	B	B	C

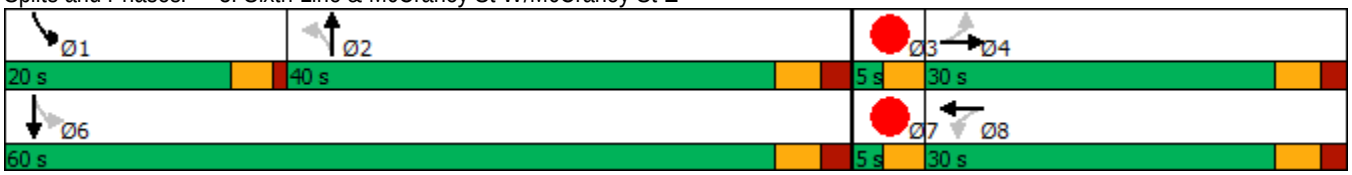
Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	24%	6%	0%
Vol Thru, %	76%	0%	98%
Vol Right, %	0%	94%	2%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	273	195	369
LT Vol	66	11	0
Through Vol	207	0	361
RT Vol	0	184	8
Lane Flow Rate	329	235	445
Geometry Grp	1	1	1
Degree of Util (X)	0.483	0.353	0.625
Departure Headway (Hd)	5.281	5.409	5.063
Convergence, Y/N	Yes	Yes	Yes
Cap	684	665	716
Service Time	3.311	3.449	3.092
HCM Lane V/C Ratio	0.481	0.353	0.622
HCM Control Delay	13.2	11.4	16.2
HCM Lane LOS	B	B	C
HCM 95th-tile Q	2.6	1.6	4.4

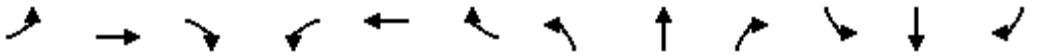
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations										
Traffic Volume (vph)	24	148	36	44	12	184	328	286		
Future Volume (vph)	24	148	36	44	12	184	328	286		
Lane Group Flow (vph)	31	241	46	418	15	260	421	377		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2	1	6	3	7
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	2.0	2.0
Minimum Split (s)	25.3	25.3	25.3	25.3	29.6	29.6	11.0	29.6	5.0	5.0
Total Split (s)	30.0	30.0	30.0	30.0	40.0	40.0	20.0	60.0	5.0	5.0
Total Split (%)	31.6%	31.6%	31.6%	31.6%	42.1%	42.1%	21.1%	63.2%	5%	5%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.0	3.3	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.3	2.3	1.0	2.3	0.0	0.0
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	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					Yes	Yes
Recall Mode	None	None	None	None	Max	Max	None	Max	Max	Max
v/c Ratio	0.40	0.59	0.32	0.76	0.04	0.37	0.69	0.34		
Control Delay	47.1	35.8	36.1	17.3	19.2	22.1	16.5	10.6		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	47.1	35.8	36.1	17.3	19.2	22.1	16.5	10.6		
Queue Length 50th (m)	4.9	37.4	7.1	13.3	1.7	32.9	36.1	31.3		
Queue Length 95th (m)	12.2	51.2	15.0	28.8	5.3	48.2	52.2	45.3		
Internal Link Dist (m)		71.2		129.4		239.0		151.2		
Turn Bay Length (m)	15.0		25.0		23.0		50.0			
Base Capacity (vph)	91	483	170	593	376	697	622	1102		
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	0.34	0.50	0.27	0.70	0.04	0.37	0.68	0.34		

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 91.2
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Sixth Line & McCraney St W/McCraney St E





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	148	40	36	44	282	12	184	19	328	286	8
Future Volume (vph)	24	148	40	36	44	282	12	184	19	328	286	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.3	3.6	3.5	3.3	3.6	3.5	3.3	3.6	3.5	3.3	3.6	3.5
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	
Frpb, ped/bikes	1.00	0.97		1.00	0.87		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.96	1.00		0.93	1.00		0.98	1.00		0.99	1.00	
Frt	1.00	0.97		1.00	0.87		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1682	1751		1342	1308		1711	1783		1572	1847	
Flt Permitted	0.19	1.00		0.45	1.00		0.54	1.00		0.48	1.00	
Satd. Flow (perm)	339	1751		631	1308		969	1783		795	1847	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	31	190	51	46	56	362	15	236	24	421	367	10
RTOR Reduction (vph)	0	11	0	0	255	0	0	4	0	0	1	0
Lane Group Flow (vph)	31	230	0	46	163	0	15	256	0	421	376	0
Confl. Peds. (#/hr)	45		41	41		45	17		18	18		17
Confl. Bikes (#/hr)			1			4			1			9
Heavy Vehicles (%)	0%	1%	6%	21%	2%	9%	0%	5%	0%	10%	2%	13%
Bus Blockages (#/hr)	0	0	0	0	4	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		
Actuated Green, G (s)	20.9	20.9		20.9	20.9		35.5	35.5		54.4	54.4	
Effective Green, g (s)	20.9	20.9		20.9	20.9		35.5	35.5		54.4	54.4	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.39	0.39		0.60	0.60	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Vehicle Extension (s)	3.5	3.5		3.5	3.5		5.5	5.5		2.5	5.5	
Lane Grp Cap (vph)	77	401		144	299		377	694		601	1101	
v/s Ratio Prot		c0.13			0.12			0.14		c0.11	0.20	
v/s Ratio Perm	0.09			0.07			0.02			c0.30		
v/c Ratio	0.40	0.57		0.32	0.54		0.04	0.37		0.70	0.34	
Uniform Delay, d1	29.8	31.2		29.2	31.0		17.3	19.9		10.7	9.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.0	2.1		1.5	2.3		0.2	1.5		3.4	0.8	
Delay (s)	33.9	33.3		30.8	33.2		17.5	21.4		14.1	10.2	
Level of Service	C	C		C	C		B	C		B	B	
Approach Delay (s)		33.4			33.0			21.2			12.3	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	91.2	Sum of lost time (s)	17.9
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	141	124	15	128	424
Future Vol, veh/h	27	141	124	15	128	424
Conflicting Peds, #/hr	0	0	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	1	7	0	2	3
Mvmt Flow	31	162	143	17	147	487

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	936	155	0	0	163	0
Stage 1	155	-	-	-	-	-
Stage 2	781	-	-	-	-	-
Critical Hdwy	6.4	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	297	893	-	-	1416	-
Stage 1	878	-	-	-	-	-
Stage 2	455	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	254	891	-	-	1413	-
Mov Cap-2 Maneuver	254	-	-	-	-	-
Stage 1	876	-	-	-	-	-
Stage 2	390	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.1	0	1.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	635	1413	-
HCM Lane V/C Ratio	-	-	0.304	0.104	-
HCM Control Delay (s)	-	-	13.1	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.3	0.3	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	431	0	0	384
Future Vol, veh/h	0	0	431	0	0	384
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	0	0	495	0	0	441

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	936	496	0	0	495	0
Stage 1	495	-	-	-	-	-
Stage 2	441	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	297	578	-	-	1079	-
Stage 1	617	-	-	-	-	-
Stage 2	653	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	297	578	-	-	1079	-
Mov Cap-2 Maneuver	297	-	-	-	-	-
Stage 1	617	-	-	-	-	-
Stage 2	653	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1079	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Intersection Delay, s/veh	13.6
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	76	84	338	300	37
Future Vol, veh/h	17	76	84	338	300	37
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	3	2	1	1	3
Mvmt Flow	20	87	97	389	345	43
Number of Lanes	1	0	0	1	1	0

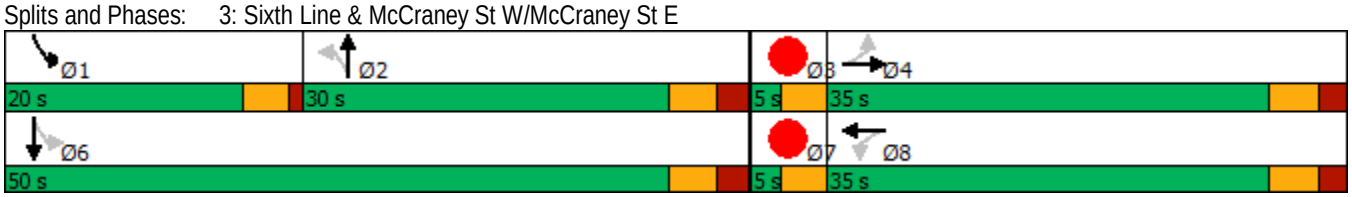
Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.5	15.5	12.4
HCM LOS	A	C	B

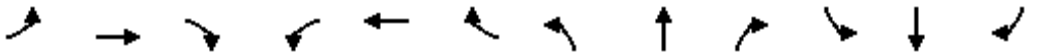
Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	20%	18%	0%
Vol Thru, %	80%	0%	89%
Vol Right, %	0%	82%	11%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	422	93	337
LT Vol	84	17	0
Through Vol	338	0	300
RT Vol	0	76	37
Lane Flow Rate	485	107	387
Geometry Grp	1	1	1
Degree of Util (X)	0.631	0.159	0.503
Departure Headway (Hd)	4.683	5.345	4.672
Convergence, Y/N	Yes	Yes	Yes
Cap	766	664	767
Service Time	2.741	3.436	2.732
HCM Lane V/C Ratio	0.633	0.161	0.505
HCM Control Delay	15.5	9.5	12.4
HCM Lane LOS	C	A	B
HCM 95th-tile Q	4.5	0.6	2.9

