LOUIS ST. LAURENT AVENUE
PROPOSED RESIDENTIAL DEVELOPMENT

Updated Urban Transportation Considerations

Town of Milton

Prepared For: Mattamy Corporation

October 2024

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October 21, 2024

Anthony Sotomayor
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Toronto, ON M8X 2X2
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RE: UPDATED Louis St.Laurent Proposed Development, Transportation Considerations Report

Dear Anthony:

Attached please find BA Group's Updated Transportation Considerations Report (Traffic Impact Study) for the proposed development of a site on the south side of Louis St. Laurent Avenue, along the west side of Sainte-Anne Catholic Elementary School, in the Town of Milton.

The development proposal now includes the construction of three residential condominium buildings with a total of 520 units, in addition to 78 townhouses, for a total of 598 residential units on the Site. It is estimated at this time that the development of the Site will be completed by 2029.

This Transportation Considerations Report (Traffic Impact Study) has been prepared as part of the **Zoning By-law Amendment (ZBA)** application being submitted to the Town of Milton for the development of the Site.

I can confirm that the enclosed report has been prepared under my supervision and to the best of my knowledge is accurate and true.

I trust that the foregoing is satisfactory.

Sincerely,
BA Consulting Group Ltd.

Deanna Green, MSc. P.Eng.
Senior Associate

Responses to Town of Milton Comments
regarding BA Group's April 2024 Report
ZBL Submission #1 – St.Louis Laurent Avenue

Town Development Engineering

Comment 17: Show vehicle turning diagram for the west end of Lane D. Show that a vehicle can maneuver into and out of the driveway of Block D (west unit).

Response:

Vehicle turning diagrams are provided for the west end of Lane D in **Appendix E** of the updated BA Group October 2024 Report.

Town Transportation

Comment 55: Background Developments - Garito Barbuto Tor Lands Residential (Section 8.3.2.2): The Mattamy TOR Subdivision TIS included trip projections for this minor sub-node, and it is unclear if this was accounted for in this report. See below Table 5-1 from the Subdivision TIS (prepared by TYLin) illustrating trip projections, which incorporated planned development statistics for this site. The trip projections highlighted above match those from Table 20 (Garito Barbuto Tor Lands Trip Generation) in the TIS submitted for the subject development, indicating site trips were double-counted in the background traffic volumes considered for this report. It should also be noted that trip projections for this development were underrepresented in the subdivision TIS given the varying site statistics. Confirm the above, and update all relevant components of the TIS accordingly.

Response:

As discussed in Section 8.2.2 of BA Group's October 2024 Report, background development traffic volumes were derived on the basis of a 'first-principles' approach. Relevant development parcels were identified to conform to those that had been included within the East Tertiary Plan Sub-Zones of the Boyne Secondary Survey RNA Study. Allowances were made for the Mattamy Bayview Lexis Residential Subdivision & Milton III-75 Mixed-Use Development (these lands comprise sub-zones 43, 44, 48, and 49 of the Boyne RNA Study), Garito Barbuto Tor Lands Residential Development (zones 41 and 42, and approximately 50% of zones 46 and 47 of the Boyne RNA Study), Sub-Zone 40 Lands (development statistics provided by Town of Milton staff), and the Derry Green Business Park (estimated as part of the Boyne Secondary Plan RNA). For each of these components, traffic forecasts (i.e., trip generation estimates) or development statistics, were taken from the RNA Study, the Town of Milton, or the October 2022 TYLin Transportation Impact Study, entitled "Garito Barbuto Tor Lands Residential Development". Traffic volumes were assigned and distributed to the study area road network using assignment assumptions discussed in Section 8.4.3 of BA Group's October 2024

Report. It was therefore necessary to apply the full traffic forecast for the aforementioned Garito Barbuto Tor Residential Subdivision Lands, rather than simply the difference between the RNA assumptions and subsequent developer statistics. The background development traffic volumes utilized in BA Group's traffic analysis are therefore appropriate.

Comment 56: Site Traffic Volumes (Section 8.4):
o Provide a trip generation forecast comparison of the minor sub-node's current site statistics to what was projected in the subdivision TIS.
o Table 25 (Site Vehicle Trip Generation Summary): trip projections for ITE LUC 222 (High-Rise Apartment) as they were derived from the directional distribution are calculated incorrectly. LUC 222 directional distributions are also incorrect. Revise accordingly.

Response:
As discussed in Section 8.3.1.4 of BA Group's October 2024 Report, the Site is located within a "Minor Sub-Node", inside the sub-zone 41 of the Boyne RNA Study. The RNA Study assumed the development of 2,863 m^2 of commercial GFA for this area. Trip generation forecasts for this development were estimated by the 2022 TYLin Study and were determined to be in the order of approximately 70 and 135 two-way trips during the morning and afternoon peak hours, respectively. This compares to the 235 and 275 two-way trips (during the morning and afternoon peak hours, respectively) forecast under the current development proposal considered for the Site. Site trip forecasts assumed in BA Group's traffic analysis are therefore conservative when compared to the Boyne RNA Study.

The Site vehicle trip generation forecasts, trip rates and directional distribution statistics cited in Table 25 of BA Group's April 2024 Report included minor typographical errors for LUC 222, which have since been revised in updated October 2024 Report. However, trip generation calculations (even for those associated with LUC 222) were performed correctly. The Site trip generations forecasts are therefore appropriate.

Comment 57: Table 29 – Louis St. Laurent Avenue/Ferguson Drive (Section 9.4.2): Capacity analysis results for the NBTL/NBR movements in the future background/total traffic scenarios were left out and should be included.

Response:
As illustrated in Figure 5 of BA Group's October 2024 Report, the south approach at the Louis St. Laurent Avenue / Ferguson Drive intersection **currently includes** a dedicated northbound left-turn and shared through-right-turn lane. These results are summarized in Table 29 of BA Group's October 2024 Report.

Comment 58: Traffic Signage and Pavement Marking Plan (Appendix B): Fire Route signs are missing from the plans, fire route signs should be placed at each end of the fire route and located at intervals of not more than 150 feet apart along the fire route.

Response:

Fire Route signs have been incorporated into the Traffic Signage and Pavement Marking Plan (**Appendix C**) in BA Group's October 2024 Report.

Milton Zoning

Comment 62: Parking Calculations for Apartment Buildings - Based of the parking ratios requested (1 parking space per unit, plus 0.22 per unit for the Visitor component)

Apartment Buildings (1 & 2) Total units 358 units
Tenant = 358 (10 of which shall be Accessible Parking spaces) 2% + 2 spaces
Visitor = 79 (4 of which shall be Accessible Parking spaces) 4%
38 provided at grade (4 accessible), ***Visitor parking spaces not labelled on UGP Plans (cannot confirm zoning compliance for visitor parking***)
Required = 437 (14 Accessible)
Provided= 441 (14 Accessible)

Bldg 3 – 124 units
Tenant = 124 (5 of which shall be Accessible Parking spaces) 3% + 1 spaces
Visitor = 28 (2 of which shall be Accessible Parking spaces) 4%
21 provided at grade (4 accessible), Visitor parking spaces not labelled on UGP Plans ***(cannot confirm zoning compliance for visitor parking)***
Required = 153 (7 Accessible)
Provided= 153 (7 Accessible)

Response:
As discussed in Section 1.2 of BA Group's October 2024 Report, the development proposal statistics have changed slightly since completion of BA Group's April 2024 Report. The development proposal currently proposes 598 total residential units, inclusive of 396 units in Buildings A and B (Buildings 1 & 2), 124 units in Building C (Building 3), 78 townhome units, and 450 m^2 of ground-floor retail GFA.

As discussed in Section 4.2 of BA Group's October 2024 Report, the proposed parking supply of 800 spaces aligns with a minimum parking rate of 1.0 parking spaces per unit for residents, plus and additional 0.20 spaces per unit for non-residents. The proposed parking supply includes 476 parking spaces for Buildings A and B (396 resident and 80 visitor spaces), 150 parking spaces for Building C (125 resident and 25 non-resident spaces) and 174 parking spaces are provided (inclusive of driveway capacity) for the townhouse units (156 resident and 18 visitor spaces). The proposed parking supply therefore meets the proposed parking rates and will meet the needs of the Site.

Comment 63: Label all Tenant and Visitor parking space and all Tenant and Visitor Accessible parking spaces on underground parking plans. Cannot confirm Parking compliance.

Response:
As illustrated in the architectural plans attached in **Appendix A** of the BA Group October Report, resident, non-resident and accessible parking spaces have been defined on underground parking levels.

Comment 70: Visitor Parking Calculations for TH Dwelling & B2B Dwellings - Based of the parking ratios requested (0.22 per unit for the Visitor component)

Total units 78 units
Visitor = 18 (1 of which shall be Accessible Parking spaces)
21 provided at grade **(0 accessible), 1 Accessible visitor Parking space required**

Response:
See response to Comment 62.

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EXECUTIVE SUMMARY

Development Proposal

BA Group has been retained by Mattamy Corporation to provide transportation consulting services related to the proposed residential development of a site (herein referred to as "the Site") on the south side of Louis St. Laurent Avenue, along the west side of Sainte-Anne Catholic Elementary School, in the Town of Milton ("the Town").

The development proposal includes the construction of three residential condominium buildings (8 to 10 levels) with a total of 520 units, in addition to 78 townhouses, for a total of 598 residential units. A total GFA of 450 m^2 of retail is also proposed to be located on the ground-floor of one of the condominium buildings (Building C).

It is estimated at this time that the development of the Site will be completed by 2029. Parking on the Site is to be provided both at-grade and within a below-grade structure. Access and Site circulation are proposed via internal driveways and a new east-west driveway that connects to Ferguson Drive, with the potential for a future driveway connection to the south when the future residential area is developed.

Vehicle Parking Considerations

The Site is subject to the Town of Milton Comprehensive Zoning By-law 016-2014 (HUSP Urban Area – March 2023) for parking considerations. Application of this By-law to the site results in a total minimum parking requirement for the site of 1,086 spaces, inclusive of 936 resident spaces and 150 non-resident spaces.

A total parking supply of 800 parking spaces is proposed for the Site, inclusive of 677 resident spaces and 123 non-resident spaces. The development proposes a provision of a minimum resident parking rate of 1.0 spaces per unit, with non-resident parking proposed to be provided at a minimum rate of 0.20 spaces per unit. The non-resident parking supply is proposed to be shared between resident visitors and retail patrons. The proposed parking supply is appropriate for the Site based upon the evolving transportation context, observed parking demands at representative proxy residential sites and proposed TDM measures.

Bicycle Parking Considerations

Zoning By-law 016-2014 (HUSP Urban Area – March 2023) requires a total minimum of 287 bicycle parking spaces, inclusive of 27 short-term spaces and 260 long-term spaces. Buildings A/B requires a total minimum of 218 spaces and Building C requires 69 bicycle parking spaces. A total supply of 320 bicycle parking spaces is proposed for the Site, inclusive of 60 short-term and 260 long-term spaces. The proposed bicycle parking supply exceeds the minimum requirements and will encourage a shift to sustainable travel.

Loading Considerations

The Town of Milton Zoning By-law 016-2014 (HUSP Urban Area – March 2023) does not currently regulate the provision of loading spaces for residential uses. However, the By-law does require a minimum of 1 loading area for the retail (commercial) component of the Site. The Site provides loading facilities as follows:

- Buildings A and B: 1 loading area each with dimensions of 9.0 m (length) x 3.5 m (width); and,
- Building C: 1 loading space with dimensions of 15.0 m (length) x 6.7 m (width), plus 1 loading area with dimensions of 8.0 m (length) x 4.0 m (width).

All of the proposed loading areas are located at-grade, without any overhead obstructions. Vehicle maneuvering diagrams confirm the functionality of the proposed Site loading facilities and access arrangements to accommodate the maneuvering needs of the representative design vehicles anticipated to service the Site.

Transportation Demand Management Plan

The proposed Transportation Demand Management (TDM) Plan aims to reduce automobile use through an on-going strategy that supports and promotes the use of non-auto transportation modes. Proposed TDM measures for the Site include pedestrian facilities with a focus on connectivity, bicycle parking/ bicycle repair stations, an appropriate vehicle parking supply, resident traveller information and unbundled parking.

Travel Demand

The proposed development is forecast to generate in the order of **225, 245 and 125 new two-way vehicle trips** during the weekday morning, afternoon and school peak hours, respectively.

Traffic Operations Analysis

By the 2034 horizon year, all study area intersections will operate acceptably with the addition of Site-related traffic, with satisfactory levels of service and volume-to-capacity ratios. It is noted that James Snow Parkway is schedule to be widened to a six-lane cross-section at the Louis St. Laurent intersection. In addition, the Louis St. Laurent / Fourth Line intersection will be converted to a stop-controlled right-in/right-out intersection and the Louis St. Laurent Avenue / Trudeau Drive intersection will be converted to a four-legged signalized intersection. Furthermore, it is recommended that traffic signal timing optimization be applied at all study area intersections.

All study area intersections will generally accommodate future queues within available storage capacities. At the Louis St. Laurent Avenue / Ferguson Drive intersection, 95th percentile queues at the westbound left-turn movement during the morning peak hour, and average queues at the future northbound left-turn movement during the morning and school peak hours, are expected to exceed the available lane storage length. The intersection should be monitored in the future to determine if additional improvements, beyond traffic signal timing optimization and the proposed change to the lane configuration on the south approach, are required.

At the Louis St. Laurent Avenue / Trudeau Drive intersection, 95th percentile queues at the northbound left-turn movement during the afternoon peak hour and both average and 95th percentile queues at the future westbound left-turn movement during the morning and afternoon peak hours, are expected to exceed the assumed lane storage lengths. The intersection should be monitored in the future to confirm if storage lengths for these movements are appropriate to accommodate future queues.

Overall Conclusion

Based on the comprehensive traffic analysis, the proposed development can be accommodated on the future area transportation network.

1.0 INTRODUCTION

1.1 OVERVIEW

BA Group has been retained by Mattamy Corporation to provide transportation consulting services related to a proposed mixed-use development on the south side of Louis St. Laurent Avenue, along the west side of Sainte-Anne Catholic Elementary School, in the Town of Milton ("the Town"), in the Region of Halton ("the Region"). The property ("the Site") is generally bounded by a natural heritage system to the south and west, Louis St. Laurent Avenue to the north and Ferguson Drive to the east. The updated development proposal includes the construction of three residential condominium buildings with 520 units, in addition to 78 townhouse units, for a total of 598 residential units on the Site.

The Site location is illustrated in **Figure 1** and the proposed Site Plan is illustrated in **Figure 2**. Reduced scale architectural drawings illustrating the development proposal are attached in **Appendix A.**

1.2 BACKGROUND

In April 2024, BA Group prepared a Transportation Considerations Report ("the April 2024 BA Group Report") that reviewed the development and provided a comprehensive traffic operations analysis study. Since that time, as summarized in **Table 1**, the proposed development has been slightly modified.

This report has been prepared as an update to BA Group's April 2024 Report in order to consider the revised site plan, as well as to address comments from the Town.

1.3 DEVELOPMENT PROPOSAL

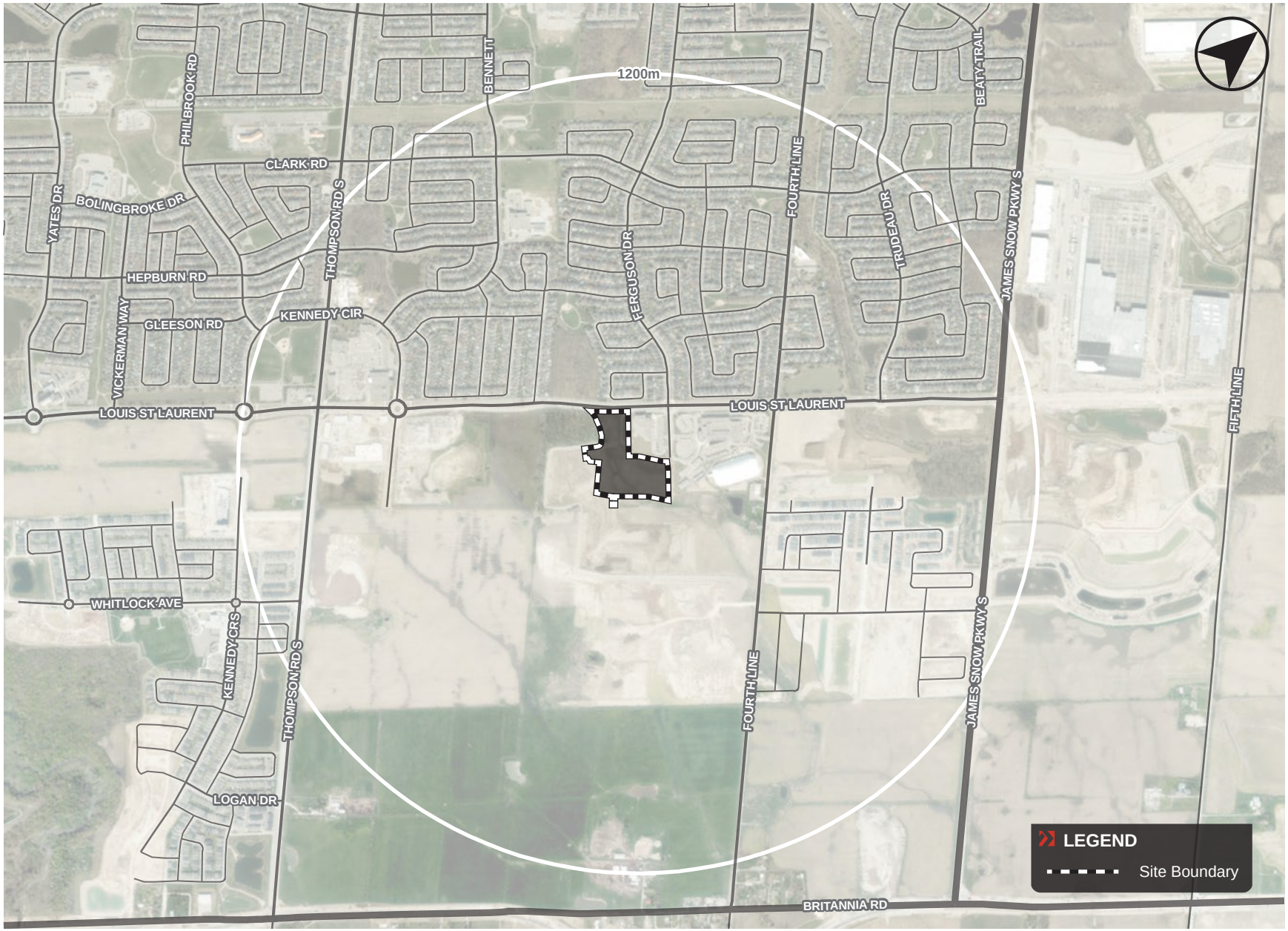
The development proposal includes the construction of three residential condominium buildings, with a total of 520 units, in addition to 78 townhouse units, for a total of 598 residential units on the Site. The proposed site plan is illustrated in **Figure 2.**

Parking on the Site is to be provided both at-grade and within a below-grade structure. Access and site circulation is proposed via internal driveways and a new east-west driveway that connects to Ferguson Drive, with the potential for a future driveway connection to the south when a future residential area is developed.

TABLE 1 PROPOSED DEVELOPMENT

Use	Development Proposal			
		April 2024[1]	October 2024[2]	Difference
Residential	**Residential Buildings**			
	Building A	208 units	194 units	-14 units
	Building B	150 units	202 units	+52 units
	Building C	124 units	124 units	0
	Total Condominium Units	**482 units**	**520 units**	**+38 units**
	Townhouses			
	Street Townhouses	34 units	34 units	0
	Back-to-Back Townhouses	44 units	44 units	0
	Total Townhouse Units	**78 units**	**78 units**	**0**
	Total Residential Units	**560 units**	**598 units**	**+38 units**
Retail	**Total Retail GFA**	**0 m^2**	**450 m^2**	**+ 450 m^2**
Vehicle Parking	**Resident**	638 spaces	677 spaces	+39 spaces
	Visitor	133 spaces	123 spaces	-10 spaces
	Total	**771 spaces**	**800 spaces**	**+29 spaces**
Bicycle Parking	**Short-term**	28 spaces	60 spaces	+32 spaces
	Long-term	484 spaces	260 spaces	-224 spaces
	Total	**512 spaces**	**295 spaces**	**-192 spaces**
Site Access	A new east-west driveway connection to Ferguson Drive, with additional access to future residential developments to the south and west.			

Notes:
1. Based upon Site statistics provided by KNYMH Inc. Architecture + Solutions, dated April 10, 2024.
2. Based upon Site statistics provided by KNYMH Inc. Architecture + Solutions, dated October 11, 2024



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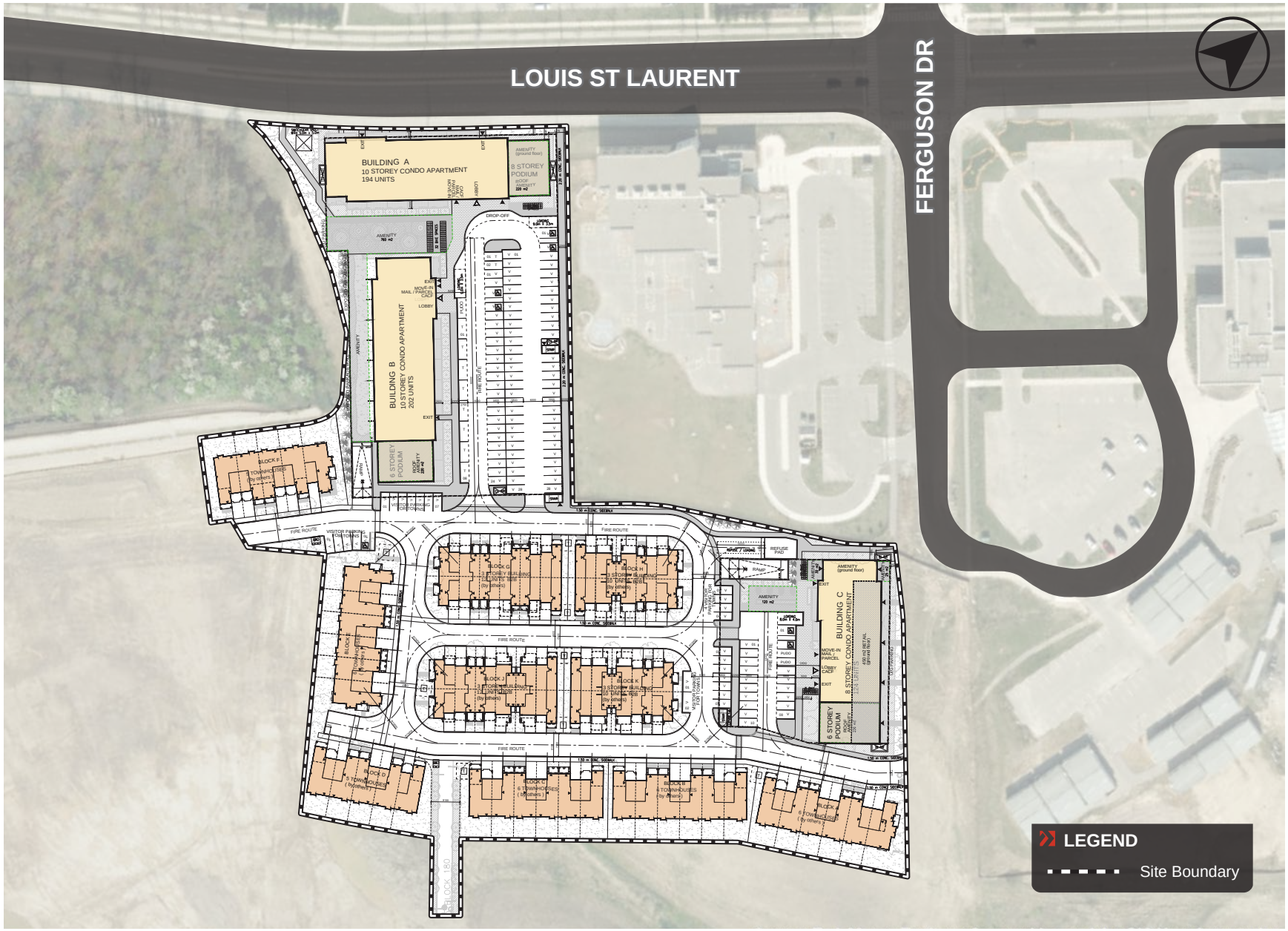
Aerial maps provided courtesy of: Esri, DigitalGlobe, GeoEye, Earthstar Geographies, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, the GIS User Community and/or Google Earth/Maps.

FIGURE 1 SITE LOCATION

BA GROUP 6374-75

LOUIS ST. LAURENT



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

FIGURE 2 SITE PLAN

1.4 SCOPE OF STUDY

This report provides an updated assessment of the transportation-relates aspects of the proposed development as part of the Zoning By-Law Amendment (ZBA) application. The scope that has been adopted for this study has been developed in consultation with the Town of Milton and the Region of Halton. The Terms of Reference for the Traffic Impact Study (TIS), along with Town and Region comments, are provided in **Appendix B.**

The study scope is outlined below.

Transportation Context

- A summary of the applicable transportation planning and policy context, including prevailing transportation planning and engineering guidelines, objectives and intentions of the Town and Region.
- A description of the existing transportation context with consideration for the area road network, transit system and active transportation facilities.
- A description of any future transportation changes and/or improvements to the area context such as transit improvements and other non-automobile dependent travel options.

Development Proposal

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

Transportation Demand Management Framework

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

Travel Demand Forecasting

- An assessment of the existing travel patterns and traffic volumes in the study area, during the key weekday morning, afternoon and school peak hours.
- A comprehensive review of future growth that may occur in the area, including corridor growth and consideration for a number of other area development projects.
- A summary of the future total traffic demands on the area road network to the year 2034 planning horizon.

Traffic Operations Review

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

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

2.0 POLICY & PLANNING CONTEXT

2.1 PROVINCIAL POLICY CONTEXT

The following provincial policy documents are relevant to the Site:

- Provincial Policy Statement (2020);
- A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2017) and Transportation Plan (2022); and,
- Proposed Provincial Planning Statement (2023).

2.1.1 Provincial Policy Statement (2020)

The 2020 Provincial Policy Statement (herein referred to as "the PPS") promotes efficient development patterns optimizing the use of land, resources and public investment in infrastructure and public service facilities up to the 2045 planning horizon. According to the PPS, efficient development patterns promote a mix of housing, including affordable housing, employment, recreation, parks and open spaces and transportation choices that increase the use of active transportation and transit over other modes of travel.

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

2.1.2 Places to Grow: Growth Plan for the Greater Golden Horseshoe (2020)

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

In early 2022, the Ministry of Transportation (MTO) and its partners developed a *Transportation Plan for the GGH* as a 30-year plan for improved mobility across the Province of Ontario. As the Greater Golden Horseshoe ("GGH") continues to expand, the region will require improvements to its transportation systems to accommodate increased demand. The Growth Plan aims to address the impact of predicted growth through a well-connected transportation system that provides safe, efficient, and convenient options for users. The 2051 vision of the Growth Plan includes focuses on fighting gridlock and improving road performance by facilitating travel on a connected transit system, supporting a more sustainable and resilient region and efficiently moving goods.

Within the Growth Plan, an improved transit network is a key focus. To achieve a more sustainable and resilient region, it is necessary to motivate the public to use transit by improving connectivity. Expanding service across the region would allow for greater inter-regional travel and connections to destinations that might have previously been difficult to reach by transit alone.

Additionally, the Growth Plan emphasizes that new development taking place in designated greenfield areas will be planned, designated, zoned, and designed in a manner that supports the fulfillment of complete communities, supports active transportation, and encourages the integration and sustained viability of transit services. Further, the minimum density targets applicable to the designated greenfield area of each upper and single-tier municipality, including the Town of Milton, is to achieve a minimum density target that is not less than 50 residents and jobs combined per hectare within the horizon of the Growth Plan.

2.1.3 Provincial Planning Statement (Updated June 2023)

The Provincial Planning Statement was introduced in 2022 to provide a set of adapted and integrated policies from the existing PPS and the Growth Plan for the GGH, ultimately replacing both documents, to form a new Provincial planning policy tool. Given the significance of the PPS and Growth Plan for the GGH in navigating land use planning decisions across the Province (i.e., guiding growth, transportation infrastructure, public health, and more to achieve livable communities), the Provincial Planning Statement aims to further leverage several policies to provide a streamlined land use planning policy framework.

As a result of all government feedback received, the Provincial Policy Statement proposed a set of policies organized under five pillars:

1. Appropriate housing supply;
2. Available land for development;
3. Infrastructure to support development;
4. Balance housing with resources; and,
5. Implementation.

Proposed land development and transportation-related policies under these pillars indicate meeting minimum density targets for Major Transit Station Areas (MTSA's) and urban growth centres, encourage transit-supportive greenfield density targets, require municipalities to implement intensification policies, require municipalities to plan for and protect corridors for transit infrastructure to accommodate growth, require the integration of land use planning and transportation through transit-supportive development, and require municipalities to reduce greenhouse gas emissions and improve air quality.

In addition, Chapter 2 of the Provincial Planning Statement (Building Homes, Sustaining Strong and Competitive Communities) proposes policies in relation to accommodating access to multi-modal transportation options and facilitating low impact development and residential intensification near main transit corridors and stations. Further, Chapter 3 (Infrastructure and Facilities) proposes several policies in relation to providing transit-supportive development where applicable and promoting healthy and active communities through facilitating active transportation, planning public streets to meet diverse needs, and providing opportunities for convenient public access to recreational areas.

It is noted that the Provincial Planning Statement was published in April 2023 with a 120-day comment period that was extended to August 2023. Since this period elapsed, the proposal notice was last updated in June 2023 to permit review and input for additional policies added to the document.

2.2 REGIONAL POLICY CONTEXT

2.2.1 Halton Region Official Plan

The Region of Halton Official Plan (herein referred to as the "Regional OP" or "OP") provides direction to guide development in the Region to meet current and future needs. The Regional OP outlines a long-term vision for the Region's physical form and community character. To pursue that vision, it sets forth goals and objectives, describes an urban structure for accommodating growth, states the policies to be followed, and outlines the means for implementing the policies. Most relevant to the proposed development, the Site is defined as being within the Urban Area (and Regional Urban Boundary) but outside Built Boundary of the Regional OP. As such, the Site environs are considered to be "Designated Greenfield Areas" and are identified in the OP as being subject to specific targets and policies. This includes a development density target applicable within the Town of Milton of 59 people and jobs per hectare. The development of the Site will therefore help to deliver the density contemplated by the Region to support the objectives of the OP.

2.2.2 Halton Region Transportation Master Plan

An updated Halton Region Transportation Master Plan – known as the *2031 Road to Change* – was adopted by the Region in October 2011, defining the Region's framework for growth from 2021 to 2031. The new Regional TMP supports the policies and objectives arising out of Regional OP Amendment No. 38 (ROPA 38), which incorporated the results from the Sustainable Halton Official Plan Review process. Most relevant to the proposed development, the Regional TMP identifies the schedule widening of James Snow Parkway (Regional Road 4) within the study area to a six-lane cross-section by the 2031 horizon year.

2.2.3 Halton Region Mobility Management Strategy

In 2016, the Region released the *Mobility Management Strategy for Halton* (herein referred to as the "Regional Mobility Strategy"), which was intended to be high-level policy coordination strategy to align Regional OP policies with the aforementioned Regional TMP, as well as the latest Provincial directives with the now updated Metrolinx "Big Move" and Regional Express Rail (RER) Plans. Most relevant to the study area, the Regional Mobility Strategy recommended the establishment of Transit Priority Corridors and Mobility Links along certain Regional Roads, including Regional Road 4 (i.e., James Snow Parkway) as part of the Transit Priority Mobility Network to 2041.

2.2.4 Halton Region Active Transportation Master Plan

In May of 2015, the Region released the *Halton Active Transportation Master Plan* (herein referred to as the "Regional ATMP"), its first ever active transportation master plan. The Regional ATMP is identified as another policy tool to support the guiding principles set out in the Regional TMP, and arising out of and ROPA 38. The salient objective of Regional ATMP is to meet a mode share target for active transportation of 5% for all PM peak hour trips by 2031. Among the strategies identified by the Regional ATMP to achieve this target is the establishment of the Regional Cycling and Walking Network. Most relevant to the study area, James Snow Parkway (Regional Road 4) is identified in the Network as a primary corridor for future investment consistent with a boulevard multi-use path (MUP) and on-street bike lanes on both sides of the road. In keeping with practises identified in the Regional ATMP and the 2024 Budget and Business Plan, these facilities are

anticipated to be implemented together with the scheduled widening of James Snow Parkway by the year 2031.

2.3 MUNICIPAL POLICY CONTEXT

2.3.1 Town of Milton Official Plan

Following the approval of ROPA 38, the Town of Milton similarly approved Amendment 31 (OPA 31) to the Town Official Plan (also referred to as the "Town OP"), likewise intending to align its planning policy framework with the Provincial Growth Plan for the Greater Golden Horseshoe, as well as the Regional OP, In keeping with the findings of the Regional OP. it recognizes that the Town's settlement area is nearly built-out and most of the future development in the Town will occur through intensification.

In response, A *new Official Plan project*, *We Make Milton*, was inaugurated in July 2019, focussing on reviewing and updating the Town of Milton Official Plan with policies to mange the growth to the 2051 horizon year. The new Town OP is intended to consider the implementation of key transportation related directions as identified in the updated 2023 Transportation Master Plan. At the time of this writing, the Town OP update process is currently at "Stage 4" (Drafting and Discussing), according to the latest reporting. In the meanwhile, a consolidation of the forthcoming Town OP policies is available. Most relevant to the study area, intensification targets for the Urban Area (which the Site falls within) are identified as 30 units per hectare on a net basis or 20 units per hectare on a gross residential land area. In addition, the boundaries of the "Milton Urban Expansion Area" (which the Site also falls within) are also identified, which are understood to be developed through the Secondary Planning process. The development of the Site is therefore fully congruent with the guidance understood to be provided by the forthcoming Town OP and will help deliver the intensification targets of the Town and Region.

2.3.2 Town of Milton Transportation Master Plan

In 2018, the Town of Milton developed a Transportation Master Plan (TMP) to guide investment in all modes of transportation in order to accommodate travel future demands associated with the significant population and economic growth anticipated for the Town.

In March 2023, the Town began undertaking a Transportation Master Plan Update. The TMP update is intended to align transportation policy with the Town's growth plan and priorities. It will also reflect recent policy directions from the Province, which focuses Milton's future growth on intensification within the "built boundary", and the development of complete communities through Secondary Plan Areas. The TMP Update will consider all modes of transportation and identify strategic improvements that will facilitate a shift toward sustainable travel in the Town. The Study is expected to be completed in November of 2024. A Public Information Centre, dated June 19th, 2024, informed the public on the status of the TMP update and identified the possibility of extending Louis St. Laurent Avenue from Fifth Line to Sixth Line, as well as the implementation of a future on-road bike lane on Ferguson Drive as it extends southwards through the development of the Boyne Survey Secondary Plan.

2.3.3 Town of Milton Transit Service Review and Master Plan

The *2019-2023 Milton Transit Service Review and Master Plan Update, June 2019* identified contemporary and future transit needs for the Town of Milton to the year 2023. The Milton Transit Service Review acknowledged the rapid growth of population and employment triggering the need to expand public services. The Transit Master Plan Update made recommendations to introduce new transit routes within the study area, which were subsequently adopted.

Subsequently, Milton Transit developed the *Five-Year Service Plan and Transit Master Plan Update*, effective for the years 2024-2029. This study included an update to the existing Transit Master Plan along with recommend short, medium and long-term sustainable transit requirements in growth areas, including Boyne, Derry Green, Britannia, Agerton/Trafalgar, the Major Transit Station Area (MTSA) and Milton Education Village (MEV). Town Council endorsed the recommendations of the Study on June 24th, 2024.

Future transit network recommendations, as outlined in *Five-Year Service Plan and Transit Master Plan Update,* are discussed in detail in **Section 3.0.**

2.3.4 Boyne Survey Secondary Plan

Following the direction of the aforementioned Official Plan Amendment (OPA 31), the Town intends to expand its urban core to guide future development into the “Designated Greenfield areas” identified in the Regional OP. To this end, the “Milton Urban Expansion Area”, has been parceled out among several Secondary Plan areas, which includes the *Boyne Survey Secondary Plan* (herein referred to as “the Boyne Survey”). The Boyne Survey is a 930-hectare block of land to the immediate south of the existing Built Boundary, in the area bounded by Louis St. Laurent Avenue in the north, James Snow Parkway in the east, Tremaine Road in the west, and Britannia Road in the south. It is intended to primarily deliver residential development with some mixed-use areas and accommodate a total of 50,000 residents when fully developed. The development Site (i.e., owned by the Client) falls within Phase 3B of the Boyne Survey Phasing Plan.

As per Schedule C.10.C *Boyne Survey Secondary Plan Land Use Plan*, the Site area is identified as a Minor Sub-Node Area. These areas highlight secondary intersections with potential to integrate higher residential densities and smaller concentrations of mixed-use developments.

In support of the future build-out of the Boyne Survey, the Town of Milton, together with the Milton Phase 3 Landowners Group (comprised of 19 community developers who collectively own the Boyne Survey lands), commissioned the *Boyne Secondary Plan Survey Area Road Network Assessment* (herein referred to as the “Boyne RNA Study” or “RNA Study”), which was a traffic study intended to recommend the preferred road network and associated transportation infrastructure required to service the Boyne Survey.

2.3.5 Boyne Survey Urban Design Guidelines

The Boyne Survey Urban Design Guidelines were prepared by the Town to provide best-practices for urban design in order to effectuate the development of the Boyne Survey in a manner congruent with the principles and policies identified in the Town OP, as well as to enable the technical recommendations made in supporting Town Master Plans – e.g., the above-mentioned Transportation Master Plan and the Transit Service Review and Master Plan. The Boyne Survey Urban Design Guidelines provide practical recommendations relevant to shaping the urban form of development in the Boyne Survey, as well as emphasize the integration of sustainable transportation infrastructure into future roads and communities. The Site falls within a Minor Sub-Node of the Boyne Survey, which the Urban Design Guidelines identify as areas which can support higher density development and mixed uses. The proposed development is therefore consistent with the preferred vision for this part of the Boyne Survey.

3.0 TRANSPORTATION CONTEXT

A number of transportation network improvements are planned or underway within the vicinity of the Site which will significantly alter the mobility context of future residents, visitors and retail patrons. Most significantly, these improvements will facilitate a shift from predominantly automobile-based travel to more sustainable modes of travel, including transit, cycling and walking.

The following sections provide a detailed discussion of the existing and evolving area transportation context surrounding the Site, with consideration to network improvements.

3.1 AREA ROAD NETWORK

3.1.1 Existing Area Road Network

The Site is well-served by a variety of roadway connections provided across the Town and Region, and to/from the Greater Toronto and Hamilton Area (GTHA). A detailed description of the study area road network is provided in **Table 2.**

The existing study area road network classification scheme is illustrated in

Figure 3, while existing lane configuration and traffic control conditions are illustrated in **Figure 4**.

TABLE 2 EXISTING AREA ROAD NETWORK

Road Type		Road Name	Roadway Limits	Description
Major Arterial	**North-South**	James Snow Parkway (Regional Road 4)	James Snow Parkway extends from Dublin Line East in the north and Britannia Road in the south.	James Snow Parkway (RR4) is under the jurisdiction of Halton Region[3], where it is classified as a major arterial road. It has a two-lane cross section within the vicinity of the Site. Auxiliary turn lanes and/or an additional through-lane are provided on all approaches at the signalized T-intersection with Louis St. Laurent Avenue. The posted speed limit is 70 km/h.
Minor Arterial	**North-South**	Thompson Road S / Third Line[1]	Thompson Road South extends from Main Street in the north to south of Britannia Road. North of Main Street, it continues as Thompson Road North to Steeles Avenue.	Thompson Road South is under the jurisdiction of the Town of Milton, where is classified as a minor arterial road in the vicinity of the Site and continues as a collector roadway south of Britannia Road[4]. Throughout the study area, it has a four-lane urban cross section. There are bicycle lanes indicated by pavement markings on-street and multi-use paths in the boulevard on both sides of the road. Auxiliary turn lanes are provided on all approaches at the signalized intersection with Louis St. Laurent Avenue The posted speed limit is 60 km/h.
		Fourth Line[2]	Fourth Line extends from the Glenorchy Conservation Area in the South (south of Lower Base Line West) and Derry Road West in the north.	Fourth Line is under the jurisdiction of the Town of Milton, where is classified as a minor arterial road[4]. It has a two-lane basic cross-section within the vicinity of the Site. The posted speed limit is 50 km/h, north of Louis St. Laurent Avenue and 60 km/h south of Louis St. Laurent Avenue.

Road Type		Road Name	Roadway Limits	Description
Minor Arterial (Continued)	**East – West**	Louis St. Laurent Avenue[1]	Louis St. Laurent Avenue extends from James Snow Parkway South in the east to west of Tremaine Road, where it becomes Pan Am Boulevard.	Louis St. Laurent Avenue is under the jurisdiction of the Town of Milton, where is classified as a minor arterial road[3]. Throughout the study area, it has a four-lane cross section. Auxiliary turn lanes are provided on all approaches at its signalized intersections in the study area. There are bicycle lanes indicated by pavement markings on-street and multi-use paths in the boulevard on both sides of the road. The posted speed limit is 60 km/h.
Collector	**North – South**	Ferguson Drive	Ferguson Drive extends from Armstrong Avenue in the north to just south of Louis St. Laurent Avenue.	Ferguson Drive is under the jurisdiction of the Town of Milton, where is classified as a collector road[4]. It has a four-lane basic cross-section in the vicinity of the Site. Auxiliary turn lanes are provided at the signalized intersection of Louis St. Laurent Avenue (northbound and southbound left turn lanes). There are bicycle lanes on both sides of the road indicated by pavement markings on-street and signs identifying the reserved lane. There is no posted speed limit, so it is assumed that the statutory 50 km/h speed limit applies. **A school zone flasher was recently installed on Ferguson Drive just south of Louis St.Laurent with a 40 km/h speed limit when flashing.**
		Trudeau Drive[2]	Trudeau extends from Louis St. Laurent Avenue in the south and James Snow Parkway in the north where it continues north as Reading Court.	Trudeau Drive is under the jurisdiction of the Town of Milton, where is classified as a collector road[4]. It has a two-lane cross-section, within the vicinity of the Site. Auxiliary turn lanes are provided at the signalized intersection of Louis St. Laurent Avenue (northbound and southbound left turn lanes). There are bicycle lanes on both sides of the road indicated by pavement markings on-street and signs identifying the reserved lane. The posted speed limit is 50 km/h.
	East–West	Kennedy Circle[2]	Kennedy connects Louis St. Laurent Avenue, serving as a connection east and west of Thompson Road South.	Kennedy Circle is under the jurisdiction of the Town of Milton, where is classified as a collector road[4]. It has a two-lane cross-section within the vicinity of the Site. There are bicycle lanes on both sides of the road indicated by pavement markings on-street and signs identifying the reserved lane. There is no posted speed limit, so it is assumed that the statutory 50 km/h speed limit applies.
Local	**North-South**	Freeman Trail[2]	Freeman Trail extends from Louis St. Laurent Avenue in the south to Meighen Way in the north, where it continues as Mara Circle.	Freeman Trail is under the jurisdiction of the Town of Milton, where is classified as a local road[4]. It has a two-lane cross-section in the vicinity of the Site. There is no posted speed limit, so it is assumed that the statutory 50 km/h speed limit applies.

Notes:
1. There is no stopping at any time along either side of the roadway.
2. On-street parking is permitted along either side of the roadway for a maximum of 5 hours, unless otherwise posted. Parking is not permitted from 2:00 am to 6:00 am.
3. Per Table 2A Town of Milton Official Plan, Office Consolidation (January 2024).
4. Town of Milton, Road Segments GIS Map, https://discover-milton.hub.arcgis.com/datasets/035fd4a9a3684bf5b6db2e9d36a4d3b1/explore?location=43.512613%2C-79.830499%2C16.32

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

FIGURE 3 EXISTING ROAD NETWORK

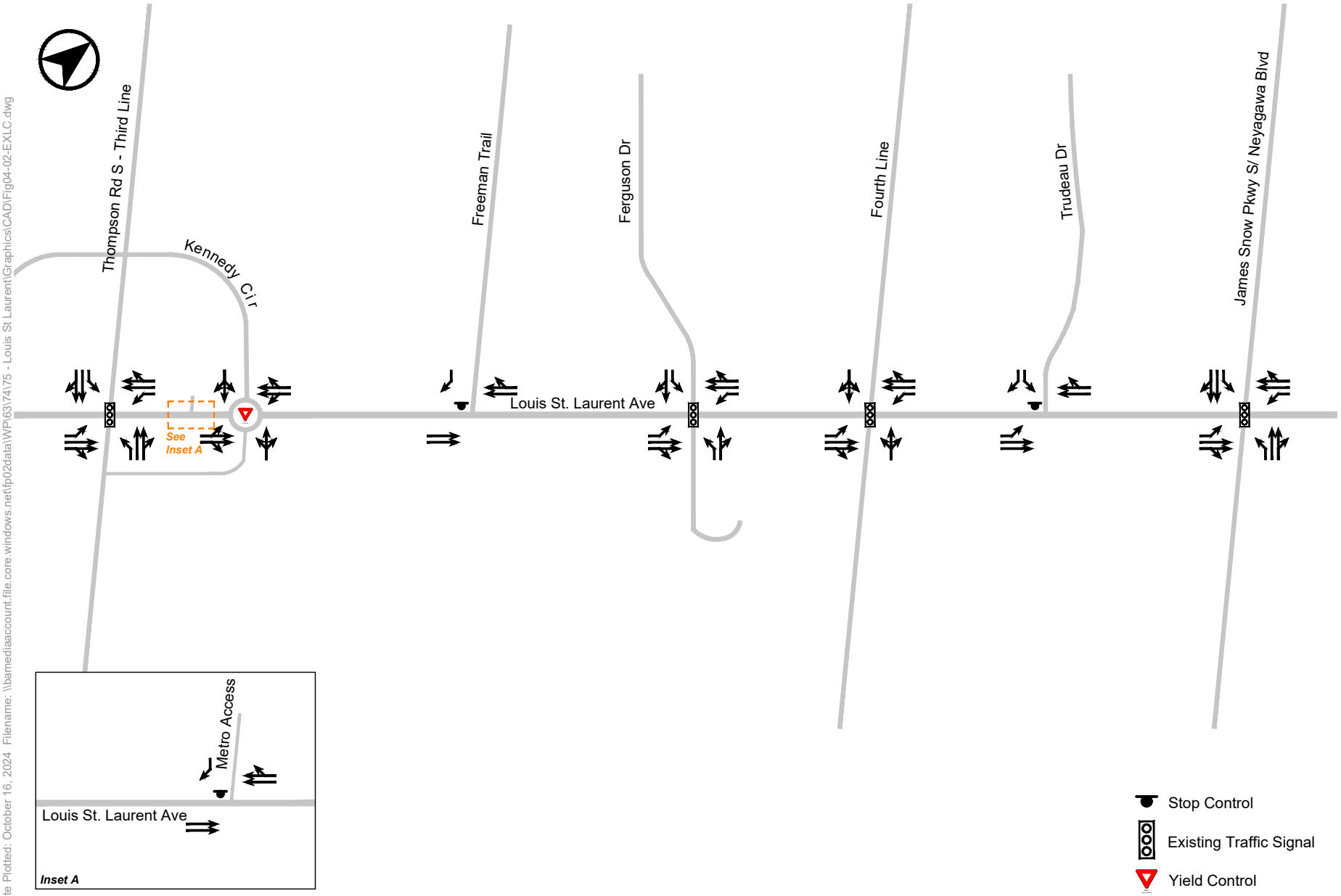

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FIGURE 4 EXISTING LANE CONFIGURATION & TRAFFIC CONTROL

3.1.2 Future Area Road Network

The Region of Halton has developed and is implementing an extensive roads development and improvement program. The Regional Road improvement program is generally identified in the Halton TMP, where improvements in the immediate vicinity of the Site area, as well as the Halton Region's 2023 Budget and Business Plan.

Additionally, a review of the Town of Milton's construction project forecasts and the *2019 - 2023 Milton Transit Services Review & Master Plan Update* has identified other improvements in the study area. The planned road improvements are described below.