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations										
Traffic Volume (vph)	17	35	16	45	18	324	180	302		
Future Volume (vph)	17	35	16	45	18	324	180	302		
Lane Group Flow (vph)	20	63	18	361	21	386	207	375		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2	1	6	3	7
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	2.0	2.0
Minimum Split (s)	26.3	26.3	26.3	26.3	29.6	29.6	11.0	29.6	5.0	5.0
Total Split (s)	35.0	35.0	35.0	35.0	30.0	30.0	20.0	50.0	5.0	5.0
Total Split (%)	38.9%	38.9%	38.9%	38.9%	33.3%	33.3%	22.2%	55.6%	6%	6%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.0	3.3	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.3	2.3	1.0	2.3	0.0	0.0
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	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	Max	Max	None	Max	Max	Max
v/c Ratio	0.12	0.14	0.07	0.59	0.06	0.54	0.42	0.37		
Control Delay	25.5	17.6	24.2	9.8	17.6	23.5	11.2	11.2		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	25.5	17.6	24.2	9.8	17.6	23.5	11.2	11.2		
Queue Length 50th (m)	2.5	5.0	2.2	6.5	2.1	46.9	14.8	30.7		
Queue Length 95th (m)	7.9	13.9	7.3	27.4	6.9	75.6	24.6	46.5		
Internal Link Dist (m)		71.2		129.4		239.0		151.2		
Turn Bay Length (m)	15.0		25.0		23.0		50.0			
Base Capacity (vph)	255	652	357	756	373	712	576	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	0.08	0.10	0.05	0.48	0.06	0.54	0.36	0.37		

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 80.3
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Sixth Line & McCraney St W/McCraney St E





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	35	20	16	45	269	18	324	12	180	302	24
Future Volume (vph)	17	35	20	16	45	269	18	324	12	180	302	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.3	3.6	3.5	3.3	3.6	3.5	3.3	3.6	3.5	3.3	3.6	3.5
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	
Frpb, ped/bikes	1.00	0.98		1.00	0.95		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.98	1.00		0.98	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.87		1.00	0.99		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)	1706	1726		1704	1523		1733	1869		1723	1839	
Flt Permitted	0.38	1.00		0.54	1.00		0.54	1.00		0.34	1.00	
Satd. Flow (perm)	690	1726		974	1523		982	1869		624	1839	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	20	40	23	18	52	309	21	372	14	207	347	28
RTOR Reduction (vph)	0	18	0	0	229	0	0	1	0	0	3	0
Lane Group Flow (vph)	20	45	0	18	132	0	21	385	0	207	372	0
Confl. Peds. (#/hr)	17		12	12		17	7		11	11		7
Confl. Bikes (#/hr)			4			1			4			8
Heavy Vehicles (%)	0%	3%	0%	0%	2%	1%	0%	1%	0%	1%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	4	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		
Actuated Green, G (s)	16.0	16.0		21.1	21.1		30.6	30.6		44.4	44.4	
Effective Green, g (s)	16.0	16.0		21.1	21.1		30.6	30.6		44.4	44.4	
Actuated g/C Ratio	0.20	0.20		0.26	0.26		0.38	0.38		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)	3.5	3.5		3.5	3.5		5.5	5.5		2.5	5.5	
Lane Grp Cap (vph)	135	339		252	394		369	702		472	1003	
v/s Ratio Prot		0.03			c0.09			c0.21		c0.05	0.20	
v/s Ratio Perm	0.03			0.02			0.02			0.19		
v/c Ratio	0.15	0.13		0.07	0.34		0.06	0.55		0.44	0.37	
Uniform Delay, d1	27.1	27.0		22.8	24.5		16.2	20.0		10.7	10.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.2		0.1	0.6		0.3	3.1		0.5	1.1	
Delay (s)	27.7	27.2		22.9	25.1		16.5	23.0		11.2	11.6	
Level of Service	C	C		C	C		B	C		B	B	
Approach Delay (s)		27.3			25.0			22.7			11.5	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	81.4	Sum of lost time (s)	17.9
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	58	367	15	62	316
Future Vol, veh/h	10	58	367	15	62	316
Conflicting Peds, #/hr	0	2	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	11	64	403	16	68	347

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	900	419	0	0	425	0
Stage 1	417	-	-	-	-	-
Stage 2	483	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	312	638	-	-	1145	-
Stage 1	669	-	-	-	-	-
Stage 2	625	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	287	634	-	-	1140	-
Mov Cap-2 Maneuver	287	-	-	-	-	-
Stage 1	666	-	-	-	-	-
Stage 2	579	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.8	0	1.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	538	1140	-
HCM Lane V/C Ratio	-	-	0.139	0.06	-
HCM Control Delay (s)	-	-	12.8	8.4	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.2	-

APPENDIX H

2029 & 2034 Future Total Intersection Capacity Analysis

2029 Future Total Intersection Capacity Analysis

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	5	266	4	1	537
Future Vol, veh/h	11	5	266	4	1	537
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	3	0	0	3
Mvmt Flow	13	6	320	5	1	647

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	972	323	0	0	325	0
Stage 1	323	-	-	-	-	-
Stage 2	649	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	282	723	-	-	1246	-
Stage 1	738	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	282	723	-	-	1246	-
Mov Cap-2 Maneuver	282	-	-	-	-	-
Stage 1	738	-	-	-	-	-
Stage 2	523	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	348	1246	-
HCM Lane V/C Ratio	-	-	0.055	0.001	-
HCM Control Delay (s)	-	-	16	7.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Intersection Delay, s/veh	13.5
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	184	66	202	345	8
Future Vol, veh/h	11	184	66	202	345	8
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	9	3	3	3	2	25
Mvmt Flow	13	222	80	243	416	10
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	11.2	12.9	15.3
HCM LOS	B	B	C

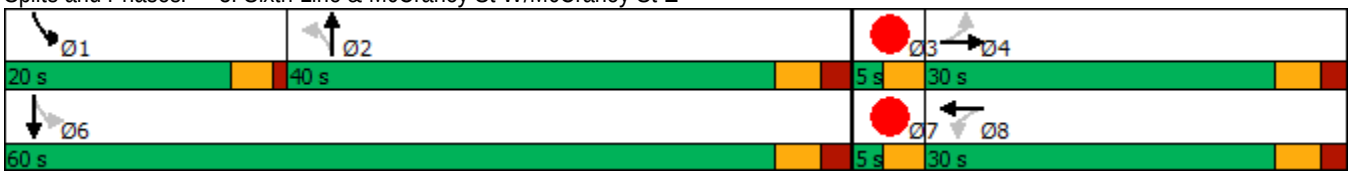
Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	25%	6%	0%
Vol Thru, %	75%	0%	98%
Vol Right, %	0%	94%	2%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	268	195	353
LT Vol	66	11	0
Through Vol	202	0	345
RT Vol	0	184	8
Lane Flow Rate	323	235	425
Geometry Grp	1	1	1
Degree of Util (X)	0.47	0.349	0.596
Departure Headway (Hd)	5.245	5.347	5.043
Convergence, Y/N	Yes	Yes	Yes
Cap	688	672	715
Service Time	3.275	3.382	3.07
HCM Lane V/C Ratio	0.469	0.35	0.594
HCM Control Delay	12.9	11.2	15.3
HCM Lane LOS	B	B	C
HCM 95th-tile Q	2.5	1.6	4

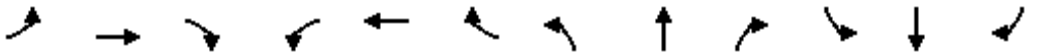
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations										
Traffic Volume (vph)	24	148	36	44	12	181	328	273		
Future Volume (vph)	24	148	36	44	12	181	328	273		
Lane Group Flow (vph)	31	241	46	418	15	256	421	360		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2	1	6	3	7
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	2.0	2.0
Minimum Split (s)	25.3	25.3	25.3	25.3	29.6	29.6	11.0	29.6	5.0	5.0
Total Split (s)	30.0	30.0	30.0	30.0	40.0	40.0	20.0	60.0	5.0	5.0
Total Split (%)	31.6%	31.6%	31.6%	31.6%	42.1%	42.1%	21.1%	63.2%	5%	5%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.0	3.3	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.3	2.3	1.0	2.3	0.0	0.0
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	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					Yes	Yes
Recall Mode	None	None	None	None	Max	Max	None	Max	Max	Max
v/c Ratio	0.40	0.59	0.32	0.76	0.04	0.37	0.68	0.33		
Control Delay	47.1	35.8	36.1	17.3	19.2	22.0	16.3	10.4		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	47.1	35.8	36.1	17.3	19.2	22.0	16.3	10.4		
Queue Length 50th (m)	4.9	37.4	7.1	13.3	1.7	32.3	36.1	29.5		
Queue Length 95th (m)	12.2	51.2	15.0	28.8	5.3	47.5	52.2	42.9		
Internal Link Dist (m)		71.2		129.4		239.0		151.2		
Turn Bay Length (m)	15.0		25.0		23.0		50.0			
Base Capacity (vph)	91	483	170	593	382	697	626	1102		
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	0.34	0.50	0.27	0.70	0.04	0.37	0.67	0.33		

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 91.2
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Sixth Line & McCraney St W/McCraney St E





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	148	40	36	44	282	12	181	19	328	273	8
Future Volume (vph)	24	148	40	36	44	282	12	181	19	328	273	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.3	3.6	3.5	3.3	3.6	3.5	3.3	3.6	3.5	3.3	3.6	3.5
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	
Frpb, ped/bikes	1.00	0.97		1.00	0.87		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.96	1.00		0.93	1.00		0.98	1.00		0.99	1.00	
Frt	1.00	0.97		1.00	0.87		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1682	1751		1342	1308		1711	1783		1572	1847	
Flt Permitted	0.19	1.00		0.45	1.00		0.55	1.00		0.48	1.00	
Satd. Flow (perm)	339	1751		631	1308		983	1783		802	1847	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	31	190	51	46	56	362	15	232	24	421	350	10
RTOR Reduction (vph)	0	11	0	0	255	0	0	4	0	0	1	0
Lane Group Flow (vph)	31	230	0	46	163	0	15	252	0	421	359	0
Confl. Peds. (#/hr)	45		41	41		45	17		18	18		17
Confl. Bikes (#/hr)			1			4			1			9
Heavy Vehicles (%)	0%	1%	6%	21%	2%	9%	0%	5%	0%	10%	2%	13%
Bus Blockages (#/hr)	0	0	0	0	4	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		
Actuated Green, G (s)	20.9	20.9		20.9	20.9		35.5	35.5		54.4	54.4	
Effective Green, g (s)	20.9	20.9		20.9	20.9		35.5	35.5		54.4	54.4	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.39	0.39		0.60	0.60	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Vehicle Extension (s)	3.5	3.5		3.5	3.5		5.5	5.5		2.5	5.5	
Lane Grp Cap (vph)	77	401		144	299		382	694		604	1101	
v/s Ratio Prot		c0.13			0.12			0.14		c0.11	0.19	
v/s Ratio Perm	0.09			0.07			0.02			c0.30		
v/c Ratio	0.40	0.57		0.32	0.54		0.04	0.36		0.70	0.33	
Uniform Delay, d1	29.8	31.2		29.2	31.0		17.3	19.8		10.7	9.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.0	2.1		1.5	2.3		0.2	1.5		3.2	0.8	
Delay (s)	33.9	33.3		30.8	33.2		17.5	21.3		13.9	10.0	
Level of Service	C	C		C	C		B	C		B	B	
Approach Delay (s)		33.4			33.0			21.1			12.1	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	91.2	Sum of lost time (s)	17.9
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	141	122	15	128	415
Future Vol, veh/h	27	141	122	15	128	415
Conflicting Peds, #/hr	0	0	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	1	6	0	2	3
Mvmt Flow	31	162	140	17	147	477

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	923	152	0	0	160	0
Stage 1	152	-	-	-	-	-
Stage 2	771	-	-	-	-	-
Critical Hdwy	6.4	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	302	897	-	-	1419	-
Stage 1	881	-	-	-	-	-
Stage 2	460	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	259	895	-	-	1416	-
Mov Cap-2 Maneuver	259	-	-	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	395	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13	0	1.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	642	1416	-
HCM Lane V/C Ratio	-	-	0.301	0.104	-
HCM Control Delay (s)	-	-	13	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.3	0.3	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	4	410	15	6	366
Future Vol, veh/h	10	4	410	15	6	366
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	11	5	471	17	7	421

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	915	481	0	0	488	0
Stage 1	480	-	-	-	-	-
Stage 2	435	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	305	589	-	-	1086	-
Stage 1	627	-	-	-	-	-
Stage 2	657	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	303	589	-	-	1086	-
Mov Cap-2 Maneuver	303	-	-	-	-	-
Stage 1	627	-	-	-	-	-
Stage 2	652	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.7	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	352	1086	-
HCM Lane V/C Ratio	-	-	0.046	0.006	-
HCM Control Delay (s)	-	-	15.7	8.3	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Intersection Delay, s/veh	13.2
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	76	84	326	292	37
Future Vol, veh/h	17	76	84	326	292	37
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	3	2	1	1	3
Mvmt Flow	20	87	97	375	336	43
Number of Lanes	1	0	0	1	1	0

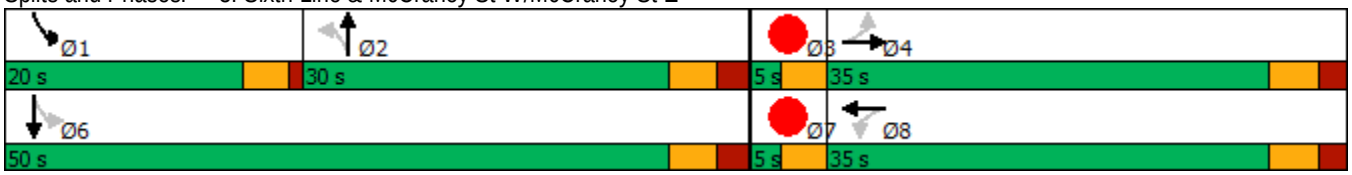
Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.4	14.9	12.1
HCM LOS	A	B	B

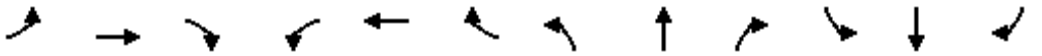
Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	20%	18%	0%
Vol Thru, %	80%	0%	89%
Vol Right, %	0%	82%	11%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	410	93	329
LT Vol	84	17	0
Through Vol	326	0	292
RT Vol	0	76	37
Lane Flow Rate	471	107	378
Geometry Grp	1	1	1
Degree of Util (X)	0.611	0.157	0.489
Departure Headway (Hd)	4.67	5.296	4.652
Convergence, Y/N	Yes	Yes	Yes
Cap	768	670	771
Service Time	2.725	3.383	2.708
HCM Lane V/C Ratio	0.613	0.16	0.49
HCM Control Delay	14.9	9.4	12.1
HCM Lane LOS	B	A	B
HCM 95th-tile Q	4.2	0.6	2.7

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations										
Traffic Volume (vph)	17	35	16	45	18	312	180	293		
Future Volume (vph)	17	35	16	45	18	312	180	293		
Lane Group Flow (vph)	20	63	18	361	21	373	207	365		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2	1	6	3	7
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	2.0	2.0
Minimum Split (s)	26.3	26.3	26.3	26.3	29.6	29.6	11.0	29.6	5.0	5.0
Total Split (s)	35.0	35.0	35.0	35.0	30.0	30.0	20.0	50.0	5.0	5.0
Total Split (%)	38.9%	38.9%	38.9%	38.9%	33.3%	33.3%	22.2%	55.6%	6%	6%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.0	3.3	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.3	2.3	1.0	2.3	0.0	0.0
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	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	Max	Max	None	Max	Max	Max
v/c Ratio	0.12	0.14	0.07	0.59	0.06	0.52	0.41	0.36		
Control Delay	25.5	17.6	24.2	9.8	17.6	23.1	11.0	11.1		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	25.5	17.6	24.2	9.8	17.6	23.1	11.0	11.1		
Queue Length 50th (m)	2.5	5.0	2.2	6.5	2.1	44.9	14.8	29.6		
Queue Length 95th (m)	7.9	13.9	7.3	27.4	6.9	72.9	24.6	45.0		
Internal Link Dist (m)		71.2		129.4		239.0		151.2		
Turn Bay Length (m)	15.0		25.0		23.0		50.0			
Base Capacity (vph)	255	652	357	756	377	711	585	1019		
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	0.08	0.10	0.05	0.48	0.06	0.52	0.35	0.36		

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 80.3
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Sixth Line & McCraney St W/McCraney St E





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	35	20	16	45	269	18	312	12	180	293	24
Future Volume (vph)	17	35	20	16	45	269	18	312	12	180	293	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.3	3.6	3.5	3.3	3.6	3.5	3.3	3.6	3.5	3.3	3.6	3.5
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	
Frpb, ped/bikes	1.00	0.98		1.00	0.95		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.98	1.00		0.98	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.87		1.00	0.99		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)	1706	1726		1704	1523		1732	1868		1723	1839	
Flt Permitted	0.38	1.00		0.54	1.00		0.54	1.00		0.36	1.00	
Satd. Flow (perm)	690	1726		974	1523		991	1868		648	1839	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	20	40	23	18	52	309	21	359	14	207	337	28
RTOR Reduction (vph)	0	18	0	0	229	0	0	1	0	0	3	0
Lane Group Flow (vph)	20	45	0	18	132	0	21	372	0	207	362	0
Confl. Peds. (#/hr)	17		12	12		17	7		11	11		7
Confl. Bikes (#/hr)			4			1			4			8
Heavy Vehicles (%)	0%	3%	0%	0%	2%	1%	0%	1%	0%	1%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	4	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		
Actuated Green, G (s)	16.0	16.0		21.1	21.1		30.6	30.6		44.4	44.4	
Effective Green, g (s)	16.0	16.0		21.1	21.1		30.6	30.6		44.4	44.4	
Actuated g/C Ratio	0.20	0.20		0.26	0.26		0.38	0.38		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)	3.5	3.5		3.5	3.5		5.5	5.5		2.5	5.5	
Lane Grp Cap (vph)	135	339		252	394		372	702		482	1003	
v/s Ratio Prot		0.03			c0.09			c0.20		c0.05	0.20	
v/s Ratio Perm	0.03			0.02			0.02			0.18		
v/c Ratio	0.15	0.13		0.07	0.34		0.06	0.53		0.43	0.36	
Uniform Delay, d1	27.1	27.0		22.8	24.5		16.2	19.8		10.6	10.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.2		0.1	0.6		0.3	2.8		0.4	1.0	
Delay (s)	27.7	27.2		22.9	25.1		16.5	22.6		11.1	11.5	
Level of Service	C	C		C	C		B	C		B	B	
Approach Delay (s)		27.3			25.0			22.3			11.3	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	81.4	Sum of lost time (s)	17.9
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	58	364	15	62	311
Future Vol, veh/h	10	58	364	15	62	311
Conflicting Peds, #/hr	0	2	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	11	64	400	16	68	342

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	892	416	0	0	422	0
Stage 1	414	-	-	-	-	-
Stage 2	478	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	315	641	-	-	1148	-
Stage 1	671	-	-	-	-	-
Stage 2	628	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	290	637	-	-	1143	-
Mov Cap-2 Maneuver	290	-	-	-	-	-
Stage 1	668	-	-	-	-	-
Stage 2	582	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.7	0	1.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	542	1143	-
HCM Lane V/C Ratio	-	-	0.138	0.06	-
HCM Control Delay (s)	-	-	12.7	8.3	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.2	-

2034 Future Total Intersection Capacity Analysis

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	5	279	4	1	564
Future Vol, veh/h	11	5	279	4	1	564
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	3	0	0	3
Mvmt Flow	13	6	336	5	1	680

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1021	339	0	0	341	0
Stage 1	339	-	-	-	-	-
Stage 2	682	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	264	708	-	-	1229	-
Stage 1	726	-	-	-	-	-
Stage 2	506	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	264	708	-	-	1229	-
Mov Cap-2 Maneuver	264	-	-	-	-	-
Stage 1	726	-	-	-	-	-
Stage 2	505	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	328	1229	-
HCM Lane V/C Ratio	-	-	0.059	0.001	-
HCM Control Delay (s)	-	-	16.7	7.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Intersection Delay, s/veh	14.2
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	184	66	212	362	8
Future Vol, veh/h	11	184	66	212	362	8
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	9	3	3	3	2	25
Mvmt Flow	13	222	80	255	436	10
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	11.4	13.4	16.3
HCM LOS	B	B	C