3.1.2.1 Louis St. Laurent Extension

James Snow Parkway to Fifth Line

Identifying the need to extend and improve Louis St. Laurent Avenue, the Town undertook a Schedule C Municipal Class Environmental Assessment (MCEA) Study, dated October 2020 (herein referred to as the "EA Study"), to explore the possibility of extending the Louis St. Laurent corridor from James Snow Parkway to Fifth Line. The purpose of this project was to facilitate transportation connectivity and accessibility within the Derry Green Corporate Business Park Secondary Plan (another Secondary Plan area within the Town of Milton "Urban Expansion Area").

The key elements of the preferred Louis St. Laurent Avenue corridor between James Snow Parkway and Fifth Line are generally consisting with existing sections to the immediate west of James Snow Parkway and include the following:

- A new 4-lane cross-section with two lanes in each direction;
- 3.0 metre dedicated left-turn lanes where access to adjacent lands is required;
- 2.0 metre bike paths within the boulevard on each side of Louis St. Laurent; and
- 1.8 metre sidewalks are proposed on both sides of the road.

Construction began in early 2022 and has since been completed. It is noted that the Louis St. Laurent / James Snow Parkway intersection (the western terminus of the EA Study area) was already operating as a 4-legged intersection at the time that the traffic counts utilized in this Study were undertaken.

From Fifth Line to Sixth Line

The Town of Milton has identified an interest in further extending Louis St. Laurent Avenue from Fifth Line to Sixth Line, which will require a Schedule C Municipal Class Environmental Assessment (MCEA). Per the Town, a forthcoming MCEA is anticipated to start in 2025 with construction expected to begin sometime around 2028.

3.1.2.2 Improvements to the Broader Area Road Network

James Snow Parkway

The TMP identified the need for additional capacity on the James Snow Parkway corridor from Britannia Road to Highway 401 (i.e., within both the Town of Milton and the study area). To this end, in April 2023, the Region issued a Notice of Study Commencement for a Municipal Class Environmental Assessment (MCEA) Study to consider a range of options for corridor improvements to James Snow Parkway. The first Public Information Centre (PIC) was conducted in November 2023 to identify alternative solutions as well as assess and confirm

preferred solutions. The next step (Phase 3) of the MCEA Study includes a second PIC, which was scheduled for Spring / Summer 2024.

Meanwhile, the Halton Region 2022 Development Charges Transportation Technical Report indicates that James Snow Parkway is anticipated to be widened to a six-lane cross-section, with construction projected to begin by 2026.

Boyne Survey RNA Study Recommendations

The Boyne RNA Study was undertaken to recommend the preferred future road network to support the build-out of the Boyne Survey. Most relevant to the study area are the following recommendations:

- The Louis St. Laurent / Trudeau Drive intersection is converted into a four-legged signalized intersection; and,
- The Louis St. Laurent / Fourth Line intersection is converted into a stop-controlled, right-in/right-out (RIRO).

The future study area lane configuration and traffic control are illustrated in **Figure 5**

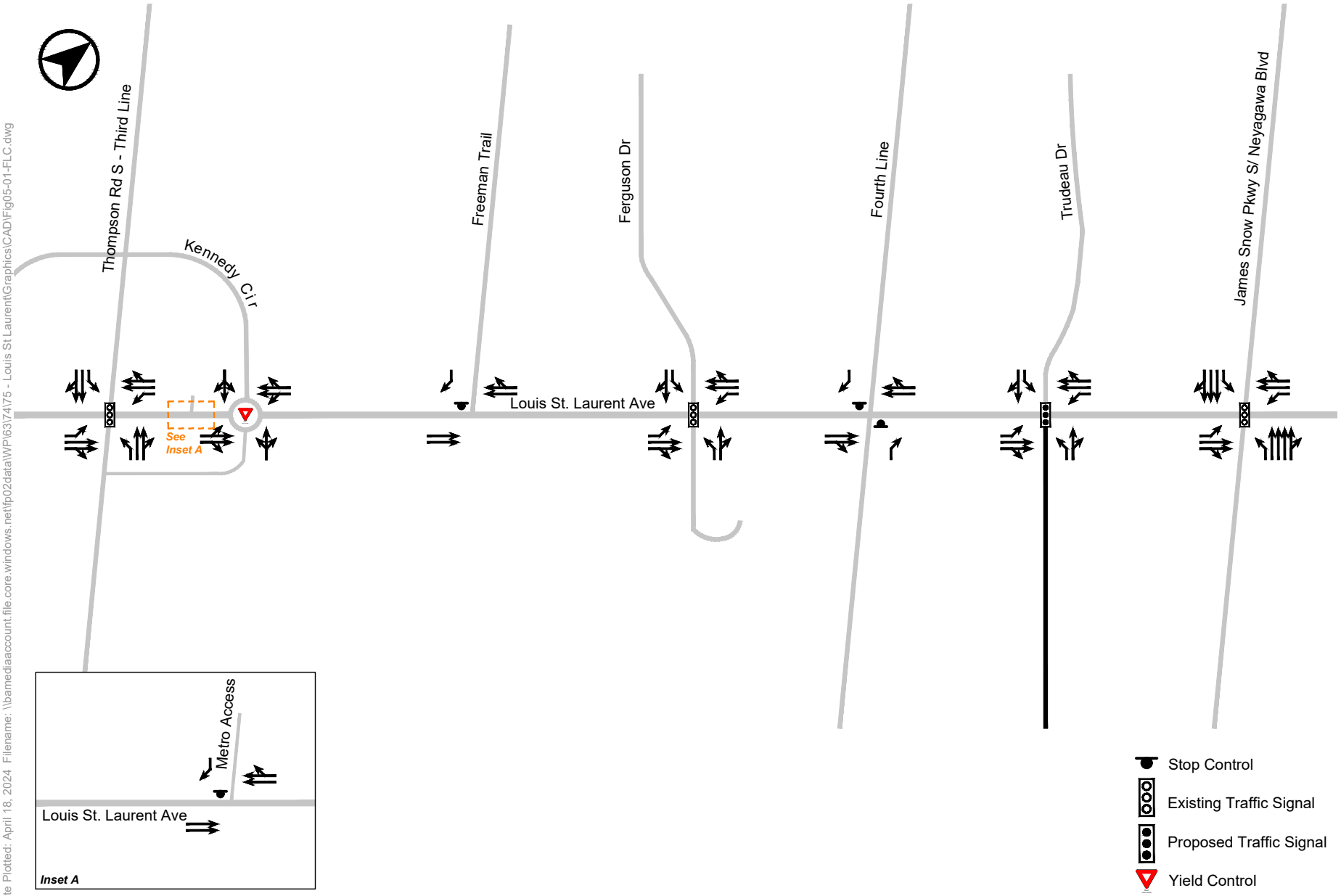

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FIGURE 5 FUTURE LANE CONFIGURATION & TRAFFIC CONTROL

3.2 AREA TRANSIT NETWORK

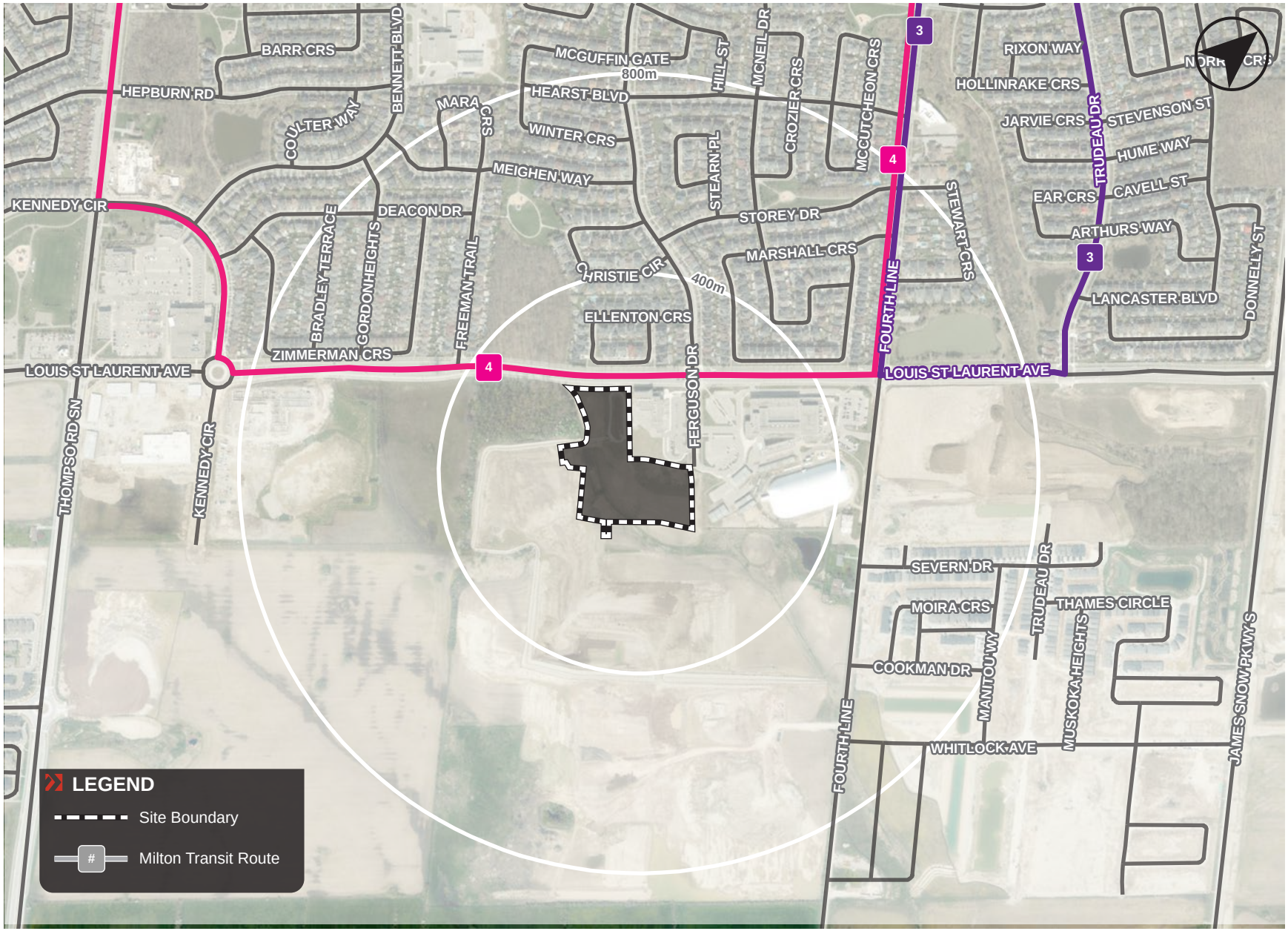
3.2.1 Existing Area Transit Network

The Site is currently served by surface bus routes operated by Milton Transit, which provide local connections to higher-order GO Transit services in the area (i.e., the Milton GO Rail Line and GO Regional Bus Services) via Milton GO Station. The nearest existing transit stops to the Site are located on the corner of the Louis St. Laurent / Ferguson Drive intersection, within comfortable walking distance of the Site.

A detailed overview of the existing area transit network is summarized in **Table 3** and illustrated in **Figure 6**.

TABLE 3 EXISTING AREA TRANSIT NETWORK

Route	Headways	Closest Stop Location	Description
MT #3 – Trudeau	30 min. all day on weekdays (60 min. on Saturdays)	Louis St Laurent Avenue / Fourth Line (~ 450 metres / 7 min walk)	Provides bi-directional service between Milton GO Station and residential areas in east Milton. The #3 route generally operates in a north-south direction through the residential neighbourhoods along Trudeau Drive. With the vicinity of the Site, the route operates in loop at along Fourth Line, Clark Boulevard, Trudeau Drive, and Louis St. Laurent Avenue.
MT #4 – Thompson / Clark	30 min. all day on weekdays (60 min. on Saturdays)	Louis St Laurent Avenue at Ferguson Drive (directly adjacent to the Site)	Provides bi-directional service between Milton GO Station and residential areas in east Milton. The #4 route operates generally in a north-south direction along Thompson Road South, and connects neighbourhoods surrounded by Derry Road, Louis St. Laurent Avenue, Fourth Line, and Thompson Road South.
MT #52 – School Special	–	At Craig Kielburger Secondary School (directly adjacent to the Site)	The #52 and #54 routes are special secondary school routes to provide students access to and from multiple secondary schools throughout Milton during the school year. The #52 route operates one single-direction morning and afternoon route between St. Francis Xavier Secondary School and Milton GO Station. The #54 route operates one single-direction morning and afternoon route between Milton GO, Craig Kielburger Secondary School and St. Kateri Tekakwitha Catholic Secondary School.
MT #54 – School Special	–	At Craig Kielburger Secondary School (directly adjacent to the Site)	



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

FIGURE 6 AREA TRANSIT NETWORK

3.2.1.1 Existing GO Transit Services

The Site is transit-accessible to Milton GO Station, the western terminus of the Milton GO Rail Line. The Milton GO Rail Line provides commuter rail service connecting the greater Milton area to Downtown Toronto, as well as to Meadowvale Town Centre and Square One in Mississauga. At present, the Milton GO Rail Line operates a peak direction, peak period service of 9 trains between Milton GO and Union Station. Outside of regular peak periods, the GO Bus provides additional service in both the eastbound and westbound directions. The Milton GO Station is located approximately 3.3 kilometres north of the Site and is accessible by all regular bus services operated by Milton Transit, including those routes servicing the Site area, as summarized in **Table 3**.

3.2.2 Future Area Transit Network

3.2.2.1 Town of Milton Five-Year Service Plan and Transit Master Plan Update

The Milton Five-Year Service Plan and Transit Master Plan Update recommended a proposed transit service plan for the 2029 horizon year. The proposed 2029 Milton Transit Network was designed to reflect changing travel patterns and enable local trips beyond the Milton GO station, where all current Milton Transit routes confluence. Key features of the proposed network relevant to the study area are outlined below:

- **Proposed New Route Characteristics:**
    - Route #3 – Clarke/Beaty: A proposed new Milton Transit route generally running in the north-south direction, connecting Milton GO Station to the proposed new Kennedy Circle transfer point (see below). In the vicinity of the Site, the recommended alignment of the #3 Route will operate along Ferguson Drive, including south of Louis St. Laurent Avenue (i.e., directly adjacent to the Site) within the Boyne Survey. Headways of 30 minutes are recommended for peak period, off-peak, and weekend services.
    - Route #4B – Thompson via Ferguson: A proposed new Milton Transit route generally running in the north-south direction, connecting Milton GO Station to the proposed new Kennedy Circle transfer point (see below). In the vicinity of the Site, the recommended alignment of the #4B Route will operate along Louis St. Laurent Avenue until looping at the Ferguson Drive intersection. The #4B Route is contemplated to operate only during weekday peak periods, with a recommended headway of 30 minutes.
    - Kenndy Circle Transfer Point: In addition to Milton GO Station, two addition “transfer points” are recommended in the Proposed 2029 Milton Transit Network – one of which is located at Kennedy Circle (i.e., at the Louis St. Laurent Avenue intersection). The proposed transfer point will enable direct transfers between proposed Routes #’s 3, 4A, 4B, and 5. The transfer point is proposed to include the construction of terminal similar to the design of the on-street portion of the existing Milton GO terminal, which would include several shelters and possibility a bus-only lane.

- **Phasing Strategy**
    - The Proposed 2029 Milton Transit Network is intended to replace existing Milton Transit operations in three phases to the year 2029:
        - The above-mentioned Route #4 is recommended to replace existing Route #4 – Thompson/Crossroads by 2025.

- The above-mentioned Route #3 is recommended to replace existing Route #3 – Clarke/Beaty by 2027.
- The above-mentioned Kennedy Circle transfer points is anticipated to be fully established by 2029.

The location of future stops to service the above-mentioned proposed new routes are still to be determined and will likely be released when detailed scheduling becomes available.

3.2.2.2 Halton Region Transit Priority Mobility Network to 2041

The Region has identified a proposed Transit Priority Mobility Network, effective to the year 2041. Most relevant to the study area, James Snow Parkway is characterized as a Mobility Link between Upper Middle Road to Milton GO Station. As per the Regional Mobility Strategy, such corridors are intended to function as local service/inter-municipal connection to provide increased accessibility to important intermunicipal destinations (i.e. social services, employment areas) through a variety of potential transit options, including those beyond traditional fixed route transit services.

3.2.2.3 Milton GO Line Service Expansion

The Milton Line is an existing GO Rail/Bus service that currently provides two-way, all-day service 7 days a week between Toronto and Milton. It provides weekday rush-hour train service from Milton GO to Union GO Station in the morning and afternoon. On February 8th, 2024, the Provincial Government announced support for the expansion of GO train service along the Milton Line, proposing two-way all-day service by 2031.

3.3 AREA CYCLING NETWORK

3.3.1 Existing Area Cycling Network

The study area is well served by an existing network of interconnected cycling facilities. These include on-street painted bike lanes along minor arterial and collector roads within the vicinity of the Site, including those on Thompson Road South, Third Line, Louis St. Laurent Avenue (west of Fourth Line), Ferguson Drive, Trudeau Drive and Kennedy Circle. In addition, a multi-use path (MUP) is provided along both sides of Louis St. Laurent Avenue throughout the study area, as well as on one side of James Snow Parkway, immediately north and south of the Louis St. Laurent intersection.

3.3.2 Future Area Cycling Network

Both the Town and the Region propose a number of cycling infrastructure improvements within the broader study area cycling network. These including:

- On-street bike lanes and MUP's on both sides of James Snow Parkway (Regional Road 4);
- Proposed on-street bike lanes on Ferguson Drive, as it extends further south through the Boyne Survey;
- Proposed on-street bike lanes on Bennett Boulevard; and,
- A signed bike route on Hearst Boulevard.

These cycling connections will provide further opportunities for future residents, visitors and retail patrons of the Site and surrounding area to travel using active forms of transportation. With all this in mind, existing and future study area cycling facilities are illustrated in **Figure 7.**

3.4 AREA PEDESTRIAN NETWORK

3.4.1 Existing Area Pedestrian Network

The Site is located within the Omagh neighbourhood and is situated southwest of the intersection of Louis St. Laurent Avenue and Ferguson Drive. The Site is also located in proximity to a wide range of key destinations, including recreation facilities, institutional uses, parks and restaurants, that are accessible by walking.

There are currently sidewalks along the north side of Louis St. Laurent Avenue, in addition to a multi-use pathway on the south side of Louis St. Laurent Avenue.

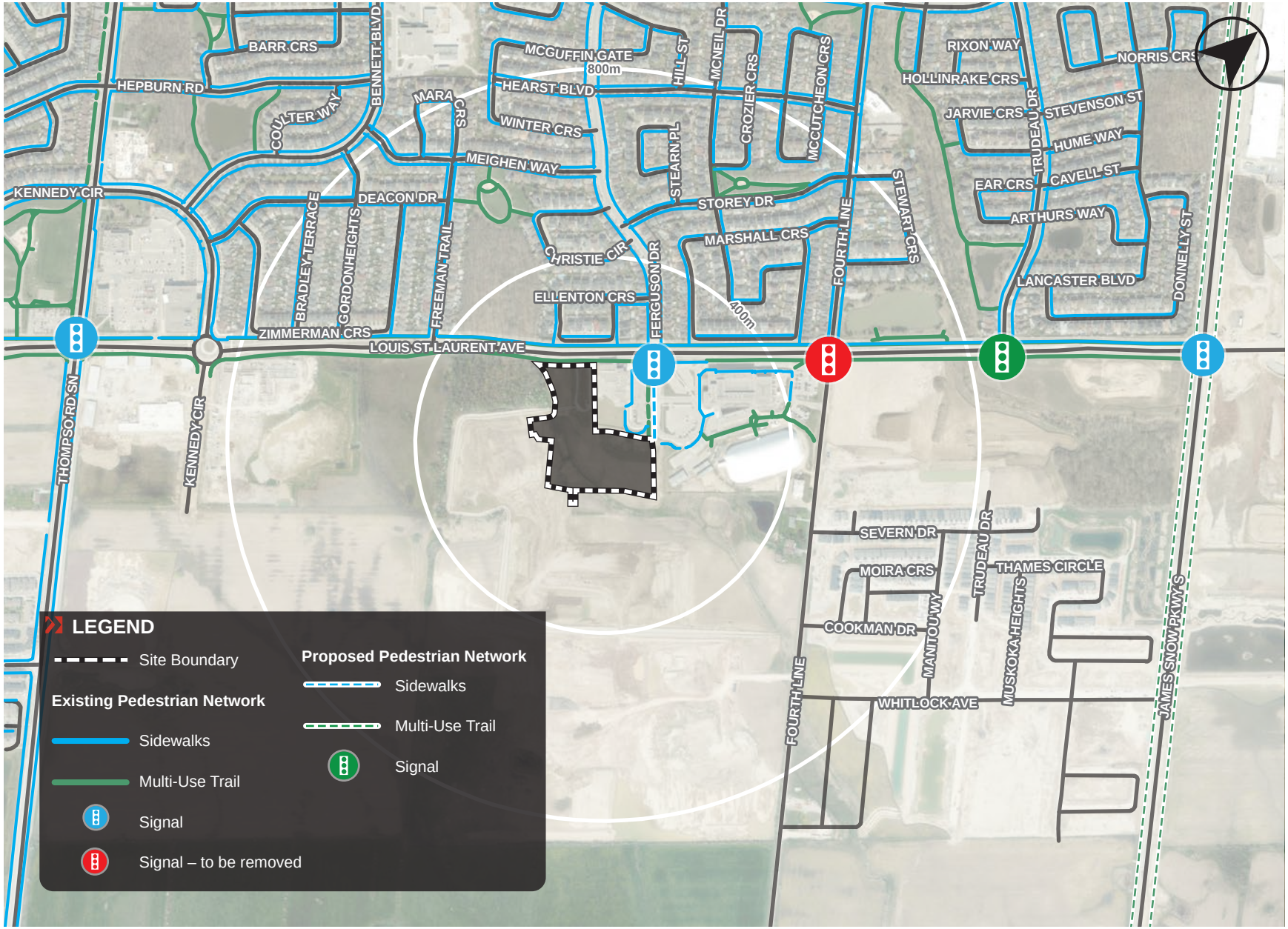
The Site's existing pedestrian context is geographically oriented towards the north and is accessed primarily via Louis St. Laurent Avenue and Ferguson Drive. Within this vicinity are key destinations accessible on-foot, including recreational facilities, institutional uses, parks, and commercial centres. Existing sidewalks are provided on both sides of Ferguson Drive, north of the Louis St. Laurent Avenue intersection. South of the intersection, a sidewalk is provided the east side of the road, while a MUP is provided on the west side (i.e., directly adjacent to the Site). On Louis St. Laurent Avenue, a sidewalk is provided on the north side of the road, while a MUP is provided on both sides of the road and illustrated in **Figure 7.** Protected pedestrian crossings and visible pavement markings are provided at all signalized intersections within the study area.

3.4.2 Future Area Pedestrian Network

The development proposal includes walkways throughout the Site that will connect to a future sidewalk on the west side of Ferguson Drive, as well as to the existing sidewalks and multi-use pathway along Louis St. Laurent Avenue. The pedestrian linkages to Louis St. Laurent Avenue will provide connectivity to an existing walking trail along the Natural Heritage System (NHS) as well as to the adjacent neighborhood. The walkways throughout the Site with connectivity to sidewalks on Louis St. Laurent Avenue will also provide connectivity to transit stops in order to encourage transit trips to/from the Site.

The existing and future area pedestrian network is illustrated in **Figure 8.**

FIGURE 7 AREA CYCLING NETWORK



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

FIGURE 8 AREA PEDESTRIAN NETWORK

4.0 VEHICLE PARKING CONSIDERATIONS

4.1 ZONING BY-LAW VEHICLE PARKING REQUIREMENTS

Application of the Town of Milton Comprehensive Zoning By-law 016-2014 (HUSP Urban Area – March 2023) to the Site is summarized in **Table 4** and results in a total minimum parking requirement of 1,086 spaces, inclusive of 936 resident spaces and 150 non-resident spaces.

The 150 non-resident spaces are to be shared between resident visitors and retail. As the resident visitor parking requirement is greater than the retail parking requirement, as per the requirements for mixed-use buildings, the minimum required non-resident parking is based on the resident visitor parking rate.

TABLE 4 ZONING BY-LAW 016-2014 MINIMUM PARKING REQUIREMENTS

Land Use		Number of Units / m^2 GFA	Minimum Required Parking Rate	Minimum Number of Parking Spaces Required
Resident Parking				
Residential Buildings	Buildings A/B	396 units	1.5 spaces / unit	594
	Building C	124 units	1.5 spaces / unit	186
Sub-total		**520 units**	**1.5 spaces / unit**	**780**
Townhouses	Street Townhouses	34 units	2.0 spaces / unit	68
	Back-to-Back Townhouses	44 units	2.0 spaces / unit	88
Sub-total		**78 units**	**2.0** spaces / unit	**156**
Resident Sub-total		**598 units**	**--**	**936**
Non-Resident Parking				
Residential Buildings	Buildings A/B	396 units	0.25 spaces / unit	99
	Building C	124 units	0.25 spaces / unit	31
Sub-total		**520 units**	**0.25 spaces / unit**	**130**
Townhouses	Street Townhouses	34 units	0.25 spaces / unit	9
	Back-to-Back Townhouses	44 units	0.25 spaces / unit	11
Sub-total		**78 units**	**0.25 spaces / unit**	**20**
Retail		**450 m^2**	**1 space/ per 20**	**23[3]**
Non-Resident Sub-total		**598 units**	**0.25 spaces / unit**	**150[3]**
SITE TOTAL				**1,086**

Notes:
1. Based upon Site statistics provided by KNYMH Inc. Architecture + Solutions, dated October 11, 2024.
2. If the calculation of the number of required parking spaces results in a number with a fraction, the number is rounded up to the nearest whole number, but there may not be less than one parking space.
3. Non-resident parking to be shared between resident visitor and retail. As the resident visitor requirement is greater than the retail requirement, the proposed non-resident rate is based on the resident visitor requirement.

4.2 PROPOSED VEHICLE PARKING SUPPLY

Resident parking standards outlined in Zoning By-law 016-2014 (HUSP Urban Area – March 2023) could be considered to overstate the parking needs of a residential development based on the evolving Site transportation context, together with the implementation of a comprehensive Transportation Demand Management Plan for the proposed development. The following minimum parking rates are proposed for the Site:

- 1.0 resident parking space per condominium unit;
- 2.0 resident parking spaces per townhouse unit (consistent with the prevailing By-law); and,
- 0.20 non-resident parking spaces per unit (to be shared with retail).

As summarized in **Table 5**, application of the proposed parking rates to the Site results in a minimum total vehicle parking requirement of 796 spaces, inclusive of 676 resident spaces and 120 visitor spaces.

TABLE 5 PROPOSED PARKING SUPPLY

Use		Number of Units / m^2 GFA	Proposed Parking Rate (spaces/unit)	Required Parking Supply (spaces)	Proposed Parking Supply (spaces)
Resident Parking					
Residential Buildings	Buildings A/B	396 units	1.0	396	396
	Building C	124 units		124	125
Sub-total		**520 units**	**1.0**	**520**	**521**
Townhouses	Street Townhouses	34 units	2.0	156	156
	Back-to-Back Townhouses	44 units			
Sub-total		**78 units**	**2.0**	**156**	**156**
Resident Subtotal		**598 units**	**--**	**676**	**677**
Non-Resident Parking					
Resident Units		598 units	0.20	**120**	**123**
Retail		450 m^2	Shared	**--**	
SITE TOTAL				**796**	**800**

Notes:
1. Based upon Site statistics provided by KNYMH Inc. Architecture + Solutions, dated October 11, 2024.
2. Calculations of required parking spaces resulting in fractions are rounded up to the nearest shole number.

The proposed development includes a total of 800 vehicle parking spaces, inclusive of 677 resident spaces and 123 non-resident spaces. The proposed parking supply generally aligns with a minimum resident parking rate of 1.0 space per condominium unit and a minimum non-resident parking rate of 0.20 spaces per resident unit, with resident visitor parking being shared with the retail. Consistent with Zoning By-law 016-2014 (HUSP Urban Area – March 2023), proposed townhouses will provide resident parking at a rate of 2.0 spaces per unit within garage and residential driveway capacity. The proposed vehicle parking supply therefore exceeds the proposed minimum parking rates.

4.3 ACCESSIBLE PARKING REQUIREMENTS

The Town of Milton Comprehensive Zoning By-law 016-2014 requires that accessible spaces be provided at a minimum rate of 4% for a supply within the range of 13 – 100 parking spaces, 1 space + 3% within the range of 101 – 200 parking spaces and a minimum rate of 2% + 2 for a supply within the range of 201 – 1000 parking spaces. Since a reduced parking requirement is being sought for the Site, the requirements for the accessible parking supply have been determined by the proposed parking supply for the Site. The By-law states that for lots with an even number of total accessible parking spaces, an equal number of Type 'A' and Type 'B' spaces must be provided. Where the minimum number of accessible parking spaces is odd, an equal number of Type 'A' and Type 'B' accessible parking spaces shall be provided but the last accessible parking space may be a Type B. The two types of spaces must adhere to the following dimensions:

- Type A space: 5.8 metres (length) x 3.4 metres (width)
- Type B space: 5.8 metres (length) x 2.75 metres (width)

Both types must include a 1.5-metre (width) x 5.8-metre (length) pedestrian aisle adjacent to the accessible space. The minimum accessible parking requirements are summarized in **Table 6**. Application of Zoning By-law 016-2014 to the Site results in a total minimum accessible parking requirement of **21 accessible spaces.**

TABLE 6 ZONING BY-LAW 016-2014 ACCESSIBLE PARKING REQUIREMENTS

Use		Proposed Parking Supply	Minimum Accessible Parking Rate	Minimum Accessible Parking Requirement
Resident Parking				
Condominium Buildings	Buildings A/B	396	2% + 2 accessible spaces	10 spaces (5 Type A, 5 Type B)
	Building C	125	3% + 1 accessible space	5 spaces (2 Type A, 3 Type B)
Non-Resident Parking				
Condominium Buildings	Buildings A/B	80	4%	4 spaces (2 Type A, 2 Type B)
	Building C	25	4%	1 space (1 Type B)
Townhouse[3]	Visitor Parking	18	4%	1 space (1 Type B)
Total		**644 (excludes 156 resident townhome spaces)**	**--**	**21 spaces (9 Type A and 12 Type B spaces)**

Notes:
1. Based upon Site statistics provided by KNYMH Inc. Architecture + Solutions, dated October 11, 2024.
2. Zoning By-law 016-2014 Section 5.9 (ii) states that if the calculation of the number of required parking spaces results in a number with a fraction, the number is rounded up to the nearest whole number, but there may not be less than one parking space.
3. Accessible space requirements for proposed townhouse units are calculated relative to visitor parking spaces. Resident townhouse parking spaces are provided within boulevard driveways and fulfill the requirements for accessible parking.

4.4 ADEQUACY OF PROPOSED PARKING SUPPLY

4.4.1 Appropriateness of Proposed Residential Parking Requirements

The following sections provide an overview of the contextual factors that could influence parking demand at the Site.

4.4.1.1 Ontario's Five-Year Climate Change Action Plan

Trends in urban transportation policy are leaning heavily towards reductions in mandatory minimum parking requirements. A reduced minimum parking supply requirement for the proposed development would be congruent with the Province of Ontario's contemporary vision for high-density, highly walkable communities, such as that envisioned in the Boyne Survey Urban Design Guidelines.

Ontario's Five-Year Climate Change Action Plan was announced in June 2016. Some of the key transportation / land-use planning actions outlined in the Plan are as follows:

- **Support cycling and walking**: Commuter cycling networks would be established across Ontario, targeting routes with high-commuting volume such as between residential communities, major transit stations and employment areas. There would be more cycling facilities in urban areas, including grade-separated routes and cycling signals; more bike parking at transit stations and provincially owned, publicly accessible facilities. The Province would also revise Provincial road and highway standards to require commuter cycling infrastructure be considered for all road and highway construction projects where it is safe and feasible; and likewise do the same for major transit corridors.
- **Reduce single-passenger vehicle trips**: The Province would provide grants to municipalities and large private employers to implement Transportation Demand Management Plans. These plans would be designed to help increase walking, cycling, carpooling, telecommuting, and flex-work schedules, thereby reducing overall fossil fuel consumption, traffic congestion, and transportation emissions.
- **Eliminate minimum parking requirements**: Minimum parking requirements would be eliminated over the next five years for municipal zoning bylaws, especially in transit corridors and other high density, highly walkable communities. Minimum parking requirements are a barrier to creating complete, compact and mixed-use communities. Instead, bylaws will encourage bike lanes, larger sidewalks, and enhanced tree canopies.

Note: at the time of this writing, the website for the Action Plan has the following disclaimer at the top of the page: "*This page was published under a previous government and is available for archival and research purposes*".

The idea of eliminating minimum parking requirements in transit accessible areas is not new in North America. Residential developments proposing zero resident parking are being promoted, approved and implemented across North America including Toronto, Calgary, Vancouver, Portland and Boston. Some cities are even going as far as to eliminate minimum residential parking requirements altogether (i.e. Toronto and Edmonton) or in downtown/core areas, including London, Guelph, and Ottawa in Canada, and San Francisco, Oakland, Sacramento, Santa Monica, Portland, Seattle, and Minneapolis in the United States.

Although zero parking has not been requested to advance the proposed development, this shift away from providing excess residential parking highlights an evolving perspective toward automobile ownership, travel

mode choice and the cost of living, and is fully consistent with the significant dedication and investment put forth by the Town of Milton to reduce vehicle travel.

4.4.1.2 Proxy Site Observed Parking Demand

In order to assess representative parking demands for the proposed development, BA Group has conducted evening and overnight resident parking surveys at several similarly situated residential buildings within Halton Region, as described below.

Town of Milton Parking Demand Studies

Resident parking demand surveys were recently undertaken at a condominium development located at 1105 Leger Way in the Town of Milton. Parking surveys were conducted for a duration of 6 to 7 hours on a Friday and Saturday evening, as well as a 3:00 am 'spot count' over two weeknights.

As summarized in **Table 7**, the observed resident parking demand at the 1105 Leger Way property ranged between 0.63 to 0.96 spaces per residential unit.

TABLE 7 PROXY RESIDENT PARKING DEMAND STUDY – 1105 LEGER WAY, MILTON

Address (Major Intersection)	Study Date	Peak Hour of Parking Demand	Site Description	Resident Parking Demand	
				Demand (spaces)	Ratio (spaces/unit)
1105 Leger Way[1] (Regional Road 25 / Britannia Road)	Friday, June 16, 2023	10:00 p.m.	213 units / 234 resident parking spaces (condominium)	134	**0.63**
	Saturday, June 17, 2023	11:00 p.m.		140	**0.66**
	Wednesday June 21 & Thursday June 22, 2023	3:00 a.m.		204[2]	**0.96[2]**

Notes:
1. The surveys were undertaken from 2:00 p.m. to 9:00 p.m. with 30-minute interval counts and 3:00 a.m. spot counts.
2. The summarized 3:00 a.m. results are "composite" – a conservative representation of parking demand where a car was parked in its particular space on either night of the survey.

Oakville Parking Demand Studies

BA Group undertook parking demand surveys at three (3) residential buildings in the Town of Oakville between October 9th, 2013, and October 28th, 2019.

- 2379 Central Park Drive;
- 1229 Malborough Court; and,
- White Oaks Apartments (1297 Marlborough Court & 1360 White Oaks Boulevard).

As summarized in **Table 8,** the observed overall resident parking demand at the selected Oakville proxy sites ranged from 0.46 to 0.83 spaces per resident unit.

TABLE 8 PROXY RESIDENT PARKING DEMAND STUDIES – TOWN OF OAKVILLE

Address (Major Intersection)	Study Date	Peak Hour of Parking Demand	Site Description	Resident Parking	
				Demand (spaces)	Ratio (spaces/unit)
2379 Central Park Drive[1] (Dundas Street E / Sixth Line)	Tuesday, Nov. 27, 2018	6:00 a.m.	301 units / 344 resident parking spaces (condominium)	244	0.81
	Saturday, Dec. 1, 2018	6:00 a.m.		240	0.80
	Sunday, Dec. 2, 2018	6:00 a.m.		249	0.83
1229 Malborough Court[2] (Trafalgar Road / Queen Elizabeth Way)	Wed, Oct. 9, 2013	3:00 a.m.	227 units / 329 resident parking spaces (apartments)	161	0.71
	Thurs, Oct. 10, 2013	3:00 a.m.		155	0.68
1297 Marlborough Court & 1360 White Oaks Boulevard[3] (Trafalgar Road / Upper Middle Road E)	Friday, Oct. 25, 2019	3:00 a.m.	263 units/ 343 resident parking spaces (apartments)	181	0.69
	Friday, Oct. 25, 2019	9:00 p.m.		130	0.49
	Saturday, Oct. 26, 2019	3:00 a.m.		180	0.68
	Saturday, Oct. 26, 2019	9:00 p.m.		147	0.56
	Monday, Oct. 28, 2019	9:00 p.m.		121	0.46

Notes:
1. The surveys were undertaken from 6:00 a.m. to 5:30 p.m. with 30-minute interval counts.
2. The surveys were undertaken at 3:00 a.m. (spot counts).
3. The surveys were undertaken from 2:00 p.m. to 9:00 p.m. with 30-minute interval counts, and 3:00 a.m. spot counts.

4.4.1.3 Resident Parking Assessment Summary

As summarized in **Table 9,** the highest resident parking demand observed (i.e., 0.96 spaces per resident unit) occurred at the 1105 Legere property in Milton. When considering all the above-mentioned proxy sites together, an average resident parking demand of 0.80 spaces per resident unit may be determined.

The proposed resident parking requirements of 1.0 spaces per unit is therefore higher than not only the average of all the residential proxy sites observed, but also the absolute maximum demand observed at any time – i.e., at 1105 Legere Way property.

The proposed resident parking requirement is therefore considered to be conservative with respect to observed demands at other similarly situated residential developments in the Town of Oakville and Region of Halton, and appropriate for the development of the Site considering the evolving transportation context in the area and the TDM measures, as will be discussed in **Section 7.0**.

TABLE 9 SUMMARY OF PROXY RESIDENT PARKING DEMAND STUDIES

Property	Peak Resident Parking Demand (resident spaces/unit)
1105 Leger Way, Milton	0.96
2379 Central Park Drive, Oakville	0.83
1229 Malborough Court, Oakville	0.71
1297 Marlborough Court & 1360 White Oaks Boulevard, Oakville	0.69
Average	**0.80**

4.4.2 Appropriateness of Proposed Non-Resident Parking Requirements

As discussed in the review of the proposed residential parking requirements, the availability of existing and future travel alternatives available within the vicinity of the Site reduces the need for future residents and visitors to use a car on a day-to-day basis. As such, the non-resident parking standards outlined in Zoning By-law 016-2014 (HUSP Urban Area – March 2023) could also be considered to overstate the non-resident parking needs of the Site.

4.4.2.1 Non-Resident Parking Assessment

The development proposes a shared non-resident parking supply at a minimum rate of 0.20 spaces for resident visitors and retail patrons of the Site. As the resident visitor parking requirement is significantly greater than the retail parking requirement (see **Table 4**), the proposed non-resident rate is predicated on sharing the residential visitor supply. The focus assessing the appropriateness of the proposed non-resident parking requirement will therefore be placed on parking trends pertaining to resident-oriented visitors.

To this end, BA Group conducted evening and overnight visitor parking surveys at several similarly situated residential buildings within Halton Region, including the following locations in the Town of Milton and the Town of Oakville:

- 1360 Main Street East, Milton;
- 1105 Leger Way, Milton;
- 2379 Central Park Drive, Oakville;
- 216 Oak Park Boulevard, Oakville; and,
- White Oaks Apartments (1297 Marlborough Court & 1360 White Oaks Boulevard), Oakville.

As summarized in **Table 10,** observed visitor parking demands at the above-mentioned proxy sites ranged from 0.07 to 0.16 spaces per resident unit.

TABLE 10 RESIDENT VISITOR PARKING DEMAND STUDIES

Address (Major Intersection)	Study Date	Peak Hour	Site Description	Visitor Parking	
				Demand (spaces)	Ratio (spaces / unit)
Town of Milton					
1360 Main Street East, Milton	Fri. Nov.3, 2023	8:00 & 9:00 p.m.	312 units/ 60 visitor parking spaces (condominium)	43	0.14
	Sat.Nov 4, 2023	7:00 pm		49	0.16
1105 Leger Way[3] (Regional Road 25 / Britannia Road)	Fri. June 16, 2023	8:00 & 9:00 p.m.	213 units / 49 parking spaces	33	0.15
	Sat. June 17, 2023	8:00 p.m.		33	0.15
	Wed. June 21 & Thu June 22, 2023	3:00 a.m.		14[4]	0.07[4]
Town of Oakville					
2379 Central Park Drive[1] (Dundas Street E / Sixth Line)	Tues, Nov. 27, 2018	6:00 a.m.	301 units / 68 resident visitor parking spaces	20	0.07
	Sat, Dec. 1, 2018	6:00 a.m.		31	0.10
	Sun, Dec. 2, 2018	6:00 a.m.		30	0.10
216 Oak Park Boulevard[2] (Trafalgar Road / Glenashton Drive)	Tues, Nov. 27, 2018	5:30 p.m.	213 units / 38 resident visitor parking spaces	30	0.14
	Sat, Dec. 1, 2018	1:30 p.m.		29	0.14
	Sun, Dec. 2, 2018	2:30 p.m.		29	0.14
1297 Marlborough Court & 1360 White Oaks Boulevard[3] (Trafalgar Road / Upper Middle Road E)	Fri, Oct. 25, 2019	3:00 a.m.	263 units / 56 resident visitor parking spaces	35	0.13
	Fri, Oct. 25, 2019	9:00 p.m.		42	0.16
	Sat, Oct. 26, 2019	3:00 a.m.		34	0.13
	Sat, Oct. 26, 2019	9:00 p.m.		33	0.13
	Mon, Oct. 28, 2019	9:00 p.m.		35	0.13

Notes:
1. The surveys were undertaken from 6:00 a.m. to 5:30 p.m. with 30-minute interval counts.
2. Visitor parking spaces surveyed were undertaken from 6:00 a.m. to 5:30 p.m. with 30-minute interval counts.
3. The surveys were undertaken from 2:00 p.m. to 9:00 p.m. with 30-minute interval counts, and 3:00 a.m. spot counts.
4. The summarized 3:00 a.m. results are “composite”, that is, a conservative representation of parking demand where a car was parked in its particular space on either night of the survey.

4.4.2.2 Non-Resident Parking Assessment Summary

As summarized in **Table 11,** the highest resident visitor parking demand observed (i.e., 0.16 spaces per resident unit) occurred at 1360 Main Street East, in Milton, and at 1297 Marlborough Court & 1360 White Oaks Boulevard, in Oakville. When considering all the proxy sites together, an average visitor parking demand of 0.14 spaces per resident unit may be determined.

The proposed non-resident parking requirements of 0.20 spaces per unit is therefore higher than not only the average of all the residential proxy sites observed, but also the absolute maximum demand observed at any time – i.e., at 1360 Main Street East and 1297 Marlborough Court & 1360 White Oaks Boulevard properties.

The proposed non-resident parking requirement is therefore considered to be conservative with respect to observed demands at other similarly situated residential developments in the Town of Oakville and Region of Halton, and appropriate for the development of the Site considering the evolving transportation context in the area, and the TDM measures, as will be discussed in **Section 7.0**.

TABLE 11 SUMMARY OF RESIDENT VISITOR PARKING DEMAND STUDIES

Property	Peak Resident Visitor Parking Demand (resident visitor spaces/unit)
1360 Main Street East, Milton	0.16
1105 Leger Way, Milton	0.15
2379 Central Park Drive, Oakville	0.10
216 Oak Park Boulevard, Oakville	0.14
1297 Marlborough Court & 1360 White Oaks Boulevard, Oakville	0.16
Average	**0.14**

4.4.3 Appropriateness of Proxy Residential Sites

A comparative analysis was undertaken to ensure that the selected residential parking demand proxy sites demonstrate relevancy when compared to the Site. The comparative analysis considered the similarity between the proposed development and selected proxy sites in terms of size (i.e., unit count), building type, surrounding land use, and transit connectivity. A summary of the comparative analysis of selected proxy sites is provided in **Table 12**. Based on the review findings, it we believe that the selected proxy sites provide an adequate representation of parking characteristics applicable to the Site. All parking data is provided in **Appendix F.**

TABLE 12 PARKING DEMAND PROXY SITE COMPARISON TO PROPOSED DEVELOPMENT

Address (Major Intersection)	Built Year	Building Type	Units	Transit Connectivity [1]	Surrounding Land Use	Comparison to Site
Framgard Milton (Regional Road 25 / Britannia Road)	--	High-Rise 14-storey condominium	420	Milton Transit Bus Routes: 9	Residential, Green Space	--
1105 Leger Way (Regional Road 25 / Britannia Road)	2020[2]	Mid-Rise 6-storey condominium[2]	213	Milton Transit Bus Routes: 8	Residential, Institutional (School), Commercial, Green Space	**Comparable transit access.**
2379 Central Park Drive (Dundas Street E / Sixth Line)	2010[3]	High-Rise 10-storey condominium[3]	301	Oakville Transit Bus Routes: 1, 5, 20, 24, 71, 190	Residential, Commercial, Green Space	**Similar building type, increased transit access.**
216 Oak Park Boulevard (Trafalgar Road / Glenashton Drive)	2017[4]	Mid-Rise 4-storey condominium[4]	213	Oakville Transit Bus Routes: 1, 5, 20, 24, 190	Residential, Commercial	**Enhanced transit access.**
1229 Marlborough Court (Trafalgar Road / Queen Elizabeth Way)	1975[5]	High-Rise 13-storey apartment[5]	277	Oakville Transit Bus Routes: 1, 5, 6, 13, 20, 24, 26, 120, 190	Residential, Institutional (School), Commercial, Green Space	**Similar building type, enhanced transit access.**
1297 Marlborough Court & 1360 White Oaks Boulevard (Trafalgar Road / Upper Middle Road E)	-	High-Rise 16-storey apartment[6]	263	Oakville Transit Bus Routes: 1, 5, 6, 20, 24, 26, 120	Residential, Institutional (School), Commercial, Green Space	**Similar building type, enhanced transit access.**
1360 Main Street East (Main Street E / James Snow Parkway)	2013[7]	Low-Rise 4-storey condominium[7]	312	Milton Transit Bus Routes: 2, 21	Residential, Green Space	**Comparable transit access.**

Notes:
1. Transit stations or stops within 800 metres / 10-minute walk of site, excluding "special school" routes.
2. Sourced from condos.ca for Hawthorne South Village Condos, 1105 and 1125 Leger Way, Milton
3. Sourced from condos.ca for Oak Park Condos, 2379 Central Park Dr, Oakville
4. Sourced from condos.ca for The Renaissance Oak Park, 216 Oak Park Blvd, Oakville
5. Sourced from apartments.com for Marlborough Court, 1229 Marlborough Ct, Oakville
6. Sourced from capreit.ca for White Oaks Apartments, 1297 Marlborough Court & 1360 White Oaks Blvd, Oakville
7. Sourced from condos.ca for Bristol on Main, 1360 Main Street E, Milton

4.5 VEHICLE PARKING SUMMARY

4.5.1 Proposed Vehicle Parking Supply

As summarized in **Table 13**, the proposed parking supply for the Site proposes a total of 800 parking spaces, inclusive of 677 resident spaces and 123 non-resident spaces. A total of 21 accessible spaces are included within this parking supply. The proposed parking supply slightly exceeds the proposed resident parking rate of 1.0 space per condominium units, a resident parking rate of 2.0 per spaces per townhouses units and a non-resident parking rate of 0.20 spaces per residential unit.

The location of the proposed parking supply is summarized in **Table 13**.

TABLE 13 LOCATION OF PARKING SUPPLY

Location of Parking		Number of Parking Spaces
Building A / B (396 units)	Surface	**90**
	Level P1	**191**
	Level P2	**195**
Subtotal		**476**
Building C (124 units)	Surface	**25**
	Level P1	**59**
	Level P2	**66**
Subtotal		**150**
Townhouses (78 units)	Garage/ driveways (156) and at-grade visitor area (18)	**174**
Site Total		**800**

Notes:
1. Based upon Site statistics provided by KNYMH Inc. Architecture + Solutions, dated October 11, 2024.