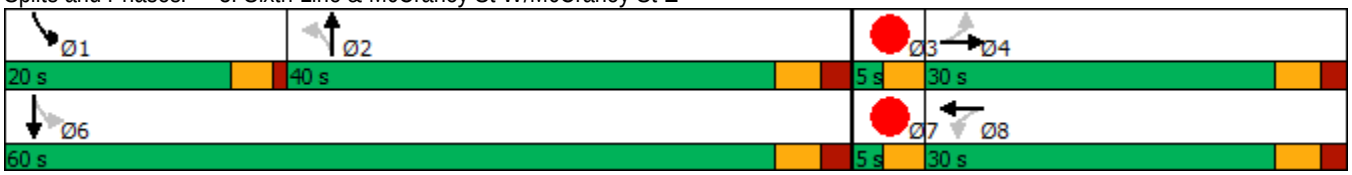
Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	24%	6%	0%
Vol Thru, %	76%	0%	98%
Vol Right, %	0%	94%	2%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	278	195	370
LT Vol	66	11	0
Through Vol	212	0	362
RT Vol	0	184	8
Lane Flow Rate	335	235	446
Geometry Grp	1	1	1
Degree of Util (X)	0.492	0.354	0.628
Departure Headway (Hd)	5.285	5.428	5.074
Convergence, Y/N	Yes	Yes	Yes
Cap	683	663	713
Service Time	3.316	3.467	3.103
HCM Lane V/C Ratio	0.49	0.354	0.626
HCM Control Delay	13.4	11.4	16.3
HCM Lane LOS	B	B	C
HCM 95th-tile Q	2.7	1.6	4.5

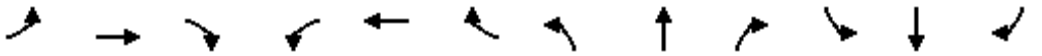
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations										
Traffic Volume (vph)	24	148	36	44	12	189	328	287		
Future Volume (vph)	24	148	36	44	12	189	328	287		
Lane Group Flow (vph)	31	241	46	418	15	266	421	378		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2	1	6	3	7
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	2.0	2.0
Minimum Split (s)	25.3	25.3	25.3	25.3	29.6	29.6	11.0	29.6	5.0	5.0
Total Split (s)	30.0	30.0	30.0	30.0	40.0	40.0	20.0	60.0	5.0	5.0
Total Split (%)	31.6%	31.6%	31.6%	31.6%	42.1%	42.1%	21.1%	63.2%	5%	5%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.0	3.3	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.3	2.3	1.0	2.3	0.0	0.0
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	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes					Yes	Yes
Recall Mode	None	None	None	None	Max	Max	None	Max	Max	Max
v/c Ratio	0.40	0.59	0.32	0.76	0.04	0.38	0.69	0.34		
Control Delay	47.1	35.8	36.1	17.3	19.2	22.2	16.6	10.6		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	47.1	35.8	36.1	17.3	19.2	22.2	16.6	10.6		
Queue Length 50th (m)	4.9	37.4	7.1	13.3	1.7	33.8	36.1	31.4		
Queue Length 95th (m)	12.2	51.2	15.0	28.8	5.3	49.3	52.2	45.4		
Internal Link Dist (m)		71.2		129.4		239.0		151.2		
Turn Bay Length (m)	15.0		25.0		23.0		50.0			
Base Capacity (vph)	91	483	169	593	376	696	618	1102		
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	0.34	0.50	0.27	0.70	0.04	0.38	0.68	0.34		

Intersection Summary

Cycle Length: 95
Actuated Cycle Length: 91.2
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Sixth Line & McCraney St W/McCraney St E





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	148	40	36	44	282	12	189	19	328	287	8
Future Volume (vph)	24	148	40	36	44	282	12	189	19	328	287	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.3	3.6	3.5	3.3	3.6	3.5	3.3	3.6	3.5	3.3	3.6	3.5
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	
Frpb, ped/bikes	1.00	0.97		1.00	0.87		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.96	1.00		0.93	1.00		0.98	1.00		0.99	1.00	
Frt	1.00	0.97		1.00	0.87		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1682	1751		1342	1308		1711	1784		1572	1847	
Flt Permitted	0.19	1.00		0.45	1.00		0.54	1.00		0.47	1.00	
Satd. Flow (perm)	339	1751		631	1308		968	1784		784	1847	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	31	190	51	46	56	362	15	242	24	421	368	10
RTOR Reduction (vph)	0	11	0	0	255	0	0	4	0	0	1	0
Lane Group Flow (vph)	31	230	0	46	163	0	15	262	0	421	377	0
Confl. Peds. (#/hr)	45		41	41		45	17		18	18		17
Confl. Bikes (#/hr)			1			4			1			9
Heavy Vehicles (%)	0%	1%	6%	21%	2%	9%	0%	5%	0%	10%	2%	13%
Bus Blockages (#/hr)	0	0	0	0	4	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		
Actuated Green, G (s)	20.9	20.9		20.9	20.9		35.5	35.5		54.5	54.5	
Effective Green, g (s)	20.9	20.9		20.9	20.9		35.5	35.5		54.5	54.5	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.39	0.39		0.60	0.60	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.6	5.6		4.0	5.6	
Vehicle Extension (s)	3.5	3.5		3.5	3.5		5.5	5.5		2.5	5.5	
Lane Grp Cap (vph)	77	400		144	299		376	693		597	1102	
v/s Ratio Prot		c0.13			0.12			0.15		c0.12	0.20	
v/s Ratio Perm	0.09			0.07			0.02			c0.30		
v/c Ratio	0.40	0.58		0.32	0.54		0.04	0.38		0.71	0.34	
Uniform Delay, d1	29.9	31.3		29.3	31.0		17.3	20.0		10.8	9.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.0	2.2		1.5	2.2		0.2	1.6		3.5	0.8	
Delay (s)	33.9	33.4		30.8	33.3		17.5	21.6		14.3	10.2	
Level of Service	C	C		C	C		B	C		B	B	
Approach Delay (s)		33.5			33.0			21.4			12.3	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	22.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	91.3	Sum of lost time (s)	17.9
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	141	128	15	128	435
Future Vol, veh/h	27	141	128	15	128	435
Conflicting Peds, #/hr	0	0	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	1	6	0	2	3
Mvmt Flow	31	162	147	17	147	500

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	953	159	0	0	167	0
Stage 1	159	-	-	-	-	-
Stage 2	794	-	-	-	-	-
Critical Hdwy	6.4	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	290	889	-	-	1411	-
Stage 1	875	-	-	-	-	-
Stage 2	449	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	247	887	-	-	1408	-
Mov Cap-2 Maneuver	247	-	-	-	-	-
Stage 1	873	-	-	-	-	-
Stage 2	384	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.3	0	1.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	626	1408	-
HCM Lane V/C Ratio	-	-	0.308	0.104	-
HCM Control Delay (s)	-	-	13.3	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.3	0.3	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	4	431	15	6	384
Future Vol, veh/h	10	4	431	15	6	384
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	11	5	495	17	7	441

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	959	505	0	0	512	0
Stage 1	504	-	-	-	-	-
Stage 2	455	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	288	571	-	-	1064	-
Stage 1	611	-	-	-	-	-
Stage 2	643	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	285	571	-	-	1064	-
Mov Cap-2 Maneuver	285	-	-	-	-	-
Stage 1	611	-	-	-	-	-
Stage 2	637	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.4	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	333	1064	-
HCM Lane V/C Ratio	-	-	0.048	0.006	-
HCM Control Delay (s)	-	-	16.4	8.4	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Intersection Delay, s/veh	13.8
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	76	84	342	306	37
Future Vol, veh/h	17	76	84	342	306	37
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	3	2	1	1	3
Mvmt Flow	20	87	97	393	352	43
Number of Lanes	1	0	0	1	1	0

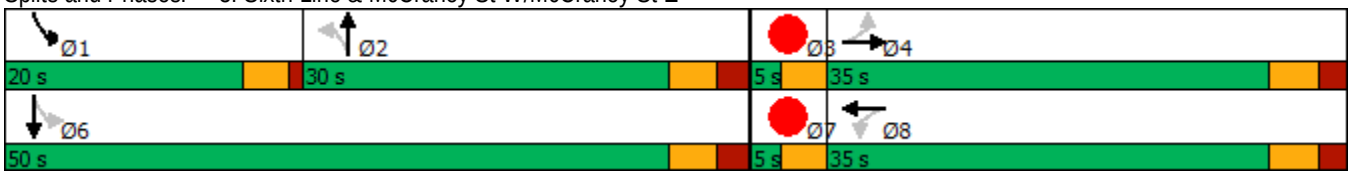
Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.5	15.7	12.6
HCM LOS	A	C	B

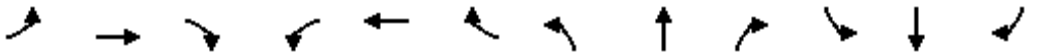
Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	20%	18%	0%
Vol Thru, %	80%	0%	89%
Vol Right, %	0%	82%	11%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	426	93	343
LT Vol	84	17	0
Through Vol	342	0	306
RT Vol	0	76	37
Lane Flow Rate	490	107	394
Geometry Grp	1	1	1
Degree of Util (X)	0.638	0.159	0.513
Departure Headway (Hd)	4.693	5.37	4.682
Convergence, Y/N	Yes	Yes	Yes
Cap	764	661	765
Service Time	2.749	3.462	2.74
HCM Lane V/C Ratio	0.641	0.162	0.515
HCM Control Delay	15.7	9.5	12.6
HCM Lane LOS	C	A	B
HCM 95th-tile Q	4.7	0.6	3