4.5.2 Summary of Proposed Vehicle Parking Supply Justification

The proposed parking supply is appropriate for the following reasons:

- Reduced parking rates are supported by the Province of Ontario and are conducive to the transportation objectives identified by the Town of Milton;
- The proposed resident and non-resident parking requirement is consistent with the declining residential parking demand rates observed at proxy residential buildings in Halton Region, including in the Town of Milton;
- The availability of enhanced future transit services and active modes infrastructure available in the vicinity of the Site encourages the use of non-automobile modes and supports a reduced parking supply; and,
- A comprehensive Transportation Demand Management (TDM) Plan will accompany the operation of the proposed development to reduce automobile use through an on-going strategy that supports and promotes the use of non-auto transportation.

The proposed parking supply is therefore appropriate and will accommodate the parking needs of the Site.

5.0 BICYCLE PARKING CONSIDERATIONS

5.1 ZONING BY-LAW BICYCLE PARKING REQUIREMENTS

The Site is subject to the bicycle parking requirements specified in Town of Milton Comprehensive Zoning By-law 016-2014 (HUSP Urban Area – March 2023). Application of By-law bicycle parking requirements to the Site is summarized in **Table 14**.

TABLE 14 ZONING BY-LAW 016-2014 MINIMUM BICYCLE PARKING REQUIREMENT

Use	Number of Units	Type of Space	Requirement for New Units	
			Minimum Bicycle Parking Rate (spaces/unit)	Number of Bicycle Parking Spaces Required
Buildings A / B	396 units	Short-term	0.05	20
		Long-term	0.5	198
Subtotal				**218**
Building C	124 units	Short-term	0.05	7
		Long-term	0.5	62
Subtotal				**69**
Site Total[2]				**287**

Notes:
1. Based upon Site statistics provided by KNYMH Inc. Architecture + Solutions, dated October 11, 2024.
2. Townhouse units not considered as part of the bicycle parking supply requirements.

The Town of Milton Comprehensive Zoning By-law 016-2014 requires a minimum total bicycle parking supply of 287 spaces, inclusive of 260 long-term spaces and 27 short-term spaces.

5.2 PROPOSED BICYCLE PARKING SUPPLY

Architectural plans attached in **Appendix A** illustrate the total provision of a total of 320 bicycle parking spaces, inclusive of 60 short-term spaces and 260 long-term spaces. This includes 240 spaces for Building A and Building B (198 long-term and 42 short-term spaces) and 80 spaces for Building C (62 long-term and 18 short-term spaces). The proposed bicycle parking supply exceeds the requirements of the prevailing Zoning By-law and will meet the needs of the Site.

6.0 LOADING CONSIDERATIONS

6.1 ZONING BY-LAW LOADING REQUIREMENTS

Town of Milton Comprehensive Zoning By-law 016-2014 (HUSP Urban Area – March 2023) does not currently regulate the provision of loading spaces for residential uses. Therefore, the applicable Zoning By-law loading requirement for the residential component of the proposed development is zero. However, the By-law does specify loading requirements for commercial uses located within a "Residential Zone" (such as the Site), as summarized in **Table 15**.

TABLE 15 ZONING BY-LAW 016-2014 COMMERCIAL LOADING REQUIREMENTS

Site Retail GFA[2]	Loading Requirements			Number of Spaces / Areas	
	GFA	Loading Spaces	Loading Area	Loading Spaces	Loading Area
450 m^2	280 m^2 or less	0	0	-	-
	281 m^2 or 930 m^2	0	1	0	1
	931 m^2 or 2,325 m^2	0	1	-	-
	2,326 m^2 or 7,440 m^2	2	0	-	-
	7,441 m^2 or greater	3 (1)	0	-	-
Total				**0**	**1**

Notes:
1. Per Table 5J of Town of Milton Comprehensive Zoning By-law 016-2014 (HUSP Urban Area – March 2023).
2. Based upon Site statistics provided by KNYMH Inc. Architecture + Solutions, dated October 11, 2024.

Town of Milton Comprehensive Zoning By-law 016-2014 (HUSP Urban Area – March 2023) requires a minimum of 1 loading area for the retail (commercial) component of the proposed development.

6.2 PROPOSED LOADING SUPPLY

As illustrated in **Appendix A,** the proposed development provides loading facilities with the following characteristics:

- **Buildings A and B**: 1 loading area each with dimensions of 9.0 m (length) x 3.5 m (width); and,
- **Building C**: 1 loading space with dimensions of 15.0 m (length) x 6.7 m (width), plus 1 loading area with dimensions of 8.0 m (length) x 4.0 m (width).

The proposed loading spaces and areas are located at-grade, without any overhead obstructions

The functionality and appropriateness of the proposed loading facilities have also been confirmed by Vehicle Maneuvering Diagrams (VMD) attached in **Appendix E**, which illustrate the following loading activities:

- A Halton Region (front loading) Garbage Truck (YR 2008-2014), maneuvering in/out of the proposed loading space located near Building C;
- A standard Cube Van Design Vehicle (Ford E350), maneuvering in/out of the proposed Building C loading area; and,
- A standard Cube Van Design Vehicle (Ford E350), maneuvering in/out of the proposed Building A and Building B loading areas, respectively.

These diagrams confirm the functionality of the proposed Site loading facilities and access arrangements to accommodate the maneuvering needs of the representative design vehicles.

The loading requirements set out in Comprehensive Zoning By-law 016-2014 (HUSP Urban Area – March 2023) are therefore met and/or exceeded by the proposed loading supply, which will fully enable the loading needs of the Site to be met.

7.0 TRANSPORTATION DEMAND MANAGEMENT (TDM)

7.1 TDM OBJECTIVES

The Transportation Demand Management (TDM) Plan strives to reduce automobile use through an on-going strategy that supports and promotes the use of non-auto transportation modes.

The key objective of the TDM Plan is to reduce peak hour single occupant automobile traffic by focusing on four specific policy areas:

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

The physical infrastructure components or TDM measures outlined in this Plan (i.e. bicycle parking spaces) will be incorporated into the development design. The implementation of these elements and the associated costs will be the responsibility of the Client.

7.2 PROPOSED TDM STRATEGIES

The existing and future area transportation context provides for good public transit service as well as travel by active transportation. Proposed TDM strategies, including a reduced parking supply with “unbundled” parking, active transportation facilities and travel mode information packages, have been developed to further support the use of non-auto modes of travel.

7.2.1 Reduced Vehicle Parking Supply

When compared to the minimum requirements of the Town of Milton Comprehensive Zoning By-law 016-2014 (HUSP Urban Area – March 2023), a reduced parking supply is being proposed for the Site. The proposed parking supply of 800 spaces represents a decrease of 28%, when compared to the minimum Zoning By-law requirement of 1,109 spaces.

7.2.2 Summary of Proposed TDM Strategies

Proposed TDM measures for the Site are summarized in **Table 16**. The measures being proposed for the Site are supportive of alternative transportation modes.

TABLE 16 TDM STRATEGIES

Measure	Description	Cost Estimate	Implementation Strategy
Physical Measures			
Pedestrian Facilities	Provide internal sidewalks that provide connectivity throughout the Site and to the adjacent facilities on Louis St. Laurent Avenue and on Ferguson Drive.	Integrated into overall development cost.	Constructed as part of development.
Bicycle Parking	Bicycle parking spaces to be provided that exceed the minimum requirements of Zoning By-law 016-2014.	Integrated into overall development cost.	Constructed as part of development.
Bicycle Repair Stations	Provide bicycle repair stations in bicycle parking areas.	Integrated into overall development cost.	Constructed as part of development.
Vehicle Parking	Provided parking supply is 28% less than the Zoning By-law 016-2014 requirement.	Integrated into overall development cost.	Constructed as part of development.
Operational Measures			
Travel Mode Information Packages	Implement programs to inform new residents of available travel mode choices and existing mobile apps providing transit information.	To be determined.	Travel mode information packages to be distributed at the sales office.
Unbundled Parking	Parking spaces to be unbundled from condominium purchase to discourage car ownership.	n/a	Parking spaces to be sold separately from units.

8.0 TRAFFIC VOLUME FORECASTING

8.1 EXISTING TRAFFIC VOLUMES

Comprehensive intersection surveys were conducted by Spectrum Traffic Inc. on behalf of BA Group at all study area intersections. As summarized in **Table 17**, the surveys were undertaken in February of 2024 during the weekday morning and afternoon peak periods, between 7:30 a.m. to 9:30 a.m. and 2:00 p.m. to 6:00 p.m., respectively. It is noted that the afternoon survey period would sufficiently capture school-related activity.

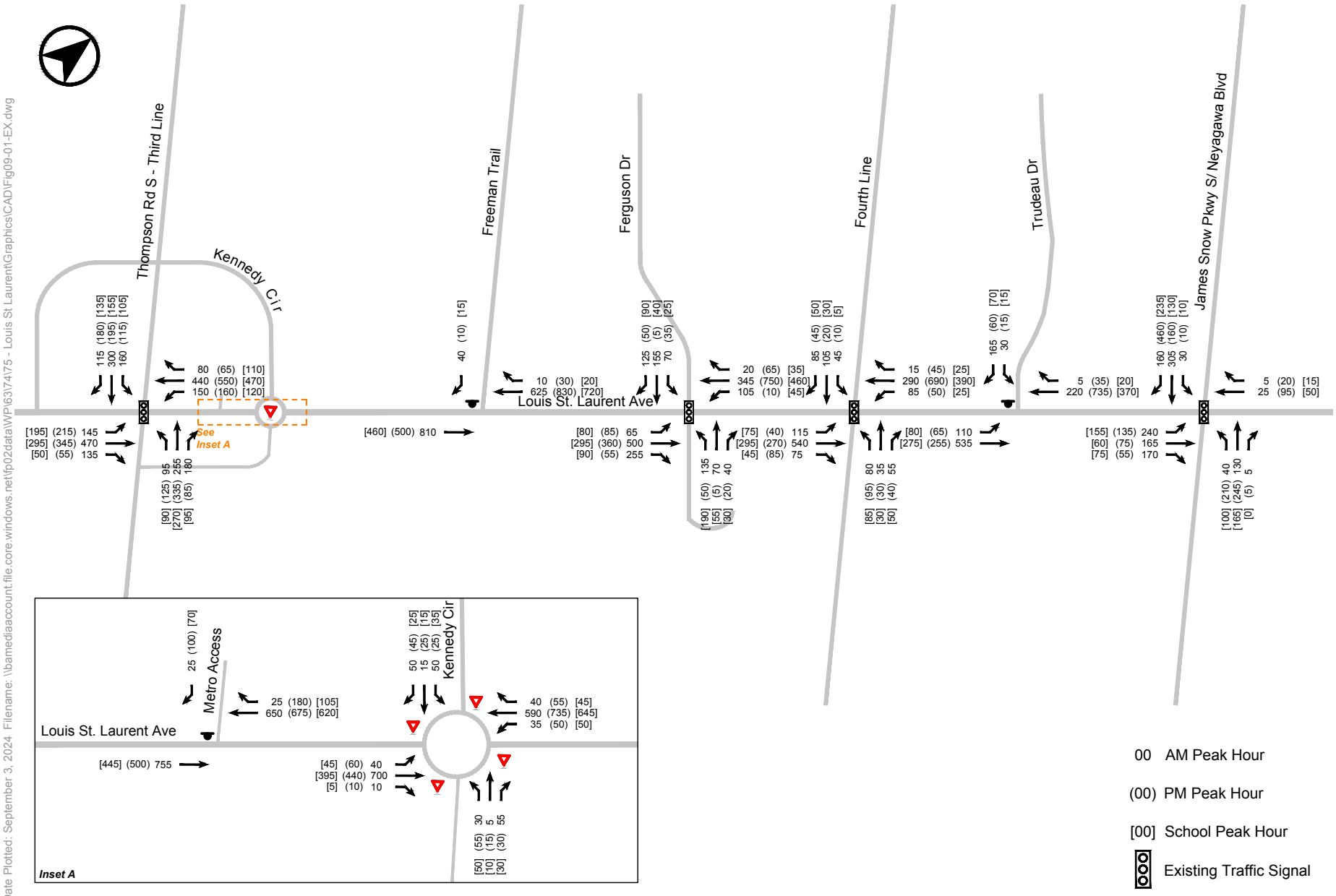
Figure 9 illustrates baseline existing traffic volumes adopted for analysis of the study area road network. It is noted that in addition to conventional one-hour peak periods (i.e., in the morning and afternoon, respectively), an additional analysis period (determined to be between 2:30 p.m. to 3:30 p.m.) has been assessed to correspond with the dismissal period of the schools located in the vicinity of the Louis St. Laurent Avenue / Ferguson Drive intersection.

As per typical industry standards, and to illustrate the reality that turning movement volumes vary from day-to-day, all turning movement volumes were rounded to the nearest five (5) vehicles and were reviewed to ensure a general consistency in magnitude on links between intersections.

Detailed traffic count surveys are attached for reference in **Appendix G.**

TABLE 17 TRAFFIC SURVEY INFORMATION

Intersection	Date of Survey
Spectrum Traffic Inc. (on behalf of BA Group)	
Louis St. Laurent Avenue / Fourth Line	Tuesday, February 13, 2024
Louis St. Laurent Avenue / James Snow Parkway	
Louis St. Laurent Avenue / Ferguson Drive	
Louis St. Laurent Avenue / Freeman Trail	
Louis St. Laurent Avenue / Kennedy Circle East	
Louis St. Laurent Avenue / Metro Access	
Louis St. Laurent Avenue / Thompson Road South / Third Line	
Louis St. Laurent Avenue / Trudeau Drive	



Date Plotted: September 3, 2024 Filename: \\bamediaaccount.file.core.windows.net\fp02data\WP\63\74\75 - Louis St Laurent\Graphics\CAD\Fig09-01-EX.dwg

FIGURE 9 EXISTING TRAFFIC VOLUMES

8.2 FUTURE BACKGROUND TRAFFIC VOLUMES

Traffic growth in the vicinity of the Site was considered based upon an evaluation of traffic volume changes related to:

- General corridor growth along major roads in the study area (i.e. Louis St. Laurent Avenue, Thompson Road South, Ferguson Drive, and James Snow Parkway); and,
- Additional network traffic volumes associated with proximally located background developments.

8.2.1 Corridor Growth Traffic Volumes

Based on correspondence with the Town and Region, annual growth rates consistent with those summarized in **Table 18** were adopted up to the 2034 horizon year.

TABLE 18 ADOPTED CORRIDOR GROWTH RATES

Corridor	Compound Annual Growth Rate (2024 to 2034)
James Snow Parkway	2% for all movements except eastbound and westbound through movements
Louis St. Laurent Avenue	2.45% for eastbound and westbound through movements
Thompson Road, Ferguson Drive	2% for all movements

Corridor growth traffic volumes for the 2034 horizon year are thus illustrated in **Figure 10**.

8.2.2 Background Development Traffic Volumes

Allowances have been made for future traffic conditions to account for new traffic generated by other development proposals that are either under construction, approved, being reviewed, or for which an application is expected to be submitted to the Town and/or Region. For the purposes of this Study, these allowances generally conform to the development that has been included within the East Tertiary Plan Sub-Zones of the Boyne RNA Study. This area, which is inclusive of the study area road network, is illustrated in **Figure 11**.

The following sections provide further details regarding these background developments and corresponding traffic allowances.

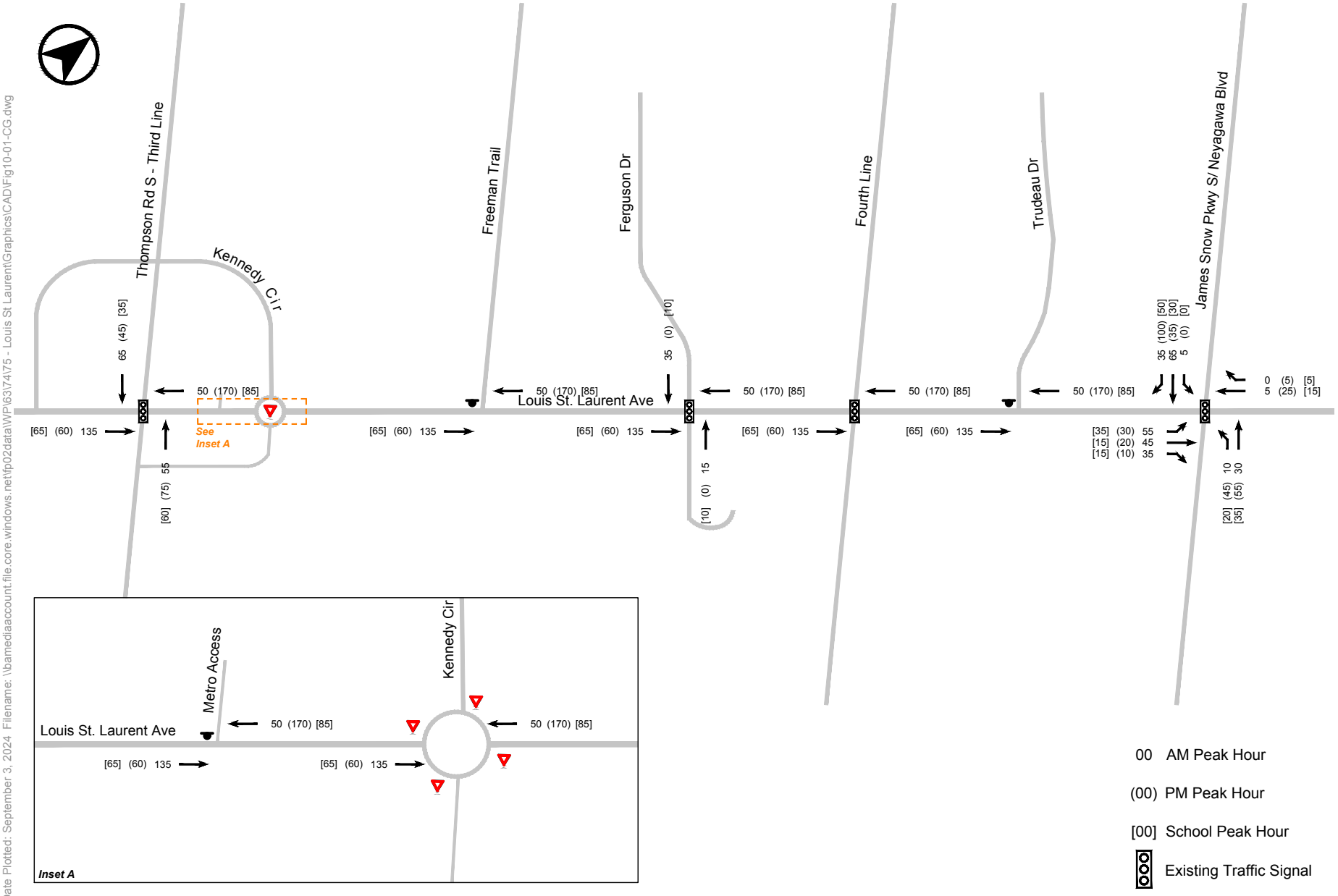


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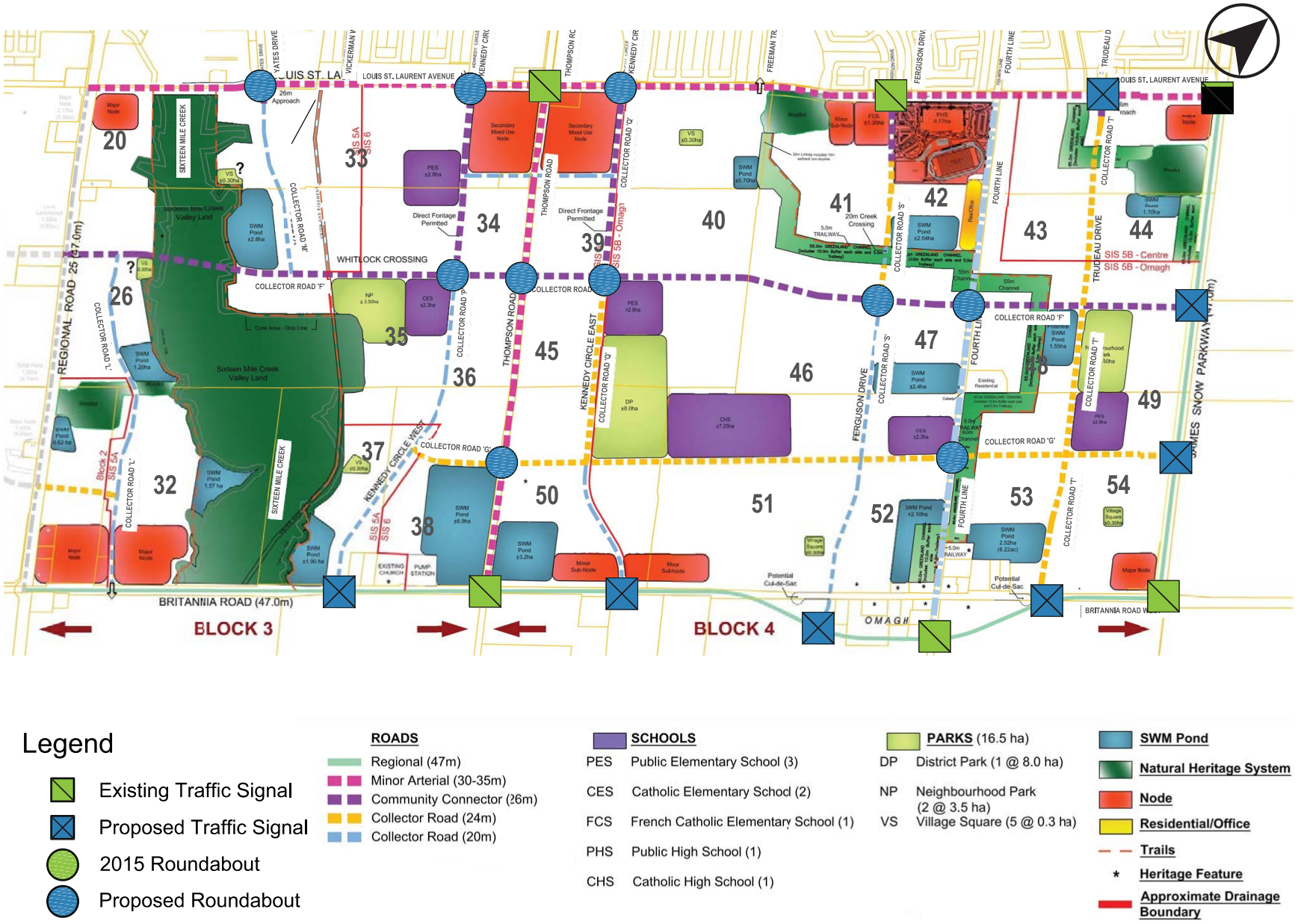
FIGURE 10 CORRIDOR GROWTH



Legend

- Existing Traffic Signal
- Proposed Traffic Signal
- 2015 Roundabout
- Proposed Roundabout

ROADS

- Regional (47m)
- Minor Arterial (30-35m)
- Community Connector (26m)
- Collector Road (24m)
- Collector Road (20m)

SCHOOLS

- PES Public Elementary School (3)
- CES Catholic Elementary School (2)
- FCS French Catholic Elementary School (1)
- PHS Public High School (1)
- CHS Catholic High School (1)

PARKS (16.5 ha)

- DP District Park (1 @ 8.0 ha)
- NP Neighbourhood Park (2 @ 3.5 ha)
- VS Village Square (5 @ 0.3 ha)

- SWM Pond
- Natural Heritage System
- Node
- Residential/Office
- Trails
- * Heritage Feature
- Approximate Drainage Boundary

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

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FIGURE 11 BOYNE SECONDARY PLAN ZONE MAP

8.2.2.1 Mattamy Bayview Lexis Residential Subdivision & Milton III-75 Mixed-Use Development

The Mattamy Bayview Lexis residential subdivision proposes a development consisting of 392 single-family detached dwelling units, 409 multi-family low-rise dwelling units, and an 8.82-acre public park. The neighboring Milton III-75 Land Ltd. lands propose a mixed-use development consisting of 114 single-family detached dwelling units, 141 multi-family low-rise dwelling units, 160 multifamily high-rise dwelling units, and a 20,850 ft^2 GFA shopping centre. Together, these lands comprise sub-zones 43, 44, 48, and 49 of the Boyne RNA Study, as illustrated in **Figure 11.**

Although trip generation forecasts for these lands were undertaken as part of the Boyne RNA Study, they were more recently updated by TYLin in their October 2022 Transportation Impact Study entitled "*Garito Barbuto Tor Lands Residential Development*" (herein referred to as the "October 2022 TY Lin Study"). The findings of the October 2022 TY Lin Study as they pertain to the trip generation of these lands are summarized in **Table 19**.

TABLE 19 MATTAMY LEXIS & MILTON III-75 TRIP GENERATION

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Bayview Lexis, Milton III-75 Trips[1]	265	575	840	575	365	940

Notes:
1. Based on Table 4-1 of "Garito Barbuto Tor Lands Residential Development", TY Lin Group, October 2022.
2. Trips rounded to the nearest 5.

The Mattamy Lexis & Milton III-75 lands are anticipated to generate on the order of approximately 840 and 940 two-way vehicle trips during the morning and afternoon peak hours, respectively. These allowances were distributed to the study area road network according to assignment assumptions discussed in **Section 8.3.4**.

8.2.2.2 Garito Barbuto Tor Lands Residential Development

The Garito Barbuto Tor Lands propose a development consisting of 572 single-family detached dwelling units, 203 mid-rise multi-family dwelling units, and 529 low-rise townhouse dwelling units. These lands occupy the area immediately to the south of the Site and correspond to sub-zones 41 and 42 of the Boyne RNA Study, and approximately 50% of zones 46 and 47, as illustrated in **Figure 11.**

Trip generation forecasts for these lands were undertaken in the October 2022 TY Lin Study and are summarized in **Table 20**.

TABLE 20 GARITO BARBUTO TOR LANDS TRIP GENERATION

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
2022 TYLin Study	180	560	740	595	355	950

Notes:
1. Based on Table 5-1 of "Garito Barbuto Tor Lands Residential Development", TY Lin Group, October 2022.
2. Trips rounded to the nearest 5.

The Garito Barbuto Tor Lands are anticipated to generate on the order of approximately 740 and 950 two-way vehicle trips during the morning and afternoon peak hours, respectively. These allowances were distributed to the study area road network – in part – following the routing assumptions employed in the October 2022 TYLin Study, though for the larger study area considered for this Study, were controlled using the assignment assumptions discussed in **Section 8.3.4**.

8.2.2.3 Derry Green Business Park

The Derry Green Business Park is approximately 800 hectares in size and is located within the Milton Urban Expansion Area. It is projected to accommodate approximately 17,000 to 18,000 employees at full build-out. Trip generation forecasts for the Derry Green Business Park were estimated as part of the Boyne RNA Study. On this basis, the Secondary Plan is anticipated to generate on the order of approximately 505 and 725 two-way vehicle trips during the morning and afternoon peak hours, respectively. These allowances were routed east-west on Louis St. Laurent Avenue throughout the study area road network following the assumptions made in the October 2022 TYLin Study.

8.2.2.4 Sub-Zone 40 Lands

Based on correspondence with Town staff, traffic allowances were also made for additional development located in sub-zone 40 of the Boyne RNA Study. A conservative comparison of sub-zone 40 development statistics assumed in the Boyne RNA Study versus updated development proposals received by the Town is provided in **Table 21**.

TABLE 21 COMPARISON OF DEVELOPMENT STATISTICS – SUB-ZONE 40

Land Use Type	Boyne RNA Study	Developer Projections[1]	Difference
Low Density Residential	357 units	523 units	+166 units
Medium Density Residential	258 units	147 units	-111 units
School	-	800 students	+800 students
Daycare	-	80 students	+80 students
Total	**615 units**	**670 units 880 students**	**+55 units +880 students**

Notes:
1. Development statistic provided by the Town of Milton.

The future development within sub-zone 40 could possibly result in the order of approximately 55 more residential units and 880 more students than what was assumed in the modelling exercises undertaken for the Boyne RNA Study. A comparison of the resulting trips generated by these comparative uses during the weekday morning and afternoon peak hours is summarized in **Table 22**.

TABLE 22 COMPARISON OF TRIP GENERATION FORECASTS – SUB-ZONE 40

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Boyne RNA Modelling Assumptions	110	265	375	290	200	490
Developments Provided by Town	500	750	1,250	570	385	955
Difference	**+390**	**+485**	**+875**	**+280**	**+185**	**+465**

The change in land-use assumptions results in a difference in peak hour vehicle trip generation of approximately 875 and 465 two-way vehicle trips during the morning and afternoon peak hours, respectively.

For the purposes of this Study, it is noted that the full allowance of traffic volumes, based on statistics provided by the Town, were distributed to the study area road network using assignment assumptions discussed in **Section 8.3.4.**

8.2.2.5 Summary of Developments

As reviewed, a total of 4 background developments have been considered in this Study, as summarized in **Table 23**. Allowances account for a total of 3,190 residential units, 20,850 ft^2 retail GFA, 880 students, and 17,000 to 18,000 employees.

TABLE 23 BACKGROUND DEVELOPMENTS

Development	Description	Report Source	Traffic Assignment & Volume Source
Mattamy Bayview Lexis Residential Subdivision & Milton III-75 Mixed-Use Development	1,216 residential units 20,850 ft^2 retail	TY Lin	Distributed by BA Group
Garito Barbuto Tor Lands Residential Development	1,304 residential units	TY Lin	
Sub-Zone 40 Lands	670 residential units 880 students	GHD	
Derry Green Business Park	17,000 to 18,000 employees	Boyne RNA	TY Lin
Total	**3,190 residential units, 20,850 ft^2 retail GFA, 880 students, 17,000 to 18,000 employees**		

8.2.2.6 Background Traffic Volumes during School Peak Hour

The weekday school peak hour has also been identified for review in the traffic analysis. However, traffic allowances for the background developments summarized in **Table 23** were forecast by reporting sources for only the morning and afternoon peak hours. It was therefore necessary to derive background traffic forecasts for the school peak hour. These were determined using the afternoon peak hour volumes as a starting reference, and a factor (ratio) applied to compare the trips made during the afternoon and school peak hours. Factors were determined based on hourly distributions of all-day trips (by land use) provided in the ITE Trip Generation Manual (11th Edition). A weighted composite of applicable land uses was then generated for each background development to determine the overall factor, which was then applied to afternoon peak hour traffic volumes to determine corresponding school peak hour traffic volumes. A summary of the factors is provided in **Table 24**. Excerpts of the calculations for each development are attached in **Appendix H.**

TABLE 24 SCHOOL PEAK HOUR TRAFFIC VOLUMES FOR BACKGROUND DEVELOPMENTS

Land Use	PM Peak – Two Way		Time of Day Distribution[1]		Ratio	Composite
	Trips	Fraction	PM Peak	School Peak	School/PM	School Peak
Mattamy Bayview Lexis Residential Subdivision & Milton III-75 Mixed-Use Development						
Single Family Home	707	79.3%	9.69%	5.93%	0.61	0.49
Townhome	80	9.0%	9.69%	5.93%	0.61	0.05
Shopping Centre	104	11.7%	8.82%	8.23%	0.93	0.11
Total	**891**	**100%**	**--**	**--**	**--**	**0.65**
Garito Barbuto Tor Lands						
Single Family Home	566	59.5%	9.69%	5.93%	0.61	0.36
Multi-Family Home	296	31.1%	9.69%	5.93%	0.61	0.19
Multi-Family Mid-Rise	89	9.4%	9.11%	4.28%	0.47	0.04
Total	**951**	**100%**	**--**	**--**	**--**	**0.60**
Derry Green Business Park						
Office	566	100%	11.0%	7.52%	0.68	0.68
Total	**566**	**100%**	--	--	--	**0.68**
Sub-Zone 40						
Single Family Home	445	46.7%	9.69%	5.93%	0.61	0.29
Townhome	267	28.0%	9.11%	4.28%	0.47	0.13
Apartment	57	6.0%	8.12%	4.50%	0.55	0.03
School	128	13.4%	6.75%	12.96%	1.92	0.26
Daycare	56	5.9%	18.32%	4.98%	0.27	0.02
Total	**952.68**	**100%**	**--**	**--**	**--**	**0.72**

Notes:
1. All-day trip-making characteristics are derived from the ITE Trip Generation Manual, 11th Edition

Background development traffic volumes for the 2034 horizon year are illustrated in **Figure 12** for the morning, afternoon and school peak hours.

8.2.3 Redistributed Traffic Volumes

Per the Boyne RNA Study, the Louis St. Laurent / Fourth Line intersection is scheduled to be converted from an existing all-moves signalized intersection to a stop-controlled right-in/right-out (RIRO) intersection. Accordingly, existing traffic volumes at the intersection have been redistributed as illustrated in **Figure 13.**

8.2.4 Future Background Traffic Volumes

Future background traffic volumes represented the addition of existing traffic volumes (illustrated in **Figure 9**), corridor traffic volumes (illustrated in **Figure 10**), background development traffic volumes (illustrated in **Figure 12**), and redistributed traffic volumes (illustrated in **Figure 13).**

Future Background traffic volumes for the 2034 horizon year are illustrated in **Figure 14** for the morning, afternoon, and school peaks hours.

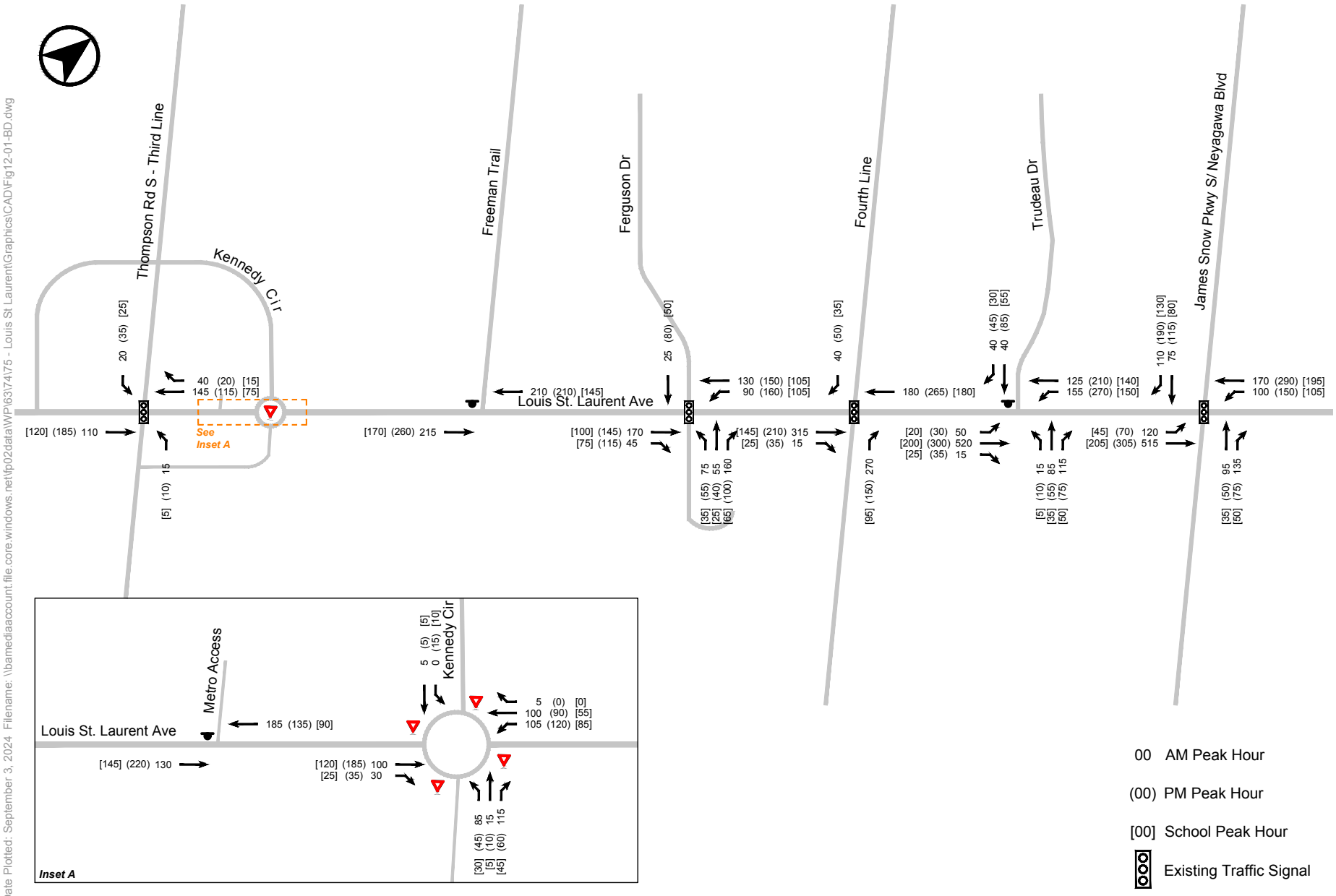

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FIGURE 12 BACKGROUND DEVELOPMENT VOLUMES

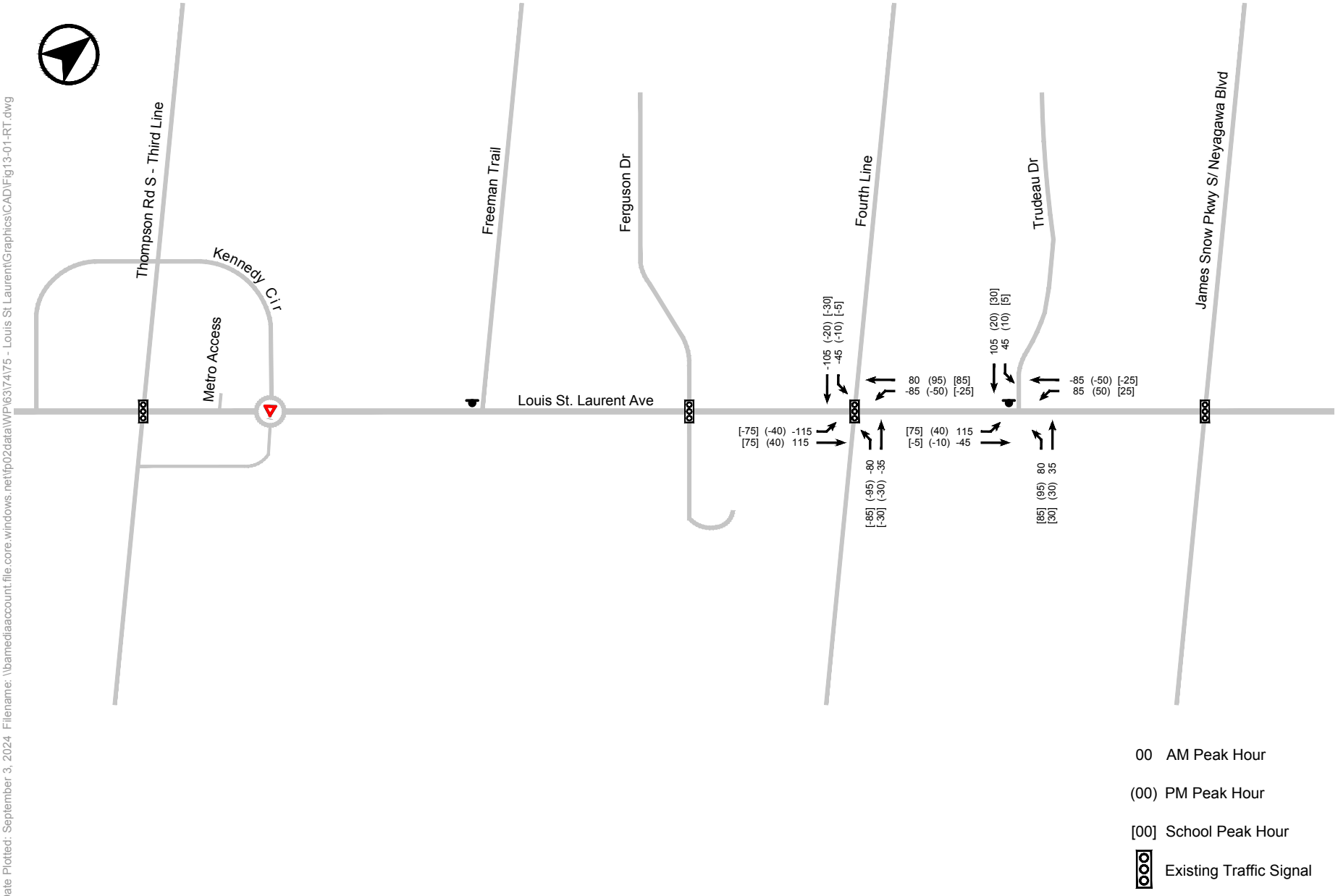

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FIGURE 13 REDISTRIBUTED TRAFFIC VOLUMES

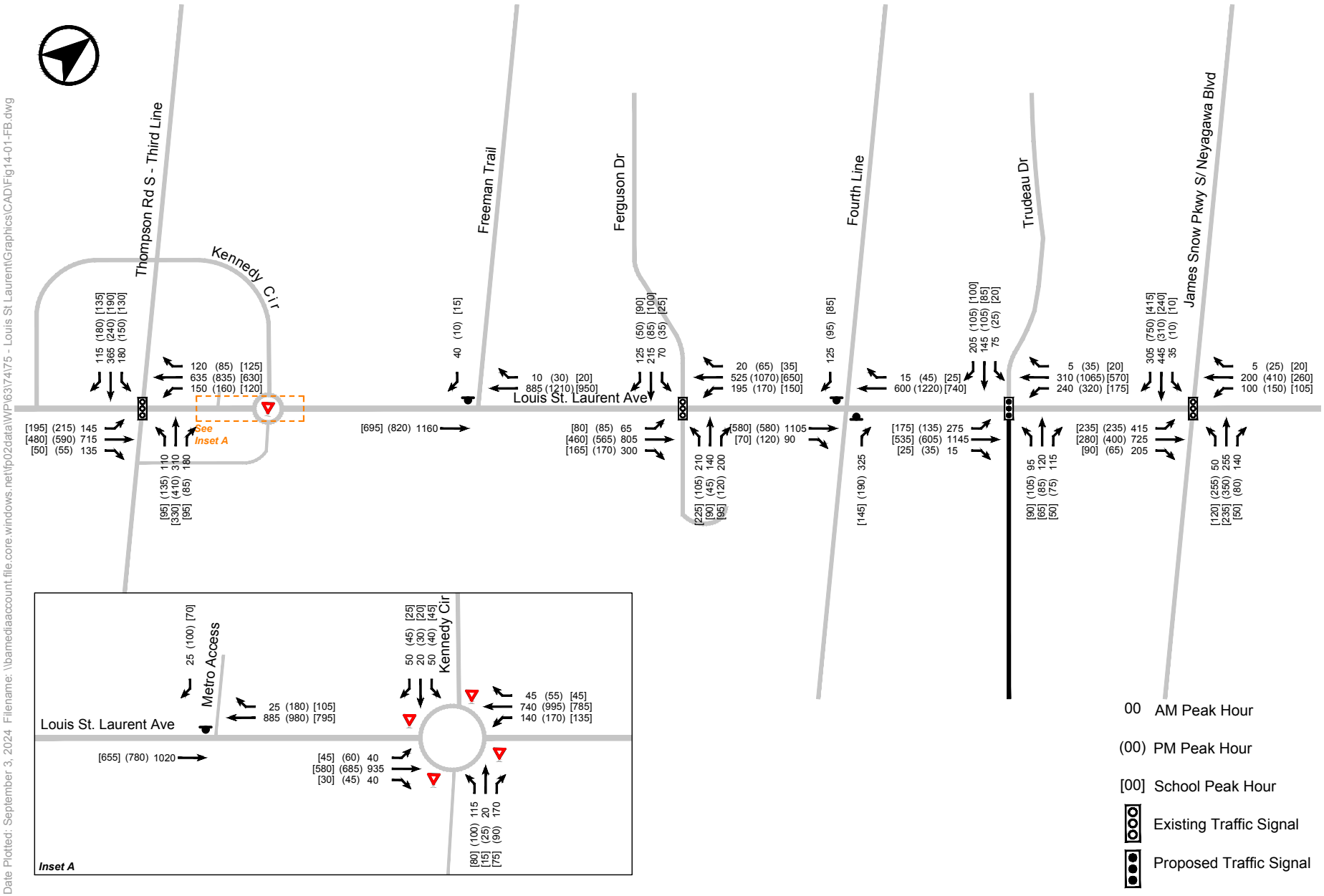

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FIGURE 14 FUTURE BACKGROUND TRAFFIC VOLUMES

8.3 SITE TRAFFIC VOLUMES

8.3.1 Site Vehicle Trip Generation – Morning & Afternoon Peak Hours

8.3.1.1 Site Residential Uses

Residential vehicle trip generation forecasts were established based upon a review of trip generation rates published in the ITE Trip Generation Manual (11th Edition). The trip generation parameters adopted for the purposes of this Study are summarized in **Table 25**. Applicable ITE excerpts are provided in **Appendix I.**

TABLE 25 SITE RESIDENTIAL VEHICLE TRIP GENERATION SUMMARY

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
ITE LUC 220 (Townhome, General Urban / Suburban) – Not Close to Rail Transit						
Average Rates	0.10	0.30	0.40	0.32	0.19	0.51
Directional Distribution	24%	76%	100%	63%	37%	100%
Vehicle Trips (78 units)	**5**	**25**	**30**	**25**	**15**	**40**
ITE LUC 221 (Mid-Rise Apartment, General Urban / Suburban) – Not Close to Rail Transit						
Average Rates	0.09	0.28	0.37	0.24	0.15	0.39
Directional Distribution	23%	77%	100%	61%	39%	100%
Vehicle Trips (520 units)[2]	**45**	**150**	**195**	**125**	**80**	**205**
Total Site Residential Vehicle Trips (598 residential units)	**50**	**175**	**225**	**150**	**95**	**245**

Notes:
1. Based upon Site statistics provided by KNYMH Inc. Architecture + Solutions, dated October 11, 2024.
2. Per the ITE Trip Generation Manual (11th Edition), LUC 221 (i.e., Mid-rise Buildings) are defined as being between 4-10 storeys. This rate has therefore been applied to proposed residential units in Buildings A & B (10-storeys) and Building C (8-storeys).

The residential component of the Site is expected to generate on the order of approximately 225 and 245 two way vehicle trips during the weekday morning and afternoon peak hours, respectively.

8.3.1.2 Site Retail Uses

Retail vehicle trip generation forecasts were established based upon trip generation rates published in the ITE Trip Generation Manual (11th Edition) under Land Use Code 822 (Strip Retail Plaza). The proposed retail use is expected to operate ancillary to the Site and to primarily service future residents in the immediate area. As such, associated vehicle trips, as summarized in **Table 26**, are expected to be a conservative assumption for the purposes of analysis. Applicable ITE excerpts are also provided in **Appendix I**.

TABLE 26 SITE RETAIL VEHICLE TRIP GENERATION SUMMARY

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
ITE LUC 882 (Strip Retail Plaza, General Urban / Suburban) – Not Close to Rail Transit						
Average Rates (per 1000 ft^2 GFA)	1.42	0.94	2.36	3.30	3.30	6.60
Directional Distribution	60%	40%	100%	50%	50%	100%
Total Site Retail Vehicle Trips (450 m^2 / 4,844 ft^2 GFA)	**5**	**5**	**10**	**15**	**15**	**30**

Notes:
1. Based upon Site statistics provided by KNYMH Inc. Architecture + Solutions, dated October 11, 2024.

The retail component of the Site is expected to generate on the order of approximately 10 and 30 two-way vehicle trips during the weekday morning and afternoon peak hours, respectively.

8.3.1.3 Total Site Vehicle Trips – Morning and Afternoon Peak Hours

Total Site vehicle trips represent the addition of vehicle trips associated with the residential component (summarized in **Table 25**) and the retail component (summarized in **Table 26**) of the proposed development, and are summarized in **Table 27**.

TABLE 27 TOTAL SITE VEHICLE TRIP GENERATION – MORNING AND AFTERNOON PEAK HOURS

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Residential Trip Generation (598 units)[1]	50	175	225	150	95	245
Retail Trip Generation (450 m^2 GFA)[2]	5	5	10	15	15	30
Total Site Vehicle Trips	**55**	**180**	**235**	**165**	**110**	**275**

Notes:
1. As summarized in **Table 25**.
2. As summarized in **Table 26**.

The Site is expected to generate on the order of approximately 235 and 275 total two-way vehicle trips during the weekday morning and afternoon peak hours, respectively.

8.3.1.4 Minor Sub-Node Trip Generation Forecast

As previously discussed, the Site area is located within a Minor Sub-Node Area inside of The Boyne Survey. According to the Boyne RNA Study, the Minor Sub-Node in question (Area 41) was contemplated as comprising of 2,863 m^2 of commercial GFA. Trip generation forecasts for this development were estimated in the October 2022 TYLin Study and are summarized in **Table 28**.