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations										
Traffic Volume (vph)	17	35	16	45	18	328	180	308		
Future Volume (vph)	17	35	16	45	18	328	180	308		
Lane Group Flow (vph)	20	63	18	361	21	391	207	382		
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA		
Protected Phases		4		8		2	1	6	3	7
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	2.0	2.0
Minimum Split (s)	26.3	26.3	26.3	26.3	29.6	29.6	11.0	29.6	5.0	5.0
Total Split (s)	35.0	35.0	35.0	35.0	30.0	30.0	20.0	50.0	5.0	5.0
Total Split (%)	38.9%	38.9%	38.9%	38.9%	33.3%	33.3%	22.2%	55.6%	6%	6%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.0	3.3	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.3	2.3	1.0	2.3	0.0	0.0
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	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	None	None	None	Max	Max	None	Max	Max	Max
v/c Ratio	0.12	0.14	0.07	0.59	0.06	0.55	0.43	0.37		
Control Delay	25.5	17.6	24.2	9.8	17.7	23.6	11.2	11.3		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	25.5	17.6	24.2	9.8	17.7	23.6	11.2	11.3		
Queue Length 50th (m)	2.5	5.0	2.2	6.5	2.1	47.6	14.8	31.5		
Queue Length 95th (m)	7.9	13.9	7.3	27.4	6.9	76.9	24.6	47.4		
Internal Link Dist (m)		71.2		129.4		239.0		151.2		
Turn Bay Length (m)	15.0		25.0		23.0		50.0			
Base Capacity (vph)	255	652	357	756	370	712	572	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	0.08	0.10	0.05	0.48	0.06	0.55	0.36	0.37		

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 80.3
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Sixth Line & McCraney St W/McCraney St E





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	35	20	16	45	269	18	328	12	180	308	24
Future Volume (vph)	17	35	20	16	45	269	18	328	12	180	308	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.3	3.6	3.5	3.3	3.6	3.5	3.3	3.6	3.5	3.3	3.6	3.5
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	
Frpb, ped/bikes	1.00	0.98		1.00	0.95		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.98	1.00		0.98	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.87		1.00	0.99		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)	1706	1726		1704	1523		1733	1869		1723	1840	
Flt Permitted	0.38	1.00		0.54	1.00		0.54	1.00		0.34	1.00	
Satd. Flow (perm)	690	1726		974	1523		976	1869		615	1840	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	20	40	23	18	52	309	21	377	14	207	354	28
RTOR Reduction (vph)	0	18	0	0	229	0	0	1	0	0	3	0
Lane Group Flow (vph)	20	45	0	18	132	0	21	390	0	207	379	0
Confl. Peds. (#/hr)	17		12	12		17	7		11	11		7
Confl. Bikes (#/hr)			4			1			4			8
Heavy Vehicles (%)	0%	3%	0%	0%	2%	1%	0%	1%	0%	1%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	4	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		
Actuated Green, G (s)	16.0	16.0		21.1	21.1		30.6	30.6		44.4	44.4	
Effective Green, g (s)	16.0	16.0		21.1	21.1		30.6	30.6		44.4	44.4	
Actuated g/C Ratio	0.20	0.20		0.26	0.26		0.38	0.38		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)	3.5	3.5		3.5	3.5		5.5	5.5		2.5	5.5	
Lane Grp Cap (vph)	135	339		252	394		366	702		468	1003	
v/s Ratio Prot		0.03			c0.09			c0.21		c0.05	0.21	
v/s Ratio Perm	0.03			0.02			0.02			0.19		
v/c Ratio	0.15	0.13		0.07	0.34		0.06	0.56		0.44	0.38	
Uniform Delay, d1	27.1	27.0		22.8	24.5		16.2	20.0		10.8	10.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.2		0.1	0.6		0.3	3.2		0.5	1.1	
Delay (s)	27.7	27.2		22.9	25.1		16.5	23.2		11.3	11.7	
Level of Service	C	C		C	C		B	C		B	B	
Approach Delay (s)		27.3			25.0			22.8			11.5	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	81.4	Sum of lost time (s)	17.9
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	58	382	15	62	326
Future Vol, veh/h	10	58	382	15	62	326
Conflicting Peds, #/hr	0	2	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	11	64	420	16	68	358

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	928	436	0	0	442	0
Stage 1	434	-	-	-	-	-
Stage 2	494	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	300	625	-	-	1129	-
Stage 1	658	-	-	-	-	-
Stage 2	617	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	276	621	-	-	1124	-
Mov Cap-2 Maneuver	276	-	-	-	-	-
Stage 1	655	-	-	-	-	-
Stage 2	570	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	525	1124	-
HCM Lane V/C Ratio	-	-	0.142	0.061	-
HCM Control Delay (s)	-	-	13	8.4	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.2	-

APPENDIX I

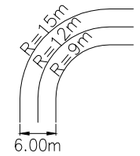
Functional Design Review

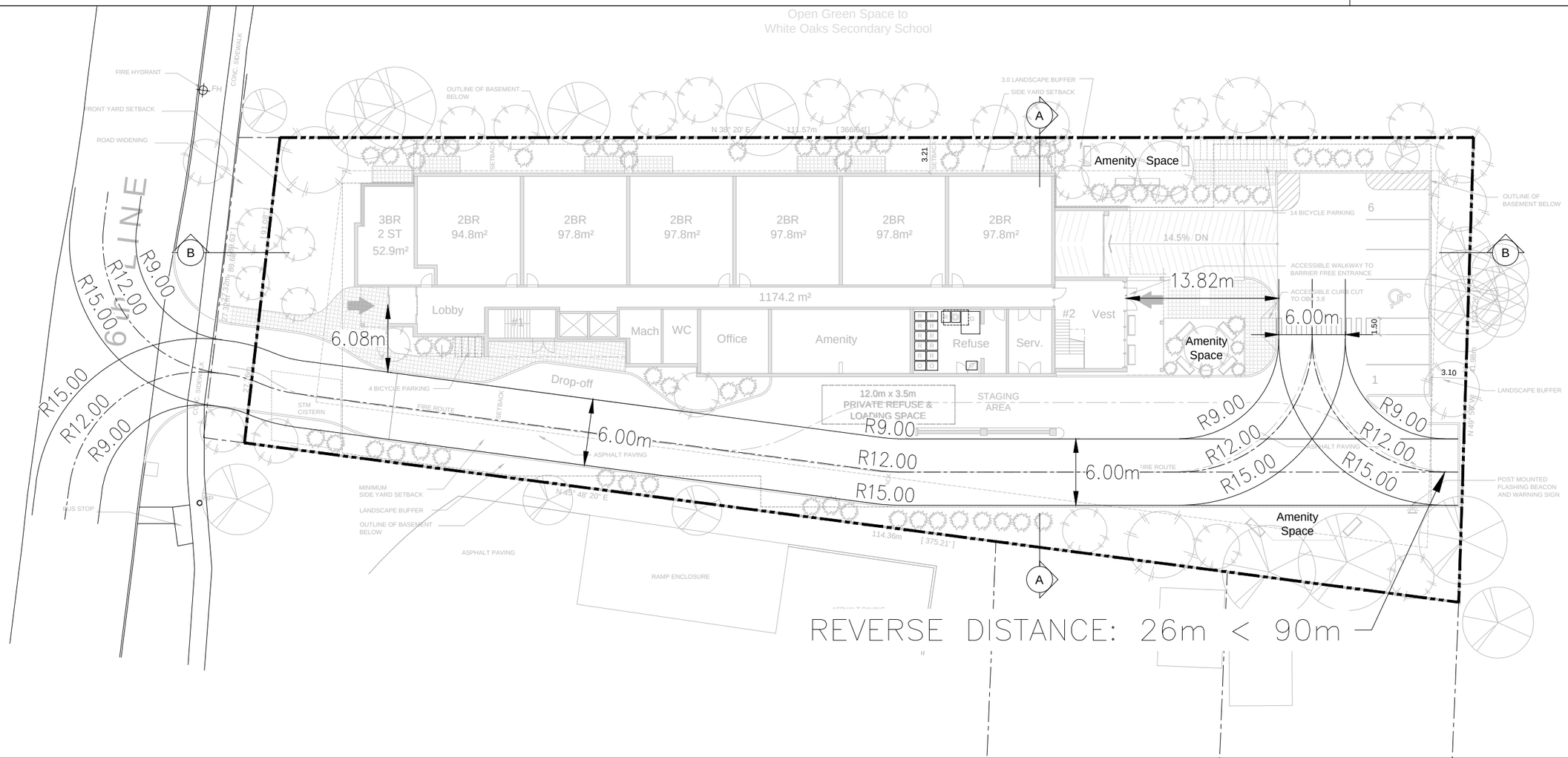
NOTE:

1. ONTARIO BUILDING CODE 3.2.5.5 LOCATION OF ACCESS ROUTES
   (1) ACCESS ROUTES...SHALL BE LOCATED SO THAT THE PRINCIPAL ENTRANCE AND EVERY ACCESS OPENING...ARE LOCATED NOT LESS THAN 3m AND NOT MORE THAN 15m FROM THE CLOSEST PORTION OF THE ACCESS ROUTE

2. ONTARIO BUILDING CODE 3.2.5.6 ACCESS ROUTE DESIGN
   (1) A PORTION OF A ROADWAY PROVIDED AS A REQUIRED ACCESS ROUTE FOR FIRE DEPARTMENT USE SHALL:
   (a) HAVE A CLEAR WIDTH NOT LESS THAN 6m,
   (b) HAVE A CENTRELINE RADIUS NOT LESS THAN 12m,
   (c) HAVE AN O/H CLEARANCE OF NOT LESS THAN 5m,
   (d) HAVE TURNAROUND FACILITIES FOR ANY DEAD-END PORTION OF THE ACCESS ROUTE MORE THAN 90m LONG
   (e) BE CONNECTED WITH A PUBLIC THOROUGHFARE

MINIMUM CENTERLINE RADIUS OF FIRE ACCESS ROUTE TO FOLLOW REQUIREMENTS AS BELOW:





DRAWN BY: ABATRA PLOT DATE: November 28, 2024

LEA Consulting Ltd. Consulting Engineers and Planners www.LEA.ca	N	Project No. 23400 Date NOV. 28, 2024		1295 SIXTH LINE OAKVILLE ONTARIO 4 0 4 8 12m 1:400	FIRE ROUTE REVIEW Drawing No. 001

DRAWING NAME: C:\Users\CNelson\AppData\Local\Temp\AcPublish_28724\23400WF007.dwg

NOTES:

A. AS PER HALTON REGION DEVELOPMENT GUIDELINES FOR SOURCE SEPARATION OF SOLID WASTE:

A.1. PRIVATE ROADS LAYOUTS SHALL ALLOW FOR DIRECT, CONSISTENT AND SAFE ACCESS FROM A MUNICIPAL ROAD TO THE WASTE COLLECTION POINT AND BACK TO THE MUNICIPAL ROAD WITHOUT DELAYS OR REVERSING ONTO THE MUNICIPAL ROAD.