TABLE 28 MINOR SUB-NODE AREA 41 VEHICLE TRIP GENERATION FORECAST

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
2022 TYLin Study	40	30	70	65	70	135

Notes:
1. Based on Table 4-1 of "Garito Barbuto Tor Lands Residential Development", TY Lin Group, October 2022.
2. Trips rounded to the nearest 5.

The Boyne RNA Study assumed a level of development for the Site lands that could generate on the order of approximately 70 and 135 two-way trips (forecast by TY Lin) during the morning and afternoon peak hours, respectively. This compares to the approximately 235 and 275 two-way vehicle trips (during the morning and afternoon peak hours, respectively) forecast under the current development proposal, as summarized in **Table 27**. Site trip forecasts assumed in this Study are therefore conservative to the Boyne RNA Study and exceed these forecasts by approximately 165 and 140 two-way vehicle trips during the morning and afternoon peak hours, respectively.

8.3.2 Site Vehicle Trip Generation – School Peak Hour

As discussed in **Section 8.2.2.6**, a factor was applied to afternoon peak hour background traffic volumes in order to forecast school peak hour traffic volumes. This same procedure was applied to Site-generated traffic volumes as summarized in **Table 29**.

TABLE 29 SCHOOL PEAK HOUR SITE VEHICLE TRIPS

	PM Peak Hour			School Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Hourly Distribution of All-day Trips[1]						
LUC 220 (Low-rise Multi-Family Housing)	12.04%	7.39%	9.69%	6.36%	5.50%	5.93%
LUC 221 (Mid-rise Multi-Family Housing)	12.22%	6.01%	9.11%	4.88%	3.70%	4.28%
LUC 222 (High-rise Multi-Family Housing)	10.69%	5.52%	8.12%	4.87%	4.12%	4.50%
Ratio of PM Peak Hour to School Peak Hour Daily Fractions						
LUC 220 (Low-rise Multi-Family Housing)	-	-	-	0.53	0.74	0.61
LUC 221 (Mid-rise Multi-Family Housing)	-	-	-	0.40	0.62	0.47
LUC 222 (High-rise Multi-Family Housing)	-	-	-	0.46	0.75	0.55
Composite Ratio to PM Site Trips[2]						
School Peak	-	-	-	0.44	0.68	0.52
School Peak Site Trips						
Total Trips	**-**	**-**	**-**	**65**	**60**	**125**

Notes:
1. All-day trip-making characteristics are derived from the ITE Trip Generation Manual, 11th Edition.
2. Based upon a weighted average of development statistics across applicable lane-use codes.
3. All trips rounded to the nearest 5.

The Site is therefore expected to generate on the order of approximately 125 two-way vehicle trips during the school peak hour.

8.3.3 Total Site Vehicle Trips

Total Site vehicle trips, representing the morning, afternoon, and school peak hours, are summarized in **Table 30**.

TABLE 30 TOTAL SITE VEHICLE TRIPS

	AM Peak Hour[1]			PM Peak Hour[1]			School Peak Hour[2]		
	In	Out	2-Way	In	Out	2-Way	In	Out	2-Way
Total Site Trips	50	175	225	150	95	245	65	60	125

Notes:
1. As seen in Table 28.
2. As seen in Table 30.

8.3.4 Trip Distribution and Assignment

Trip distribution patterns and traffic routing assumptions were derived from the 2016 Transportation Tomorrow Survey (TTS) for 2006 GTA Zones 4108, 4110 and 4120. Queries for residential trips are provided in **Appendix J.** The adopted distribution of inbound and outbound vehicle traffic is summarized in **Table 31.**

TABLE 31 SITE VEHICLE TRIP DISTRIBUTION

Directions	Residential	
	Outbound[1]	Inbound[2]
To/From East on Louis St. Laurent Avenue	41%	33%
To/From West on Louis St. Laurent Avenue	17%	9%
To/From North on Thompson Road	5%	2%
To/From South on Thompson Road	11%	8%
To/From North on Kennedy Circle	1%	1%
To/From South on Kennedy Circle	0%	0%
To/From North on Freeman Trail	1%	0%
To/From North on Ferguson Drive	5%	15%
To/From South on Ferguson Drive	2%	0%
To/From North on Fourth Line	2%	2%
To/From South on Fourth Line	1%	3%
To/From North on Trudeau Drive	0%	0%
To/From North on James Snow Parkway	14%	24%
To/From South on James Snow Parkway	0%	3%
Total	**100%**	**100%**

Notes:
1. Based upon weekday morning, peak period, outbound, home-based trip data.
2. Based upon weekday afternoon, peak period, inbound, home-based trip data.
3. Based on trip data within TTS zones 4108, 4110 and 4120.

It is noted that retail Site trips were distributed to the study area road network based on prevailing directional trends on Louis St. Laurent Boulevard observed during the traffic surveys summarized in **Table 17**.

Site generated traffic volumes are illustrated in **Figure 15.**

8.4 FUTURE TOTAL TRAFFIC VOLUMES

Future total traffic volumes for the 2034 horizon year reflect the sum of future background traffic volumes (illustrated in **Figure 14**) and Site traffic volumes (illustrated in **Figure 15**) and are illustrated in **Figure 16** for the weekday morning, afternoon and school peak hours.

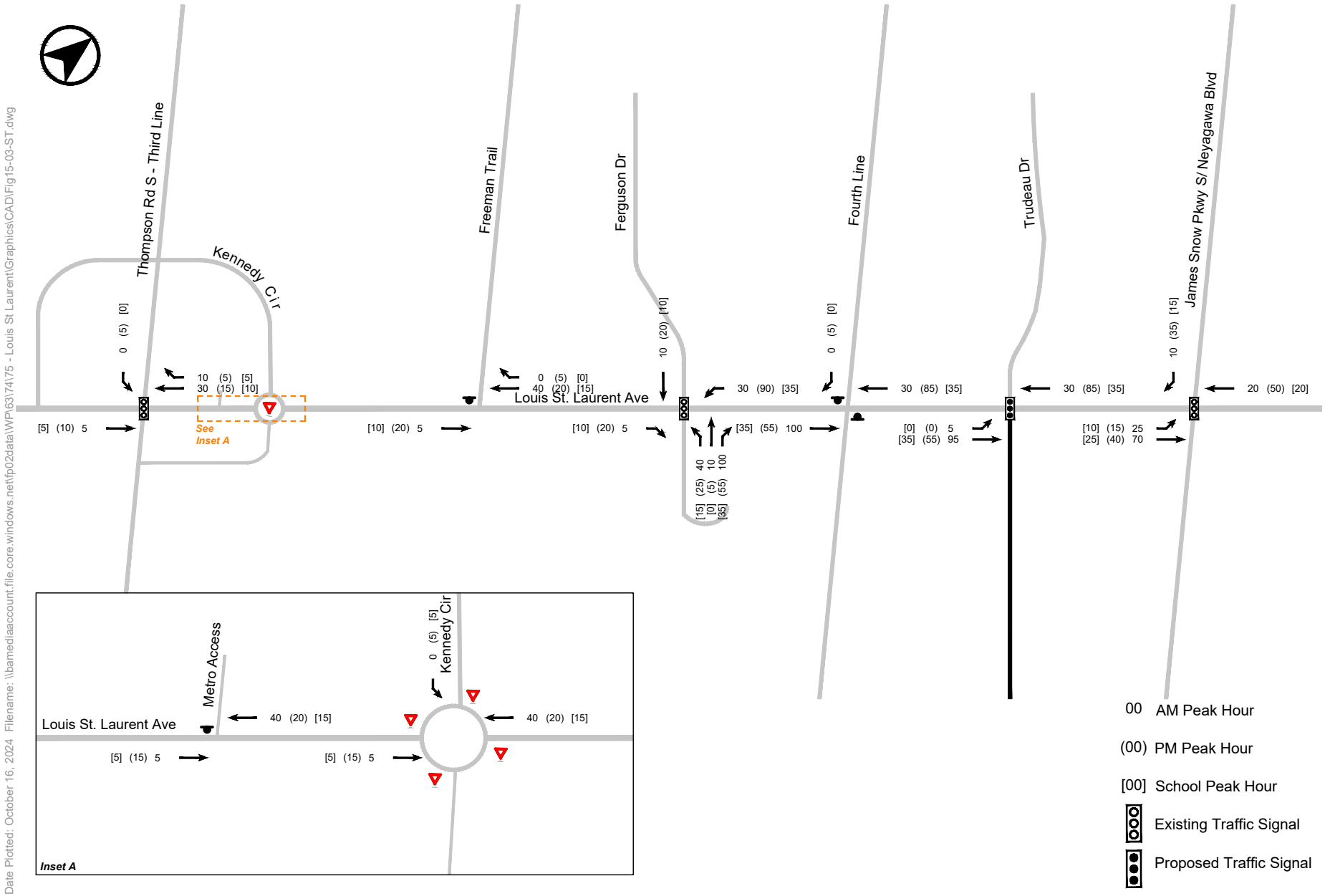

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FIGURE 15 SITE TRAFFIC VOLUMES

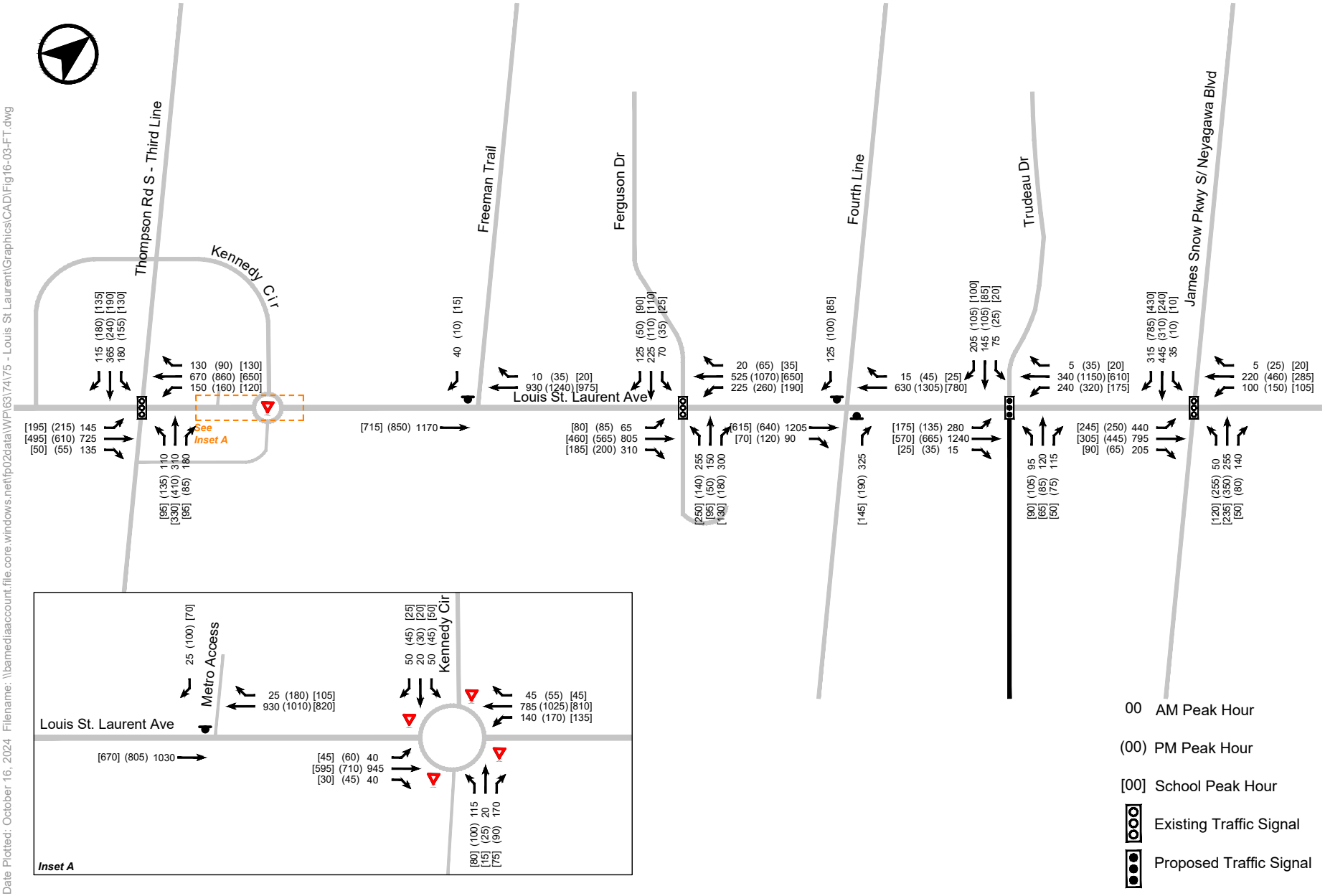

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FIGURE 16 FUTURE TOTAL TRAFFIC VOLUMES

9.0 TRAFFIC OPERATIONS ANALYSIS

9.1 ANALYSIS METHODOLOGY

The intersection capacity analysis was completed using Synchro Version 11.0 and the Highway Capacity Manual (HCM) methodology.

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

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

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

1. Signalized Intersection LOS

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

2. Unsignalized Intersection LOS

    a. LOS A: Control Delay ≤ 10s
    b. LOS B: 10s < Control Delay ≤ 15s
    c. LOS C: 15s < Control Delay ≤ 25s
    d. LOS D: 25s < Control Delay ≤ 35s
    e. LOS E: 35s < Control Delay ≤ 50s
    f. LOS F: Control Delay > 50s

For the roundabout intersection of Louis St. Laurent Avenue / Kennedy Circle, SIDRA (Version 9.1) software was utilized, which employs methodologies consistent with the Highway Capacity Manual (HCM) 2000.

9.1.1 Critical Movements

As defined by Regional and Town guidelines for the preparation of traffic impact studies, critical volume-to-capacity ratios are those which exceed 0.85 for through movements or shared through/turning movements, and 0.95 for exclusive turning movements. These critical movements are highlighted and bolded in the summary tables below.

9.2 SYNCHRO MODEL CALIBRATION

9.2.1 Modelling Input and Calibration Parameters

Key parameters assumed in the Synchro analysis include:

Lane Configurations
Existing lane configuration and traffic controls for the analysis of existing conditions are assumed to be consistent with the information illustrated in **Figure 4**.

Under future horizon conditions, the following road improvements have been incorporated based on direction from the Region and the Boyne RNA Study:

- James Snow Parkway is widened to a six-lane cross-section by the 2034 horizon year;
- The Louis St. Laurent / Trudeau Drive intersection is converted into a four-legged signalized intersection by the 2034 horizon year; and,
- The Louis St. Laurent / Fourth Line intersection is converted into a stop-controlled, right-in/right-out (RIRO) intersection by the 2034 horizon year.

These changes were previously illustrated in **Figure 5**.

Lost Time Adjustment
Neither the Region nor the Town provide guidelines for a lost time adjustment. However, for all signalized intersections, a lost time adjustment (LTA) of -1.0 seconds was applied to all movements in accordance with the recommendations published in the City of Toronto's *Guidelines for Using Synchro 11* (dated January 15, 2021). This lost time adjustment provides allowances in the capacity analysis to better account for drivers completing their movements during amber or all-red time (a common phenomenon, especially at busy intersections).

Traffic Signal Timings
Traffic signal timing plans have been obtained from the Region and Town for signalized intersections within the study area. Existing timing parameters enclosed therein were adopted for the analysis of existing conditions, which were also supplemented by video footage of signalized intersections recorded during the traffic surveys of study area intersections summarized in **Table 17**. Traffic signal timing routines are attached for reference in **Appendix K.**

Under future background and future total conditions, traffic signal timings have been optimized as required to best accommodate forecast future travel demands and patterns, and to respond to evolving traffic conditions. Where signal optimization is recommended, it has been noted in the subsequent sections discussing

intersection operations. It is noteworthy that existing cycle lengths and minimum pedestrian times were maintained in all cases. A summary of traffic signal timing modifications is attached in **Appendix L.**

Peak Hour Factors
Existing peak hour factors were obtained from the traffic surveys discussed in **Section 8.1**. For all future conditions, peak hour factors were set to 1.00, consistent with the Boyne RNA Study.

Traffic Count Data Inputs
All data provided by the traffic counts obtained from Spectrum Traffic Inc. (summarized in **Table 17**) were incorporated into the Synchro models, including pedestrian and bicycle volumes, and heavy vehicle percentages.

Synchro Defaults
Synchro defaults have been adopted for all other parameters.

9.3 ANALYSIS SCENARIOS

Traffic capacity analyses were undertaken for the 2034 horizon year, intending to correspond to a 5-year condition post-development of the Site, as per the Town of Milton guidelines for traffic impact studies. Assuming an estimated completion of development by 2029, the following analysis scenarios have been analyzed for the weekday morning, afternoon and school peak hours:

1. Baseline existing traffic conditions;
2. 2034 future background traffic conditions; and
3. 2034 future total traffic conditions (five years beyond Site buildout).

Detailed Synchro worksheets for the above scenarios are attached in **Appendix M.**

9.4 SIGNALIZED INTERSECTION ANALYSIS

9.4.1 Louis St. Laurent Avenue / Thompson Road South

The Louis St. Laurent Avenue / Thompson Road South intersection currently operates as a signalized intersection with a cycle length of 92 seconds during the morning, afternoon, and school peak hours. Capacity analysis results at the intersection are summarized in **Table 32.**

Under existing traffic conditions, the intersection operates under capacity with an overall v/c ratio of 0.61, 0.53, and 0.45 during the morning, afternoon and school peak hours, respectively. No movements are forecast to operate above a v/c ratio of 0.85 in any peak hour. Under future scenarios, the intersection will continue to operate under good overall conditions, with an overall v/c ratio of 0.61, 0.65, and 0.55 during the morning, afternoon and school peak hours, respectively, under 2034 future total conditions. No movements are forecast to operate above a v/c ratio of 0.85 in any peak hour.

Intersection optimization has been applied under future scenarios as summarized in **Appendix L**.

TABLE 32 LOUIS ST. LAURENT AVENUE / THOMPSON ROAD – CAPACITY ANALYSIS RESULTS

Movement	Existing		Future Background (2034)		Future Total (2034)	
	V/C	LOS	V/C	LOS	V/C	LOS
EBL	0.53 (0.66) [0.50]	B (C) [B]	0.48 (0.76) [0.58]	B (C) [B]	0.50 (0.78) [0.59]	B (C) [B]
EBTR	0.67 (0.37) [0.26]	C (C) [B]	0.73 (0.53) [0.40]	C (C) [C]	0.73 (0.54) [0.42]	C (C) [C]
WBL	0.63 (0.38) [0.29]	C (B) [B]	0.55 (0.43) [0.32]	C (B) [B]	0.56 (0.44) [0.32]	C (B) [B]
WBTR	0.58 (0.58) [0.55]	C (C) [C]	0.65 (0.77) [0.70]	C (C) [C]	0.68 (0.79) [0.72]	C (C) [C]
NBL	0.32 (0.31) [0.24]	B (B) [C]	0.30 (0.36) [0.25]	B (C) [C]	0.30 (0.36) [0.25]	B (C) [C]
NBTR	0.41 (0.41) [0.34]	C (C) [C]	0.39 (0.46) [0.39]	C (C) [C]	0.39 (0.46) [0.39]	C (C) [C]
SBL	0.55 (0.30) [0.29]	C (B) [B]	0.48 (0.44) [0.35]	B (C) [B]	0.48 (0.46) [0.35]	B (C) [B]
SBTR	0.47 (0.27) [0.21]	C (C) [C]	0.39 (0.30) [0.23]	C (C) [C]	0.39 (0.30) [0.23]	C (C) [C]
Overall	**0.61 (0.53) [0.45]**	**C (C) [C]**	**0.60 (0.63) [0.54]**	**C (C) [C]**	**0.61 (0.65) [0.55]**	**C (C) [C]**

Notes:
1. XX (XX) [XXX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [School Peak Hour].

9.4.2 Louis St. Laurent Avenue / Ferguson Drive

The Louis St. Laurent Avenue / Ferguson Drive intersection currently operates as a signalized intersection with a cycle length of 87, 72, and 90 seconds during the morning, afternoon and school peak hour, respectively. Capacity analysis results at the intersection are summarized in **Table 33**.

Under existing traffic conditions, the intersection operates under capacity with an overall v/c ratio of 0.70, 0.35, and 0.47 during the morning, afternoon, and school peak hours, respectively. Under future background traffic conditions, the intersection is anticipated to operate with overall v/c ratios of 0.84, 0.52 and 0.55 during the morning, afternoon, and school peak hours, respectively. It is noted that the eastbound through-right turn movement will operate with a v/c ratio of 0.87 during the morning peak hour.

Under future total traffic conditions, the intersection will continue to operate under acceptable conditions with overall v/c ratios of 0.92, 0.58, and 0.61 during the morning, afternoon, and school peak hours, respectively. It is noted that the eastbound through-right turn movement will operate with a v/c ratio of 0.88, and the northbound left-turn movement will function with a v/c of 0.98 during the morning peak hour. Considering the overall serviceability of the intersection, no mitigation measures are required or recommended beyond the traffic signal optimization that has been applied as summarized in **Appendix L**.

TABLE 33 LOUIS ST. LAURENT AVENUE / FERGUSON DRIVE – CAPACITY ANALYSIS RESULTS

Movement	Existing		Future Background (2034)		Future Total (2034)	
	V/C	LOS	V/C	LOS	V/C	LOS
EBL	0.18 (0.30) [0.35]	B (A) [B]	0.15 (0.42) [0.32]	B (B) [C]	0.15 (0.42) [0.33]	B (B) [C]
EBTR	0.83 (0.22) [0.37]	C (A) [B]	**0.87** (0.57) [0.52]	C (C) [C]	**0.88** (0.62) [0.55]	D (C) [C]
WBL	0.51 (0.02) [0.16]	B (A) [B]	0.80 (0.43) [0.40]	D (A) [A]	0.84 (0.65) [0.51]	D (B) [A]
WBTR	0.37 (0.44) [0.38]	C (A) [B]	0.36 (0.75) [0.38]	B (C) [A]	0.37 (0.75) [0.39]	B (C) [A]
NBL	0.64 (0.16) [0.54]	C (B) [C]	0.82 (0.24) [0.64]	D (C) [C]	**0.98** (0.33) [0.70]	E (C) [C]
NBTR	0.21 (0.03) [0.13]	B (B) [B]	0.59 (0.15) [0.29]	C (C) [C]	0.79 (0.20) [0.35]	C (C) [C]
SBL	0.26 (0.11) [0.08]	C (B) [B]	0.31 (0.08) [0.08]	C (B) [B]	0.40 (0.10) [0.09]	C (C) [B]
SBTR	0.53 (0.05) [0.16]	C (B) [B]	0.51 (0.18) [0.30]	C (C) [C]	0.51 (0.23) [0.30]	C (C) [C]
Overall	**0.70 (0.35) [0.47]**	**C (A) [B]**	**0.84 (0.52) [0.55]**	**C (C) [B]**	**0.92 (0.58) [0.61]**	**C (C) [B]**

Notes:
1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [School Peak Hour].
2. Movements functioning with a v/c ratio over 0.85 are highlighted in **bold** text.

9.4.3 Louis St. Laurent Avenue / Fourth Line

The Louis St. Laurent Avenue / Fourth Line intersection currently operates as a signalized intersection with a cycle length of 85, 66 and 66 seconds during the morning, afternoon and school peak hour, respectively. Capacity analysis results at the intersection are summarized in **Table 34**.

Under existing traffic conditions, the intersection operates under capacity with an overall v/c ratio of 0.53, 0.40 and 0.32 during the morning, afternoon and school peak hours, respectively. No movements are forecast to operate above a v/c ratio of 0.85 in any peak hour.

Under future scenarios, per the Boyne RNA Study, the intersection will be converted to a stop-controlled right-in/right-out intersection by the 2034 horizon year, as illustrated in **Figure 5**. Under these future conditions, the intersection will function acceptably with minimal delays.

TABLE 34 LOUIS ST. LAURENT AVENUE / FOURTH LINE – CAPACITY ANALYSIS RESULTS

Movement	Existing		Future Background (2034)		Future Total (2034)	
	V/C	LOS	Delay	LOS	Delay	LOS
EBL	0.43 (0.16) [0.20]	B (B) [B]	- (-) [-]	- (-) [-]	- (-) [-]	- (-) [-]
EBTR	0.60 (0.21) [0.23]	B (B) [B]	- (-) [-]	- (-) [-]	- (-) [-]	- (-) [-]
WBL	0.64 (0.11) [0.06]	C (A) [A]	- (-) [-]	- (-) [-]	- (-) [-]	- (-) [-]
WBTR	0.30 (0.47) [0.28]	B (B) [B]	- (-) [-]	- (-) [-]	- (-) [-]	- (-) [-]
NBTLR	0.43 (0.31) [0.36]	B (B) [B]	- (-) [-]	- (-) [-]	- (-) [-]	- (-) [-]
SBTLR	0.31 (0.09) [0.11]	B (B) [B]	- (-) [-]	- (-) [-]	- (-) [-]	- (-) [-]
NBR	- (-) [-]	- (-) [-]	15.8 (10.6) [13.1]	C (B) [B]	18.0 (10.9) [13.8]	C (B) [B]
SBR	- (-) [-]	- (-) [-]	14.6 (10.4) [13.1]	B (B) [B]	14.9 (10.5) [13.0]	B (B) [B]
Overall	**0.53 (0.40) [0.32]**	**B (B) [B]**	**- (-) [-]**	**- (-) [-]**	**- (-) [-]**	**- (-) [-]**

Notes:
1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [School Peak Hour].

9.4.4 Louis St. Laurent Avenue / Trudeau Drive

The Louis St. Laurent Avenue / Trudeau Drive intersection is currently a stop-controlled T-intersection but will be converted to a four-legged signalized intersection by the 2034 horizon year, per the recommendations of the Boyne RNA Study. Under these conditions, the intersection has been optimized with a cycle length of 90 seconds at each peak hour as summarized in **Appendix L**. Capacity analysis results at the intersection are summarized in **Table 35**.

Under existing conditions, the intersection operates with minimal delays under stop-controlled conditions. Following signalization under 2034 future background conditions, the intersection will function under acceptable conditions, with overall v/c ratios of 0.79, 0.62 and 0.44 during the morning, afternoon and school peak hours, respectively. Following the addition of Site traffic, the intersection will continue to operate under similar conditions, with minimal Site traffic impacts. It is noted that the eastbound left-turn movement will operate with a v/c ratio of 0.85 and 0.91 during the future background and future total conditions, respectively.

Considering the overall serviceability of the intersection, no mitigation measures are required or recommended beyond the intersection optimization that has been applied as summarized in **Appendix L**.

TABLE 35 LOUIS ST. LAURENT AVENUE / TRUDEAU DRIVE – CAPACITY ANALYSIS RESULTS

Movement	Existing		Future Background (2034)		Future Total (2034)	
	V/C	Delay	V/C	LOS	V/C	LOS
EBL	A (A) [A]	8.3 (9.8) [8.8]	0.62 (0.67) [**0.85**]	C (B) [D]	0.65 (0.71) **[0.91]**	C (B) [E]
EBT(R)	A (A) [A]	0.0 (0.0) [0.0]	0.73 (0.31) [0.44]	C (A) [B]	0.79 (0.33) [0.46]	C (A) [B]
WBL	- (-) [-]	- (-) [-]	0.76 (0.82) [0.76]	C (C) [D]	0.78 (0.84) [0.80]	D (C) [D]
WBT(R)	A (A) [A]	0.0 (0.0) [0.0]	0.15 (0.53) [0.46]	A (B) [C]	0.16 (0.55) [0.48]	A (B) [C]
NBL	- (-) [-]	- (-) [-]	0.52 (0.30) [0.14]	C (C) [B]	0.52 (0.32) [0.14]	C (C) [B]
NBTR	- (-) [-]	- (-) [-]	0.36 (0.22) [0.10]	C (C) [A]	0.36 (0.23) [0.10]	C (C) [A]
SBL	C (C) [C]	22.4 (24.3) [17.9]	0.31 (0.06) [0.03]	C (B) [A]	0.31 (0.07) [0.03]	C (C) [A]
SBT(R)	B (B) [B]	10.6 (11.8) [10.8]	0.82 (0.29) [0.17]	D (C) [B]	0.82 (0.31) [0.17]	D (C) [B]
Overall	**- (-) [-]**	**- (-) [-]**	**0.79 (0.62) [0.44]**	**C (B) [C]**	**0.80 (0.66) [0.47]**	**C (B) [C]**

Notes:
1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [School Peak Hour].
2. Movements functioning with a v/c ratio over 0.85 are highlighted in **bold** text.

9.4.5 Louis St. Laurent Avenue / James Snow Parkway

The Louis St. Laurent Avenue / James Snow Parkway intersection currently operates as a signalized intersection with a cycle length of 89 seconds during each peak hour. Capacity analysis results at the intersection are summarized in **Table 36.**

Under existing traffic conditions, the intersection operates under capacity with an overall v/c ratio of 0.36, 0.56 and 0.29 during the morning, afternoon and school peak hours, respectively. Under future scenarios, per the Boyne RNA Study, and the recommendations of the Region, James Snow Parkway will be widened to a six-lane cross section by the 2034 horizon year, as illustrated in **Figure 5**. In addition, the intersection has been optimized with a cycle length of 90 seconds during each peak hour as summarized in **Appendix L**.

Under future background conditions, the intersection will function under acceptable operating condition with and overall v/c of 0.45, 0.80 and 0.38 during the morning, afternoon and school peak hours, respectively. It is noted that the southbound right-turn movement will operate with an overall v/c ratio of 0.92 during the afternoon peak hour. Following the addition of Site traffic, the intersection will continue to function under acceptable operating condition with and overall v/c of 0.48, 0.89 and 0.40 during the morning, afternoon and school peak hours, respectively.

It is noted that the eastbound left-turn and southbound right-turn movement will operate with an overall v/c ratio of 0.91 and 0.98, respectively, during the afternoon peak hour.

Considering the overall serviceability of the intersection, no mitigation measures are required or recommended beyond the aforementioned widening and traffic signal optimization that has been applied as summarized in **Appendix L**.

TABLE 36 LOUIS ST. LAURENT AVENUE / JAMES SNOW PARKWAY – CAPACITY ANALYSIS RESULTS

Movement	Existing		Future Background (2034)		Future Total (2034)	
	V/C	LOS	V/C	LOS	V/C	LOS
EBL	0.38 (0.28) [0.26]	B (B) [B]	0.75 (0.78) [0.44]	D (D) [B]	0.80 **(0.91)** [0.47]	D (E) [B]
EBTR	0.16 (0.08) [0.07]	B (B) [B]	0.59 (0.37) [0.20]	D (C) [A]	0.64 (0.41) [0.21]	D (C) [A]
WBL	-- (--) [--]	-- (--) [--]	0.58 (0.52) [0.20]	D (C) [B]	0.68 (0.56) [0.21]	D (C) [B]
WBTR	0.02 (0.07) [0.04]	B (B) [B]	0.19 (0.34) [0.15]	C (C) [B]	0.21 (0.38) [0.17]	C (C) [B]
NBL	0.16 (0.83) [0.32]	B (D) [C]	0.12 (0.43) [0.30]	B (B) [C]	0.12 (0.43) [0.30]	B (B) [C]
NBTR	0.12 (0.17) [0.11]	B (B) [B]	0.21 (0.15) [0.15]	C (B) [B]	0.21 (0.15) [0.15]	C (B) [B]
SBL	0.08 (0.03) [0.03]	B (B) [B]	0.08 (0.03) [0.03]	B (B) [B]	0.08 (0.03) [0.03]	B (B) [B]
SBTR	0.34 (0.28) [0.15]	C (B) [B]	-- (--) [--]	-- (--) [--]	-- (--) [--]	-- (--) [--]
SBT	-- (--) [--]	-- (--) [--]	0.25 (0.16) [0.14]	C (B) [B]	0.25 (0.15) [0.14]	C (B) [B]
SBR	-- (--) [--]	-- (--) [--]	0.20 **(0.92)** [0.26]	B (D) [C]	0.20 **(0.98)** [0.27]	B (E) [C]
Overall	**0.36 (0.56) [0.29]**	**B (B) [B]**	**0.45 (0.80) [0.38]**	**C (C) [B]**	**0.48 (0.89) [0.40]**	**C (C) [B]**

Notes:
1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [School Peak Hour].
2. Movements functioning with a v/c ratio over 0.85 are highlighted in **bold** text.

9.5 UNSIGNALIZED INTERSECTION ANALYSIS

Capacity analysis results for study area unsignalized intersections are summarized in **Table 38**. All movements at each unsignalized intersection will function with an LOS grade of C or better during each peak hour. A minor exception occurs at the shared eastbound left-right turn movement at the main Site access onto Ferguson Drive (presumed to be Street 'C') during the morning peak hour. However, it is noted that this

assessment is overly conservative, since it assumes only a single means of accessing the Site. Upon full build-out of the Site and the surrounding residential neighborhoods to the south and west (considered in the October 2022 TY Lin Study), additional routes to/from Ferguson Drive are expected to become available via internal residential road connections. It is therefore likely that future residents, visitors, and retail patrons of the Site would seek out alternative routing options if the Ferguson Drive / Street 'C' intersection is experiencing extended delays.

TABLE 37 UNSIGNALIZED INTERSECTIONS – CAPACITY ANALYSIS RESULTS

Movement	Existing		Future Background (2034)		Future Total (2034)	
	LOS	Delay	LOS	Delay	LOS	Delay
Louis St. Laurent / Fourth Line[2]						
NBR	-- (--) [--]	-- (--) [--]	C (B) [B]	15.8 (10.6) [13.1]	C (B) [B]	18.0 (10.9) [13.8]
SBR	-- (--) [--]	-- (--) [--]	B (B) [B]	14.6 (10.4) [13.1]	B (B) [B]	14.9 (10.5) [13.0]
Louis St. Laurent Avenue / Freeman Trail						
SBR	B (B) [B]	12.3 (11.8) [13.1]	B (B) [B]	12.6 (13.6) [14.0]	B (B) [B]	12.9 (13.9) [14.1]
Louis St. Laurent Avenue / Trudeau Drive						
SBL	C (C) [C]	22.4 (24.3) [17.9]	-- (--) [--]	-- (--) [--]	-- (--) [--]	-- (--) [--]
SBR	B (B) [B]	10.6 (11.8) [10.8]	-- (--) [--]	-- (--) [--]	-- (--) [--]	-- (--) [--]
Louis St. Laurent Avenue / Metro Access						
SBR	B (B) [B]	11.7 (13.4) [12.8]	B (C) [B]	12.0 (15.1) [13.5]	B (C) [B]	12.2 (15.4) [13.7]
Ferguson Drive / Site Access						
EBLR	-- (--) [--]	-- (--) [--]	-- (--) [--]	-- (--) [--]	F (C) [C]	105.1 (22.7) [21.1]
NBTL	-- (--) [--]	-- (--) [--]	-- (--) [--]	-- (--) [--]	A (A) [A]	0.2 (0.8) [0.3]

Notes:
1. XX (XX) [XX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [School Peak Hour].
2. As summarized in Table 34.

9.6 ROUNDABOUT INTERSECTION ANALYSIS

A capacity analysis of the Louis St. Laurent / Kennedy Circle roundabout intersection is summarized in **Table 38**. Each approach of the roundabout intersection will function with good LOS grades and minimal delays under each analysis scenario. No adjustments or improvements are recommended.

TABLE 38 LOUIS ST. LAURENT AVENUE / KENNEDY CIRCLE – CAPACITY ANALYSIS RESULTS

Movement	Existing		Future Background (2034)		Future Total (2034)	
	LOS	Delay	LOS	Delay	LOS	Delay
SB Group	B (A) [A]	11.3 (9.6) [9.4]	C (B) [B]	31.2 (12.3) [11.0]	C (B) [B]	32.8 (12.8) [11.2]
EB Group	A (A) [A]	4.5 (4.9) [4.8]	A (A) [A]	5.9 (6.4) [5.6]	A (A) [A]	6.1 (6.9) [5.6]
NB Group	B (B) [B]	10.2 (11.3) [11.4]	B (C) [B]	15.4 (25.9) [16.0]	B (C) [B]	16.5 (32.0) [16.9]
WB Group	A (A) [A]	4.8 (4.9) [4.8]	A (A) [A]	5.8 (5.7) [5.3]	A (A) [A]	5.8 (5.8) [5.4]

Notes:
2. XX (XX) [XX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [School Peak Hour].

9.7 TRAFFIC ANALYSIS SUMMARY

A summary of the comprehensive traffic analysis at key study area signalized intersections is provided below.

Louis St. Laurent Avenue / Thompson Road South
At the Site's buildout (2034 future total conditions) the intersection will continue to operate under capacity, with overall v/c ratios of 0.61, 0.65 and 0.55 during the morning, afternoon, and school peak hours, respectively. Traffic operations would benefit from ongoing monitored as the surrounding area develops and as travel demand evolves into the future. No mitigation measures, or improvements, with the exception of traffic signal timing optimization, are recommended at the intersection.

Louis St. Laurent Avenue / Ferguson Drive
At the Site's buildout (2034 future total conditions), the intersection will continue to operate under capacity, with overall v/c ratios of 0.92, 0.58 and 0.61 during the morning, afternoon, and school peak hours, respectively. By the 2034 horizon, it is recommended to optimize traffic signal timings with a cycle length of 90 seconds for future operations. It is noted that the eastbound through-right-turn movement will function with a v/c ratio exceeding 0.85 during the morning peak hour under future conditions.

Louis St. Laurent Avenue / Fourth Line
At the Site's buildout (2034 future total conditions), the intersection is expected to be converted to a stop-controlled right-in/right-out intersection. Under these conditions, the intersection will function acceptably with minimal delays. No additional improvements are recommended.

Louis St. Laurent Avenue / Trudeau Drive
At the Site's buildout (2034 future total conditions), the intersection is expected to be converted to a four-legged signalized intersection, and it is recommended for traffic signal timings to be optimized with a cycle length of 90 seconds for future operations. Under these conditions, the intersection is anticipated to function under acceptable conditions, with overall v/c ratios of 0.80, 0.66 and 0.47 during the morning, afternoon, and school peak hours, respectively. It is noted that the eastbound left-turn movement will function with a v/c ratio exceeding 0.85 during the school peak hour under future conditions.

Louis St. Laurent Avenue / James Snow Parkway
At the Site's buildout (2034 future total conditions), the intersection will continue to operate under capacity, with overall v/c of 0.48, 0.89 and 0.40 during the morning, afternoon, and school peak hours, respectively. By the 2034 horizon, the intersection is scheduled to be widened to a six-lane cross-section, and it is recommended to optimize traffic signal timings with a cycle length of 90 seconds under future conditions. Traffic operations would benefit from ongoing monitored as the surrounding area develops and as travel demands evolve into the future. It is noted that the eastbound left-turn and southbound right-turn movements will function with v/c ratios exceeding 0.85 during the afternoon peak hour under future conditions.

Louis St. Laurent Avenue / Kennedy Circle
At the Site's buildout (2034 future total conditions), the roundabout intersection will function under acceptable conditions, with minimal delays at each approach.

Based on the comprehensive traffic analysis, the proposed development can be accommodated on the future transportation network with minor traffic signal timing modifications and without addition physical mitigative strategies beyond scheduled improvements.

10.0 QUEUING ANALYSIS

For study area signalized intersections, Synchro analyses provide results for two operational measures related to queuing, and define those measures as follows:

1) Average (or 50th) percentile queue is defined as the maximum queue length during a typical cycle and has a 50% probability of being observed across the total number of cycles in the hour; and,
2) The 95th percentile queue is defined as having a 5% probability of being observed over the total number of cycles in the hour.

For the Site access intersection (an unsignalized intersection), only 95th percentile queueing results are reported.

The following sections summarize the queuing analysis results for key storage capacities within the study area.

10.1 SIGNALIZED INTERSECTION QUEUING ANALYSIS

10.1.1 Louis St. Laurent Avenue / Thompson Road South

Existing storage capacities and queuing analysis results for key movements at the Louis St. Laurent Avenue / Thompson Road South intersection are summarized in **Table 39**.

All forecast queues may be accommodated within existing storage capacities. Site-related impacts (i.e. the difference in queue lengths between future background and future total conditions) are minimal at all turning movements.

TABLE 39 LOUIS ST. LAURENT AVENUE / THOMPSON ROAD – QUEUING ANALYSIS RESULTS

Movement (Available Storage Length)	Existing		Future Background (2034)		Future Total (2034)	
	50th%	95th%	50th%	95th%	50th%	95th%
EBL (70m)	18.6 (24.5) [19.9]	28.1 (40.1) [33.3]	15.3 (21.5) [19.1]	25.0 (50.4) [32.0]	15.3 (20.9) [19.1]	25.0 (53.6) [32.0]
WBL (70m)	19.3 (17.5) [11.7]	28.9 (30.2) [21.4]	15.9 (15.5) [11.2]	25.7 (25.8) [20.8]	15.8 (15.0) [11.2]	26.1 (25.8) [20.8]
NBL (70m)	12.3 (14.0) [10.4]	20.2 (25.4) [20.3]	11.3 (15.0) [10.5]	23.1 (28.1) [20.4]	11.4 (15.4) [10.5]	23.1 (28.1) [20.4]
SBL (100m)	21.9 (12.8) [12.1]	32.4 (23.5) [22.7]	19.4 (16.9) [14.7]	35.8 (30.7) [26.5]	19.5 (17.9) [14.7]	35.8 (31.7) [26.5]

Notes:
1. XX (XX) [XX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [School Peak].
2. All values shown above are in metres (m).
3. **Bolded** text identifies movements where queue length exceeds available storage capacity.

10.1.2 Louis St. Laurent Avenue / Ferguson Drive

Existing storage capacities and queuing analysis results for key movements at the Louis St. Laurent Avenue / Ferguson Drive intersection are summarized in **Table 40.**

Most of the typical (50th percentile) queues presenting at the intersection may be contained within existing storage capacities. Although Site traffic impacts on queueing activity is minimal, the following movements are projected to develop queues exceeding available storage capacities under certain circumstances:

- 95th percentile queues at the westbound left-turn movement during the morning peak hour under future conditions;
- 95th percentile queues at the northbound left-turn movement during the morning and school peak hours under existing conditions; and,
- Average (50th percentile) and 95th percentile queues at the northbound left-turn movement during the morning and school peak hours under future conditions;

It is noted that in the case of the northbound left-turn movement, average queues may exceed the available storage length by a single car length, and will likely clear with each signal cycle, while 95th percentile queues may extend to the existing location of the Craig Kielburger Secondary School driveway. With respect to the westbound left-turn, 95th percentile queues may extend past the existing storage length by up to three car lengths during the morning peak hour. The intersection should therefore be monitored in the future to determine if physical improvements are necessary.

TABLE 40 LOUIS ST. LAURENT AVENUE / FERGUSON DRIVE – QUEUING ANALYSIS RESULTS

Movement (Available Storage Length)	Existing		Future Background (2034)		Future Total (2034)	
	50th%	95th%	50th%	95th%	50th%	95th%
EBL (65m)	6.8 (9.0) [11.5]	12.3 (22.5) [23.5]	5.2 (6.8) [10.3]	11.4 (13.8) [24.5]	5.3 (6.8) [10.5]	11.4 (13.8) [24.5]
WBL (48m)	11.4 (0.9) [4.3]	19.1 (3.9) [9.5]	27.6 (8.2) [4.2]	**63.0** (16.4) [14.2]	28.0 (14.1) [5.0]	**63.0** (26.8) [19.2]
NBL (30m)	24.3 (4.4) [29.1]	**40.8** (10.7) [**46.5**]	**33.7** (13.5) [**34.2**]	**72.8** (26.5) [**57.9**]	**44.3** (18.6) [**39.2**]	**93.9** (**34.5**) [**65.9**]
SBL (35m)	10.8 (3.0) [3.1]	19.7 (8.3) [8.1]	8.9 (4.3) [3.0]	20.0 (11.0) [8.4]	9.1 (4.3) [3.0]	22.3 (11.2) [8.4]

Notes:
1. XX (XX) [XX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [School Peak].
2. All values shown above are in metres (m).
3. **Bolded** text identifies movements where queue length exceeds available storage capacity.

10.1.3 Louis St. Laurent Avenue / Fourth Line

Existing storage capacities and queuing analysis results for key movements at the Louis St. Laurent Avenue / Fourth Line intersection are summarized in **Table 41.**

All forecast queues may be accommodated within existing storage capacities while the intersection remains a signalized intersection.

TABLE 41 LOUIS ST. LAURENT AVENUE / FOURTH LINE - QUEUING ANALYSIS RESULTS

Movement (Available Storage Length)	Existing		Future Background (2034)		Future Total (2034)	
	50th%	95th%	50th%	95th%	50th%	95th%
EBL (65m)	14.9 (3.6) [7.1]	22.3 (10.7) [16.8]	-- (--) [--]	-- (--) [--]	-- (--) [--]	-- (--) [--]
WBL (48m)	12.1 (4.4) [2.2]	21.6 (11.3) [6.9]	-- (--) [--]	-- (--) [--]	-- (--) [--]	-- (--) [--]

Notes:
1. XX (XX) [XX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [School Peak].
2. All values shown above are in metres (m).
3. **Bolded** text identifies movements where queue length exceeds available storage capacity.

10.1.4 Louis St. Laurent Avenue / Trudeau Drive

Existing storage capacities and queuing analysis results for key movements at the Louis St. Laurent Avenue / Trudeau Drive intersection are summarized in **Table 42.**

The Louis St. Laurent Avenue / Trudeau Drive intersection is scheduled to be converted to a signalized intersection by the 2034 horizon year, as per the Boyne RNA Study.

Although Site traffic impacts on queueing activity is minimal, 95th percentile queues at the northbound left-turn movement during the afternoon peak hour; and 95th percentile queues at the future westbound left-turn movement during the morning and afternoon peak hours, are anticipated to exceed the assumed lane storage length of 50 metres. It is therefore recommended that the storage lengths at these future movements should be appropriately sized to accommodate future queueing activity.

TABLE 42 LOUIS ST. LAURENT AVENUE / TRUDEAU DRIVE – QUEUING ANALYSIS RESULTS

Movement (Available Storage Length)	Existing		Future Background (2034)		Future Total (2034)	
	50th%	95th%	50th%	95th%	50th%	95th%
EBL (84m)	-- (--) [--]	-- (--) [--]	49.7 (6.0) [16.2]	67.4 (14.4) [18.1]	50.6 (4.5) [16.8]	65.8 (19.8) [51.7]
WBL (50m)[4]	-- (--) [--]	-- (--) [--]	30.3 (45.8) [28.7]	**60.5** (**53.6**) [33.7]	31.2 (43.9) [28.1]	**63.6** (**54.2**) [34.0]
NBL (30m)[4]	-- (--) [--]	-- (--) [--]	11.9 (14.9) [7.1]	23.2 (**32.7**) [21.9]	11.9 (15.9) [7.4]	23.2 (**32.9**) [22.7]
SBL (30m)[4]	-- (--) [--]	-- (--) [--]	11.3 (3.2) [1.5]	24.0 (10.2) [7.0]	11.3 (3.4) [1.5]	24.0 (10.2) [7.2]

Notes:
1. XX (XX) [XX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [School Peak].
2. All values shown above are in metres (m)
3. **Bolded** text identifies movements where queue length exceeds available storage capacity.
4. Assumed for analysis purpose.

10.1.5 Louis St. Laurent Avenue / James Snow Parkway

Existing storage capacities and queuing analysis results for key movements at the Louis St. Laurent Avenue / James Snow Parkway intersection are summarized in **Table 43**. All forecast queues may be accommodated within existing storage capacities. Site-related impacts (i.e. the difference in queue lengths between future background and future total conditions) are minimal at all turning movements.

TABLE 43 LOUIS ST. LAURENT AVENUE / JAMES SNOW PARKWAY – QUEUING ANALYSIS RESULTS

Movement (Available Storage Length)	Existing		Future Background (2034)		Future Total (2034)	
	50th%	95th%	50th%	95th%	50th%	95th%
EBL (200m)	27.1 (15.9) [16.4]	45.4 (38.3) [29.4]	69.7 (42.2) [41.5]	101.3 (77.2) [61.1]	72.6 (45.4) [43.5]	104.0 (88.9) [66.4]
WBL (50m)	-- (--) [--]	-- (--) [--]	15.4 (21.2) [9.8]	36.7 (40.4) [19.7]	15.6 (21.1) [9.9]	40.8 (41.7) [19.8]
NBL (95m)	5.2 (36.7) [14.1]	13.2 (57.2) [28.4]	4.4 (22.5) [15.6]	10.3 (37.4) [30.1]	4.5 (23.2) [15.6]	10.3 (37.4) [30.1]
SBL (165m)	3.8 (1.1) [1.3]	10.2 (3.1) [4.8]	3.1 (1.1) [1.2]	7.9 (4.5) [4.7]	3.1 (1.1) [1.2]	7.9 (4.5) [4.7]
SBR (+200m)	-- (--) [--]	-- (--) [--]	0.0 (87.5) [0.0]	12.6 (169.1) [19.0]	0.0 (105.9) [0.0]	12.8 (190.8) [19.3]

Notes:
1. XX (XX) [XX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [School Peak].
2. All values shown above are in metres (m)
3. **Bolded** text identifies movements where queue length exceeds available storage capacity.

10.2 UNSIGNALIZED INTERSECTION ANALYSIS

Forecast queue lengths at study area unsignalized intersections are summarized in **Table 44**. Under all future conditions, it is anticipated that queues can be reasonably accommodated.

TABLE 44 UNSIGNALIZED INTERSECTION – 95TH PERCENTILE QUEUING ANALYSIS RESULTS

Movement	Existing	Future Background (2034)	Future Total (2034)
	95th Percentile	95th Percentile	95th Percentile
Louis St. Laurent / Fourth Line			
NBR	-- (--) [--]	22.1 (7.0) [7.7]	26.1 (7.4) [8.4]
SBR	-- (--) [--]	7.8 (3.4) [4.5]	8.1 (3.6) [4.5]
Louis St. Laurent Avenue / Freeman Trail			
SBR	2.5 (0.5) [0.9]	2.0 (0.6) [0.9]	2.1 (0.6) [0.9]
Louis St. Laurent Avenue / Trudeau Drive			
EBL	3.0 (2.2) [2.2]	-- (--) [--]	-- (--) [--]
SBL	4.2 (2.0) [1.5]	-- (--) [--]	-- (--) [--]
SBR	7.6 (2.8) [3.0]	-- (--) [--]	-- (--) [--]
Louis St. Laurent Avenue / Metro Access			
SBR	1.4 (6.1) [3.9]	1.2 (6.6) [3.9]	1.2 (6.7) [4.0]
Ferguson Drive / Site Access			
EBLR	-- (--) [--]	-- (--) [--]	61.6 (13.4) [8.5]
NBTL	-- (--) [--]	-- (--) [--]	0.1 (0.6) [0.3]

Notes:
1. XX (XX) [XX] – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour) [School Peak].
2. All values shown above are in metres (m)
3. **Bolded** text identifies movements where queue length exceeds available storage capacity.

10.3 QUEUING ANALYSIS SUMMARY

A summary of the queuing analysis is provided as follows:

Louis St. Laurent Avenue / Thompson Road
All queues will be contained within existing storage lengths. Site-related impacts (i.e. the difference in queue lengths between future background and future total conditions) are minimal at all turning movements.

Louis St. Laurent Avenue / Ferguson Drive
Most of the typical (50th percentile) queues at the intersection are contained within the provided storage capacities. Although Site traffic impacts to queues are minimal, 95th percentile queues at the westbound left-turn movement during the morning peak hour; and average and 95th percentile queues at the future northbound left-turn movement during the morning and school peak hours are anticipated to exceed available lane storage capacities. The intersection should therefore be monitored in the future to determine if physical improvements are necessary.

Louis St. Laurent Avenue / Fourth Line
All queues will be contained under existing storage capacities while the intersection remains a signalized intersection.

Louis St. Laurent Avenue / Trudeau Drive
The Louis St. Laurent Avenue / Trudeau Drive intersection is scheduled to be converted to a signalized intersection by the 2034 horizon year per the Boyne RNA Study. Although Site traffic impacts to queues are minimal, 95th percentile queues at the northbound left-turn movement during the afternoon peak hour; and both average and 95th percentile queues at the future westbound left-turn movement during the morning and afternoon peak hours are anticipated to exceed assumed lane storage capacities. It is therefore recommended that the storage lengths at these future movements be appropriately sized to accommodate expected queueing activity.

Louis St. Laurent Avenue / James Snow Parkway
All queues will be contained within existing storage lengths. Site-related impacts (i.e. the difference in queue lengths between future background and future total conditions) are minimal at all turning movements.

Based on the comprehensive queueing analysis, the proposed development can be accommodated on the future transportation network.

11.0 SAFETY REVIEW

In order to identify any potential safety or operational issues related to the development of the Site, a safety review was undertaken, a summary of which is provided in **Table 45**.

TABLE 45 SUMMARY OF SAFETY REVIEW

Item	Notes
Weaving and Merging	There are no merging or weaving concerns expected as a result of the development of the Site. Site traffic will be entering Ferguson Drive from a stop-controlled driveway in a relatively low-speed environment (posted speed limit is 50 km/h **but a school zone flasher was recently installed with a 40 km/h speed limit when flashing**).
Transit conflicts	No conflicts with transit operations are expected along Louis St. Laurent Avenue.
Collision history	The collision history for any study area intersection or road segment will be reviewed if requested by the Town or Region.
Corner clearances	The proposed access for the Site along Ferguson Drive is more than 260 metres from the intersection at Louis St. Laurent Avenue. This distance is expected to provide adequate storage space for queueing related to both the Site and school traffic. The distance between the Sainte-Anne Catholic Elementary School driveway on the west side of Ferguson Drive is more than 175 metres from the Site driveway. The distance between the southern Craig Kielburger Secondary School driveway (east side of Ferguson Drive) and the Site driveway is 100 metres. This spacing will reduce potential conflicts between Site traffic and school traffic.
Sight distance	A sightline review was not undertaken at the proposed Site T-intersection with Ferguson Avenue due to the limited horizontal and vertical curvature.
Vehicle-pedestrian conflicts	Future sidewalks along Ferguson Drive are expected to improve the level of pedestrian safety and reduce vehicle-pedestrian conflicts. The area should be monitored in the future in the event that a pedestrian crossover along Ferguson Drive is required.
School crossings	None in vicinity of the Site but the signalized **intersection of Louis St.Laurent and Ferguson has been recently upgraded to include ladder type crosswalk markings on all 4 legs. A school zone flasher was recently installed on Ferguson with a 40 km/h speed limit when flashing.**
Access conflicts	The proposed Site access onto Ferguson Drive is more than 260 metres from the intersection with Louis St. Laurent Avenue. This distance is expected to provide adequate storage space for queueing related to both the Site and school traffic. The distance between the Sainte-Anne Catholic Elementary School driveway on the west side of Ferguson Drive is more than 175 metres from the Site driveway. The distance between the southern Craig Kielburger Secondary School driveway (east side of Ferguson Drive) and the Site driveway is 100 metres. This spacing will reduce potential conflicts between Site traffic and school traffic.
Cyclist movements	There is an existing MUP and on-street cycling lanes along Louis St. Laurent Avenue. There are no concerns regarding cyclist movements at this time in relation to the development of the Site. It is recommended however that cyclist traffic be monitored in the event that additional signage is required to enhance the level of safety in the area.
Heavy truck conflicts	The number of heavy trucks related to the development of the Site is expected to be negligible and related to garbage trucks, moving trucks and delivery vehicles. There are no concerns regarding potential heavy vehicle conflicts.
Vehicle maneuvering diagrams	Vehicle maneuvering diagrams for representative passenger and refuse collection vehicles are provided in **Appendix E** of this Study
Queuing	A comprehensive queuing assessment is provided in **Section 10.0** of this Study.

12.0 CONCLUSIONS AND RECOMMENDATIONS

BA Group was retained by Mattamy Corporation to provide transportation consulting services related to the proposed residential development on the south side of Louis St. Laurent Avenue, along the west side of Sainte-Anne Catholic Elementary School, in the Town of Milton ("the Town"), in the Region of Halton ("the Region").

Key findings of this transportation study are summarized as follows:

Development Proposal

1. The development proposal includes a total of 598 residential units, inclusive of 3 mid-rise buildings with 520 condominium units and 78 townhouse units, in addition to 450 m^2 GFA of retail.

2. It is estimated at this time that the development of the Site will be completed by **2029**. Parking on the Site is to be provided both at-grade and within a below-grade structure. Access and site circulation is proposed via internal driveways and a new east-west driveway that connects to Ferguson Drive, with the potential for a future driveway connection to the south when a future residential area is developed.

Background Context

3. The Site is well served by municipal, regional and provincial roadways including James Snow Parkway, which connects to Highway 407 and Highway 401. Louis St. Laurent Avenue, Fourth Line, and Thompson Road South are two minor arterial roadways operating adjacent to or within the Site vicinity.

4. Several roadway improvements are planned in the vicinity of the Site, including the widening of James Snow Parkway to a six-lane cross-section, the extension of Louis St. Laurent Avenue, the transition of the Louis St. Laurent / Trudeau Drive intersection into a four-legged signalized intersection and the change of the Louis St. Laurent / Fourth Line intersection into a stop-controlled, right-in/right-out (RIRO) intersection.

5. The Site is currently served by surface bus routes operated by Milton Transit, which provide local connections to higher-order GO Transit services at the Milton GO Station. In the future, new Milton Transit services are proposed to operate with stops in the vicinity of the Site. These routes will connect to a proposed transfer point at Kennedy Circle and to the Milton GO Station, providing a transit connection to Downtown Toronto and other transit services, including VIA Rail and GO Transit.

6. The development proposal includes walkways throughout the Site that will connect to a future sidewalk on the west side of Ferguson Drive, as well as to the existing sidewalks and multi-use pathway along Louis St. Laurent Avenue. The pedestrian linkages to Louis St. Laurent Avenue will provide connectivity to an existing walking trail along the Natural Heritage System (NHS) as well as to the adjacent neighborhood. The walkways throughout the Site with connectivity to sidewalks on Louis St. Laurent Avenue will also provide connectivity to transit stops in order to encourage transit trips to/from the Site.

Vehicle Parking Considerations

7. It is acknowledged that parking standards outlined in Zoning By-law 016-2014 (HUSP Urban Area – March 2023) could be considered to overstate the parking needs of a residential development based on the evolving transportation context, parking demand studies, and the implementation of a comprehensive Transportation Demand Management Plan for the Site.

8. Application of Zoning By-law 016-2014 (HUSP Urban Area – March 2023) to the Site results in a total minimum parking requirement for the site of 1,086 spaces, inclusive of 936 resident spaces and 150 non-resident spaces.

9. A total parking supply of 800 parking spaces is proposed for the Site, inclusive of 677 resident spaces and 123 non-resident spaces. The development proposes a provision of a minimum resident parking rate of 1.0 spaces per unit, with non-resident shared parking proposed to be provided at a minimum rate of 0.20 spaces per unit.

10. The proposed parking supply is appropriate for the Site based upon the evolving transportation context, observed parking demands at representative proxy residential sites, and proposed TDM measures.

Bicycle Parking Considerations

11. Application of Zoning By-law 016-2014 (HUSP Urban Area – March 2023) to the Site requires a total minimum of 287 bicycle parking spaces, inclusive of 27 short-term spaces and 260 long-term spaces. Building A and B requires a total minimum of 218 spaces and Building C requires 69 bicycle parking spaces.

12. A total supply of 320 bicycle parking spaces is proposed for the Site, inclusive of 60 short-term and 260 long-term spaces. The proposed bicycle parking supply is as follows:
    - Building A and B: 240 bicycle parking spaces (42 short-term and 198 long-term)
    - Building C: 80 bicycle parking spaces (18 short-term and 62 long-term)

13. The proposed bicycle parking supply exceeds the Zoning By-law minimum requirements and will meet the bicycle parking needs of the Site.

Loading Considerations

14. Zoning By-law 016-2014 (HUSP Urban Area – March 2023) does not currently regulate the provision of loading spaces for residential uses. However, the By-law does require a minimum of one loading area for the retail (commercial) component of the Site
    - Buildings A and B: 1 loading area each with dimensions of 9.0 m (length) x 3.5 m (width); and,
    - Building C: 1 loading space with dimensions of 15.0 m (length) x 6.7 m (width), plus 1 loading area with dimensions of 8.0 m (length) x 4.0 m (width)

15. Vehicle maneuvering diagrams confirm the functionality of the proposed Site loading facilities and access arrangements to accommodate the maneuvering needs of the representative design vehicles anticipated to service the Site.

Transportation Demand Management

16. The proposed Transportation Demand Management (TDM) Plan aims to reduce automobile use through an on-going strategy that supports and promotes the use of non-auto transportation modes. Proposed TDM measures for the Site include pedestrian facilities with a focus on connectivity, bicycle parking/ bicycle repair stations, an appropriate vehicle parking supply, resident traveller information and unbundled parking.

Traffic Volumes and Operations

17. Traffic volume surveys were collected in 2024 to establish existing peak hour traffic volumes in the study area. It is noted that in addition to one-hour peak periods in the morning and afternoon, an additional analysis period (2:30 p.m. to 3:30 p.m.) has been assessed to correspond with the dismissal period of the nearby schools located within the study area.

18. Based on correspondence with Region of Halton and Town of Milton staff, corridor growth rates were adopted for the 2034 horizon year as follows: 2% for all movements except eastbound and westbound through movements on James Snow Parkway; 2.45% for eastbound and westbound through movements on Louis St. Laurent Avenue; and 2% for all movements on Thompson Road and Ferguson Drive.

19. Allowances have been made for future traffic conditions to account for new traffic generated by other development proposals within the Boyne Secondary Plan. A total of 4 background developments which include a total of 3,190 residential units, 20,850 ft^2 retail GFA, 880 students, 17,000 to18,000 employees, were considered within background traffic allowances.

20. Appropriate allowances have been made to forecast background growth during the school peak based on all-day trips by land use provided in the ITE Trip Generation Manual (11^{th} Edition).

21. The proposed development is forecast to generate in the order of 225, 245 and 125 new two-way vehicle trips during the weekday morning, afternoon, and school peak hours.

Traffic Operations Review

22. Capacity analysis results indicate that all public street intersections will operate in a suitable manner with the addition of Site-related traffic, with satisfactory levels of service and volume-to-capacity ratios:

    a. **Louis St. Laurent Avenue / Thompson Road**
    At the Site's buildout, the intersection will continue to operate under capacity at overall v/c of 0.61, 0.65, and 0.55 during the morning, afternoon, and school peak hours, respectively. Traffic operations would benefit from ongoing monitored as the surrounding area develops and as travel demand evolves into the future. No mitigation measures, or improvements, with the exception of traffic signal timing optimization, are recommended at the intersection.

b. St. Laurent Avenue / Ferguson Drive

At the Site's buildout, the intersection will continue to operate under capacity at overall v/c of 0.92, 0.58, and 0.61 during the morning, afternoon, and school peak hours, respectively. By the 2034 horizon, it is recommended to optimize traffic signal timings with a cycle length of 90 seconds for future operations. It is also recommended to optimize the traffic signal at a cycle length of 90 seconds under future conditions.

c. Louis St. Laurent Avenue / Fourth Line

At the Site's buildout, the intersection will have been converted to a stop-controlled right-in/right-out intersection. Under these conditions, the intersection will function acceptably with minimal delays. No additional improvements are recommended.

d. Louis St. Laurent Avenue / Trudeau Drive

At the Site's buildout, the intersection will have been converted to a four-legged signalized intersection and is recommended to be optimized at a cycle length of 90 seconds under future conditions. The intersection is anticipated to function under acceptable conditions, with overall v/c ratios of 0.80, 0.66, and 0.47 during the morning, afternoon, and school peak hours, respectively. It is noted that the eastbound left-turn movement will function with a v/c ratio exceeding 0.85 during the school peak hour under future conditions.

e. Louis St. Laurent Avenue / James Snow Parkway

At the Site's buildout, the intersection will continue to operate under capacity at overall v/c of 0.48, 0.89, and 0.40 during the morning, afternoon, and school peak hours, respectively. By the 2034 horizon, the intersection is scheduled to be widened to a six-lane cross-section, and it is recommended to optimize the traffic signal at a cycle length of 90 seconds under future conditions. Traffic operations would benefit from ongoing monitored as the surrounding area develops and as travel demand evolves into the future.

f. Louis St. Laurent Avenue / Kennedy Circle

At the Site's buildout, the roundabout intersection will function under acceptable conditions with minimal delays at each approach.

23. Queuing analysis results indicate that all study area intersections will generally accommodate future queues within available storage capacities. Details are provided as follows:

g. Louis St. Laurent Avenue / Thompson Road

All queues will be contained within existing storage lengths. Site-related impacts are minimal at all turning movements.

h. Louis St. Laurent Avenue / Ferguson Drive

Most of the typical (50th percentile) queues at the intersection are contained within the provided storage lengths. Although Site traffic impacts to queues are minimal, 95th percentile queues at the westbound left-turn movement during the morning peak hour; and average queues at the future northbound left-turn movement during the morning and school peak hours are anticipated to exceed the available lane storage length. The intersection should therefore be monitored in the future to determine if physical improvements are necessary.

i. Louis St. Laurent Avenue / Fourth Line

All queues will be contained under existing storage lengths while the intersection remains a signalized intersection.

j. Louis St. Laurent Avenue / Trudeau Drive

The Louis St. Laurent Avenue / Thompson Road intersection is scheduled to be converted to a signalized intersection by the 2034 horizon year per the Boyne RNA Study. Although Site traffic impacts to queues are minimal, 95th percentile queues at the northbound left-turn movement during the afternoon peak hour; and both average and 95th percentile queues at the future westbound left-turn movement during the morning and afternoon peak hours are anticipated to exceed the assumed lane storage lengths. It is therefore recommended that the storage lengths at these future movements should be appropriately sized to accommodate expected queueing activity.

k. Louis St. Laurent Avenue / James Snow Parkway

All queues will be contained within existing storage lengths. Site-related impacts are minimal at all turning movements.

Appendix A:
Reduced Architectural Plans

BUILDING A +B
396 UNITS = 194 UNITS + 202 UNITS

PARKING REQUIRED :
1.0 Tenant PS / unit = 396 PS required
0.20 Visitor PS / unit = 80 VPS required
TOTAL = 476 PS

PARKING PROVIDED :

	VISITOR	*TENANT*	**TOTAL**
U/G LEVEL P1	0	191	191
U/G LEVEL P2	0	195	195
SURFACE PARKING	80	10	90
TOTAL	**80**	**396**	**476 PS**

LONG TERM BIKE STORAGE:
REQUIRED = 0.5 /UNIT = 198
PROVIDED = 198 STORAGE (1200x600)

SHORT TERM BIKE STORAGE:
REQUIRED = 0.05 /UNIT = 20
PROVIDED = 42 BIKE SPACES ON SITE

OUTDOOR AMENITY:
REQUIRED = $3m^2$ /UNIT = $1,188m^2$
PROVIDED = 760 m^2 on-ground + 440 m^2 rooftop
Total 1,200 m^2

BUILDING C
124 UNITS

PARKING REQUIRED :
1.0 Tenant PS / unit = 124 PS required
0.20 Visitor PS / unit = 25 VPS required
TOTAL = 149 PS

PARKING PROVIDED :

	VISITOR	*TENANT*	**TOTAL**
U/G LEVEL P1	0	59	59
U/G LEVEL P2	0	66	66
SURFACE PARKING	25	0	25
TOTAL	**25**	**125**	**150 PS**

LONG TERM BIKE STORAGE:
REQUIRED = 0.5 /UNIT = 62
PROVIDED = 62 STORAGE (1200x600)

SHORT TERM BIKE STORAGE:
REQUIRED = 0.05 /UNIT = 7
PROVIDED = 18 BIKE SPACES ON SITE

OUTDOOR AMENITY:
REQUIRED = $3m^2$ /UNIT = 372 m^2
PROVIDED = 175m^2 on-ground + 220m^2 rooftop
Total 395m^2

TOWNHOUSES

STREET TOWNHOUSES = 34 UNITS
BACK TO BACK TOWNS = 44 UNITS
TOTAL = 78 UNITS

PARKING REQUIRED :
2.0 Tenant PS / unit = 156 PS required
0.20 Visitor PS / unit = 16 VPS required
TOTAL = 172 PS

PARKING PROVIDED :
2.0 Tenant PS / unit = 156 PS
(one in garage + one on driveway)
18 Visitor PS - on site
TOTAL = 174 PS

KEY TO DETAIL LOCATION
No. DETAIL NUMBER
No. DRAWING SHEET NUMBER

DRAWING SETS ISSUED	No.	DATE (DD.MM.YY)	BY
- COMMON AMENITY AREA	1.	09.07.2021	WH
- TOWNHOUSES LOTTING	2.	12.04.2022	WH
CLIENT REVIEW	3.	16.03.2023	WH
CLIENT REVIEW	4.	15.11.2023	KO
ZBA	5.	05.04.2024	KO
ZBA #2	6.	18.10.2024	KO

ALL PREVIOUS ISSUES OF THIS DRAWING ARE SUPERSEDED

REVISIONS TO DRAWING	No.	DATE (DD.MM.YY)	BY
-	-	-	-

NOT FOR CONSTRUCTION

BUILDING PERMIT NUMBER:
NOT FOR CONSTRUCTION WITHOUT PERMIT

KNYMH
ARCHITECTURE • SOLUTIONS
KNYMH INC.
1026 SKYVIEW DRIVE • SUITE 101
BURLINGTON, ONTARIO • L7P 0V1
T 905.639.0595
F 905.639.0394
www.knymh.com info@knymh.com

PRELIMINARY

MATTAMY HOMES
MINOR SUB NODE
MILTON, ONTARIO

DRAWING SHEET TITLE:
SITE PLAN

DRAWING SCALE:	PROJECT NUMBER:
1:500	21407

DRAWN BY:	CHECKED BY:	DRAWING SHEET NUMBER:
-	-	SP1

DRAWING VERSION: 001
PLOT DATE: October 15, 2024

Appendix B:
Study Terms of Reference & Agency Comments

Memorandum

TO:

Darren Loro
Transportation Development Review
Infrastructure Planning & Policy
Public Works, Halton Region
darren.loro@halton.ca

Heide Schlegl
Manager, Traffic
Town of Milton
heide.schlegl@milton.ca

FROM:	**PROJECT:**	**DATE:**
Deanna Green, P.Eng.	Proposed Residential Development	February 7, 2024

SUBJECT: Traffic Impact Study Terms of Reference – Proposed Residential Development Louis St.Laurent Avenue, Town of Milton, Region of Halton

1.0 INTRODUCTION

BA Group has been retained by Mattamy Corporation to provide transportation consulting services related to the proposed residential development of a site (herein referred to as "the site") on the south side of Louis St.Laurent Avenue, along the west side of Sainte-Anne Catholic Elementary School, in the Town of Milton ("the Town"), in the Region of Halton.

The preliminary development concept includes 3 residential condominium buildings (8 to 12 levels), with a total of approximately 482 units, in addition to 77 townhouses, for a total of 559 residential units on the site.

Parking is to be provided both at-grade and with a below-grade structure. Access and site circulation is proposed via a new east-west driveway that would connect to Ferguson Drive with the potential for a future north-south driveway connection to the south.

The traffic impact study will be completed in accordance with the Town of Milton and Halton Region Transportation Impact Study Guidelines as outlined in the following sections.

2.0 PROPOSED SCOPE OF WORK

2.1 DESCRIPTION OF THE PROPOSAL

The Transportation Impact Study will provide a full description of the proposed redevelopment and will include elements such as:

- Municipal address;
- Existing land uses or permitted use provisions in an Official Plan, Official Plan Amendments, Zoning By-law etc.;
- Proposed land uses and relevant planning regulations to be used in the study;
- Total building sizes and building locations;
- A summary of each type of use with the proposed number of residential units for each building;
- Expected date of occupancy;
- Nearby intersections and accesses to adjacent developments and those on the opposite side of the road, including type of traffic control;
- Proposed access points and type of access (full movement, right-in-right-out, turning movement restrictions, etc.);
- Nearby transit facilities/stops;
- Near-by Active Transportation Facilities – sidewalks, multi-use trails, bike lanes, etc.,

2.2 STUDY AREA

The study area and traffic analysis will include the following intersections:

1. Louis St.Laurent & Thompson Road/ Third Line
2. Louis St.Laurent & Metro driveway
3. Louis St.Laurent & Kennedy Circle
4. Louis St.Laurent & Freeman Trail
5. Louis St.Laurent & Ferguson Drive
6. Louis St.Laurent & Fourth Line
7. Louis St.Laurent & Trudeau Drive
8. Louis St.Laurent & James Snow Parkway (Region)

2.3 TRANSPORTATION CONTEXT

A description of the existing transportation system in the study area, will identify relevant information, such as the following:

- All adjacent and nearby roads, indicating the number of lanes, and posted speed;
- All adjacent/across and affected intersections/access, indicating type of control, access type, lane configurations, lane widths, and any turning or similar restrictions;
- If appropriate, on-street parking spaces/standing/stopping restrictions in the vicinity of the site and those which would affect the operation of key intersections being analyzed;
- Transit routes and stops;
- Heavy vehicle prohibitions and restrictions;
- All pedestrian and cyclist routes; and
- Other transportation facilities as appropriate.

Potential future transportation improvements that are currently being considered that may facilitate the traffic demand generated by the site will be identified. These improvements will be described to a level of detail sufficient to assess implications for travel to/from the site. In each case, the status and expected date of implementation will be identified.

2.4 PARKING & LOADING CONTEXT

2.4.1.1 Parking

The requirements of the prevailing Town Zoning By-law will be reviewed for both motor vehicles and bicycles in order to confirm the parking needs of the proposed development. If reduced parking rates are proposed, appropriate proxy data will be provided along with justification for any reductions.

2.4.1.2 Loading

The requirements of the prevailing Town Zoning By-law will be reviewed to confirm the development's loading supply requirements. An appropriate loading facility supply for site will be provided.

2.5 TRANSPORTATION DEMAND MANAGEMENT (TDM)

The TDM Plan will be included with the TIS and will include a wide variety of initiatives aimed at reducing the amount of travel by single occupant vehicles to achieve a more sustainable travel mode share, particularly during the peak travel hours of the day.

The TDM Plan will consider initiatives such as but not limited to the following:

- Promotion and support for reduced single occupant vehicle use through carpool programs;
- Promotion of transit:
- Consideration of bicycle/pedestrian facilities and connectivity;
- Information for residents regarding sustainable travel options;
- Potential for a reduced parking supply.

2.6 HORIZON YEAR AND TIME PERIODS FOR ANALYSIS

The site build-out year will be confirmed as part of the study. It is proposed that the traffic analysis include the following scenarios:

- Existing conditions;
- Future background conditions (build-out year to be determined) – with corridor growth and area background development traffic;
- Future total conditions (build-out year to be determined) – at build-out of site and inclusive of site generated traffic;
- Future total conditions – 5-years beyond build-out with site generated traffic.

As there are 2 schools in proximity to the Site, the analysis will be completed for the **AM, PM and School Out** peak periods of the day, during a typical weekday.

2.7 TRAFFIC ANALYSIS

2.7.1 Existing Traffic Conditions

The traffic analysis will include a representative picture of the existing transportation conditions with exhibits that show the existing traffic volumes and turning movements for all modes of transportation for roadways and intersections in the study area including pedestrian/cyclist volumes and heavy truck movements.

All traffic data collection undertaken will include pedestrians, cyclists and motor vehicles on a typical weekday, during typical AM, PM and School Out peak periods. BA Group will work with the Town & Region to obtain historical counts and supplement available data with new traffic counts to be completed in February 2024 by Spectrum, on behalf of BA Group.

2.7.2 Background Traffic

2.7.2.1 Corridor Growth

The background traffic growth rate in traffic along corridors in the study area, will be established in consultation with Town & Region staff.

2.7.2.2 Background Developments

All significant developments under construction, approved, or in the approval process within the study area and are likely to occur by the specific horizon years will be identified and recognized in the study. The land-

use type and magnitude of the probable future developments in the horizon years will be identified through consultation with Town staff.

2.7.2.3 Transportation Network Improvements

Changes to the present or planned transportation network will be determined from the approved Town & Region capital improvement programs. A realistic assessment of timing and certainty will be made. The impacts of the transportation system changes will be identified.

2.7.2.4 Transit/HOV Considerations

The TIS will evaluate the impacts of site generated transit demand for the relevant time periods and scenarios on all transit services and transit stops/stations/terminals where ridership will be increased by 5% or more by site generated transit demand.

For HOV analysis, the lane analysis must use a lane utilization factor of 0.80 for the assumption that 20% is assumed as the HOV lane usage.

2.7.3 Estimation of Travel Demand

2.7.3.1 Trip Generation

Traffic volumes expected to be generated by the site will be forecast using the latest edition of the ITE Trip Generation Manual, unless local & more reliable trip generation data is available.

Trip generation parameters will be selected using the principles as described in Chapter 3 of the ITE Trip Generation Handbook. The estimation of traffic volumes generated by the site will be based on the full build-out of the proposed residential redevelopment.

All trip generation assumptions and adjustments assumed in the calculation of "new" vehicle trips will be documented and justified in terms of previous research or proxy surveys.

2.7.3.2 Trip Distribution

All trip distribution assumptions will be documented and justified. Due consideration will be given to potential differences in trip distribution patterns associated with different time periods.

2.7.3.3 Trip Assignments

Traffic assignments will consider logical routings, available and projected roadway capacities and travel times. Traffic assignments will be estimated using “hand assignment” based on knowledge of the proposed/future road network in the study area.

2.7.3.4 Summary of Traffic Demand Estimates

Traffic volume figures will be provided that illustrate the assignment of all site-generated traffic volumes and pass-by volumes (if applicable) separately to the local road network, as well as to the individual site access locations by direction and by turning movement where required.

For the AM, PM and School Out peak period, the traffic volumes figures will summarize:

- Existing Conditions: existing traffic/transit volumes;
- Future Background: existing plus background growth for each horizon year; and
- Future Total: existing plus background growth plus site generated volumes for each horizon year.

A summary of the future traffic demands (each combination of horizon year and peak period for both site generated and total future traffic conditions) will be provided in the figures.

2.7.3.5 Evaluation of Impacts of Site Traffic

The evaluation of the impacts of site traffic will be undertaken for the AM, PM and School Out Peak of each horizon year. The existing volumes, existing plus background growth and existing plus background growth plus site-generated traffic by direction and by turning movement will be included, as well as the scenarios with and without any relevant major transportation system improvements.

2.7.4 Capacity Analysis

A capacity analysis at the study intersections will assess the operations of individual intersections and movements expected to be impacted by the proposed redevelopment. The evaluation of signalized and unsignalized intersections impacted by site traffic volumes will be provided in a tabular format. The objective will be to maintain existing levels of service as best as possible.

The intersection capacity analysis will be completed using Synchro Version 11 and a combination of Highway Capacity Manual (HCM) 2000 and HCM 6 methodologies. A saturation flow rate of 1,900 vehicles per hour will be utilized in the analysis.

The analysis will include the mitigation of impacts to signalized intersection operations where:

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

The analysis will also include mitigation at unsignalized intersections where:

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

Town and Regional staff will be contacted to obtain current traffic signal timings at existing signalized intersections in the study area. All proposed adjustments to traffic signal timings, phasing and cycle lengths will be evaluated in terms of pedestrian crossing time, effect on queue lengths, adequacy of existing storage and effects on the existing traffic signal co-ordination.

2.7.5 Safety Analysis

Potential safety or operational issues associated with the following, as applicable, will be identified:

- Weaving;
- Merging;
- Transit operational conflicts
- Corner clearances;
- Sight distances;
- Vehicle-pedestrian conflicts;
- Traffic infiltration;
- Access conflicts;
- Cyclist movements;
- Heavy truck movement conflicts;
- Queuing

2.7.6 Collision Analysis

If requested by the Town & Region, if there is a collision history at any of the study area intersections that could be impacted by site generated traffic, a request to the Town & Region will be made to obtain the relevant collision data. The collision data will be reviewed and assessed, with respect to the impact of the proposed redevelopment.

2.7.7 Site Access and Circulation

The proposed site access point on a Town road will be evaluated in terms of capacity, safety and sight distance & adequacy of queue storage capacity. This evaluation will be similar in scope to that for the signalized and unsignalized intersections described previously.

Proposed access points will be evaluated with respect to existing access points and intersections, on-street weaving problems, need for acceleration or deceleration lanes and pedestrian and cycling safety.

On-site parking and circulation systems will be evaluated to demonstrate appropriate clear throat distances and avoid any possible queuing onto Town & Region roads.

Sight lines will be evaluated based on the Transportation Association of Canada (TAC Manual).

Proposed truck/courier loading facilities and access to these facilities will be evaluated to ensure that they are adequately sized, designed and provided with suitable access so that they will not adversely affect traffic and transit operations on Town roads.

Any required turning or other restrictions will be identified.

2.7.8 Transportation System Mitigation Measures

2.7.8.1 Required Roadway Improvements

If any physical and operational road network deficiencies are identified in the TIS, solutions will be provided that are feasible and economic to implement.

Functional design plans will be provided for any recommended physical improvements.

2.7.8.2 Traffic Signal Improvements

Any traffic signal operational deficiencies that are identified in the TIS will be addressed and solutions will be provided that are feasible to implement.

2.7.8.3 Preliminary Cost Estimate

A preliminary cost estimate will be provided for all recommended infrastructure improvements.

2.8 RECOMMENDATIONS

A summary of the key findings with respect to the transportation impact of the proposed redevelopment will be presented along with a summary of the recommended improvements if necessary.

Any recommendations for improvements will consider the following:

- Timing of short-range and long-range network improvements that are already planned and scheduled;
- Expected time schedule of adjacent developments;
- Logical sequencing of various improvements or segments;
- Right-of-way needs and availability of additional right-of-way within the appropriate time frames;

2.9 DOCUMENTATION AND REPORTING

The structure and format of the TIS will adhere to the scope of work outlined in this document and include the following:

- Executive Summary
- Site/Development Description (Site plan to be provided);
- Study Area (Map identifying the study area and site to be provided);
- Parking and Loading Context
- Transportation Demand Management (TDM) Plan
- Existing Conditions (Exhibit to be provided);
- Analysis Periods;
- Background Traffic Demand – Existing and Future Background (Exhibits to be provided);
- Site Generated Traffic (Exhibits to be provided);
- Level of Service Analysis;
- Total Traffic Demand – Future Background plus Site Generated Traffic (Exhibits to be provided);
- Improvement Alternatives Required to Mitigate Traffic Impacts
- Traffic Impacts for Future Background and Total Traffic with and without mitigation measures (Tabular summaries to be provided);
- Access Considerations; and
- Recommendations.

The TIS will include a main document, supplemented by a technical appendices containing detailed analysis worksheets, traffic counts data, traffic signal timings and other data as required.

From:	Loro, Darren
To:	Deanna Green
Cc:	Nathan H. Yau; Anthony Sotomayor; Chris.Toews@milton.ca
Subject:	RE: Terms of Reference - TIS - Louis St.Laurent Res Development
Date:	February 22, 2024 10:33:10 AM

Hi Deanna,

Hope you're doing well!

Halton Region's Transportation Development Review staff did not identify the need for a Transportation Impact Study (TIS) at the pre-consultation stage for this development application given the distance of the subject property from the Regional road network. Therefore, the supporting TIS should be specifically tailored to the Town's requirements for their review.

However, given that the development application is expected to be a significant traffic generator, Halton Region will ask the Town to be circulated on the supporting TIS for Transportation Development Review staff's reference and documentation. Our main point of interest from this TIS would be how the site traffic assignment arriving from and departing to the east along Louis St. Laurent Avenue towards James Snow Parkway compares to the forecasted site traffic assignment for the subject property from the approved Garito Barbuto subdivision TIS (i.e. is the forecasted site traffic assignment associated with the subject property expected to be greater than what was reflected in the subdivision TIS, and if so, by how much?) I understand that Chris at the Town has asked for a trip generation comparison for the subject property between the current proposal and what was reflected in the subdivision TIS, so this should address our main point of interest.

Thanks for your patience in waiting for my response!
Cheers,
Darren

Darren Loro, C.E.T.
Project Manager I – Transportation Planning Coordination
Infrastructure Planning & Policy
Public Works
Halton Region
905-825-6000, ext. 2694 | 1-866-442-5866

From: Deanna Green <Deanna.Green@bagroup.com>
Sent: Wednesday, February 7, 2024 9:57 PM
To: 'heide.schlegl@milton.ca' (heide.schlegl@milton.ca) <heide.schlegl@milton.ca>; Loro, Darren

<Darren.Loro@halton.ca>
Cc: Nathan H. Yau <yau@bagroup.com>; Anthony Sotomayor <Anthony.Sotomayor@mattamycorp.com>
Subject: RE: Terms of Reference - TIS - Louis St.Laurent Res Development

Heide/ Darren,

Based on further information from the development team, we have updated the stats in the attached TIS Terms of Reference to include 3 residential condominium buildings (8 to 12 levels), with a total of approximately 482 units, in addition to 77 townhouses, for a total of 559 residential units on the site.

Thank you.

Deanna

From: Deanna Green
Sent: Wednesday, February 7, 2024 3:15 PM
To: 'heide.schlegl@milton.ca' (heide.schlegl@milton.ca) <heide.schlegl@milton.ca>; darren.loro@halton.ca
Cc: Nathan H. Yau <yau@bagroup.com>; Anthony Sotomayor <Anthony.Sotomayor@mattamycorp.com>
Subject: Terms of Reference - TIS - Louis St.Laurent Res Development

Heide/ Darren,

BA Group has been retained by Mattamy Corporation to provide transportation consulting services related to the proposed residential development of a site on the south side of Louis St.Laurent Avenue, along the west side of Sainte-Anne Catholic Elementary School, in the Town of Milton, in the Region of Halton. The preliminary development concept includes 3 residential condominium buildings (8 to 12 levels), with a total of approximately 450 units.

We would appreciate your review of the attached Terms of Reference for the TIS.

We look forward to hearing from you.

Thank you.

Deanna

Deanna Green, MSc.P.Eng.

Senior Associate

BA Consulting Group Ltd.

95 St. Clair Avenue West, Suite 1000 | Toronto
416 961 7110 x149 | Deanna.Green@bagroup.com

BA Consulting Group Ltd

Appendix C:
Traffic Signage and Pavement Marking Plan

PAVEMENT MARKING:

(NOTE-ALL MARKINGS MUST CONFORM TO THE ONTARIO TRAFFIC MANUAL (OTM) BOOK 11

- 10cm (4 in.) YELLOW SOLID
- ALL STOP BARS TO BE 60cm (2 ft.) WHITE SOLID
- ZONE PAINTING
  - 10cm SOLID TRAFFIC YELLOW
  - 45° ANGLE
  - 60cm O/C
- PEDESTRIAN CROSSING
  - COLD PLASTIC "POLYMERIC"
  - WIDTH AS SHOWN
  - PATTERN: 60cm PAINTED, 60cm GAP
  - TRAFFIC WHITE
- INTERNATIONAL SYMBOL OF ACCESS
  - 1.5m x 1.5m
  - 10cm BORDER - TRAFFIC WHITE
  - SYMBOL - TRAFFIC WHITE
  - BLUE BACKGROUND

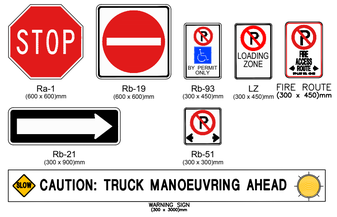
SIGN MOUNT LEGEND:

ALL SIGNS ARE SHOWN IN APPROXIMATE LOCATIONS AND TO BE DETERMINED ON SITE. SIGNS MUST BE VISIBLE TO DRIVER AND NOT OBSTRUCTED BY LANDSCAPE.

- PROPOSED POST
- PROPOSED POST PROTECTION
- PROPOSED WALL/COLUMN MOUNT SIGN
- SUSPENDED SIGN
- CONVEX MIRROR

SIGNAGE LEGEND:

(NOTE-ALL SIGNAGE MUST CONFORM TO THE ONTARIO TRAFFIC MANUAL (OTM) BOOK 5 AND 6



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BA Group

BA Consulting Group Ltd.
1000 - 95 St. Clair Ave. W.
Toronto ON M4V 1N6
TEL 416 961 7110
EMAIL bagroup@bagroup.com

MOVEMENT IN URBAN ENVIRONMENTS
BAGROUP.COM

LOUIS ST LAURENT

PAVEMENT MARKING AND SIGNAGE PLAN

GROUND FLOOR

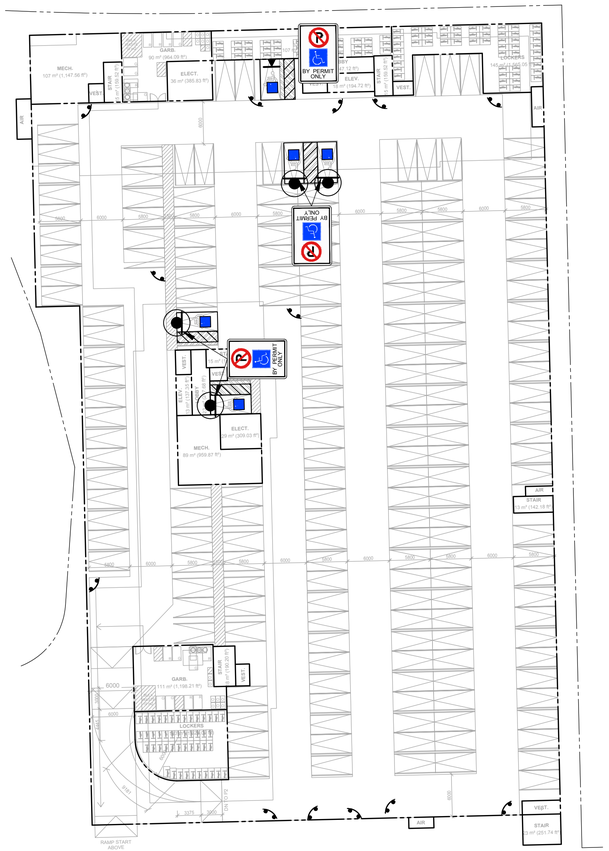
Date: October 17, 2024

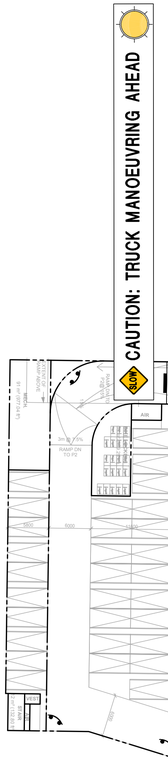
Project No.: 6374-75

Scale: 1:400 (0 2 4 6 8 10 20m)

SN-01

Date Plotted: October 17, 2024 Filename: J:\6374-75\ba\Signage Plan\3. Oct 15-2024\ba-Louis St Laurent-SN-Oct17-2024.dwg





PAVEMENT MARKING:

(NOTE-ALL MARKINGS MUST CONFORM TO
THE ONTARIO TRAFFIC MANUAL (OTM) BOOK 11

10cm (4 in.) YELLOW SOLID

ALL STOP BARS TO BE 60cm (2 ft.) WHITE SOLID

ZONE PAINTING
- 10cm SOLID TRAFFIC YELLOW
- 45° ANGLE
- 60cm O/C

PEDESTRIAN CROSSING
- COLD PLASTIC "POLYMERIC"
- WIDTH AS SHOWN
- PATTERN: 60cm PAINTED, 60cm GAP
- TRAFFIC WHITE

INTERNATIONAL SYMBOL OF ACCESS
- 1.5m x 1.5m
- 10cm BORDER - TRAFFIC WHITE
- SYMBOL - TRAFFIC WHITE
- BLUE BACKGROUND

SIGN MOUNT LEGEND:

ALL SIGNS ARE SHOWN IN APPROXIMATE LOCATIONS AND TO BE DETERMINED ON SITE. SIGNS MUST BE VISIBLE TO DRIVER AND NOT OBSTRUCTED BY LANDSCAPE.

PROPOSED POST

PROPOSED POST PROTECTION

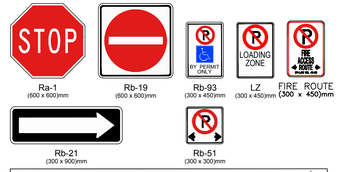
PROPOSED WALL/COLUMN MOUNT SIGN

SUSPENDED SIGN

CONVEX MIRROR

SIGNAGE LEGEND:

(NOTE-ALL SIGNAGE MUST CONFORM TO
THE ONTARIO TRAFFIC MANUAL (OTM) BOOK 5 AND 6



00	MM-DD-YR	INT	REVISION NOTE

BA Consulting Group Ltd.
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EMAIL bagroup@bagroup.com

MOVEMENT IN URBAN ENVIRONMENTS
BAGROUP.COM

LOUIS ST LAURENT

PAVEMENT MARKING AND SIGNAGE PLAN

P1 LEVEL

Date: October 17, 2024

Project No.: 6374-75

Scale: 1:400 (0 2 4 6 8 10 20m)

SN-02

PAVEMENT MARKING:

(NOTE-ALL MARKINGS MUST CONFORM TO
THE ONTARIO TRAFFIC MANUAL (OTM) BOOK 11

10cm (4 in.) YELLOW SOLID

ALL STOP BARS TO BE 60cm (2 ft.) WHITE SOLID

ZONE PAINTING
- 10cm SOLID TRAFFIC YELLOW
- 45° ANGLE
- 60cm O/C

PEDESTRIAN CROSSING
- COLD PLASTIC "POLYMERIC"
- WIDTH AS SHOWN
- PATTERN: 60cm PAINTED, 60cm GAP
- TRAFFIC WHITE

INTERNATIONAL SYMBOL OF ACCESS
- 1.5m x 1.5m
- 10cm BORDER - TRAFFIC WHITE
- SYMBOL - TRAFFIC WHITE
- BLUE BACKGROUND

SIGN MOUNT LEGEND:

ALL SIGNS ARE SHOWN IN APPROXIMATE LOCATIONS AND TO BE DETERMINED ON SITE. SIGNS MUST BE VISIBLE TO DRIVER AND NOT OBSTRUCTED BY LANDSCAPE.