A.2. PRIVATE ROAD LAYOUTS SHALL ALLOW FOR THE CONTINUOUS FORWARD COLLECTION OF WASTE WITHOUT THE NEED FOR WASTE COLLECTION VEHICLES TO REVERSE.

A.3. ALL PRIVATE ROADS SHALL BE CONSTRUCTED WITH A HARD SURFACE, SUCH AS ASPHALT, CONCRETE, OR ANOTHER SUITABLE MATERIAL ACCEPTABLE TO THE REGION, AND HAVE A MINIMUM WIDTH OF 6m.

A.4. ALL TURNS SHALL HAVE A MINIMUM TURNING RADIUS FROM THE CENTRE LINE OF 13m TO THE SATISFACTION OF THE REGION.

A.5. OVERHEAD CLEARANCE THROUGHOUT THE PRIVATE ROAD MUST BE A MINIMUM OF 7.5m AND BE FREE FROM OBSTRUCTIONS SUCH AS OVERHANGS, AWNINGS, UTILITY WIRES, BALCONIES, AND MUST BE KEPT CLEAR OF TREE BRANCHES, ETC. 1.10.2: T-TURNAROUND MAY BE PERMITTED IN ACCORDANCE WITH SPECIFICATIONS OUTLINED IN APPENDIX 3. WASTE COLLECTION VEHICLES ARE NOT EXPECTED TO BACK UP MORE THAN 18M (FROM FRONT WHEEL TO FRONT WHEEL)

A.6. HEAD-ON APPROACH OF WASTE COLLECTION VEHICLE MUST BE 18m. IF ENTERING AN INTERNAL WASTE LOADING AREA, THE VEHICLE SHOULD BE ENTERING IT STRAIGHT AND NOT ON A TURN

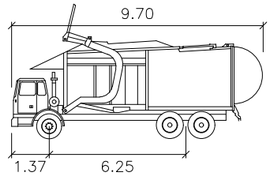
B. AS PER THE THE TOWN OF OAKVILLE, ZONING BYLAW 2014-014: THE MINIMUM DIMENSIONS OF A LOADING SPACE ARE 3.5m WIDTH AND 12.0m LENGTH, WITH A MINIMUM VERTICAL CLEARANCE OF 4.2m.

B.1. FLASHING WARNING LIGHTS TO BE ACTIVATED WHEN TRUCKS ENTER AND EXIT THE SITE. THE SYSTEM TO REMAIN ACTIVATED DURING THE CITY GARBAGE COLLECTION ACTIVITY AND UNTIL THE TRUCK EXITS THE SITE.

B.2. WARNING SIGN TO BE MOUNTED BELOW THE FLASHING LIGHT.

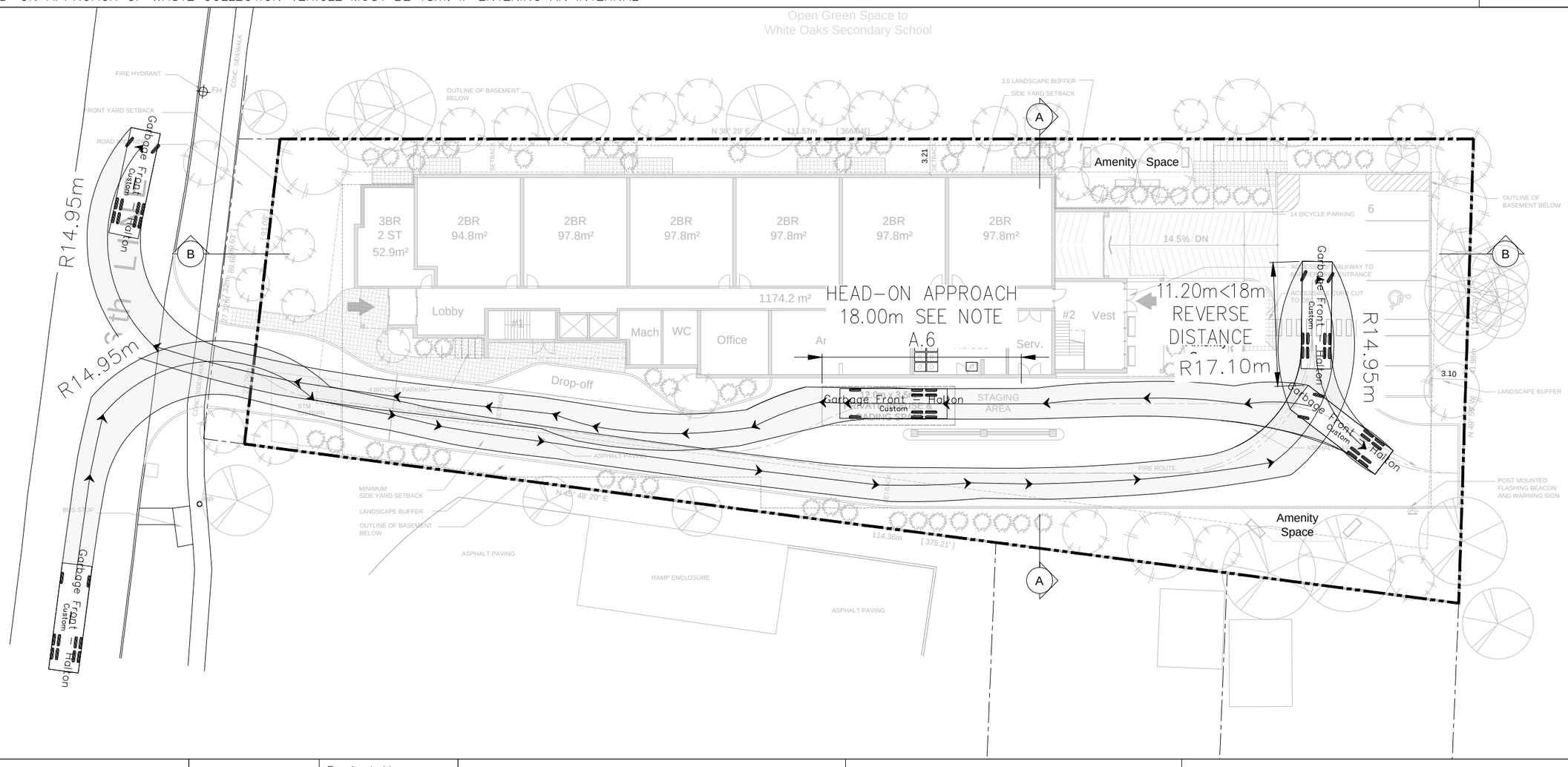
WATCH FOR TURNING TRUCKS WHEN FLASHING

(600x300)
BLACK LEGEND & BORDER,
YELLOW REFL. BACKGROUND.



Garbage Front – Halton

	meters
Width	: 2.70
Track	: 2.70
Lock to Lock Time	: 6.0
Steering Angle	: 28.5



LEA Consulting Ltd. Consulting Engineers and Planners www.LEA.ca	N	Project No. 23400 Date NOV. 28, 2024		1295 SIXTH LINE OAKVILLE ONTARIO 4 0 4 8 12m 1:400	LOADING REVIEW GARBAGE TRUCK FRONT END ENTRY & EXIT PATH	Drawing No. 002

DRAWN BY: ABATRA PLOT DATE: November 28, 2024

DRAWING NAME: C:\Users\CNelson\AppData\Local\Temp\AcPublish_28724\23400WF007.dwg

NOTES:

A. AS PER HALTON REGION DEVELOPMENT GUIDELINES FOR SOURCE SEPARATION OF SOLID WASTE:

A.1. PRIVATE ROADS LAYOUTS SHALL ALLOW FOR DIRECT, CONSISTENT AND SAFE ACCESS FROM A MUNICIPAL ROAD TO THE WASTE COLLECTION POINT AND BACK TO THE MUNICIPAL ROAD WITHOUT DELAYS OR REVERSING ONTO THE MUNICIPAL ROAD.

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A.3. ALL PRIVATE ROADS SHALL BE CONSTRUCTED WITH A HARD SURFACE, SUCH AS ASPHALT, CONCRETE, OR ANOTHER SUITABLE MATERIAL ACCEPTABLE TO THE REGION, AND HAVE A MINIMUM WIDTH OF 6m.

A.4. ALL TURNS SHALL HAVE A MINIMUM TURNING RADIUS FROM THE CENTRE LINE OF 13m TO THE SATISFACTION OF THE REGION.

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A.6. HEAD-ON APPROACH OF WASTE COLLECTION VEHICLE MUST BE 18m. IF ENTERING AN INTERNAL WASTE LOADING AREA, THE VEHICLE SHOULD BE ENTERING IT STRAIGHT AND NOT ON A TURN

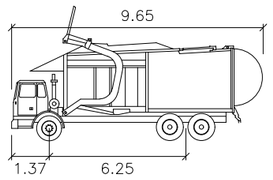
B. AS PER THE THE TOWN OF OAKVILLE, ZONING BYLAW 2014-014: THE MINIMUM DIMENSIONS OF A LOADING SPACE ARE 3.5m WIDTH AND 12.0m LENGTH, WITH A MINIMUM VERTICAL CLEARANCE OF 4.2m.

B.1. FLASHING WARNING LIGHTS TO BE ACTIVATED WHEN TRUCKS ENTER AND EXIT THE SITE. THE SYSTEM TO REMAIN ACTIVATED DURING THE CITY GARBAGE COLLECTION ACTIVITY AND UNTIL THE TRUCK EXITS THE SITE.

B.2. WARNING SIGN TO BE MOUNTED BELOW THE FLASHING LIGHT.