PROPOSED POST

PROPOSED POST PROTECTION

PROPOSED WALL/COLUMN MOUNT SIGN

SUSPENDED SIGN

CONVEX MIRROR

SIGNAGE LEGEND:

(NOTE-ALL SIGNAGE MUST CONFORM TO
THE ONTARIO TRAFFIC MANUAL (OTM) BOOK 5 AND 6

Rb-1 (600 x 600)mm | Rb-19 (600 x 600)mm | Rb-93 (300 x 450)mm | LZ (300 x 450)mm | FIRE ROUTE (300 x 450)mm

00	MM-DD-YR	INT	REVISION NOTE

BA Group

BA Consulting Group Ltd.
1000 - 95 St. Clair Ave. W.
Toronto ON M4V 1N6
TEL 416 961 7110
EMAL bagroup@bagroup.com

MOVEMENT IN URBAN ENVIRONMENTS
BAGROUP.COM

LOUIS ST LAURENT

PAVEMENT MARKING AND SIGNAGE PLAN

P2 LEVEL

Date: October 17, 2024

Project No.: 6374-75

Scale: 1:400 (0 2 4 6 8 10 20m)

SN-03

Appendix D:
Fire Route

GENERAL NOTES

1. DESCRIPTON
2. DESRIPTION

00 MM-DD-YR INT REVISION NOTE

BA Group

BA Consulting Group Ltd.
100C - 95 St. Clair Ave. W.
Toronto ON M4V 1N6
TEL 416 961 7110
EMAIL bagroup@bagroup.com

MOVEMENT IN URBAN ENVIRONMENTS
BAGROUP.COM

LOUIS ST LAURENT

FIRE ROUTE PLAN

Date: October 15, 2024

Project No.: 6374-75

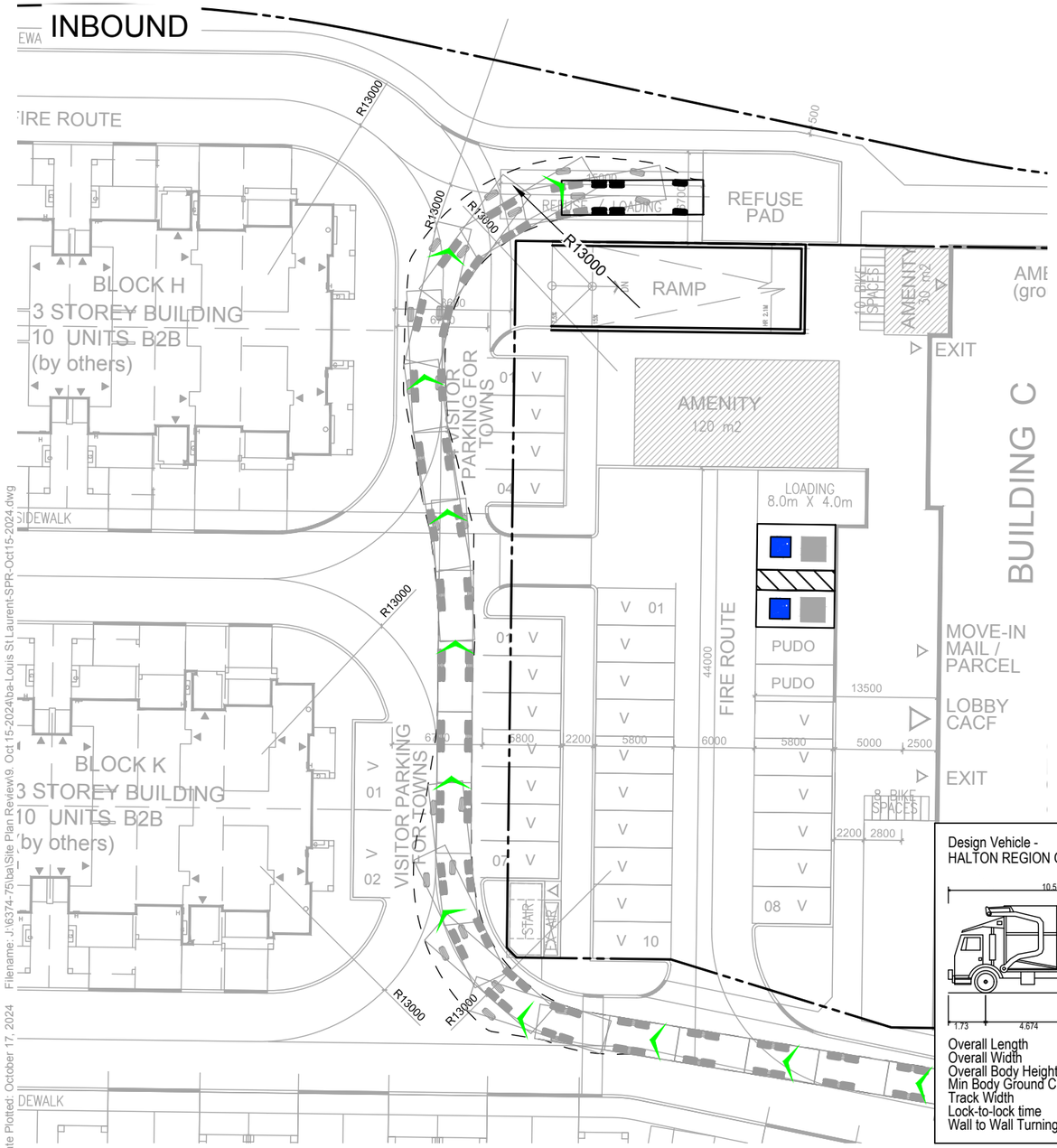
Scale: 1:400 (0 2 4 6 8 10 20m)

FR-01

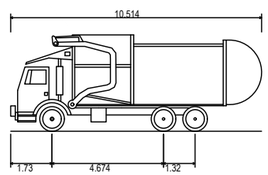
Appendix E:
Vehicle Maneuvering Diagrams

INBOUND

OUTBOUND



Design Vehicle -
HALTON REGION GARBAGE, YR 2008-2014



Overall Length	10.514m
Overall Width	2.570m
Overall Body Height	4.040m
Min Body Ground Clearance	0.391m
Track Width	2.570m
Lock-to-lock time	5.00s
Wall to Wall Turning Radius	13.715m

BA Group

LOUISE ST LAURENT

VEHICLE MANOEUVRING DIAGRAM
HALTON REGION GARBAGE TRUCK
CONSOLIDATED GARBAGE PICK UP AREA

Project:	Louis St Laurent
Project No.	6374-75
Date:	October 17, 2024
Revised:	--

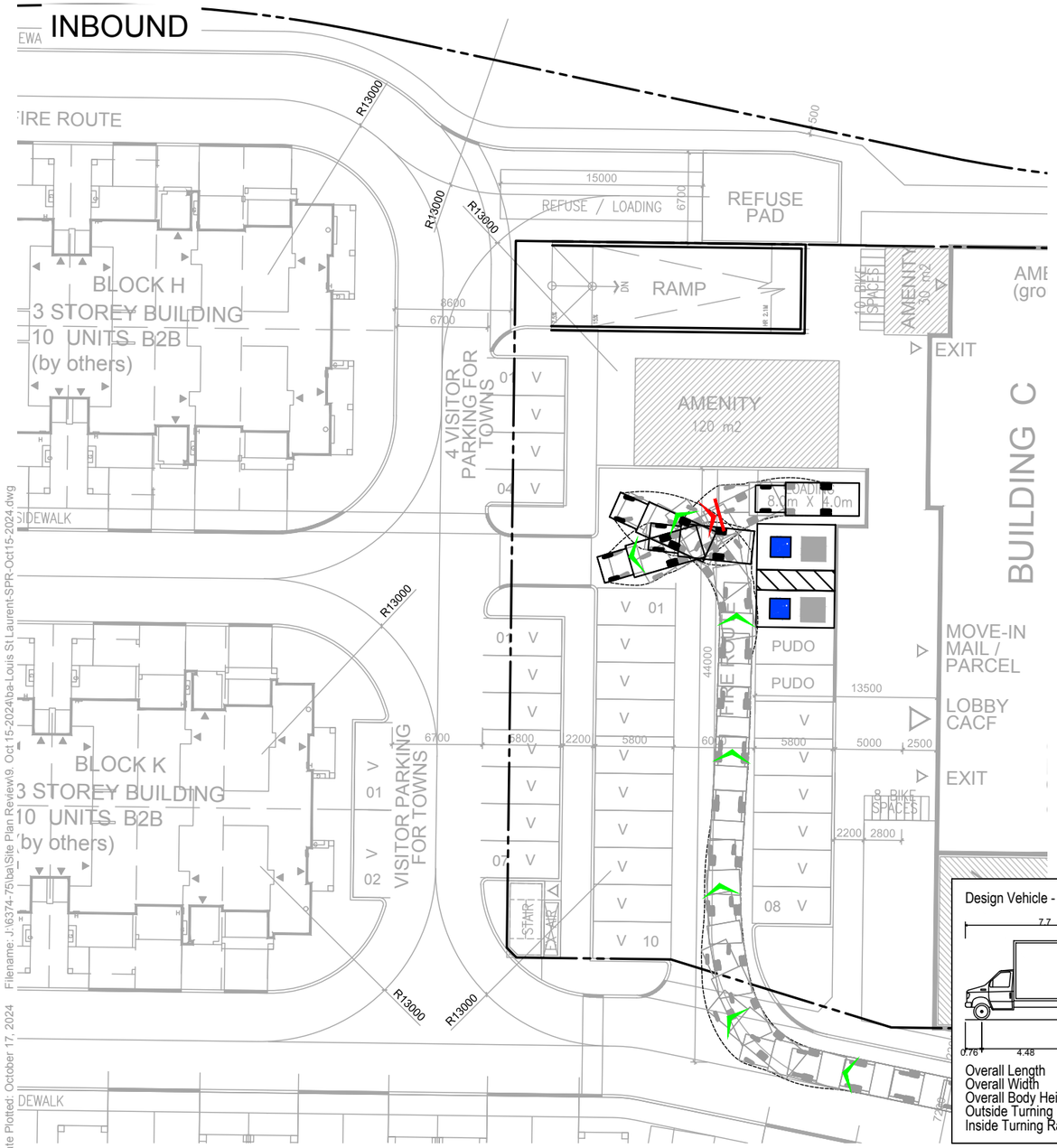
Scale 1:400 (0 2 4 6 8 10 20m)

Drawing No. VMD-01

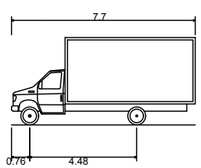
Filename: J:\6374-75\ba\Site Plan Review\9. Oct 15-2024\ba-Louis St Laurent-SPR-Oct15-2024.dwg
Date Plotted: October 17, 2024

INBOUND

OUTBOUND



Design Vehicle - CUBEVAN (Ford E350)



Overall Length	7.70m
Overall Width	2.45m
Overall Body Height	3.66m
Outside Turning Radius	9.49m
Inside Turning Radius	5.68m

BA Group

LOUISE ST LAURENT

VEHICLE MANOEUVRING DIAGRAM
CUBE VAN
BUILDING C

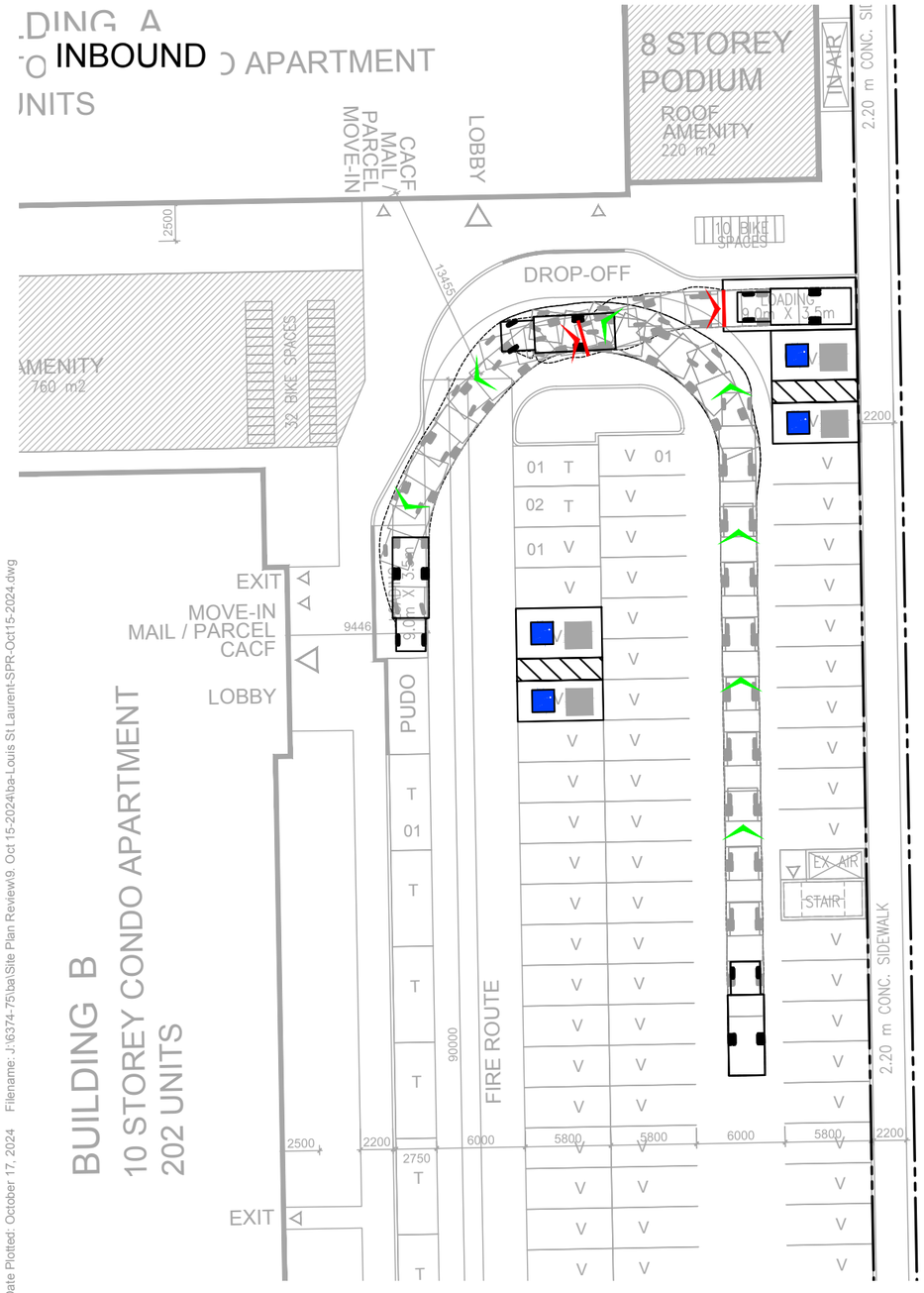
Project:	Louis St Laurent
Project No.	6374-75
Date:	October 17, 2024
Revised:	--

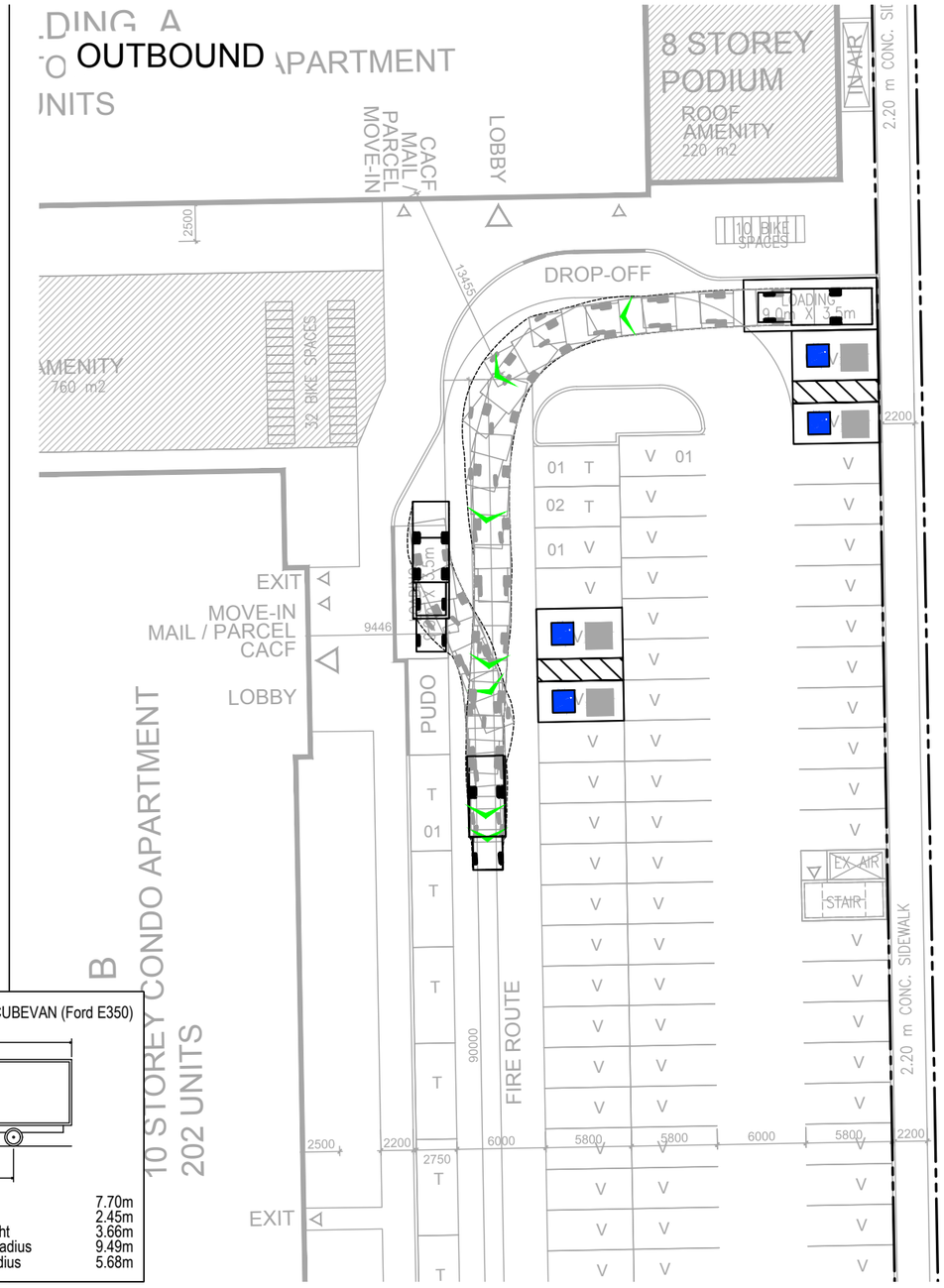
Scale 1:400 (0 2 4 6 8 10 20m)

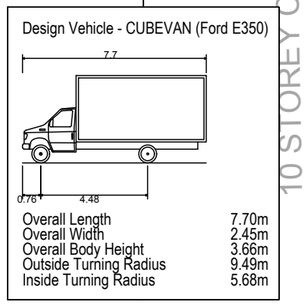
Drawing No. VMD-02

Filename: J:\6374-75\ba\Site Plan Review\9. Oct 15-2024\ba-Louis St Laurent-SPR-Oct15-2024.dwg

Date Plotted: October 17, 2024







BA Group

LOUISE ST LAURENT

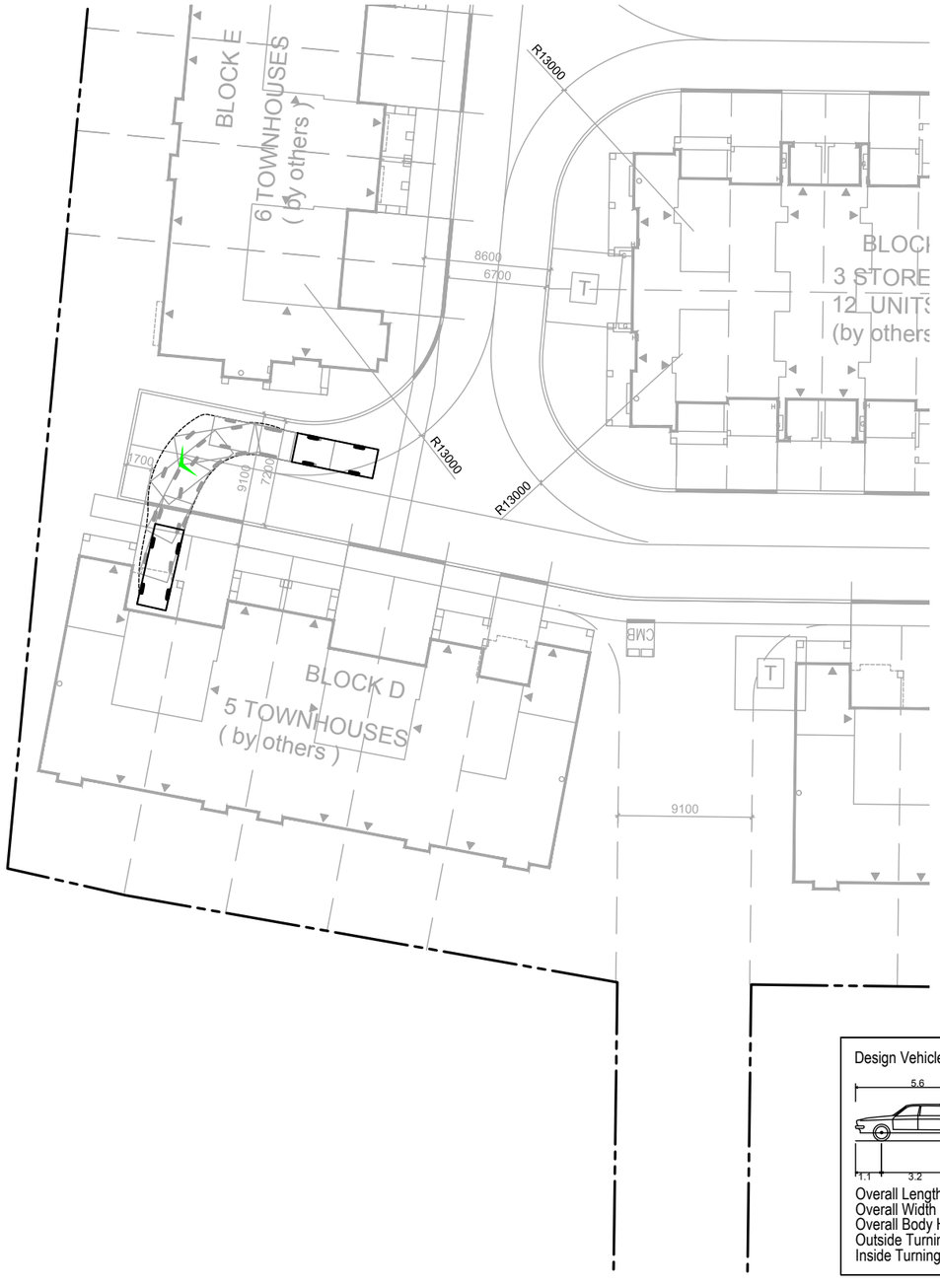
VEHICLE MANOEUVRING DIAGRAM
CUBE VAN
BUILDING A/B

Project:	Louis St Laurent
Project No.	6374-75
Date:	October 17, 2024
Revised:	--

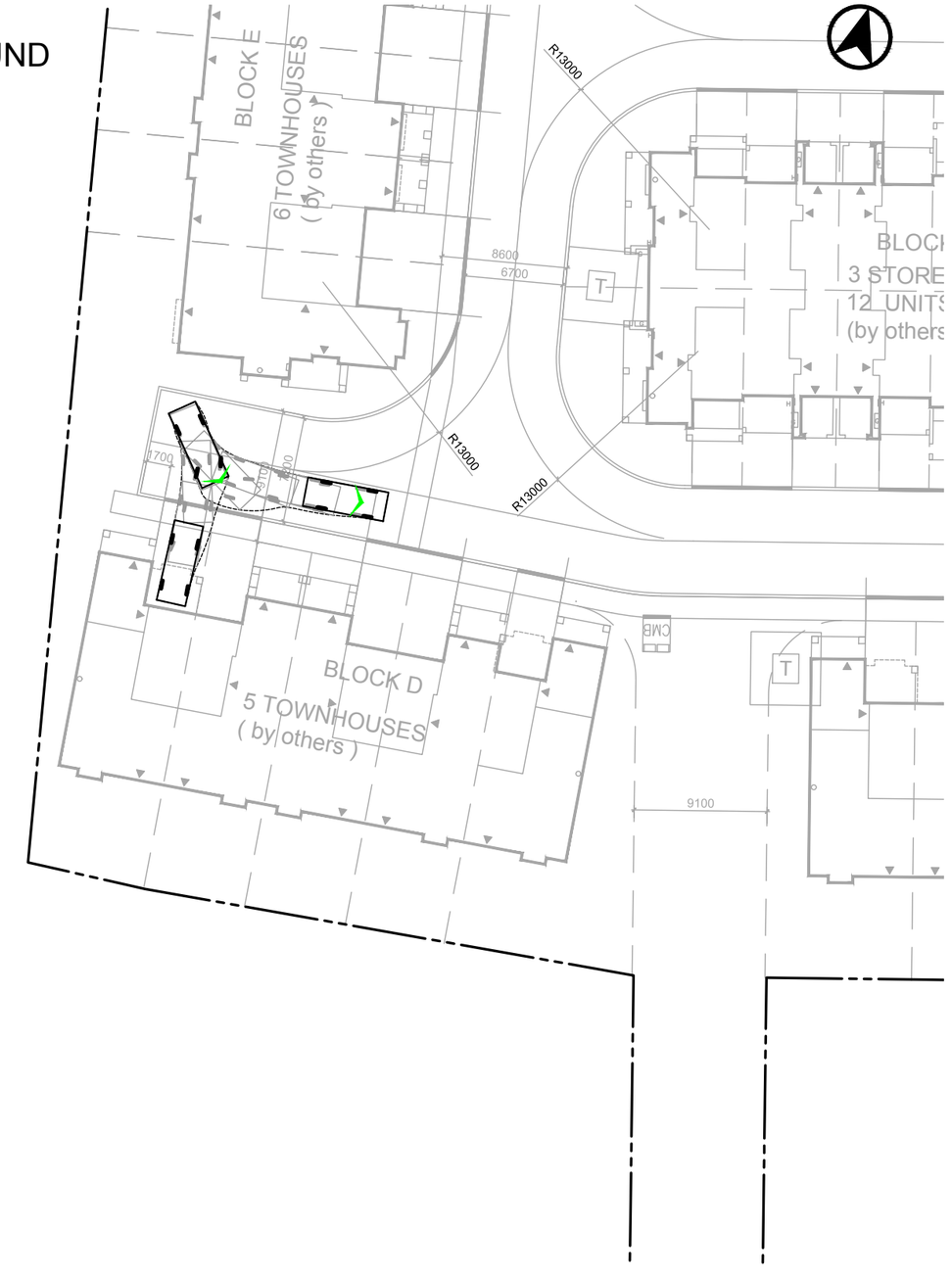
Scale 1:400 (0 2 4 6 8 10 20m)

Drawing No. VMD-03

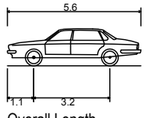
INBOUND



OUTBOUND



Design Vehicle - TAC P CAR



Overall Length	5.60m
Overall Width	2.00m
Overall Body Height	1.56m
Outside Turning Radius	6.90m
Inside Turning Radius	3.40m

BA Group

LOUISE ST LAURENT

VEHICLE MANOEUVRING DIAGRAM
CUBE VAN
TOWN HOUSE BLOCK D - END UNIT

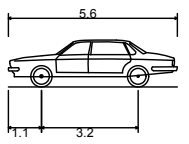
Project:	Louis St Laurent
Project No.	6374-75
Date:	October 17, 2024
Revised:	--

Scale 1:400

0 2 4 6 8 10 20m

Drawing No. VMD-04

Design Vehicle - TAC P CAR



Overall Length	5.60m
Overall Width	2.00m
Overall Body Height	1.56m
Outside Turning Radius	6.90m
Inside Turning Radius	3.40m

BA Group

LOUISE ST LAURENT

VEHICLE MANOEUVRING DIAGRAM
TAC P CAR
BUILDING A/B - P1 LEVEL

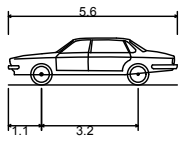
Project:	Louis St Laurent
Project No.	6374-75
Date:	October 17, 2024
Revised:	--

Scale 1:400 (0 2 4 6 8 10 20m)

Drawing No. VMD-05

Date Plotted: October 17, 2024 Filename: J:\6374-75\ba\Site Plan Review\9. Oct 15-2024\ba-Louis St Laurent-SPR-Oct15-2024.dwg

Design Vehicle - TAC P CAR



Overall Length	5.60m
Overall Width	2.00m
Overall Body Height	1.56m
Outside Turning Radius	6.90m
Inside Turning Radius	3.40m

BA Group

LOUISE ST LAURENT

VEHICLE MANOEUVRING DIAGRAM
TAC P CAR
BUILDING A/B - P2 LEVEL

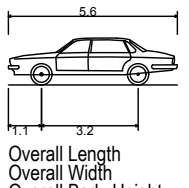
Project:	Louis St Laurent
Project No.	6374-75
Date:	October 17, 2024
Revised:	--

Scale 1:400

0 2 4 6 8 10 20m

Drawing No. VMD-06

Design Vehicle - TAC P CAR



Overall Length	5.60m
Overall Width	2.00m
Overall Body Height	1.56m
Outside Turning Radius	6.90m
Inside Turning Radius	3.40m

BA Group

LOUISE ST LAURENT

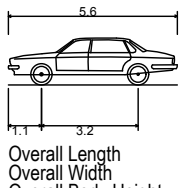
VEHICLE MANOEUVRING DIAGRAM
TAC P CAR
BUILDING C - P1 LEVEL

Project:	Louis St Laurent
Project No.	6374-75
Date:	October 17, 2024
Revised:	--

Scale 1:400 (0 2 4 6 8 10 20m)

Drawing No. VMD-07

Design Vehicle - TAC P CAR



Overall Length	5.60m
Overall Width	2.00m
Overall Body Height	1.56m
Outside Turning Radius	6.90m
Inside Turning Radius	3.40m

BA Group

LOUISE ST LAURENT

VEHICLE MANOEUVRING DIAGRAM
TAC P CAR
BUILDING C - P2 LEVEL

Project:	Louis St Laurent
Project No.	6374-75
Date:	October 17, 2024
Revised:	--

Scale 1:400

0 2 4 6 8 10 20m

Drawing No.

VMD-08

Appendix F:
Proxy Parking Demand Survey Data

Project:
Project No:
Location: 216 Oak Park
Date: Tuesday November 27, 2018
Units: 213

Parking Summary

Location	216 Oak Park	
Area	Surface Vis	Ratio
Supply	38	sps/unit
6:00	24	0.11
6:30	24	0.11
7:00	24	0.11
7:30	23	0.11
8:00	22	0.10
8:30	21	0.10
9:00	21	0.10
9:30	21	0.10
10:00	22	0.10
10:30	21	0.10
11:00	22	0.10
11:30	21	0.10
12:00	24	0.11
12:30	23	0.11
13:00	23	0.11
13:30	21	0.10
14:00	22	0.10
14:30	22	0.10
15:00	22	0.10
15:30	21	0.10
16:00	15	0.07
16:30	18	0.08
17:00	23	0.11
17:30	24	0.11
18:00	29	0.14
18:30	30	0.14

Project:
Project No:
Location: 216 Oak Park
Date: Saturday December 1, 2018
Units: 213

Parking Summary

Location	216 Oak Park	
Area	Surface Vis	Ratio
Supply	38	sps/unit
6:00	20	0.09
6:30	20	0.09
7:00	23	0.11
7:30	22	0.10
8:00	23	0.11
8:30	24	0.11
9:00	22	0.10
9:30	21	0.10
10:00	24	0.11
10:30	23	0.11
11:00	22	0.10
11:30	21	0.10
12:00	25	0.12
12:30	23	0.11
13:00	22	0.10
13:30	26	0.12
14:00	25	0.12
14:30	29	0.14
15:00	29	0.14
15:30	28	0.13
16:00	27	0.13
16:30	27	0.13
17:00	25	0.12
17:30	23	0.11
18:00	22	0.10
18:30	25	0.12

Project:
Project No:
Location: 216 Oak Park
Date: Sunday December 2, 2018
Units: 213

Parking Summary

Location	216 Oak Park	
Area	Surface Vis	Ratio
Supply	38	sps/unit
6:00	25	0.12
6:30	25	0.12
7:00	25	0.12
7:30	25	0.12
8:00	24	0.11
8:30	24	0.11
9:00	24	0.11
9:30	23	0.11
10:00	25	0.12
10:30	24	0.11
11:00	26	0.12
11:30	26	0.12
12:00	27	0.13
12:30	27	0.13
13:00	24	0.11
13:30	26	0.12
14:00	27	0.13
14:30	28	0.13
15:00	28	0.13
15:30	29	0.14
16:00	28	0.13
16:30	29	0.14
17:00	27	0.13
17:30	19	0.09
18:00	21	0.10
18:30	22	0.10

Project:
Project No:
Location: **2379 Central Park Dr**
Date: **Tuesday November 27, 2018**

Parking Summary

Location	2379 Central Park				
Area	Surface Vis.	UG Vis.	Total Vis	UG Res.	Total
Supply	61	7	68	344	412
6:00	13	3	16	244	260
6:30	13	3	16	235	251
7:00	13	3	16	230	246
7:30	14	3	17	196	213
8:00	11	3	14	191	205
8:30	14	3	17	158	175
9:00	12	2	14	136	150
9:30	13	3	16	132	148
10:00	14	3	17	125	142
10:30	13	3	16	123	139
11:00	10	3	13	113	126
11:30	11	3	14	115	129
12:00	12	3	15	113	128
12:30	13	3	16	116	132
13:00	14	3	17	106	123
13:30	15	3	18	116	134
14:00	18	2	20	121	141
14:30	14	2	16	118	134
15:00	12	2	14	118	132
15:30	12	2	14	125	139
16:00	14	2	16	138	154
16:30	14	2	16	141	157
17:00	15	2	17	161	178
17:30	15	2	17	174	191
18:00	16	2	18	189	207
18:30	14	2	16	194	210

Visitor Parking Demand (spaces / unit)	Residental Parking Demand (spaces / unit)	Residential Demand (spaces / unit)
0.05	0.81	0.86
0.05	0.78	0.83
0.05	0.76	0.82
0.06	0.65	0.71
0.05	0.63	0.68
0.06	0.52	0.58
0.05	0.45	0.50
0.05	0.44	0.49
0.06	0.42	0.47
0.05	0.41	0.46
0.04	0.38	0.42
0.05	0.38	0.43
0.05	0.38	0.43
0.05	0.39	0.44
0.06	0.35	0.41
0.06	0.39	0.45
0.07	0.40	0.47
0.05	0.39	0.45
0.05	0.39	0.44
0.05	0.42	0.46
0.05	0.46	0.51
0.05	0.47	0.52
0.06	0.53	0.59
0.06	0.58	0.63
0.06	0.63	0.69
0.05	0.64	0.70

Central Park	Units
Tower 1	139
Tower 2	136
Townhouse	20
Townhome / Commercial Units	6
Total	**301**
Supply Rate	1.37

Project:
Project No:
Location: **2379 Central Park Dr**
Date: **Saturday December 1, 2018**

Parking Summary

Location	2379 Central Park				
Area	Surface Vis.	UG Vis.	Total Vis	UG Res.	Total
Supply	61	7	68	344	412
6:00	22	3	25	240	265
6:30	21	3	24	239	263
7:00	21	3	24	239	263
7:30	24	3	27	238	265
8:00	20	3	23	233	256
8:30	19	3	22	222	244
9:00	18	3	21	217	238
9:30	18	3	21	207	228
10:00	18	3	21	202	223
10:30	19	3	22	181	203
11:00	19	3	22	173	195
11:30	18	3	21	167	188
12:00	24	3	27	169	196
12:30	22	3	25	164	189
13:00	22	3	25	164	189
13:30	29	2	31	162	193
14:00	29	0	29	168	197
14:30	28	0	28	171	199
15:00	29	0	29	166	195
15:30	27	0	27	168	195
16:00	25	0	25	170	195
16:30	29	0	29	176	205
17:00	28	2	30	186	216
17:30	29	2	31	184	215
18:00	29	2	31	181	212
18:30	25	2	27	189	216

Visitor Parking Demand (spaces / unit)	Residental Parking Demand (spaces / unit)	Residential Demand (spaces / unit)
0.08	0.80	0.88
0.08	0.79	0.87
0.08	0.79	0.87
0.09	0.79	0.88
0.08	0.77	0.85
0.07	0.74	0.81
0.07	0.72	0.79
0.07	0.69	0.76
0.07	0.67	0.74
0.07	0.60	0.67
0.07	0.57	0.65
0.07	0.55	0.62
0.09	0.56	0.65
0.08	0.54	0.63
0.08	0.54	0.63
0.10	0.54	0.64
0.10	0.56	0.65
0.09	0.57	0.66
0.10	0.55	0.65
0.09	0.56	0.65
0.08	0.56	0.65
0.10	0.58	0.68
0.10	0.62	0.72
0.10	0.61	0.71
0.10	0.60	0.70
0.09	0.63	0.72

Central Park	Units
Tower 1	139
Tower 2	136
Townhouse	20
Townhome / Commercial Units	6
Total	**301**
Supply Rate	1.37

Project:
Project No:
Location: **2379 Central Park Dr**
Date: **Sunday December 2, 2018**

Parking Summary

Location	2379 Central Park				
Area	Surface Vis.	UG Vis.	Total Vis	UG Res.	Total
Supply	61	7	68	344	412
6:00	24	2	26	249	275
6:30	27	2	29	248	277
7:00	26	2	28	247	275
7:30	27	2	29	245	274
8:00	23	2	25	241	266
8:30	25	2	27	236	263
9:00	24	2	26	229	255
9:30	22	2	24	221	245
10:00	20	3	23	211	234
10:30	18	3	21	212	233
11:00	19	3	22	201	223
11:30	17	3	20	190	210
12:00	20	3	23	178	201
12:30	20	3	23	175	198
13:00	24	3	27	170	197
13:30	26	3	29	170	199
14:00	26	2	28	169	197
14:30	26	2	28	163	191
15:00	23	2	25	169	194
15:30	24	3	27	176	203
16:00	27	3	30	181	211
16:30	27	3	30	181	211
17:00	26	3	29	186	215
17:30	24	2	26	185	211
18:00	21	2	23	184	207
18:30	21	2	23	193	216

Visitor Parking Demand (spaces / unit)	Residental Parking Demand (spaces / unit)	Residential Demand (spaces / unit)
0.09	0.83	0.91
0.10	0.82	0.92
0.09	0.82	0.91
0.10	0.81	0.91
0.08	0.80	0.88
0.09	0.78	0.87
0.09	0.76	0.85
0.08	0.73	0.81
0.08	0.70	0.78
0.07	0.70	0.77
0.07	0.67	0.74
0.07	0.63	0.70
0.08	0.59	0.67
0.08	0.58	0.66
0.09	0.56	0.65
0.10	0.56	0.66
0.09	0.56	0.65
0.09	0.54	0.63
0.08	0.56	0.64
0.09	0.58	0.67
0.10	0.60	0.70
0.10	0.60	0.70
0.10	0.62	0.71
0.09	0.61	0.70
0.08	0.61	0.69
0.08	0.64	0.72

Central Park	Units
Tower 1	139
Tower 2	136
Townhouse	20
Townhome / Commercial Units	6
Total	**301**
Supply Rate	1.37

Project: Regional Road 25 & Britannia
Project No: 6374-70
Location: 1105 Leger Way
Date: June 2023

No. Units: 213

3AM Parking Summary

Area	Surface				Underground		Totals		
	Resident	Visitor	Resident accessible	Visitor Accessible	Resident	Resident Accessible	Resident	Visitor	Total
Supply	**10**	**47**	**5**	**2**	**217**	**2**	**234**	**49**	**283**
Wed June 21	8	14	5	0	178	2	**193**	**14**	**207**
Thurs June 22	8	14	5	0	184	2	**199**	**14**	**213**
Composite	8	14	5	0	189	2	**204**	**14**	**218**

Composite			
Rate	**0.96**	**0.07**	**1.02**
	Resident	Visitor	Total

Project: Regional Rd 25 & Britannia
Project No: 6374-70
Location: 1105 Leger Way
Date: Friday June 16, 2023

No. Units: 213

Parking Demand Summary

Area	Surface				Underground		Totals		
	Resident	Visitor	Visitor Accessible	Resident Accessible	Resident	Resident Accessible	Resident	Visitor	Total
Supply	**10**	**47**	**2**	**5**	**217**	**2**	**234**	**49**	**283**
16:00	3	30	0	3	83	1	**90**	**30**	**120**
17:00	3	31	0	2	91	1	**97**	**31**	**128**
18:00	5	30	0	1	96	2	**104**	**30**	**134**
19:00	4	32	0	2	101	1	**108**	**32**	**140**
20:00	4	33	0	3	110	1	**118**	**33**	**151**
21:00	4	33	0	3	117	1	**125**	**33**	**158**
22:00	6	28	0	5	128	1	**140**	**28**	**168**

Peak Parking Rate	**0.66**	**0.15**	**0.81**
	Resident	Visitor	Total

Project: Regional Rd 25 & Britannia
Project No: 6374-70
Location: 1105 Leger Way
Date: Saturday June 17, 2023

No Units: 213

Parking Demand Summary

Area	Surface				Underground		Totals		
	Resident	Visitor	Visitor Accessible	Resident Accessible	Resident	Resident Accessible	Resident	Visitor	Total
Supply	**10**	**47**	**2**	**5**	**217**	**2**	**234**	**49**	**283**
14:00	4	29	0	3	84	2	**93**	**29**	**122**
15:00	5	30	0	4	81	2	**92**	**30**	**122**
16:00	4	32	0	4	86	2	**96**	**32**	**128**
17:00	4	34	0	4	93	2	**103**	**34**	**137**
18:00	4	26	0	3	89	2	**98**	**26**	**124**
19:00	6	28	0	3	98	2	**109**	**28**	**137**
20:00	5	33	0	3	103	1	**112**	**33**	**145**
21:00	5	32	0	3	107	1	**116**	**32**	**148**
22:00	5	32	0	4	123	1	**133**	**32**	**165**
23:00	6	31	0	4	134	1	**145**	**31**	**176**

Parking Rate	**0.68**	**0.16**	**0.84**
	Resident	Visitor	Total

Project: **Marlborough Court**
Project No: **6566-25**
Location: **1229 Marlborough Court**
Date: **Wednesday October 9, 2013**

2:45 Parking Study

Area	Resident				Visitor	Total
	Underground		Surface	Resident	Surface	
	P1	P2		Total		
Supply	144	144	13	301	28	329
Demand	80	72	9	161	7	168
Occupied Ratio	0.35	0.32	0.04	0.71	0.03	0.74

Number of Units: 227

* There are an additional 10 surface parking spaces on the site that are used for 1160 Marlborough (these have not been included in the supply)

Project: **Marlborough Court**
Project No: **6566-25**
Location: **1229 Marlborough Court**
Date: **Thursday October 10, 2013**

3:15 Parking Study

Area	Resident				Visitor	Total
	Underground		Surface	Resident	Surface	
	P1	P2		Total		
Supply	144	144	13	301	28	329
Demand	73	72	10	155	9	164
Occupied Ratio	0.32	0.32	0.04	0.68	0.04	0.72

Number of Units: 227

* There are an additional 10 surface parking spaces on the site that are used for 1160 Marlborough (these have not been included in the supply)

Project No: 7765.02
Project: Marlborough / White Oaks
Study Location: 1297 Marlborough Crt / 1360 White Oaks Blvd
Municipality: Oakville

Parking Demand

	Surface Lot A		Surface Lot B	Surface Lot C			Surface Lot D		Total Surface Lots					
Area	Visitor	Reserved	Visitor	Visitor	Accessible	Office	Visitor	Tenant	Visitor	Accessible	Reserved	Office	Tenant	Total
Supply	19	2	10	9	2	4	10	8	48	2	2	4	8	64
Wednesday, October 25, 2019														
3:00	8	2	7	7	1	1	8	7	30	1	2	1	8	42
Thursday, October 26, 2019														
3:00	8	0	7	11	1	1	6	6	32	1	0	1	7	41

Area	Garage	Occupancy	Surface Lots	Occupancy	Total	Occupancy
Supply	335	Ratio	64	Ratio	399	Ratio
Wednesday, October 25, 2019						
3:00	174	52%	42	66%	216	54%
Thursday, October 26, 2019						
3:00	173	52%	41	64%	214	54%

1297 Marlborough Crt Commercial Lot						
Date	Wed, Sept 25	Occupancy	Thu, Sept 26	Occupancy	Sat, Sept 28	Occupancy
Available Supply	181	Ratio	181	Ratio	181	Ratio
Time						
14:00	70	39%	67	37%	68	38%
15:00	84	46%	73	40%	81	45%
16:00	78	43%	96	53%	72	40%
17:00	71	39%	94	52%	60	33%
18:00	69	38%	87	48%	70	39%
19:00	67	37%	81	45%	58	32%
20:00	78	43%	61	34%	44	24%
21:00	58	32%	57	31%	45	25%

Commercial

Peak Demand	96
Existing GFA	3,323
Demand Ratio	2.89

Visitor

Peak Demand	44
Existing Unit	263
Demand Ratio	0.17

Project No: 7765.02
Project: Marlborough / White Oaks
Study Location: 1297 Marlborough Crt / 1360 White Oaks Blvd
Municipality: Oakville
Study Date: Wednesday, Sept 25, 2019
Study Time: 3:00 am, 2:00 -9:00 pm

Parking Demand

	Surface Lot A		Surface Lot B	Surface Lot C				Surface Lot D		Total Surface Lots						
Area	Visitor	Reserved	Visitor	Visitor	Accessible	Office	Undesignated	Visitor	Tenant	Tenant	Visitor	Office	Reserved	Accessible	Undesignated	Total
Supply	19	2	10	8	2	4	1	10	8	8	47	4	2	2	1	64
Time																
3:00	8	2	7	7	1	2	0	8	7	7	30	2	2	1	0	42
14:00	3	1	6	4	2	1	1	4	4	4	17	1	1	2	1	26
15:00	4	1	6	4	1	2	0	5	3	3	19	2	1	1	0	26
16:00	4	1	7	5	1	2	1	6	3	3	22	2	1	1	1	30
17:00	3	0	9	5	1	1	1	7	3	3	24	1	0	1	1	30
18:00	8	1	9	7	1	2	1	6	3	3	30	2	1	1	1	38
19:00	10	1	9	6	1	2	0	8	4	4	33	2	1	1	0	41
20:00	11	0	9	7	1	4	0	10	6	6	37	4	0	1	0	48
21:00	11	0	9	5	1	4	0	9	5	5	34	4	0	1	0	44

Area	Garage - P1	Garage - P2	Garage - Total	Occupancy	Surface Lots	Occupancy	Total	Occupancy
Supply	159	176	335	Ratio	64	Ratio	399	Ratio
Time								
3:00	101	73	174	52%	42	66%	216	54%
14:00	61	47	108	32%	26	41%	134	34%
15:00	63	45	108	32%	26	41%	134	34%
16:00	63	41	104	31%	30	47%	134	34%
17:00	66	40	106	32%	30	47%	136	34%
18:00	67	48	115	34%	38	59%	153	38%
19:00	68	50	118	35%	41	64%	159	40%
20:00	72	52	124	37%	48	75%	172	43%
21:00	78	57	135	40%	44	69%	179	45%

Type of Spaces	Tenants	Visitors	Office	Reserved	Accessible	Undesignated	Total
Supply	343	47	4	2	2	1	399
Time							
3:00	181	30	2	2	1	0	216
14:00	112	17	1	1	2	1	134
15:00	111	19	2	1	1	0	134
16:00	107	22	2	1	1	1	134
17:00	109	24	1	0	1	1	136
18:00	118	30	2	1	1	1	153
19:00	122	33	2	1	1	0	159
20:00	130	37	4	0	1	0	172
21:00	140	34	4	0	1	0	179

1297 Marlborough Crt Commercial Lot						
Date	Wed, Sept 25	Occupancy	Thu, Sept 26	Occupancy	Sat, Sept 28	Occupancy
Available Supply	181	Ratio	181	Ratio	181	Ratio
Time						
14:00	70	39%	67	37%	68	38%
15:00	84	46%	73	40%	81	45%
16:00	78	43%	96	53%	72	40%
17:00	71	39%	94	52%	60	33%
18:00	69	38%	87	48%	70	39%
19:00	67	37%	81	45%	58	32%
20:00	78	43%	61	34%	44	24%
21:00	58	32%	57	31%	45	25%

Project No: 7765.02
Project: Marlborough / White Oaks
Study Location: 1297 Marlborough Crt / 1360 White Oaks Blvd
Municipality: Oakville
Study Date: Thursday, October 26, 2019
Study Time: 3:00 am, 2:00 -9:00 pm

Parking Demand

	Surface Lot A		Surface Lot B	Surface Lot C				Surface Lot D		Total Surface Lots						
Area	Visitor	Reserved	Visitor	Visitor	Accessible	Office	Undesignated	Visitor	Tenant	Tenant	Visitor	Office	Reserved	Accessible	Undesignated	Total
Supply	19	2	10	8	2	4	1	10	8	8	47	4	2	2	1	64
Time																
3:00	9	0	7	8	1	3	0	6	7	7	30	3	0	1	0	41
14:00	5	1	5	3	1	3	0	3	5	5	16	3	1	1	0	26
15:00	5	1	6	4	1	3	0	5	5	5	20	3	1	1	0	30
16:00	6	1	6	6	1	2	1	5	5	5	23	2	1	1	1	33
17:00	6	1	8	7	1	2	1	6	5	5	27	2	1	1	1	37
18:00	8	2	6	7	1	1	1	6	5	5	27	1	2	1	1	37
19:00	7	1	9	5	1	3	1	5	5	5	26	3	1	1	1	37
20:00	8	0	9	4	1	4	1	4	5	5	25	4	0	1	1	36
21:00	9	1	9	4	1	2	1	6	4	4	28	2	1	1	1	37

Area	Garage - P1	Garage - P2	Garage - Total	Occupancy	Surface Lots	Occupancy	Total	Occupancy
Supply	159	176	335	Ratio	64	Ratio	399	Ratio
Time								
3:00	104	69	173	52%	41	64%	214	54%
14:00	57	43	100	30%	26	41%	126	32%
15:00	50	46	96	29%	30	47%	126	32%
16:00	57	46	103	31%	33	52%	136	34%
17:00	63	45	108	32%	37	58%	145	36%
18:00	70	51	121	36%	37	58%	158	40%
19:00	71	52	123	37%	37	58%	160	40%
20:00	84	53	137	41%	36	56%	173	43%
21:00	84	59	143	43%	37	58%	180	45%

Type of Spaces	Tenants	Visitors	Office	Reserved	Accessible	Undesignated	Total
Supply	343	47	4	2	2	1	399
Time							
3:00	180	30	3	0	1	0	214
14:00	105	16	3	1	1	0	126
15:00	101	20	3	1	1	0	126
16:00	108	23	2	1	1	1	136
17:00	113	27	2	1	1	1	145
18:00	126	27	1	2	1	1	158
19:00	128	26	3	1	1	1	160
20:00	142	25	4	0	1	1	173
21:00	147	28	2	1	1	1	180

1297 Marlborough Crt Commercial Lot						
Date	Wed, Sept 25	Occupancy	Thu, Sept 26	Occupancy	Sat, Sept 28	Occupancy
Available Supply	181	Ratio	181	Ratio	181	Ratio
Time						
14:00	70	39%	67	37%	68	38%
15:00	84	46%	73	40%	81	45%
16:00	78	43%	96	53%	72	40%
17:00	71	39%	94	52%	60	33%
18:00	69	38%	87	48%	70	39%
19:00	67	37%	81	45%	58	32%
20:00	78	43%	61	34%	44	24%
21:00	58	32%	57	31%	45	25%

Project No: 7765.02
Project: Marlborough / White Oaks
Study Location: 1297 Marlborough Crt / 1360 White Oaks Blvd
Municipality: Oakville
Study Date: Saturday, October 28, 2019
Study Time: 2:00 -9:00 pm

Parking Demand

	Surface Lot A		Surface Lot B	Surface Lot C				Surface Lot D		Total Surface Lots						
Area	Visitor	Reserved	Visitor	Visitor	Accessible	Office	Undesignated	Visitor	Tenant	Tenant	Visitor	Office	Reserved	Accessible	Undesignated	Total
Supply	19	2	10	8	2	4	1	10	8	8	47	4	2	2	1	64
Time																
14:00	6	0	6	4	1	2	1	8	4	4	24	2	0	1	1	32
15:00	7	0	8	5	0	2	1	7	4	4	27	2	0	0	1	34
16:00	7	0	7	5	0	2	0	8	5	5	27	2	0	0	0	34
17:00	7	0	8	5	0	2	1	8	5	5	28	2	0	0	1	36
18:00	6	0	7	6	0	2	1	6	5	5	25	2	0	0	1	33
19:00	8	0	7	5	0	2	0	6	6	6	26	2	0	0	0	34
20:00	8	1	6	6	0	2	0	8	5	5	28	2	1	0	0	36
21:00	9	0	8	5	0	3	1	9	5	5	31	3	0	0	1	40

Area	Garage - P1	Garage - P2	Garage - Total	Occupancy	Surface Lots	Occupancy	Total	Occupancy
Supply	159	176	335	Ratio	64	Ratio	399	Ratio
Time								
14:00	61	40	101	30%	32	50%	133	33%
15:00	61	39	100	30%	34	53%	134	34%
16:00	61	42	103	31%	34	53%	137	34%
17:00	57	43	100	30%	36	56%	136	34%
18:00	66	44	110	33%	33	52%	143	36%
19:00	67	45	112	33%	34	53%	146	37%
20:00	68	47	115	34%	36	56%	151	38%
21:00	70	46	116	35%	40	63%	156	39%

Type of Spaces	Tenants	Visitors	Office	Reserved	Accessible	Undesignated	Total
Supply	343	47	4	2	2	1	399
Time							
14:00	105	24	2	0	1	1	133
15:00	104	27	2	0	0	1	134
16:00	108	27	2	0	0	0	137
17:00	105	28	2	0	0	1	136
18:00	115	25	2	0	0	1	143
19:00	118	26	2	0	0	0	146
20:00	120	28	2	1	0	0	151
21:00	121	31	3	0	0	1	156

1297 Marlborough Crt Commercial Lot						
Date	Wed, Sept 25	Occupancy	Thu, Sept 26	Occupancy	Sat, Sept 28	Occupancy
Available Supply	181	Ratio	181	Ratio	181	Ratio
Time						
14:00	70	39%	67	37%	68	38%
15:00	84	46%	73	40%	81	45%
16:00	78	43%	96	53%	72	40%
17:00	71	39%	94	52%	60	33%
18:00	69	38%	87	48%	70	39%
19:00	67	37%	81	45%	58	32%
20:00	78	43%	61	34%	44	24%
21:00	58	32%	57	31%	45	25%

Project: Regional Rd 25 & Britannia Rd
Project No: 6374-70
Location: 1471 Maple Ave, 1360 Main St E, 1450 Main St E, 640 Suave St - Milton
Date: Friday November 3, 2023

No. of Units:

1360 Main St E	**312**	Source

Visitor Parking Demand

Area			1360 Main St E	
			Visitor	Rate/Unit
Supply			**60**	**-**
14:00			24	0.08
15:00			38	0.12
16:00			41	0.13
17:00			43	0.14
18:00			42	0.13
19:00			43	0.14
20:00			**43**	**0.14**
21:00			43	0.14
22:00			39	0.13
23:00			40	0.13

Project: Regional Rd 25 & Britannia Rd
Project No: 6374-70
Location: 1360 Main St E November 4, 2023
Date:

No. of Units:

1360 Main St E	**312**

Visitor Parking Demand

Area			1360 Main St E	
			Visitor	Rate/Unit
Supply			**65**	**-**
14:00			48	0.15
15:00			46	0.15
16:00			47	0.15
17:00			48	0.15
18:00			46	0.15
19:00			**49**	**0.16**
20:00			47	0.15
21:00			42	0.13
22:00			44	0.14
23:00			46	0.15

Project: Marlborough Court
Project No: 6566-25
Location: 1229 Marlborough Court
Date: Saturday November 16, 2013

Surface Visitor Parking

Location	1229 Marlborough	Demand Ratio
# units	227	
Supply	28	0.12
14:00	19	0.08
15:00	24	0.11
16:00	24	0.11
17:00	**25**	**0.11**
18:00	22	0.10
19:00	22	0.10
20:00	21	0.09
21:00	21	0.09
22:00	23	0.10

Location	1230 Marlborough	Demand Ratio
# units	110	
Supply	25	0.23
14:00	12	0.11
15:00	10	0.09
16:00	15	0.14
17:00	14	0.13
18:00	**19**	**0.17**
19:00	15	0.14
20:00	15	0.14
21:00	12	0.11
22:00	14	0.13

Location	1240 Marlborough	Demand Ratio
# units	110	
Supply	20	0.18
14:00	5	0.05
15:00	5	0.05
16:00	3	0.03
17:00	5	0.05
18:00	4	0.04
19:00	4	0.04
20:00	5	0.05
21:00	**6**	**0.05**
22:00	5	0.05

Location	1260 Marlborough	Demand Ratio
# units	228	
Supply	24	0.11
14:00	10	0.04
15:00	7	0.03
16:00	8	0.04
17:00	6	0.03
18:00	7	0.03
19:00	9	0.04
20:00	**11**	**0.05**
21:00	6	0.03
22:00	6	0.03

Location	On Street
# units	
Supply	NA
14:00	2
15:00	1
16:00	3
17:00	1
18:00	**2**
19:00	2
20:00	1
21:00	1
22:00	1

Note:
No parking is permitted along Marlborough Court

Project: Marlborough Court
Project No: 6566-25
Location: 1229 Marlborough Court
Date: Sunday November 17, 2013

Surface Visitor Parking

Location	1229 Marlborough	Demand Ratio
# of Units	227	
Supply	28	0.12
16:00	20	0.09
17:00	15	0.07
18:00	17	0.07
19:00	18	0.08
20:00	24	0.11

Location	1230 Marlborough	Demand Ratio
# of Units	110	
Supply	25	0.23
16:00	17	0.15
17:00	17	0.15
18:00	17	0.15
19:00	17	0.15
20:00	15	0.14

Location	1240 Marlborough	Demand Ratio
# of Units	110	
Supply	20	0.18
16:00	4	0.04
17:00	5	0.05
18:00	5	0.05
19:00	6	0.05
20:00	6	0.05

Location	1260 Marlborough	Demand Ratio
# of Units	228	
Supply	24	0.11
16:00	12	0.05
17:00	7	0.03
18:00	8	0.04
19:00	7	0.03
20:00	6	0.03

Location	On Street
# of Units	N/A
Supply	NA
16:00	3
17:00	1
18:00	1
19:00	1
20:00	0

Note:
No parking is permitted along Marlborough Court

Appendix G:
Traffic Survey Data

Spectrum

Turning Movement Count
Location Name: LOUIS ST LAURENT AVE & KENNEDY CIRCLE (EAST)
Date: Tue, Feb 13, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Turning Movement Count (3 . LOUIS ST LAURENT AVE & KENNEDY CIRCLE (EAST))

Start Time	N Approach KENNEDY CIRCLE (EAST)						E Approach LOUIS ST LAURENT AVE						S Approach KENNEDY CIRCLE (EAST)						W Approach LOUIS ST LAURENT AVE						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	4	1	3	0	2	8	3	48	5	3	0	59	6	0	3	0	1	9	2	93	2	0	0	97	173	
07:15:00	8	1	5	0	1	14	1	53	9	0	0	63	6	3	6	0	0	15	2	126	1	1	1	130	222	
07:30:00	7	5	16	0	2	28	5	108	9	0	1	122	13	1	6	0	2	20	2	173	6	4	1	185	355	
07:45:00	17	4	22	0	8	43	20	157	7	0	6	184	11	2	8	0	11	21	3	254	7	1	4	265	513	1263
08:00:00	19	4	8	0	5	31	12	215	11	1	1	239	10	1	6	0	3	17	2	157	11	2	0	172	459	1549
08:15:00	7	1	6	0	3	14	5	112	7	0	3	124	19	1	10	0	2	30	5	116	10	1	1	132	300	1627
08:30:00	9	3	14	0	1	26	5	86	12	0	1	103	10	5	7	0	5	22	2	120	6	4	1	132	283	1555
08:45:00	8	1	7	0	6	16	3	82	4	0	3	89	6	5	5	0	2	16	3	108	8	1	0	120	241	1283
BREAK																										
14:00:00	3	2	7	0	6	12	8	71	13	0	2	92	12	1	5	0	1	18	3	63	6	6	2	78	200	
14:15:00	7	3	8	0	4	18	9	83	5	1	2	98	8	1	6	0	2	15	1	95	7	6	3	109	240	
14:30:00	5	2	10	0	15	17	15	173	11	1	6	200	7	0	9	0	4	16	2	118	6	4	2	130	363	
14:45:00	2	4	6	2	61	14	13	183	21	0	17	217	7	2	14	0	30	23	0	90	7	2	5	99	353	1156
15:00:00	9	5	4	0	12	18	7	140	10	0	10	157	6	5	13	0	14	24	0	86	6	5	2	97	296	1252
15:15:00	8	4	11	0	5	23	9	147	6	1	4	163	10	1	15	0	4	26	1	103	6	7	4	117	329	1341
15:30:00	8	6	12	0	11	26	17	132	11	0	3	160	9	2	25	0	3	36	2	102	10	9	5	123	345	1323
15:45:00	8	5	9	0	1	22	13	154	16	1	1	184	13	2	12	0	1	27	7	87	10	6	11	110	343	1313
16:00:00	8	4	9	0	3	21	9	140	16	0	1	165	12	5	15	0	1	32	4	82	9	6	0	101	319	1336
16:15:00	10	6	9	0	8	25	10	156	10	0	3	176	4	5	16	0	3	25	1	81	6	10	4	98	324	1331
16:30:00	4	5	9	0	5	18	11	164	20	1	2	196	8	2	13	0	1	23	0	120	14	1	5	135	372	1358
16:45:00	9	7	6	0	6	22	12	177	10	0	7	199	7	2	15	0	7	24	4	146	7	12	3	169	414	1429
17:00:00	13	6	10	0	6	29	14	204	15	1	0	234	11	2	20	0	0	33	2	101	6	4	2	113	409	1519
17:15:00	12	5	5	0	9	22	9	160	15	0	2	184	8	5	14	0	1	27	1	86	10	6	2	103	336	1531
17:30:00	10	7	3	0	5	20	19	192	9	1	0	221	6	4	8	0	0	18	1	105	12	3	2	121	380	1539
17:45:00	11	4	8	0	2	23	15	169	10	0	0	194	9	3	6	0	0	18	3	86	11	10	0	110	345	1470
Grand Total	206	95	207	2	187	510	244	3306	262	11	75	3823	218	60	257	0	98	535	53	2698	184	111	60	3046	**7914**	-
Approach%	40.4%	18.6%	40.6%	0.4%		-	6.4%	86.5%	6.9%	0.3%		-	40.7%	11.2%	48%	0%		-	1.7%	88.6%	6%	3.6%		-	-	-
Totals %	2.6%	1.2%	2.6%	0%		6.4%	3.1%	41.8%	3.3%	0.1%		48.3%	2.8%	0.8%	3.2%	0%		6.8%	0.7%	34.1%	2.3%	1.4%		38.5%	-	-
Heavy	4	0	6	0		-	20	78	7	0		-	5	0	0	0		-	0	78	1	2		-	-	-
Heavy %	1.9%	0%	2.9%	0%		-	8.2%	2.4%	2.7%	0%		-	2.3%	0%	0%	0%		-	0%	2.9%	0.5%	1.8%		-	-	-
Bicycles	0	0	1	0		-	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	-	-
Bicycle %	0%	0%	0.5%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	-	-

Spectrum

Turning Movement Count
Location Name: LOUIS ST LAURENT AVE & KENNEDY CIRCLE (EAST)
Date: Tue, Feb 13, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 07:30 AM - 08:30 AM Weather: Overcast Clouds (-2.78 °C)

Start Time	N Approach KENNEDY CIRCLE (EAST)						E Approach LOUIS ST LAURENT AVE						S Approach KENNEDY CIRCLE (EAST)						W Approach LOUIS ST LAURENT AVE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
07:30:00	7	5	16	0	2	28	5	108	9	0	1	122	13	1	6	0	2	20	2	173	6	4	1	185	355
07:45:00	17	4	22	0	8	43	20	157	7	0	6	184	11	2	8	0	11	21	3	254	7	1	4	265	513
08:00:00	19	4	8	0	5	31	12	215	11	1	1	239	10	1	6	0	3	17	2	157	11	2	0	172	459
08:15:00	7	1	6	0	3	14	5	112	7	0	3	124	19	1	10	0	2	30	5	116	10	1	1	132	300
Grand Total	50	14	52	0	18	116	42	592	34	1	11	669	53	5	30	0	18	88	12	700	34	8	6	754	**1627**
Approach%	43.1%	12.1%	44.8%	0%		-	6.3%	88.5%	5.1%	0.1%		-	60.2%	5.7%	34.1%	0%		-	1.6%	92.8%	4.5%	1.1%		-	**-**
Totals %	3.1%	0.9%	3.2%	0%		7.1%	2.6%	36.4%	2.1%	0.1%		41.1%	3.3%	0.3%	1.8%	0%		5.4%	0.7%	43%	2.1%	0.5%		46.3%	**-**
PHF	0.66	0.7	0.59	0		0.67	0.53	0.69	0.77	0.25		0.7	0.7	0.63	0.75	0		0.73	0.6	0.69	0.77	0.5		0.71	**-**
Heavy	0	0	0	0		0	4	22	2	0		28	1	0	0	0		1	0	28	0	0		28	**-**
Heavy %	0%	0%	0%	0%		0%	9.5%	3.7%	5.9%	0%		4.2%	1.9%	0%	0%	0%		1.1%	0%	4%	0%	0%		3.7%	**-**
Lights	50	14	52	0		116	38	570	32	1		641	52	5	30	0		87	12	672	34	8		726	**-**
Lights %	100%	100%	100%	0%		100%	90.5%	96.3%	94.1%	100%		95.8%	98.1%	100%	100%	0%		98.9%	100%	96%	100%	100%		96.3%	**-**
Single-Unit Trucks	0	0	0	0		0	0	4	1	0		5	1	0	0	0		1	0	4	0	0		4	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0.7%	2.9%	0%		0.7%	1.9%	0%	0%	0%		1.1%	0%	0.6%	0%	0%		0.5%	**-**
Buses	0	0	0	0		0	4	17	0	0		21	0	0	0	0		0	0	21	0	0		21	**-**
Buses %	0%	0%	0%	0%		0%	9.5%	2.9%	0%	0%		3.1%	0%	0%	0%	0%		0%	0%	3%	0%	0%		2.8%	**-**
Articulated Trucks	0	0	0	0		0	0	1	1	0		2	0	0	0	0		0	0	3	0	0		3	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0.2%	2.9%	0%		0.3%	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.4%	**-**
Pedestrians	-	-	-	-	14	-	-	-	-	-	7	-	-	-	-	-	14	-	-	-	-	-	4	-	**-**
Pedestrians%	-	-	-	-	26.4%		-	-	-	-	13.2%		-	-	-	-	26.4%		-	-	-	-	7.5%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	4	-	-	-	-	-	4	-	-	-	-	-	4	-	-	-	-	-	2	-	**-**
Bicycles on Crosswalk%	-	-	-	-	7.5%		-	-	-	-	7.5%		-	-	-	-	7.5%		-	-	-	-	3.8%		**-**

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 04:45 PM - 05:45 PM Weather: Overcast Clouds (2.8 °C)

Start Time	N Approach KENNEDY CIRCLE (EAST)						E Approach LOUIS ST LAURENT AVE						S Approach KENNEDY CIRCLE (EAST)						W Approach LOUIS ST LAURENT AVE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:45:00	9	7	6	0	6	22	12	177	10	0	7	199	7	2	15	0	7	24	4	146	7	12	3	169	414
17:00:00	13	6	10	0	6	29	14	204	15	1	0	234	11	2	20	0	0	33	2	101	6	4	2	113	409
17:15:00	12	5	5	0	9	22	9	160	15	0	2	184	8	5	14	0	1	27	1	86	10	6	2	103	336
17:30:00	10	7	3	0	5	20	19	192	9	1	0	221	6	4	8	0	0	18	1	105	12	3	2	121	380
Grand Total	44	25	24	0	26	93	54	733	49	2	9	838	32	13	57	0	8	102	8	438	35	25	9	506	**1539**
Approach%	47.3%	26.9%	25.8%	0%		-	6.4%	87.5%	5.8%	0.2%		-	31.4%	12.7%	55.9%	0%		-	1.6%	86.6%	6.9%	4.9%		-	**-**
Totals %	2.9%	1.6%	1.6%	0%		6%	3.5%	47.6%	3.2%	0.1%		54.5%	2.1%	0.8%	3.7%	0%		6.6%	0.5%	28.5%	2.3%	1.6%		32.9%	**-**
PHF	0.85	0.89	0.6	0		0.8	0.71	0.9	0.82	0.5		0.9	0.73	0.65	0.71	0		0.77	0.5	0.75	0.73	0.52		0.75	**-**
Heavy	0	0	1	0		1	1	1	0	0		2	0	0	0	0		0	0	6	0	0		6	**-**
Heavy %	0%	0%	4.2%	0%		1.1%	1.9%	0.1%	0%	0%		0.2%	0%	0%	0%	0%		0%	0%	1.4%	0%	0%		1.2%	**-**
Lights	44	25	23	0		92	53	732	49	2		836	32	13	57	0		102	8	432	35	25		500	**-**
Lights %	100%	100%	95.8%	0%		98.9%	98.1%	99.9%	100%	100%		99.8%	100%	100%	100%	0%		100%	100%	98.6%	100%	100%		98.8%	**-**
Single-Unit Trucks	0	0	1	0		1	1	1	0	0		2	0	0	0	0		0	0	4	0	0		4	**-**
Single-Unit Trucks %	0%	0%	4.2%	0%		1.1%	1.9%	0.1%	0%	0%		0.2%	0%	0%	0%	0%		0%	0%	0.9%	0%	0%		0.8%	**-**
Buses	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	**-**
Buses %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.2%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.2%	**-**
Pedestrians	-	-	-	-	22	-	-	-	-	-	8	-	-	-	-	-	8	-	-	-	-	-	9	-	**-**
Pedestrians%	-	-	-	-	42.3%		-	-	-	-	15.4%		-	-	-	-	15.4%		-	-	-	-	17.3%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	4	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	7.7%		-	-	-	-	1.9%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: LOUIS ST LAURENT AVE & KENNEDY CIRCLE (EAST)
Date: Tue, Feb 13, 2024 Deployment Lead: David Chu

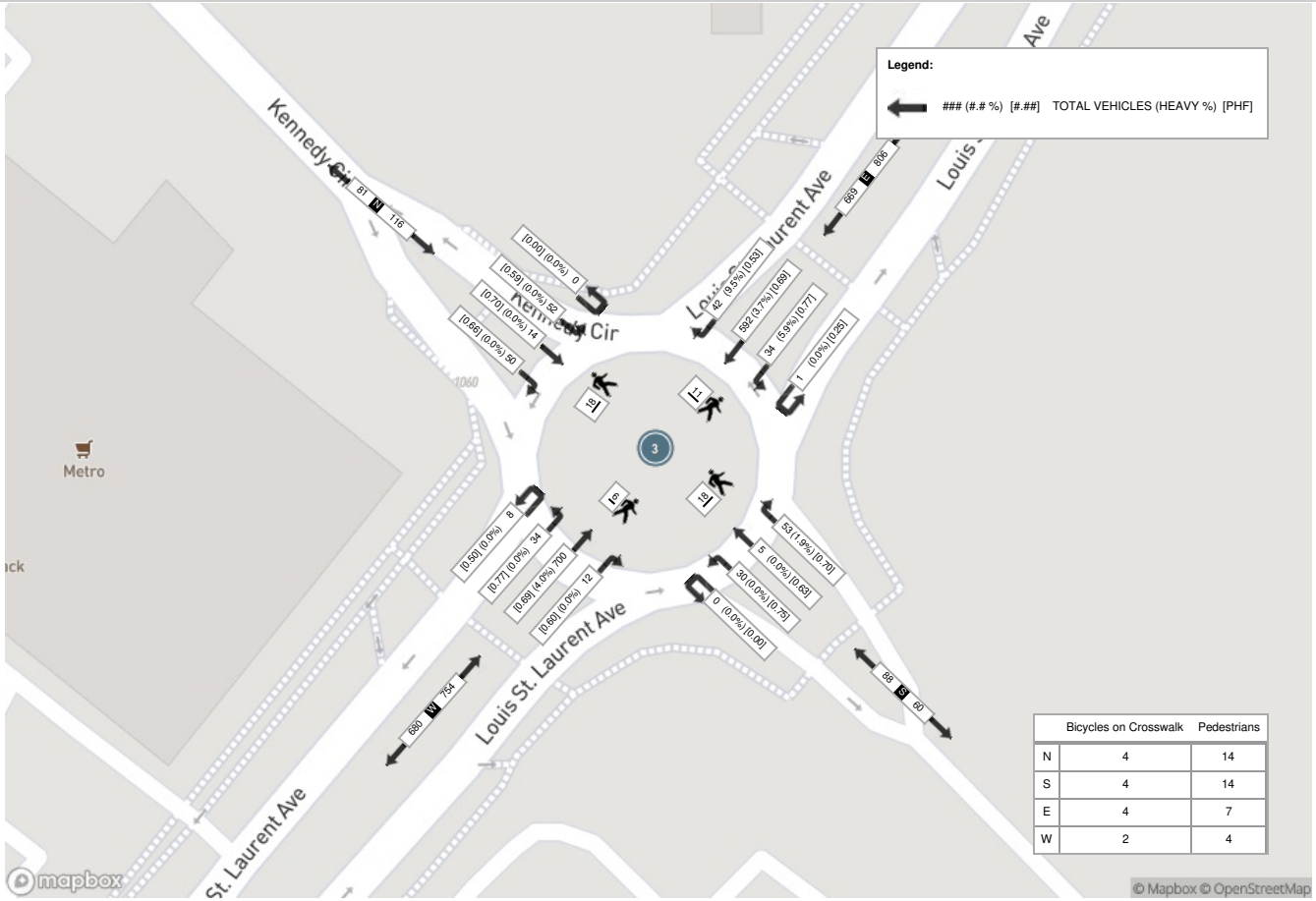
BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Selected Hour: 02:30 PM - 03:30 PM Weather:

Start Time	N Approach KENNEDY CIRCLE (EAST)						E Approach LOUIS ST LAURENT AVE						S Approach KENNEDY CIRCLE (EAST)						W Approach LOUIS ST LAURENT AVE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
14:30:00	5	2	10	0	15	17	15	173	11	1	6	200	7	0	9	0	4	16	2	118	6	4	2	130	363
14:45:00	2	4	6	2	61	14	13	183	21	0	17	217	7	2	14	0	30	23	0	90	7	2	5	99	353
15:00:00	9	5	4	0	12	18	7	140	10	0	10	157	6	5	13	0	14	24	0	86	6	5	2	97	296
15:15:00	8	4	11	0	5	23	9	147	6	1	4	163	10	1	15	0	4	26	1	103	6	7	4	117	329
Grand Total	24	15	31	2	93	72	44	643	48	2	37	737	30	8	51	0	52	89	3	397	25	18	13	443	**1341**
Approach%	33.3%	20.8%	43.1%	2.8%		-	6%	87.2%	6.5%	0.3%		-	33.7%	9%	57.3%	0%		-	0.7%	89.6%	5.6%	4.1%		-	**-**
Totals %	1.8%	1.1%	2.3%	0.1%		5.4%	3.3%	47.9%	3.6%	0.1%		55%	2.2%	0.6%	3.8%	0%		6.6%	0.2%	29.6%	1.9%	1.3%		33%	**-**
PHF	0.67	0.75	0.7	0.25		0.78	0.73	0.88	0.57	0.5		0.85	0.75	0.4	0.85	0		0.86	0.38	0.84	0.89	0.64		0.85	**-**
Heavy	0	0	3	0		3	4	25	1	0		30	0	0	0	0		0	0	13	0	0		13	**-**
Heavy %	0%	0%	9.7%	0%		4.2%	9.1%	3.9%	2.1%	0%		4.1%	0%	0%	0%	0%		0%	0%	3.3%	0%	0%		2.9%	**-**
Lights	24	15	28	2		69	40	618	47	2		707	30	8	51	0		89	3	384	25	18		430	**-**
Lights %	100%	100%	90.3%	100%		95.8%	90.9%	96.1%	97.9%	100%		95.9%	100%	100%	100%	0%		100%	100%	96.7%	100%	100%		97.1%	**-**
Single-Unit Trucks	0	0	2	0		2	1	2	1	0		4	0	0	0	0		0	0	5	0	0		5	**-**
Single-Unit Trucks %	0%	0%	6.5%	0%		2.8%	2.3%	0.3%	2.1%	0%		0.5%	0%	0%	0%	0%		0%	0%	1.3%	0%	0%		1.1%	**-**
Buses	0	0	1	0		1	3	21	0	0		24	0	0	0	0		0	0	6	0	0		6	**-**
Buses %	0%	0%	3.2%	0%		1.4%	6.8%	3.3%	0%	0%		3.3%	0%	0%	0%	0%		0%	0%	1.5%	0%	0%		1.4%	**-**
Articulated Trucks	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	0	2	0	0		2	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.3%	0%	0%	0%	0%		0%	0%	0.5%	0%	0%		0.5%	**-**
Pedestrians	-	-	-	-	81	-	-	-	-	-	31	-	-	-	-	-	49	-	-	-	-	-	13	-	**-**
Pedestrians%	-	-	-	-	41.5%		-	-	-	-	15.9%		-	-	-	-	25.1%		-	-	-	-	6.7%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	12	-	-	-	-	-	6	-	-	-	-	-	3	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	6.2%		-	-	-	-	3.1%		-	-	-	-	1.5%		-	-	-	-	0%		**-**

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

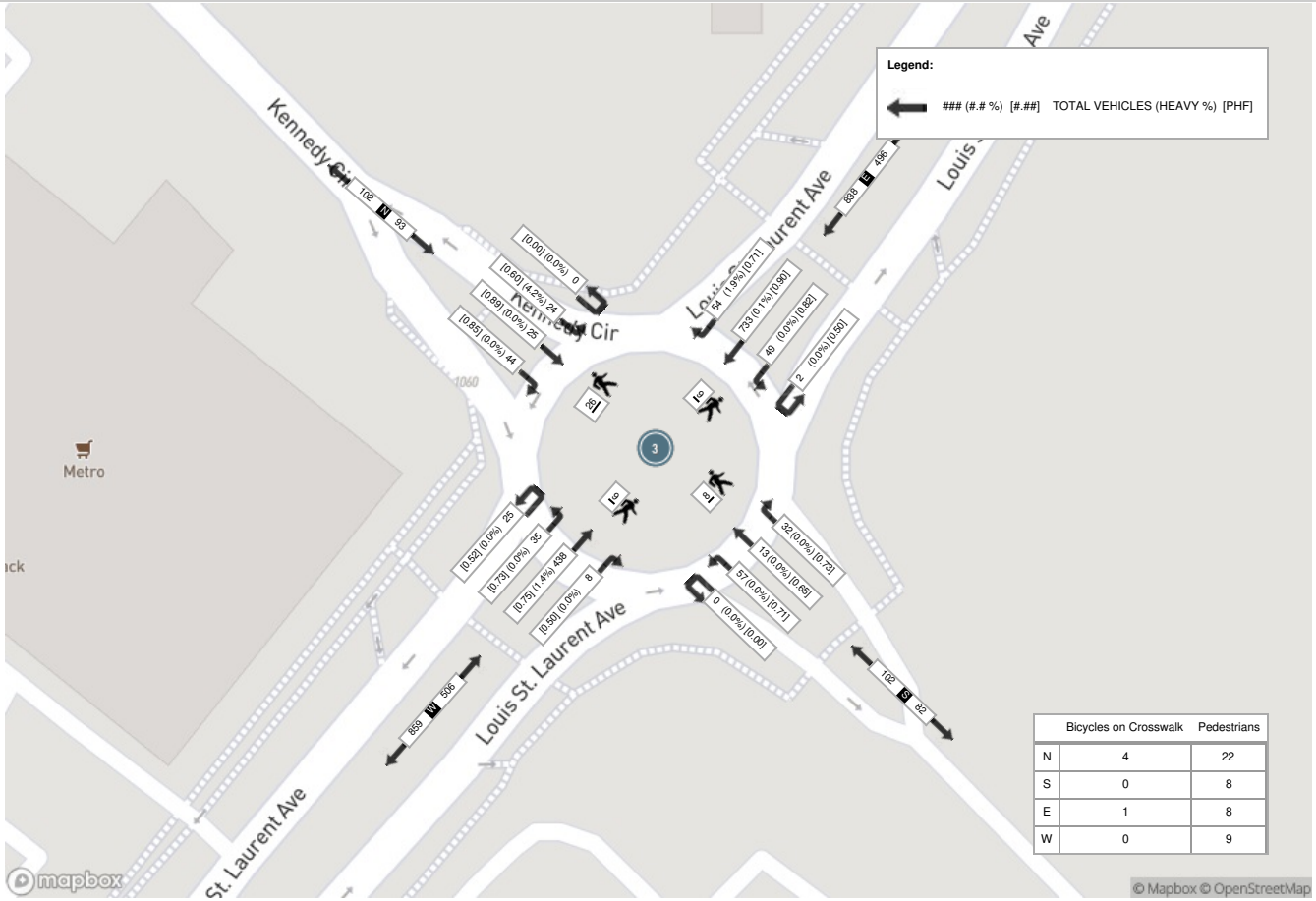
Peak Hour: 07:30 AM - 08:30 AM **Weather: Overcast Clouds (-2.78 °C)**



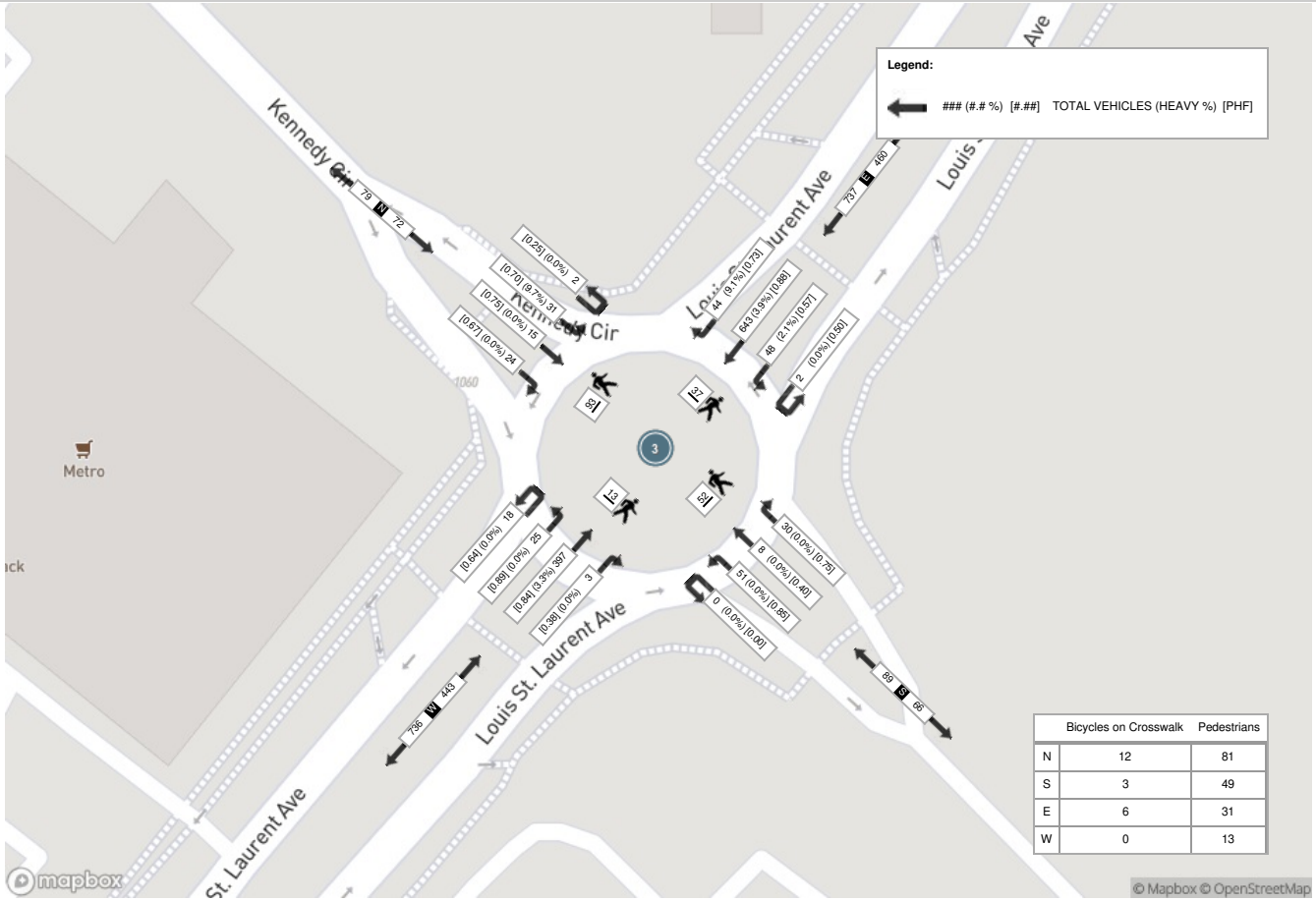
	Bicycles on Crosswalk	Pedestrians
N	4	14
S	4	14
E	4	7
W	2	4

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 04:45 PM - 05:45 PM **Weather: Overcast Clouds (2.8 °C)**



Selected Hour: 02:30 PM - 03:30 PM **Weather:**



	Bicycles on Crosswalk	Pedestrians
N	12	81
S	3	49
E	6	31
W	0	13

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Turning Movement Count (2 . LOUIS ST LAURENT AVE & METRO ACCESS)

Start Time	N Approach METRO ACCESS					E Approach LOUIS ST LAURENT AVE					W Approach LOUIS ST LAURENT AVE					Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	UTurn E:E	Peds E:	Approach Total	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	0	0	0	0	0	2	53	0	0	55	96	0	0	0	96	151	
07:15:00	2	0	0	0	2	6	63	0	0	69	130	0	0	0	130	201	
07:30:00	6	0	0	1	6	7	118	0	0	125	188	0	0	0	188	319	
07:45:00	6	0	0	7	6	6	175	0	0	181	264	0	0	1	264	451	1122
08:00:00	7	0	0	3	7	5	238	0	0	243	170	0	0	0	170	420	1391
08:15:00	4	0	0	2	4	8	120	0	0	128	131	0	0	0	131	263	1453
08:30:00	10	0	0	2	10	11	95	0	0	106	132	0	0	0	132	248	1382
08:45:00	5	0	0	2	5	7	89	0	0	96	118	0	0	0	118	219	1150
BREAK																	
14:00:00	8	0	0	2	8	18	67	0	0	85	77	0	0	0	77	170	
14:15:00	17	0	0	6	17	15	86	0	0	101	109	0	0	0	109	227	
14:30:00	15	0	0	8	15	25	162	0	0	187	130	0	0	0	130	332	
14:45:00	22	0	0	32	22	22	180	0	0	202	98	0	0	0	98	322	1051
15:00:00	19	0	0	13	19	23	141	0	0	164	101	0	0	1	101	284	1165
15:15:00	16	0	0	1	16	34	139	0	0	173	114	0	0	0	114	303	1241
15:30:00	13	0	0	6	13	31	144	0	0	175	122	0	0	0	122	310	1219
15:45:00	20	0	0	1	20	32	147	0	0	179	109	0	0	0	109	308	1205
16:00:00	24	0	0	4	24	28	144	0	0	172	101	0	0	0	101	297	1218
16:15:00	23	0	0	0	23	25	166	0	0	191	101	0	0	0	101	315	1230
16:30:00	25	0	0	3	25	32	148	0	0	180	135	0	0	0	135	340	1260
16:45:00	27	0	0	1	27	46	160	0	0	206	166	0	0	0	166	399	1351
17:00:00	26	0	0	3	26	47	197	0	0	244	109	0	0	0	109	379	1433
17:15:00	21	0	0	0	21	44	147	0	0	191	104	0	0	0	104	316	1434
17:30:00	25	0	0	2	25	41	172	0	0	213	120	0	0	0	120	358	1452
17:45:00	37	0	0	0	37	34	161	0	0	195	111	0	0	0	111	343	1396
Grand Total	378	0	0	99	378	549	3312	0	0	3861	3036	0	0	2	3036	**7275**	-
Approach%	100%	0%	0%		-	14.2%	85.8%	0%		-	100%	0%	0%		-	**-**	-
Totals %	5.2%	0%	0%		5.2%	7.5%	45.5%	0%		53.1%	41.7%	0%	0%		41.7%	**-**	-
Heavy	4	0	0		-	2	79	0		-	80	0	0		-	**-**	-
Heavy %	1.1%	0%	0%		-	0.4%	2.4%	0%		-	2.6%	0%	0%		-	**-**	-
Bicycles	0	0	0		-	0	1	0		-	1	0	0		-	**-**	-
Bicycle %	0%	0%	0%		-	0%	0%	0%		-	0%	0%	0%		-	**-**	-

Peak Hour: 07:30 AM - 08:30 AM Weather: Overcast Clouds (-2.78 °C)

Start Time	N Approach METRO ACCESS					E Approach LOUIS ST LAURENT AVE					W Approach LOUIS ST LAURENT AVE					Int. Total (15 min)
	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	
07:30:00	6	0	0	1	6	7	118	0	0	125	188	0	0	0	188	319
07:45:00	6	0	0	7	6	6	175	0	0	181	264	0	0	1	264	451
08:00:00	7	0	0	3	7	5	238	0	0	243	170	0	0	0	170	420
08:15:00	4	0	0	2	4	8	120	0	0	128	131	0	0	0	131	263
Grand Total	23	0	0	13	23	26	651	0	0	677	753	0	0	1	753	**1453**
Approach%	100%	0%	0%		-	3.8%	96.2%	0%		-	100%	0%	0%		-	**-**
Totals %	1.6%	0%	0%		1.6%	1.8%	44.8%	0%		46.6%	51.8%	0%	0%		51.8%	**-**
PHF	0.82	0	0		0.82	0.81	0.68	0		0.7	0.71	0	0		0.71	**-**
Heavy	0	0	0		0	1	21	0		22	27	0	0		27	**-**
Heavy %	0%	0%	0%		0%	3.8%	3.2%	0%		3.2%	3.6%	0%	0%		3.6%	**-**
Lights	23	0	0		23	25	630	0		655	726	0	0		726	**-**
Lights %	100%	0%	0%		100%	96.2%	96.8%	0%		96.8%	96.4%	0%	0%		96.4%	**-**
Single-Unit Trucks	0	0	0		0	0	4	0		4	4	0	0		4	**-**
Single-Unit Trucks %	0%	0%	0%		0%	0%	0.6%	0%		0.6%	0.5%	0%	0%		0.5%	**-**
Buses	0	0	0		0	0	17	0		17	21	0	0		21	**-**
Buses %	0%	0%	0%		0%	0%	2.6%	0%		2.5%	2.8%	0%	0%		2.8%	**-**
Articulated Trucks	0	0	0		0	1	0	0		1	2	0	0		2	**-**
Articulated Trucks %	0%	0%	0%		0%	3.8%	0%	0%		0.1%	0.3%	0%	0%		0.3%	**-**
Pedestrians	-	-	-	9	-	-	-	-	0	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	64.3%		-	-	-	0%		-	-	-	7.1%		**-**
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	1	0	0	0	-	**-**
Bicycles on Road%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	4	-	-	-	-	0	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	28.6%		-	-	-	0%		-	-	-	0%		**-**

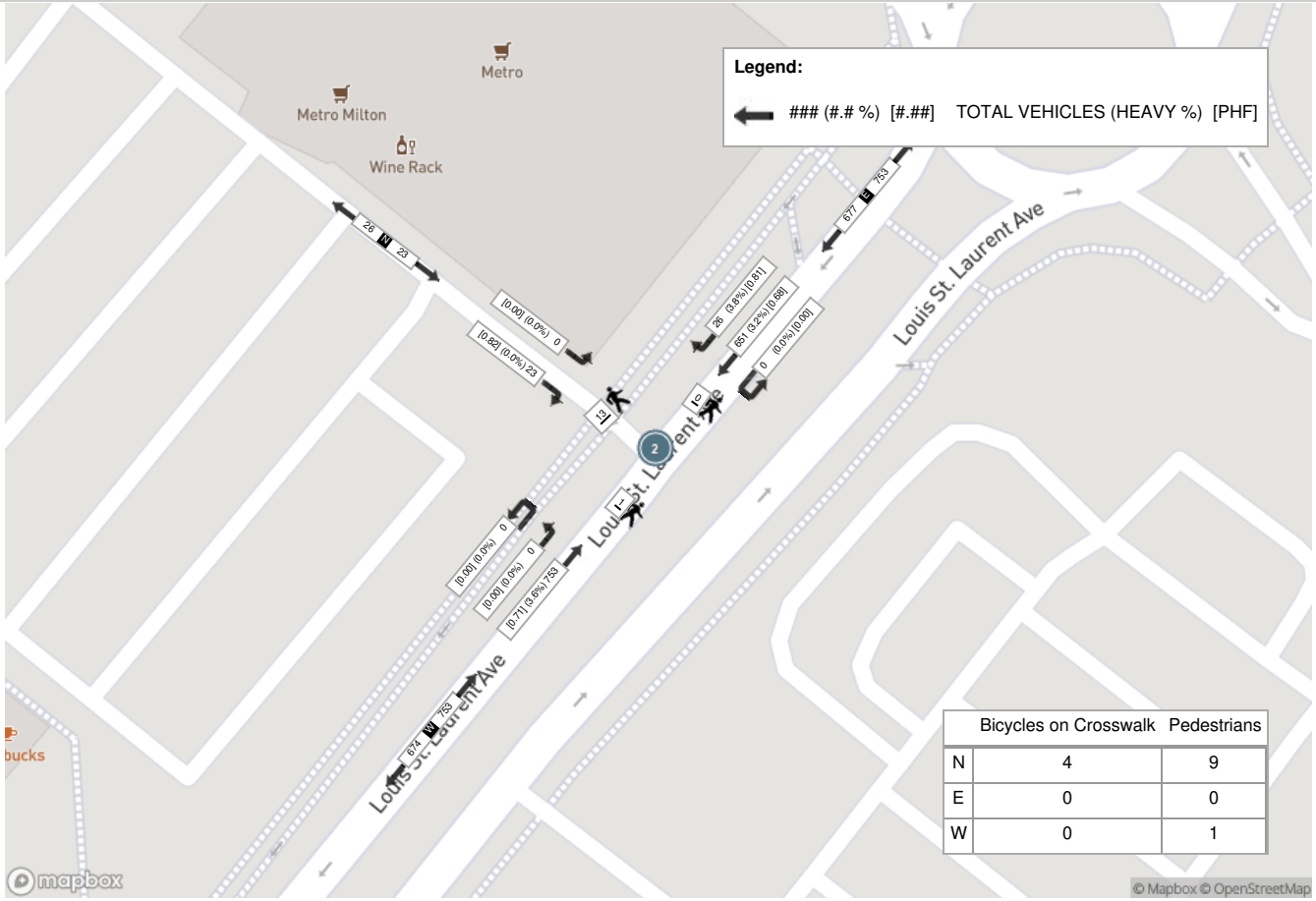
Peak Hour: 04:45 PM - 05:45 PM Weather: Overcast Clouds (2.8 °C)

Start Time	N Approach METRO ACCESS					E Approach LOUIS ST LAURENT AVE					W Approach LOUIS ST LAURENT AVE					Int. Total (15 min)
	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	
16:45:00	27	0	0	1	27	46	160	0	0	206	166	0	0	0	166	399
17:00:00	26	0	0	3	26	47	197	0	0	244	109	0	0	0	109	379
17:15:00	21	0	0	0	21	44	147	0	0	191	104	0	0	0	104	316
17:30:00	25	0	0	2	25	41	172	0	0	213	120	0	0	0	120	358
Grand Total	99	0	0	6	99	178	676	0	0	854	499	0	0	0	499	**1452**
Approach%	100%	0%	0%		-	20.8%	79.2%	0%		-	100%	0%	0%		-	**-**
Totals %	6.8%	0%	0%		6.8%	12.3%	46.6%	0%		58.8%	34.4%	0%	0%		34.4%	**-**
PHF	0.92	0	0		0.92	0.95	0.86	0		0.88	0.75	0	0		0.75	**-**
Heavy	0	0	0		0	0	0	0		0	6	0	0		6	**-**
Heavy %	0%	0%	0%		0%	0%	0%	0%		0%	1.2%	0%	0%		1.2%	**-**
Lights	99	0	0		99	178	676	0		854	493	0	0		493	**-**
Lights %	100%	0%	0%		100%	100%	100%	0%		100%	98.8%	0%	0%		98.8%	**-**
Single-Unit Trucks	0	0	0		0	0	0	0		0	4	0	0		4	**-**
Single-Unit Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0.8%	0%	0%		0.8%	**-**
Buses	0	0	0		0	0	0	0		0	1	0	0		1	**-**
Buses %	0%	0%	0%		0%	0%	0%	0%		0%	0.2%	0%	0%		0.2%	**-**
Articulated Trucks	0	0	0		0	0	0	0		0	1	0	0		1	**-**
Articulated Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0.2%	0%	0%		0.2%	**-**
Pedestrians	-	-	-	6	-	-	-	-	0	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	100%		-	-	-	0%		-	-	-	0%		**-**
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**