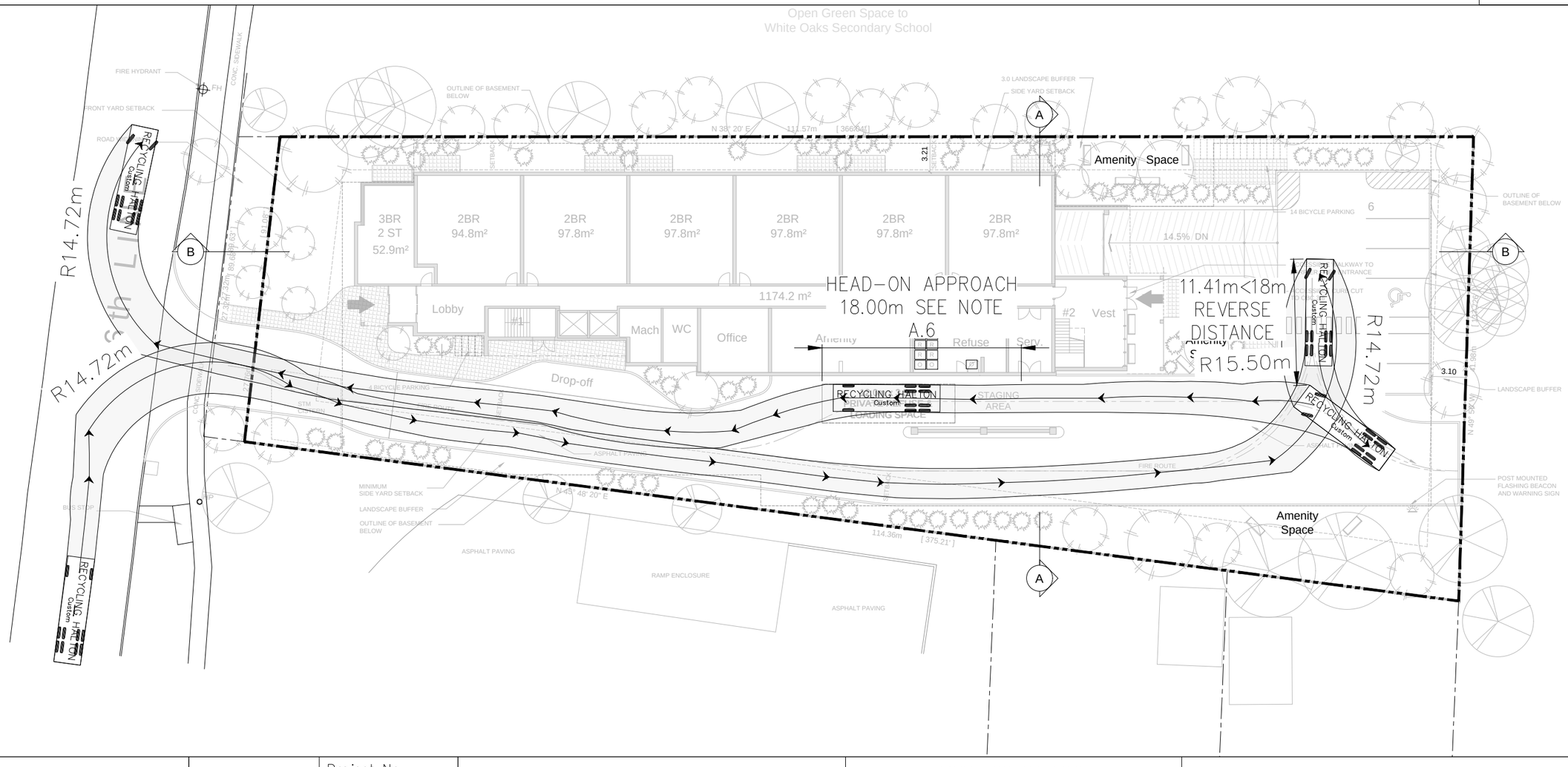
WATCH FOR TURNING TRUCKS WHEN FLASHING

(600x300)
BLACK LEGEND & BORDER,
YELLOW REFL. BACKGROUND.



RECYCLING HALTON

	meters
Width	: 2.44
Track	: 2.44
Lock to Lock Time	: 6.0
Steering Angle	: 28.7



PLOT DATE: November 28, 2024

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1295 SIXTH LINE
OAKVILLE ONTARIO

4 0 4 8 12m
1:400

LOADING REVIEW
RECYCLING TRUCK FRONT END
ENTRY & EXIT PATH

Drawing No. 003

DRAWING NAME: C:\Users\CNelson\AppData\Local\Temp\AcPublish_28724\23400WF007.dwg

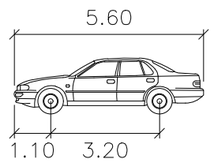
NOTES:

TOWN OF OAKVILLE ZONING BY-LAW 2014-014:

1. IF THE CENTRELINE OF A PARKING SPACE IS AT AN INTERIOR ANGLE OF 70 TO 90 DEGREES TO THE CENTRELINE OF THE DRIVE AISLE PROVIDING VEHICLE ACCESS, THE MINIMUM WIDTH FOR THAT ONE OR TWO LANE DRIVE AISLE IS 6.0m.
2. A PARKING SPACE MUST HAVE THE FOLLOWING MINIMUM DIMENSIONS:
   (i) LENGTH OF 5.7m;
   (II) WIDTH OF 2.7m; AND
3. (III) THE MINIMUM WIDTH IN (II) MUST BE INCREASED BY 0.3m FOR EACH SIDE OF THE PARKING SPACE THAT IS OBSTRUCTED.

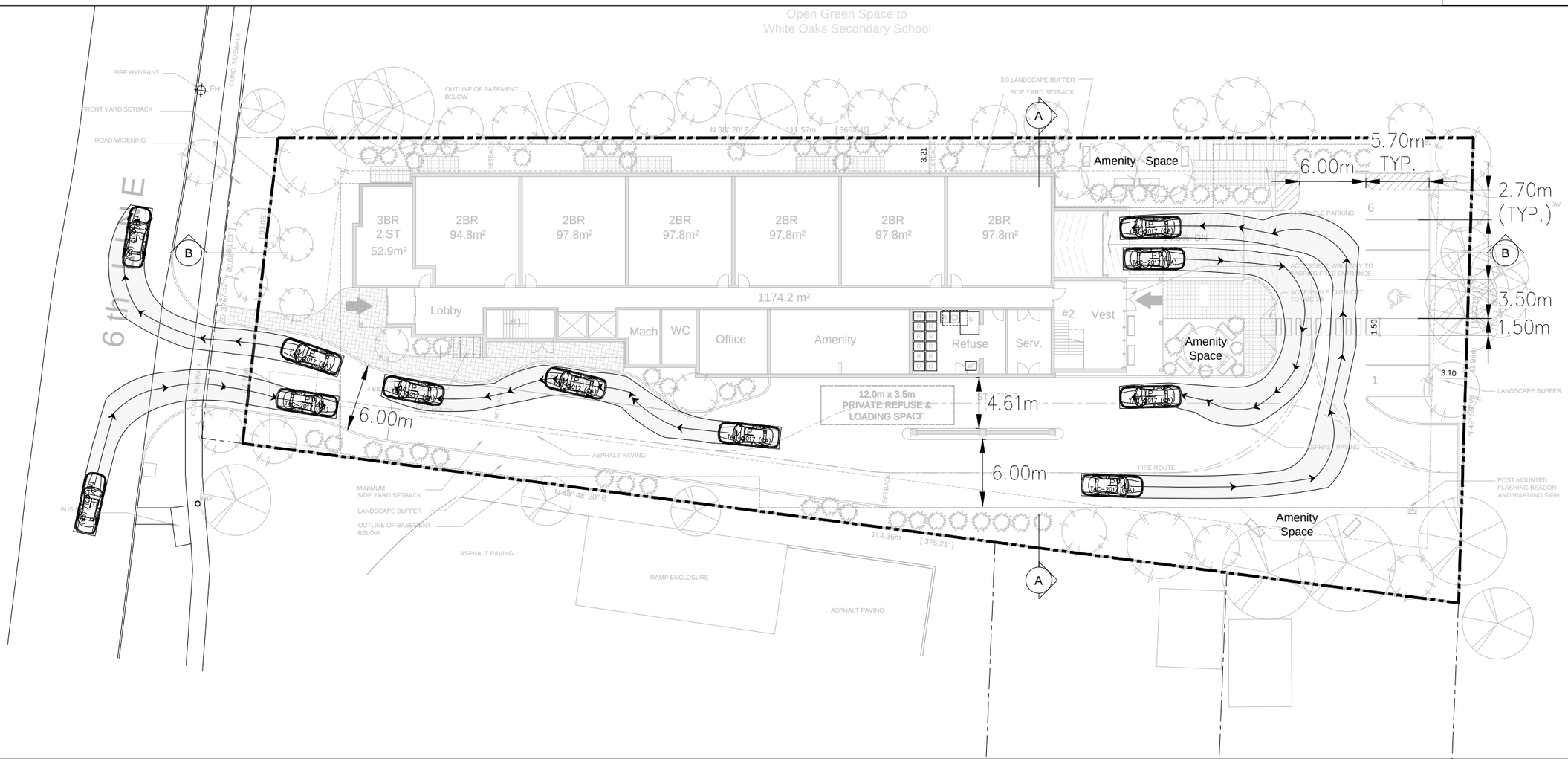
AODA: TWO TYPES OF ACCESSIBLE PARKING SPOTS WITH THE FOLLOWING MINIMUM WIDTHS MUST BE PROVIDED BY OFF-STREET PARKING FACILITIES:

4. TYPE A: 3.4m WITH SIGNAGE IDENTIFYING THE SPACE AS 'VAN ACCESSIBLE'
5. TYPE B: 2.4m WITH ACCESSIBLE PARKING SIGNAGE
6. THE ENTIRE LENGTH OF THE PARKING SPACE MUST BE ADJACENT TO A 1.5m WIDE BARRIER FREE AISLE OR PATH



P

	meters
Width	: 2.00
Track	: 2.00
Lock to Lock Time	: 6.0
Steering Angle	: 35.9



PLOT DATE: November 28, 2024

DRAWN BY: X.C.

LEA Consulting Ltd. Consulting Engineers and Planners www.LEA.ca	N	Project No. 23400 Date NOV. 28, 2024		1295 SIXTH LINE OAKVILLE ONTARIO 4 0 4 8 12m 1:400	GROUND FLOOR PARKING REVIEW PASSENGER VEHICLE (P-TAC)	Drawing No. 004

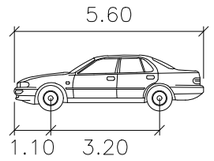
DRAWING NAME: C:\Users\CNelson\AppData\Local\Temp\AcPublish_28724\23400WF007.dwg

NOTES:

TOWN OF OAKVILLE ZONING BY-LAW 2014-014:

1. THE MINIMUM WIDTH OF AN AISLE PROVIDING ACCESS TO A PARKING SPACE WITHIN A PARKING AREA IS 6.0m.
2. THE MINIMUM DIMENSIONS OF A PARKING SPACE SHALL BE 2.7m IN WIDTH AND 5.7m IN LENGTH.
3. THE MINIMUM WIDTH IN (II) MUST BE INCREASED BY 0.3m FOR EACH SIDE OF THE PARKING SPACE THAT IS OBSTRUCTED.
4. THE MINIMUM DIMENSIONS OF A PARKING SPACE PROVIDED WITH THE LENGTH PARALLEL TO THE AISLE OR DRIVEWAY SHALL BE 2.7m IN WIDTH AND 7.0m IN LENGTH.

5. THE MINIMUM DIMENSIONS FOR A BARRIER-FREE PARKING SPACE SHALL BE:
   - 5.1. TYPE A: 3.65m WIDTH & 5.7m LENGTH
   - 5.2. TYPE B: 2.7m WIDTH & 5.7m LENGTH
   - 5.3. A BARRIER-FREE PATH OF TRAVEL 1.5m IN WIDTH IS REQUIRED ABUTTING THE ENTIRE LENGTH OF THE LONGEST SIDE OF A BARRIER-FREE PARKING SPACE. A PATH OF TRAVEL CAN BE SHARED BY TWO BARRIER-FREE PARKING SPACES.



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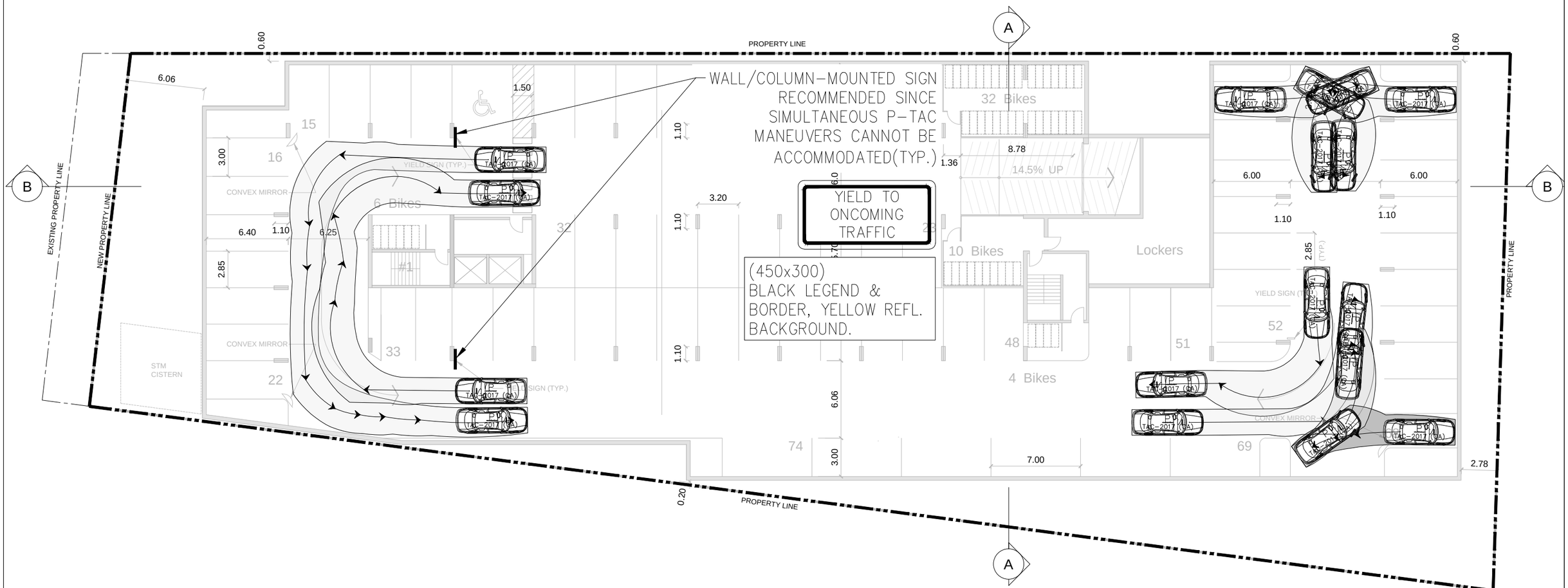
	meters
Width	: 2.00
Track	: 2.00
Lock to Lock Time	: 6.0
Steering Angle	: 35.9



PLOT DATE: November 28, 2024

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DRAWING NAME: C:\Users\CNelson\AppData\Local\Temp\AcPublish_28724\23400WF007.dwg

NOTES:

TOWN OF OAKVILLE ZONING BY-LAW 2014-014:

1. THE MINIMUM WIDTH OF AN AISLE PROVIDING ACCESS TO A PARKING SPACE WITHIN A PARKING AREA IS 6.0m.
2. THE MINIMUM DIMENSIONS OF A PARKING SPACE SHALL BE 2.7m IN WIDTH AND 5.7m IN LENGTH.
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4. THE MINIMUM DIMENSIONS OF A PARKING SPACE PROVIDED WITH THE LENGTH PARALLEL TO THE AISLE OR DRIVEWAY SHALL BE 2.7m IN WIDTH AND 7.0m IN LENGTH.

5. THE MINIMUM DIMENSIONS FOR A BARRIER-FREE PARKING SPACE SHALL BE:
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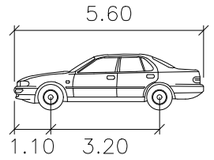
   - 5.2. TYPE B: 2.7m WIDTH & 5.7m LENGTH
   - 5.3. A BARRIER-FREE PATH OF TRAVEL 1.5m IN WIDTH IS REQUIRED ABUTTING THE ENTIRE LENGTH OF THE LONGEST SIDE OF A BARRIER-FREE PARKING SPACE. A PATH OF TRAVEL CAN BE SHARED BY TWO BARRIER-FREE PARKING SPACES.



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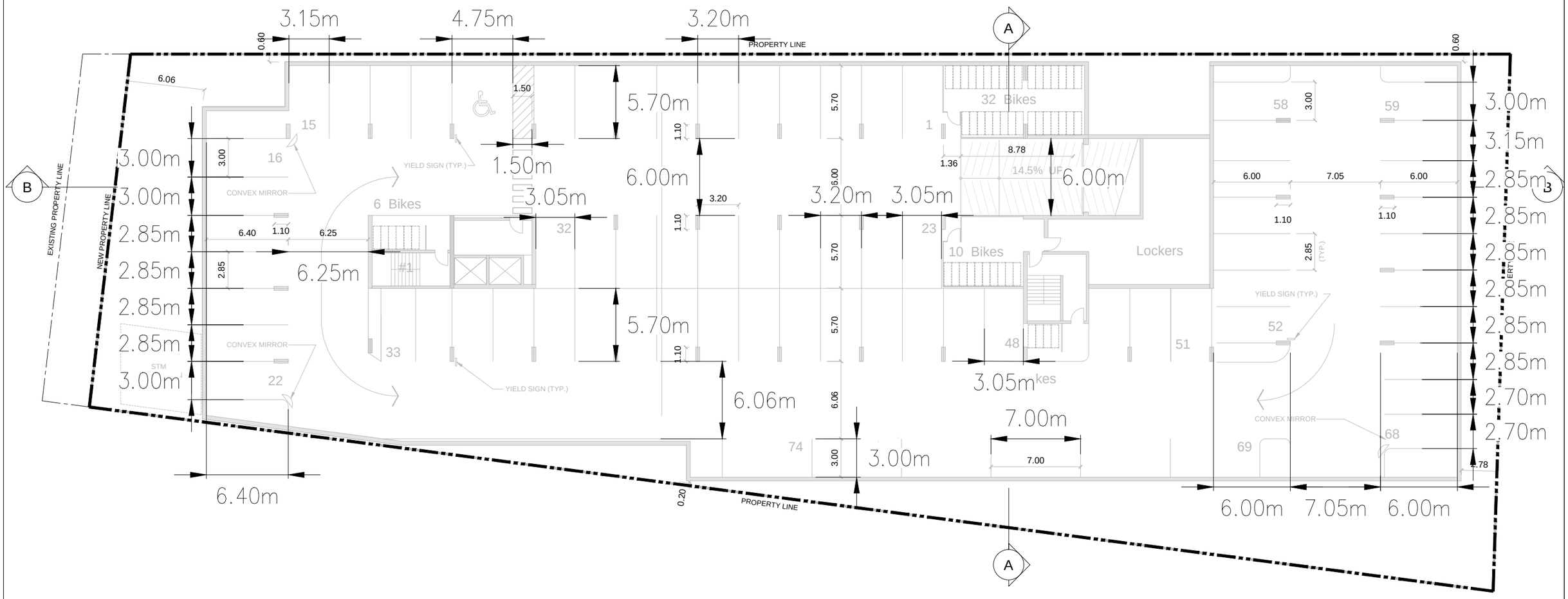
	meters
Width	: 2.00
Track	: 2.00
Lock to Lock Time	: 6.0
Steering Angle	: 35.9



PLOT DATE: November 28, 2024

DRAWN BY: X.C.

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Project No. 23400

Date NOV. 28, 2024

1295 SIXTH LINE
OAKVILLE ONTARIO

4 0 4 8 12m
1:400

LEVEL P1
PARKING REVIEW
PASSENGER VEHICLE (P-TAC)

Drawing No. 006

DRAWING NAME: C:\Users\CNelson\AppData\Local\Temp\AcPublish_28724\23400WF007.dwg