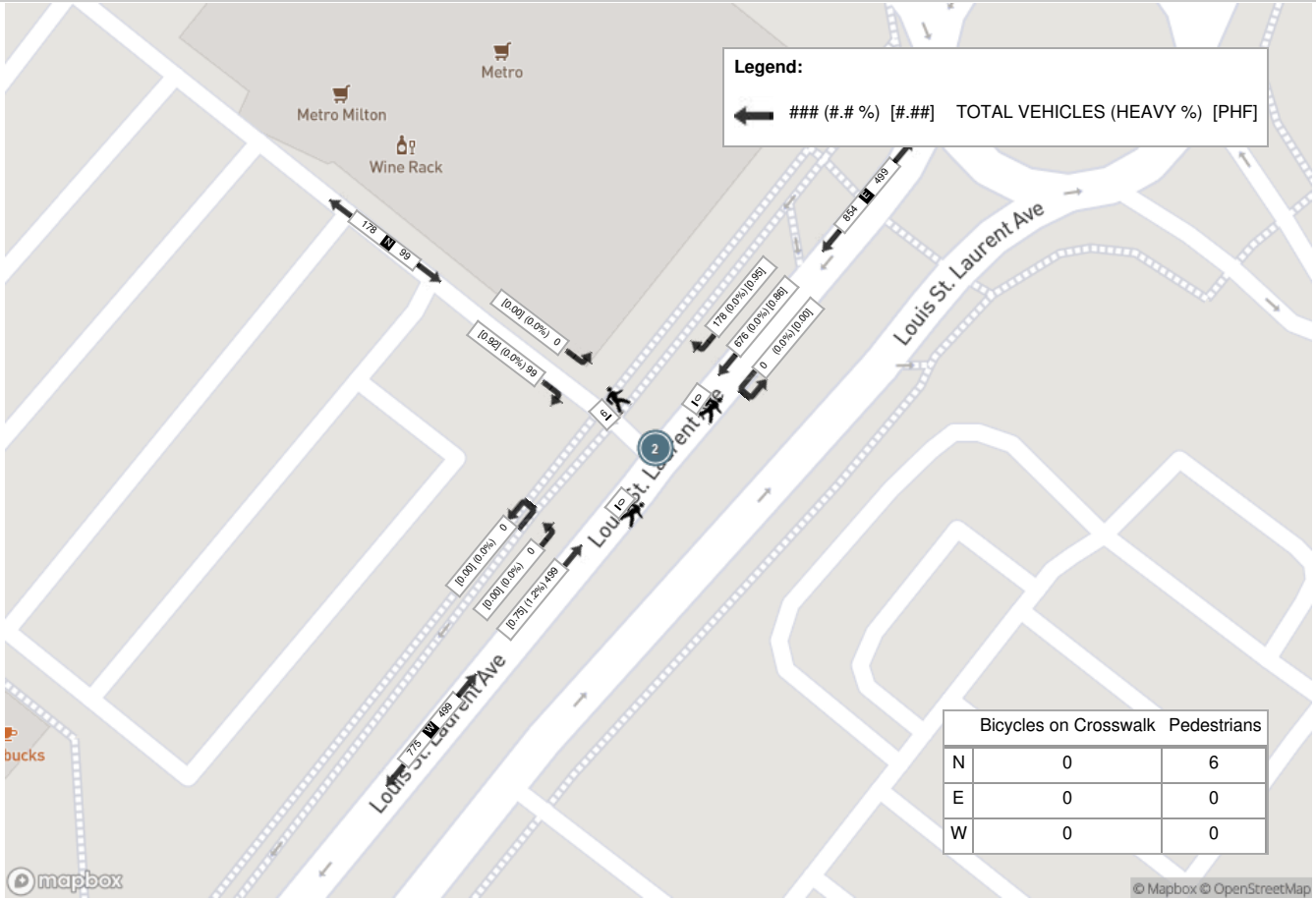
Selected Hour: 02:30 PM - 03:30 PM Weather:

Start Time	N Approach METRO ACCESS					E Approach LOUIS ST LAURENT AVE					W Approach LOUIS ST LAURENT AVE					Int. Total (15 min)
	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	
14:30:00	15	0	0	8	15	25	162	0	0	187	130	0	0	0	130	332
14:45:00	22	0	0	32	22	22	180	0	0	202	98	0	0	0	98	322
15:00:00	19	0	0	13	19	23	141	0	0	164	101	0	0	1	101	284
15:15:00	16	0	0	1	16	34	139	0	0	173	114	0	0	0	114	303
Grand Total	72	0	0	54	72	104	622	0	0	726	443	0	0	1	443	**1241**
Approach%	100%	0%	0%		-	14.3%	85.7%	0%		-	100%	0%	0%		-	**-**
Totals %	5.8%	0%	0%		5.8%	8.4%	50.1%	0%		58.5%	35.7%	0%	0%		35.7%	**-**
PHF	0.82	0	0		0.82	0.76	0.86	0		0.9	0.85	0	0		0.85	**-**
Heavy	1	0	0		1	1	23	0		24	13	0	0		13	**-**
Heavy %	1.4%	0%	0%		1.4%	1%	3.7%	0%		3.3%	2.9%	0%	0%		2.9%	**-**
Lights	71	0	0		71	103	599	0		702	430	0	0		430	**-**
Lights %	98.6%	0%	0%		98.6%	99%	96.3%	0%		96.7%	97.1%	0%	0%		97.1%	**-**
Single-Unit Trucks	0	0	0		0	0	1	0		1	6	0	0		6	**-**
Single-Unit Trucks %	0%	0%	0%		0%	0%	0.2%	0%		0.1%	1.4%	0%	0%		1.4%	**-**
Buses	1	0	0		1	1	20	0		21	6	0	0		6	**-**
Buses %	1.4%	0%	0%		1.4%	1%	3.2%	0%		2.9%	1.4%	0%	0%		1.4%	**-**
Articulated Trucks	0	0	0		0	0	2	0		2	1	0	0		1	**-**
Articulated Trucks %	0%	0%	0%		0%	0%	0.3%	0%		0.3%	0.2%	0%	0%		0.2%	**-**
Pedestrians	-	-	-	48	-	-	-	-	0	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	87.3%		-	-	-	0%		-	-	-	1.8%		**-**
Bicycles on Road	0	0	0	0	-	0	1	0	0	-	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	6	-	-	-	-	0	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	10.9%		-	-	-	0%		-	-	-	0%		**-**

Peak Hour: 07:30 AM - 08:30 AM Weather: Overcast Clouds (-2.78 °C)

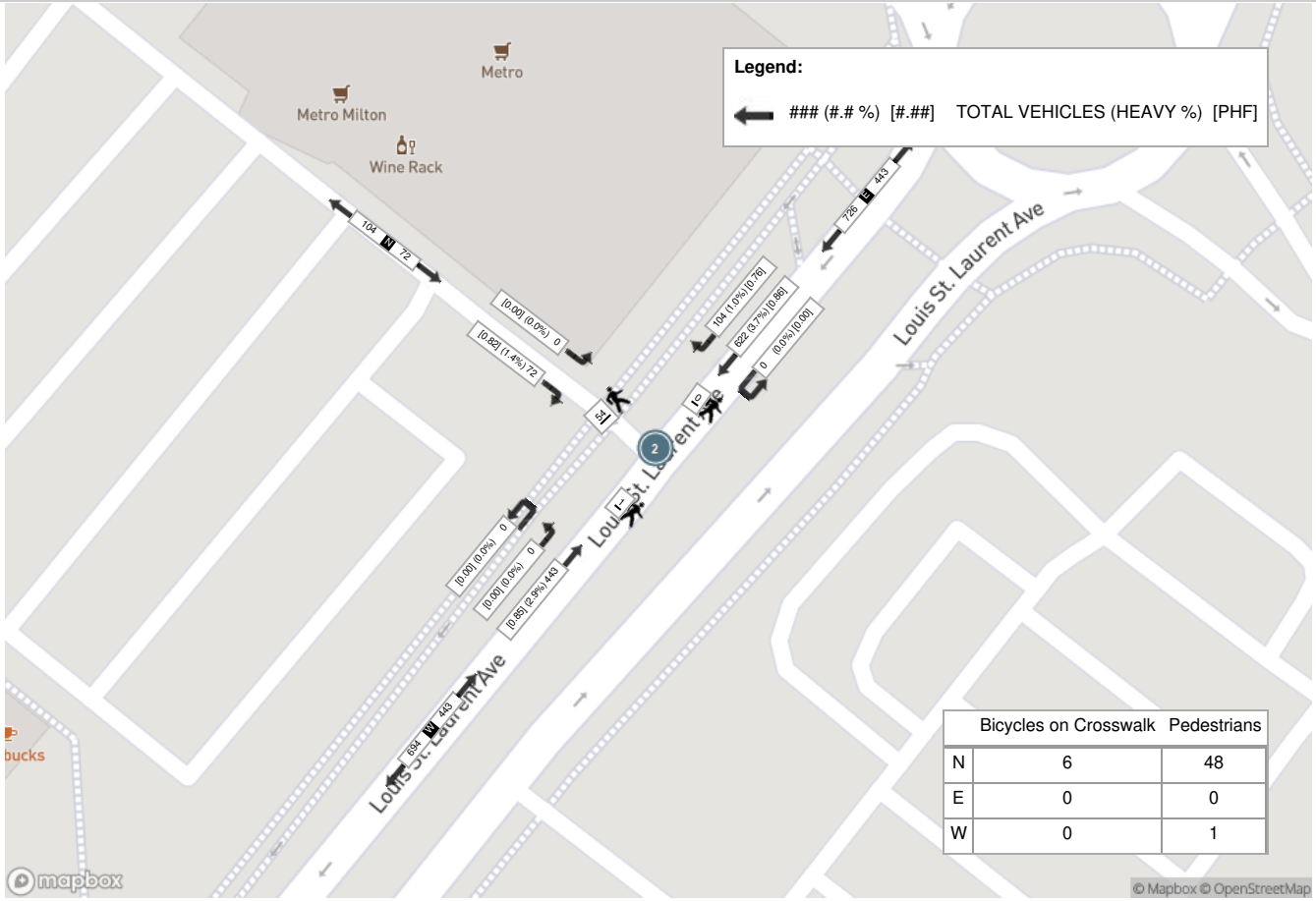


Peak Hour: 04:45 PM - 05:45 PM Weather: Overcast Clouds (2.8 °C)



	Bicycles on Crosswalk	Pedestrians
N	0	6
E	0	0
W	0	0

Selected Hour: 02:30 PM - 03:30 PM Weather:



	Bicycles on Crosswalk	Pedestrians
N	6	48
E	0	0
W	0	1

Spectrum

Turning Movement Count
Location Name: LOUIS ST LAURENT AVE & THOMPSON RD / THIRD LINE
Date: Tue, Feb 13, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Turning Movement Count (1 . LOUIS ST LAURENT AVE & THOMPSON RD / THIRD LINE)

Start Time	N Approach THOMPSON RD S						E Approach LOUIS SAINT LAURENT AVE						S Approach THOMPSON RD S						W Approach LOUIS SAINT LAURENT AVE						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	23	37	14	0	0	74	5	33	16	0	1	54	28	31	7	0	1	66	14	58	13	0	2	85	279	
07:15:00	28	43	24	0	0	95	6	44	16	0	0	66	33	32	12	0	0	77	11	89	19	0	0	119	357	
07:30:00	21	58	39	0	3	118	12	75	20	3	1	110	42	41	15	0	0	98	35	114	30	0	1	179	505	
07:45:00	20	76	57	0	7	153	26	114	41	0	0	181	60	52	23	1	3	136	26	159	43	0	4	228	698	1839
08:00:00	42	96	36	0	6	174	36	153	63	0	1	252	36	95	30	1	1	162	52	115	25	0	7	192	780	2340
08:15:00	31	72	30	0	0	133	8	98	22	0	0	128	42	66	25	0	0	133	20	81	49	0	1	150	544	2527
08:30:00	32	50	15	0	3	97	10	70	27	0	1	107	31	41	15	0	1	87	23	94	49	0	2	166	457	2479
08:45:00	36	36	19	0	6	91	4	68	18	0	0	90	26	44	22	0	3	92	18	91	54	0	2	163	436	2217
BREAK																										
14:00:00	19	36	28	0	10	83	6	53	21	0	0	80	12	45	19	0	1	76	15	43	30	0	1	88	327	
14:15:00	21	56	36	0	10	113	12	61	27	1	5	101	27	96	32	1	2	156	14	60	35	0	20	109	479	
14:30:00	20	38	28	0	18	86	25	125	26	0	7	176	24	74	17	0	4	115	11	85	58	0	34	154	531	
14:45:00	35	43	20	0	33	98	45	131	30	2	10	208	22	73	30	2	5	127	11	60	40	0	8	111	544	1881
15:00:00	38	36	31	0	35	105	14	115	27	0	14	156	19	63	17	2	8	101	12	75	44	0	20	131	493	2047
15:15:00	41	39	24	0	11	104	25	100	34	1	2	160	28	59	20	2	4	109	15	73	53	0	2	141	514	2082
15:30:00	38	51	29	1	3	119	17	109	27	0	8	153	27	79	25	0	3	131	22	83	46	0	5	151	554	2105
15:45:00	34	39	27	0	6	100	24	114	29	4	2	171	19	60	25	0	2	104	11	73	54	0	5	138	513	2074
16:00:00	49	47	31	0	6	127	11	126	28	0	8	165	12	65	23	0	2	100	17	71	46	0	0	134	526	2107
16:15:00	46	42	16	0	5	104	17	129	31	0	3	177	25	75	26	0	1	126	11	79	56	0	0	146	553	2146
16:30:00	34	40	34	0	7	108	18	132	39	0	3	189	19	90	18	1	2	128	14	91	54	0	1	159	584	2176
16:45:00	42	50	44	0	7	136	18	136	35	2	5	191	25	84	33	0	0	142	11	103	61	0	1	175	644	2307
17:00:00	39	53	23	0	5	115	20	156	35	3	3	214	17	73	27	0	0	117	17	86	61	0	0	164	610	2391
17:15:00	46	38	23	0	1	107	11	123	43	0	2	177	25	71	25	4	1	125	14	68	43	0	0	125	534	2372
17:30:00	55	52	26	0	6	133	18	133	40	1	0	192	17	107	31	3	0	158	15	88	49	0	0	152	635	2423
17:45:00	45	54	21	0	3	120	24	141	32	0	4	197	25	83	41	2	2	151	9	76	59	0	0	144	612	2391
Grand Total	835	1182	675	1	191	2693	412	2539	727	17	80	3695	641	1599	558	19	46	2817	418	2015	1071	0	116	3504	**12709**	-
Approach%	31%	43.9%	25.1%	0%		-	11.2%	68.7%	19.7%	0.5%		-	22.8%	56.8%	19.8%	0.7%		-	11.9%	57.5%	30.6%	0%		-	-	-
Totals %	6.6%	9.3%	5.3%	0%		21.2%	3.2%	20%	5.7%	0.1%		29.1%	5%	12.6%	4.4%	0.1%		22.2%	3.3%	15.9%	8.4%	0%		27.6%	-	-
Heavy	11	26	12	0		-	18	49	18	0		-	21	25	9	0		-	12	46	17	0		-	-	-
Heavy %	1.3%	2.2%	1.8%	0%		-	4.4%	1.9%	2.5%	0%		-	3.3%	1.6%	1.6%	0%		-	2.9%	2.3%	1.6%	0%		-	-	-
Bicycles	0	0	0	0		-	0	1	0	0		-	1	0	0	0		-	0	0	0	0		-	-	-
Bicycle %	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0.2%	0%	0%	0%		-	0%	0%	0%	0%		-	-	-

Peak Hour: 07:30 AM - 08:30 AM Weather: Overcast Clouds (-2.78 °C)

Start Time	N Approach THOMPSON RD S						E Approach LOUIS SAINT LAURENT AVE						S Approach THOMPSON RD S						W Approach LOUIS SAINT LAURENT AVE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
07:30:00	21	58	39	0	3	118	12	75	20	3	1	110	42	41	15	0	0	98	35	114	30	0	1	179	505
07:45:00	20	76	57	0	7	153	26	114	41	0	0	181	60	52	23	1	3	136	26	159	43	0	4	228	698
08:00:00	42	96	36	0	6	174	36	153	63	0	1	252	36	95	30	1	1	162	52	115	25	0	7	192	780
08:15:00	31	72	30	0	0	133	8	98	22	0	0	128	42	66	25	0	0	133	20	81	49	0	1	150	544
Grand Total	114	302	162	0	16	578	82	440	146	3	2	671	180	254	93	2	4	529	133	469	147	0	13	749	**2527**
Approach%	19.7%	52.2%	28%	0%		-	12.2%	65.6%	21.8%	0.4%		-	34%	48%	17.6%	0.4%		-	17.8%	62.6%	19.6%	0%		-	**-**
Totals %	4.5%	12%	6.4%	0%		22.9%	3.2%	17.4%	5.8%	0.1%		26.6%	7.1%	10.1%	3.7%	0.1%		20.9%	5.3%	18.6%	5.8%	0%		29.6%	**-**
PHF	0.68	0.79	0.71	0		0.83	0.57	0.72	0.58	0.25		0.67	0.75	0.67	0.78	0.5		0.82	0.64	0.74	0.75	0		0.82	**-**
Heavy	4	10	7	0		21	5	10	6	0		21	8	1	2	0		11	2	14	4	0		20	**-**
Heavy %	3.5%	3.3%	4.3%	0%		3.6%	6.1%	2.3%	4.1%	0%		3.1%	4.4%	0.4%	2.2%	0%		2.1%	1.5%	3%	2.7%	0%		2.7%	**-**
Lights	110	292	155	0		557	77	430	140	3		650	172	253	91	2		518	131	455	143	0		729	**-**
Lights %	96.5%	96.7%	95.7%	0%		96.4%	93.9%	97.7%	95.9%	100%		96.9%	95.6%	99.6%	97.8%	100%		97.9%	98.5%	97%	97.3%	0%		97.3%	**-**
Single-Unit Trucks	1	1	0	0		2	0	3	1	0		4	2	1	0	0		3	0	2	1	0		3	**-**
Single-Unit Trucks %	0.9%	0.3%	0%	0%		0.3%	0%	0.7%	0.7%	0%		0.6%	1.1%	0.4%	0%	0%		0.6%	0%	0.4%	0.7%	0%		0.4%	**-**
Buses	3	9	7	0		19	5	7	5	0		17	4	0	1	0		5	2	10	3	0		15	**-**
Buses %	2.6%	3%	4.3%	0%		3.3%	6.1%	1.6%	3.4%	0%		2.5%	2.2%	0%	1.1%	0%		0.9%	1.5%	2.1%	2%	0%		2%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	2	0	1	0		3	0	2	0	0		2	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	1.1%	0%	1.1%	0%		0.6%	0%	0.4%	0%	0%		0.3%	**-**
Pedestrians	-	-	-	-	14	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	11	-	**-**
Pedestrians%	-	-	-	-	40%		-	-	-	-	5.7%		-	-	-	-	2.9%		-	-	-	-	31.4%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	2	-	**-**
Bicycles on Crosswalk%	-	-	-	-	5.7%		-	-	-	-	0%		-	-	-	-	8.6%		-	-	-	-	5.7%		**-**

Spectrum

Turning Movement Count
Location Name: LOUIS ST LAURENT AVE & THOMPSON RD / THIRD LINE
Date: Tue, Feb 13, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 04:45 PM - 05:45 PM Weather: Overcast Clouds (2.8 °C)

Start Time	N Approach THOMPSON RD S						E Approach LOUIS SAINT LAURENT AVE						S Approach THOMPSON RD S						W Approach LOUIS SAINT LAURENT AVE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:45:00	42	50	44	0	7	136	18	136	35	2	5	191	25	84	33	0	0	142	11	103	61	0	1	175	644
17:00:00	39	53	23	0	5	115	20	156	35	3	3	214	17	73	27	0	0	117	17	86	61	0	0	164	610
17:15:00	46	38	23	0	1	107	11	123	43	0	2	177	25	71	25	4	1	125	14	68	43	0	0	125	534
17:30:00	55	52	26	0	6	133	18	133	40	1	0	192	17	107	31	3	0	158	15	88	49	0	0	152	635
Grand Total	182	193	116	0	19	491	67	548	153	6	10	774	84	335	116	7	1	542	57	345	214	0	1	616	**2423**
Approach%	37.1%	39.3%	23.6%	0%		-	8.7%	70.8%	19.8%	0.8%		-	15.5%	61.8%	21.4%	1.3%		-	9.3%	56%	34.7%	0%		-	**-**
Totals %	7.5%	8%	4.8%	0%		20.3%	2.8%	22.6%	6.3%	0.2%		31.9%	3.5%	13.8%	4.8%	0.3%		22.4%	2.4%	14.2%	8.8%	0%		25.4%	**-**
PHF	0.83	0.91	0.66	0		0.9	0.84	0.88	0.89	0.5		0.9	0.84	0.78	0.88	0.44		0.86	0.84	0.84	0.88	0		0.88	**-**
Heavy	1	2	0	0		3	0	1	0	0		1	0	1	0	0		1	0	6	0	0		6	**-**
Heavy %	0.5%	1%	0%	0%		0.6%	0%	0.2%	0%	0%		0.1%	0%	0.3%	0%	0%		0.2%	0%	1.7%	0%	0%		1%	**-**
Lights	181	191	116	0		488	67	547	153	6		773	84	334	116	7		541	57	339	214	0		610	**-**
Lights %	99.5%	99%	100%	0%		99.4%	100%	99.8%	100%	100%		99.9%	100%	99.7%	100%	100%		99.8%	100%	98.3%	100%	0%		99%	**-**
Single-Unit Trucks	1	1	0	0		2	0	1	0	0		1	0	0	0	0		0	0	4	0	0		4	**-**
Single-Unit Trucks %	0.5%	0.5%	0%	0%		0.4%	0%	0.2%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	1.2%	0%	0%		0.6%	**-**
Buses	0	1	0	0		1	0	0	0	0		0	0	1	0	0		1	0	1	0	0		1	**-**
Buses %	0%	0.5%	0%	0%		0.2%	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.2%	0%	0.3%	0%	0%		0.2%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.2%	**-**
Pedestrians	-	-	-	-	19	-	-	-	-	-	10	-	-	-	-	-	1	-	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	-	61.3%		-	-	-	-	32.3%		-	-	-	-	3.2%		-	-	-	-	3.2%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

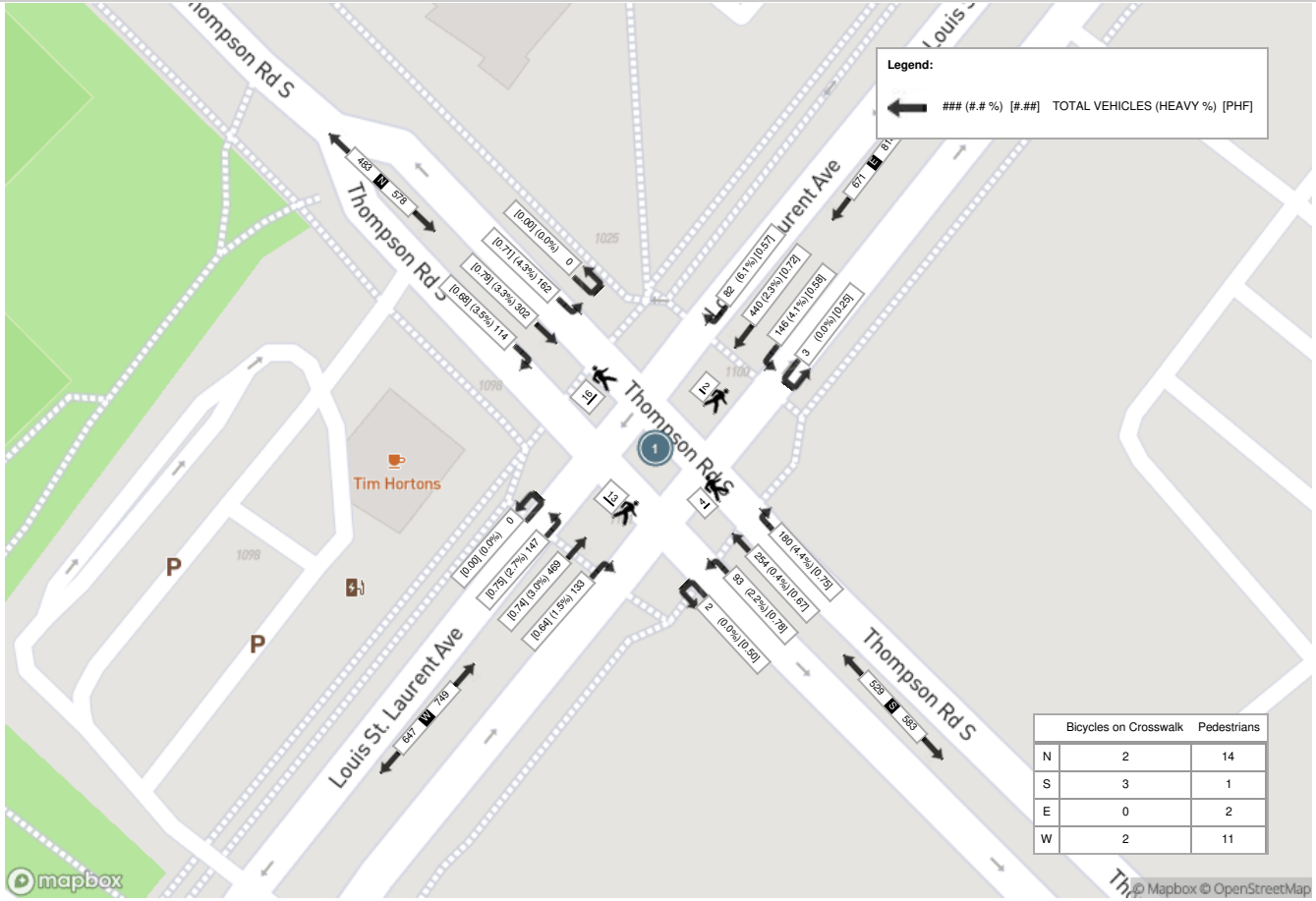
Turning Movement Count
Location Name: LOUIS ST LAURENT AVE & THOMPSON RD / THIRD LINE
Date: Tue, Feb 13, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

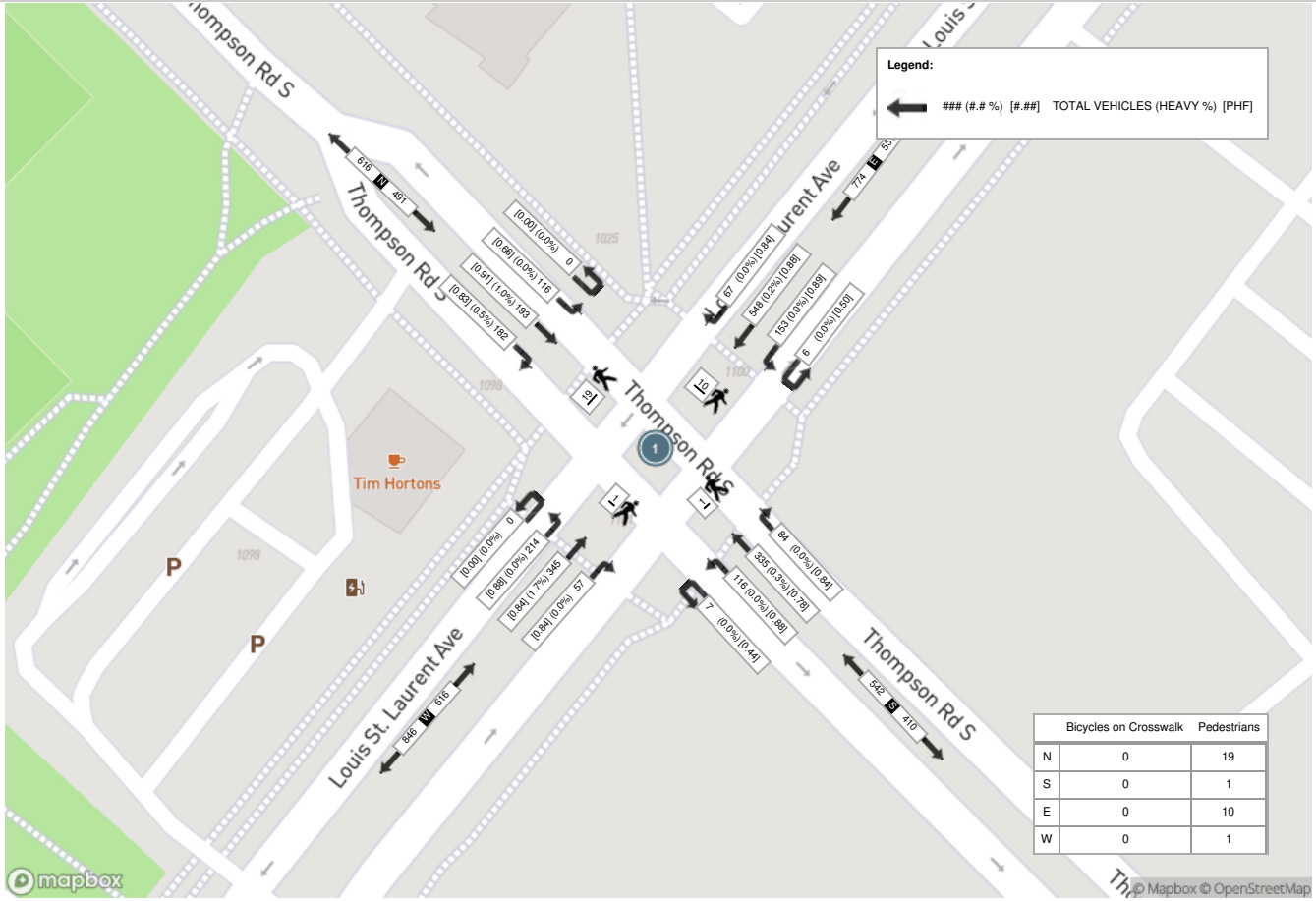
Selected Hour: 02:30 PM - 03:30 PM **Weather:**

Start Time	N Approach THOMPSON RD S						E Approach LOUIS SAINT LAURENT AVE						S Approach THOMPSON RD S						W Approach LOUIS SAINT LAURENT AVE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
14:30:00	20	38	28	0	18	86	25	125	26	0	7	176	24	74	17	0	4	115	11	85	58	0	34	154	531
14:45:00	35	43	20	0	33	98	45	131	30	2	10	208	22	73	30	2	5	127	11	60	40	0	8	111	544
15:00:00	38	36	31	0	35	105	14	115	27	0	14	156	19	63	17	2	8	101	12	75	44	0	20	131	493
15:15:00	41	39	24	0	11	104	25	100	34	1	2	160	28	59	20	2	4	109	15	73	53	0	2	141	514
Grand Total	134	156	103	0	97	393	109	471	117	3	33	700	93	269	84	6	21	452	49	293	195	0	64	537	**2082**
Approach%	34.1%	39.7%	26.2%	0%		-	15.6%	67.3%	16.7%	0.4%		-	20.6%	59.5%	18.6%	1.3%		-	9.1%	54.6%	36.3%	0%		-	-
Totals %	6.4%	7.5%	4.9%	0%		18.9%	5.2%	22.6%	5.6%	0.1%		33.6%	4.5%	12.9%	4%	0.3%		21.7%	2.4%	14.1%	9.4%	0%		25.8%	-
PHF	0.82	0.91	0.83	0		0.94	0.61	0.9	0.86	0.38		0.84	0.83	0.91	0.7	0.75		0.89	0.82	0.86	0.84	0		0.87	-
Heavy	2	4	1	0		7	7	13	5	0		25	4	6	2	0		12	2	6	6	0		14	-
Heavy %	1.5%	2.6%	1%	0%		1.8%	6.4%	2.8%	4.3%	0%		3.6%	4.3%	2.2%	2.4%	0%		2.7%	4.1%	2%	3.1%	0%		2.6%	-
Lights	132	152	102	0		386	102	458	112	3		675	89	263	82	6		440	47	287	189	0		523	-
Lights %	98.5%	97.4%	99%	0%		98.2%	93.6%	97.2%	95.7%	100%		96.4%	95.7%	97.8%	97.6%	100%		97.3%	95.9%	98%	96.9%	0%		97.4%	-
Single-Unit Trucks	0	1	1	0		2	0	1	1	0		2	0	1	1	0		2	0	2	1	0		3	-
Single-Unit Trucks %	0%	0.6%	1%	0%		0.5%	0%	0.2%	0.9%	0%		0.3%	0%	0.4%	1.2%	0%		0.4%	0%	0.7%	0.5%	0%		0.6%	-
Buses	2	3	0	0		5	6	11	4	0		21	3	4	1	0		8	2	3	5	0		10	-
Buses %	1.5%	1.9%	0%	0%		1.3%	5.5%	2.3%	3.4%	0%		3%	3.2%	1.5%	1.2%	0%		1.8%	4.1%	1%	2.6%	0%		1.9%	-
Articulated Trucks	0	0	0	0		0	1	1	0	0		2	1	1	0	0		2	0	1	0	0		1	-
Articulated Trucks %	0%	0%	0%	0%		0%	0.9%	0.2%	0%	0%		0.3%	1.1%	0.4%	0%	0%		0.4%	0%	0.3%	0%	0%		0.2%	-
Pedestrians	-	-	-	-	91	-	-	-	-	-	33	-	-	-	-	-	17	-	-	-	-	-	64	-	-
Pedestrians%	-	-	-	-	42.3%		-	-	-	-	15.3%		-	-	-	-	7.9%		-	-	-	-	29.8%		-
Bicycles on Road	0	0	0	0	0	-	0	1	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-
Bicycles on Crosswalk	-	-	-	-	6	-	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	-	2.8%		-	-	-	-	0%		-	-	-	-	1.9%		-	-	-	-	0%		-

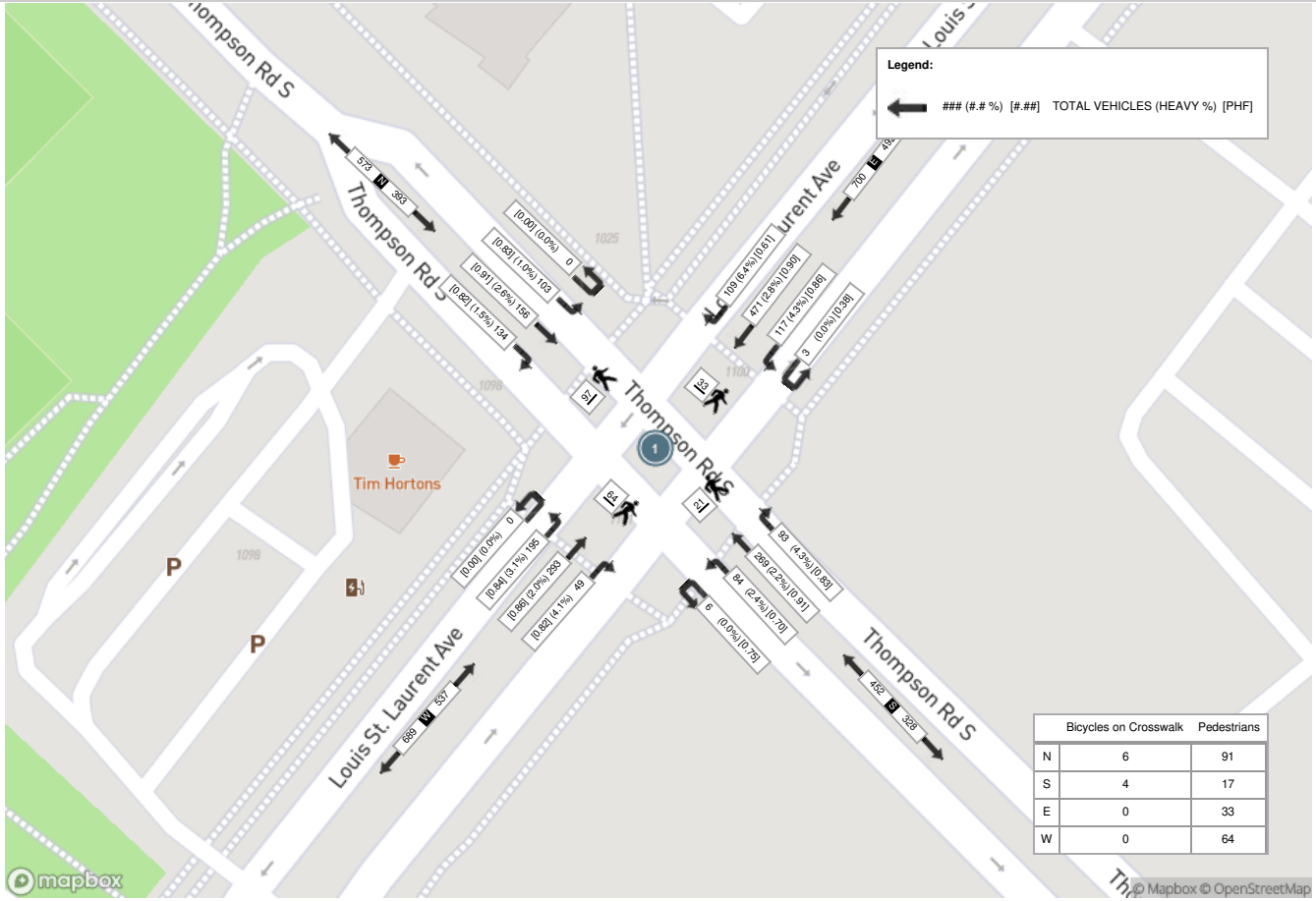
Peak Hour: 07:30 AM - 08:30 AM **Weather: Overcast Clouds (-2.78 °C)**



Peak Hour: 04:45 PM - 05:45 PM **Weather: Overcast Clouds (2.8 °C)**



Selected Hour: 02:30 PM - 03:30 PM **Weather:**



Spectrum

Turning Movement Count
Location Name: LOUIS ST LAURENT AVE & FERGUSON DR
Date: Tue, Feb 13, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Turning Movement Count (5 . LOUIS ST LAURENT AVE & FERGUSON DR)

Start Time	N Approach FERGUSON DR						E Approach LOUIS ST LAURENT AVE						S Approach FERGUSON DR						W Approach LOUIS ST LAURENT AVE						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	15	4	16	0	3	35	1	43	4	0	1	48	0	2	0	0	1	2	6	96	1	0	0	103	188	
07:15:00	12	7	22	0	3	41	2	45	12	0	0	59	1	0	5	0	0	6	27	109	7	0	0	143	249	
07:30:00	25	30	17	0	10	72	4	67	26	0	38	97	7	12	25	0	9	44	72	110	3	0	6	185	398	
07:45:00	45	71	20	0	62	136	8	82	43	0	182	133	6	29	33	0	71	68	85	136	12	13	46	246	583	1418
08:00:00	36	45	19	0	42	100	6	125	31	1	97	163	16	26	54	0	53	96	78	129	13	9	21	229	588	1818
08:15:00	20	8	15	0	6	43	3	72	4	0	8	79	10	5	24	0	3	39	19	114	14	0	1	147	308	1877
08:30:00	11	4	21	0	0	36	2	79	5	0	1	86	5	1	12	0	2	18	10	124	10	0	0	144	284	1763
08:45:00	12	3	10	0	0	25	5	69	3	0	6	77	0	4	3	0	8	7	8	101	10	0	2	119	228	1408
BREAK																										
14:00:00	15	6	4	0	0	25	6	67	4	0	0	77	4	1	12	0	2	17	21	53	8	0	1	82	201	
14:15:00	12	7	4	0	3	23	8	73	13	1	6	95	2	1	8	0	2	11	38	51	17	0	3	106	235	
14:30:00	29	20	8	0	78	57	7	113	14	0	240	134	10	29	75	0	91	114	30	71	22	0	73	123	428	
14:45:00	28	11	6	0	29	45	9	98	17	0	94	124	11	17	74	0	44	102	40	60	18	0	24	118	389	1253
15:00:00	8	3	4	0	11	15	10	124	6	0	15	140	2	7	26	0	3	35	11	71	12	0	0	94	284	1336
15:15:00	24	4	6	0	2	34	9	123	9	0	2	141	6	2	16	0	3	24	11	91	27	0	2	129	328	1429
15:30:00	22	4	10	0	2	36	11	131	2	0	2	144	2	4	17	0	3	23	12	91	17	0	1	120	323	1324
15:45:00	24	6	8	0	3	38	15	146	4	0	1	165	2	1	20	2	2	25	15	78	16	0	3	109	337	1272
16:00:00	15	7	7	0	2	29	9	134	7	0	9	150	11	21	22	0	1	54	9	77	20	1	2	107	340	1328
16:15:00	10	2	8	0	7	20	15	156	3	0	8	174	4	6	19	0	1	29	16	70	8	0	2	94	317	1317
16:30:00	9	7	4	0	0	20	17	180	4	0	3	201	2	6	11	0	6	19	18	90	24	0	2	132	372	1366
16:45:00	11	5	12	0	6	28	13	170	7	0	5	190	4	3	18	0	1	25	30	102	27	0	1	159	402	1431
17:00:00	8	0	3	0	1	11	17	222	1	0	0	240	9	1	14	0	0	24	11	91	25	0	0	127	402	1493
17:15:00	10	0	8	0	2	18	19	171	1	0	0	191	6	0	8	0	1	14	8	72	16	0	0	96	319	1495
17:30:00	23	1	13	0	0	37	18	187	0	0	1	205	3	1	11	0	1	15	8	93	16	0	1	117	374	1497
17:45:00	25	3	14	0	2	42	12	162	1	0	0	175	2	1	7	0	1	10	9	84	17	0	1	110	337	1432
Grand Total	449	258	259	0	274	966	226	2839	221	2	719	3288	125	180	514	2	309	821	592	2164	360	23	192	3139	**8214**	-
Approach%	46.5%	26.7%	26.8%	0%		-	6.9%	86.3%	6.7%	0.1%		-	15.2%	21.9%	62.6%	0.2%		-	18.9%	68.9%	11.5%	0.7%		-	-	-
Totals %	5.5%	3.1%	3.2%	0%		11.8%	2.8%	34.6%	2.7%	0%		40%	1.5%	2.2%	6.3%	0%		10%	7.2%	26.3%	4.4%	0.3%		38.2%	-	-
Heavy	4	11	5	0		-	3	81	25	0		-	12	7	21	0		-	29	56	4	0		-	-	-
Heavy %	0.9%	4.3%	1.9%	0%		-	1.3%	2.9%	11.3%	0%		-	9.6%	3.9%	4.1%	0%		-	4.9%	2.6%	1.1%	0%		-	-	-
Bicycles	0	3	0	0		-	0	0	0	0		-	0	2	0	0		-	0	3	0	0		-	-	-
Bicycle %	0%	1.2%	0%	0%		-	0%	0%	0%	0%		-	0%	1.1%	0%	0%		-	0%	0.1%	0%	0%		-	-	-

Spectrum

Turning Movement Count
Location Name: LOUIS ST LAURENT AVE & FERGUSON DR
Date: Tue, Feb 13, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 07:30 AM - 08:30 AM Weather: Overcast Clouds (-2.78 °C)

Start Time	N Approach FERGUSON DR						E Approach LOUIS ST LAURENT AVE						S Approach FERGUSON DR						W Approach LOUIS ST LAURENT AVE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
07:30:00	25	30	17	0	10	72	4	67	26	0	38	97	7	12	25	0	9	44	72	110	3	0	6	185	398
07:45:00	45	71	20	0	62	136	8	82	43	0	182	133	6	29	33	0	71	68	85	136	12	13	46	246	583
08:00:00	36	45	19	0	42	100	6	125	31	1	97	163	16	26	54	0	53	96	78	129	13	9	21	229	588
08:15:00	20	8	15	0	6	43	3	72	4	0	8	79	10	5	24	0	3	39	19	114	14	0	1	147	308
Grand Total	126	154	71	0	120	351	21	346	104	1	325	472	39	72	136	0	136	247	254	489	42	22	74	807	**1877**
Approach%	35.9%	43.9%	20.2%	0%		-	4.4%	73.3%	22%	0.2%		-	15.8%	29.1%	55.1%	0%		-	31.5%	60.6%	5.2%	2.7%		-	**-**
Totals %	6.7%	8.2%	3.8%	0%		18.7%	1.1%	18.4%	5.5%	0.1%		25.1%	2.1%	3.8%	7.2%	0%		13.2%	13.5%	26.1%	2.2%	1.2%		43%	**-**
PHF	0.7	0.54	0.89	0		0.65	0.66	0.69	0.6	0.25		0.72	0.61	0.62	0.63	0		0.64	0.75	0.9	0.75	0.42		0.82	**-**
Heavy	1	5	0	0		6	2	25	10	0		37	5	3	3	0		11	17	14	0	0		31	**-**
Heavy %	0.8%	3.2%	0%	0%		1.7%	9.5%	7.2%	9.6%	0%		7.8%	12.8%	4.2%	2.2%	0%		4.5%	6.7%	2.9%	0%	0%		3.8%	**-**
Lights	125	149	71	0		345	19	321	94	1		435	34	69	133	0		236	237	475	42	22		776	**-**
Lights %	99.2%	96.8%	100%	0%		98.3%	90.5%	92.8%	90.4%	100%		92.2%	87.2%	95.8%	97.8%	0%		95.5%	93.3%	97.1%	100%	100%		96.2%	**-**
Single-Unit Trucks	0	0	0	0		0	0	5	0	0		5	0	0	0	0		0	3	4	0	0		7	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	1.4%	0%	0%		1.1%	0%	0%	0%	0%		0%	1.2%	0.8%	0%	0%		0.9%	**-**
Buses	1	5	0	0		6	2	18	8	0		28	5	3	3	0		11	13	9	0	0		22	**-**
Buses %	0.8%	3.2%	0%	0%		1.7%	9.5%	5.2%	7.7%	0%		5.9%	12.8%	4.2%	2.2%	0%		4.5%	5.1%	1.8%	0%	0%		2.7%	**-**
Articulated Trucks	0	0	0	0		0	0	2	2	0		4	0	0	0	0		0	1	1	0	0		2	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0.6%	1.9%	0%		0.8%	0%	0%	0%	0%		0%	0.4%	0.2%	0%	0%		0.2%	**-**
Pedestrians	-	-	-	-	118	-	-	-	-	-	311	-	-	-	-	-	128	-	-	-	-	-	73	-	**-**
Pedestrians%	-	-	-	-	18%		-	-	-	-	47.5%		-	-	-	-	19.5%		-	-	-	-	11.1%		**-**
Bicycles on Road	0	3	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	2	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	14	-	-	-	-	-	8	-	-	-	-	-	1	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0.3%		-	-	-	-	2.1%		-	-	-	-	1.2%		-	-	-	-	0.2%		**-**

Spectrum

Turning Movement Count
Location Name: LOUIS ST LAURENT AVE & FERGUSON DR
Date: Tue, Feb 13, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 04:45 PM - 05:45 PM Weather: Overcast Clouds (2.8 °C)

Start Time	N Approach FERGUSON DR						E Approach LOUIS ST LAURENT AVE						S Approach FERGUSON DR						W Approach LOUIS ST LAURENT AVE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:45:00	11	5	12	0	6	28	13	170	7	0	5	190	4	3	18	0	1	25	30	102	27	0	1	159	402
17:00:00	8	0	3	0	1	11	17	222	1	0	0	240	9	1	14	0	0	24	11	91	25	0	0	127	402
17:15:00	10	0	8	0	2	18	19	171	1	0	0	191	6	0	8	0	1	14	8	72	16	0	0	96	319
17:30:00	23	1	13	0	0	37	18	187	0	0	1	205	3	1	11	0	1	15	8	93	16	0	1	117	374
Grand Total	52	6	36	0	9	94	67	750	9	0	6	826	22	5	51	0	3	78	57	358	84	0	2	499	**1497**
Approach%	55.3%	6.4%	38.3%	0%		-	8.1%	90.8%	1.1%	0%		-	28.2%	6.4%	65.4%	0%		-	11.4%	71.7%	16.8%	0%		-	**-**
Totals %	3.5%	0.4%	2.4%	0%		6.3%	4.5%	50.1%	0.6%	0%		55.2%	1.5%	0.3%	3.4%	0%		5.2%	3.8%	23.9%	5.6%	0%		33.3%	**-**
PHF	0.57	0.3	0.69	0		0.64	0.88	0.84	0.32	0		0.86	0.61	0.42	0.71	0		0.78	0.48	0.88	0.78	0		0.78	**-**
Heavy	0	0	0	0		0	0	3	0	0		3	0	0	0	0		0	0	6	1	0		7	**-**
Heavy %	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.4%	0%	0%	0%	0%		0%	0%	1.7%	1.2%	0%		1.4%	**-**
Lights	52	6	36	0		94	67	747	9	0		823	22	5	51	0		78	57	352	83	0		492	**-**
Lights %	100%	100%	100%	0%		100%	100%	99.6%	100%	0%		99.6%	100%	100%	100%	0%		100%	100%	98.3%	98.8%	0%		98.6%	**-**
Single-Unit Trucks	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	0	5	0	0		5	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0.1%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	1.4%	0%	0%		1%	**-**
Buses	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	0	0	1	0		1	**-**
Buses %	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.2%	0%	0%	0%	0%		0%	0%	0%	1.2%	0%		0.2%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.2%	**-**
Pedestrians	-	-	-	-	7	-	-	-	-	-	6	-	-	-	-	-	2	-	-	-	-	-	2	-	**-**
Pedestrians%	-	-	-	-	35%		-	-	-	-	30%		-	-	-	-	10%		-	-	-	-	10%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	10%		-	-	-	-	0%		-	-	-	-	5%		-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: LOUIS ST LAURENT AVE & FERGUSON DR
Date: Tue, Feb 13, 2024 Deployment Lead: David Chu

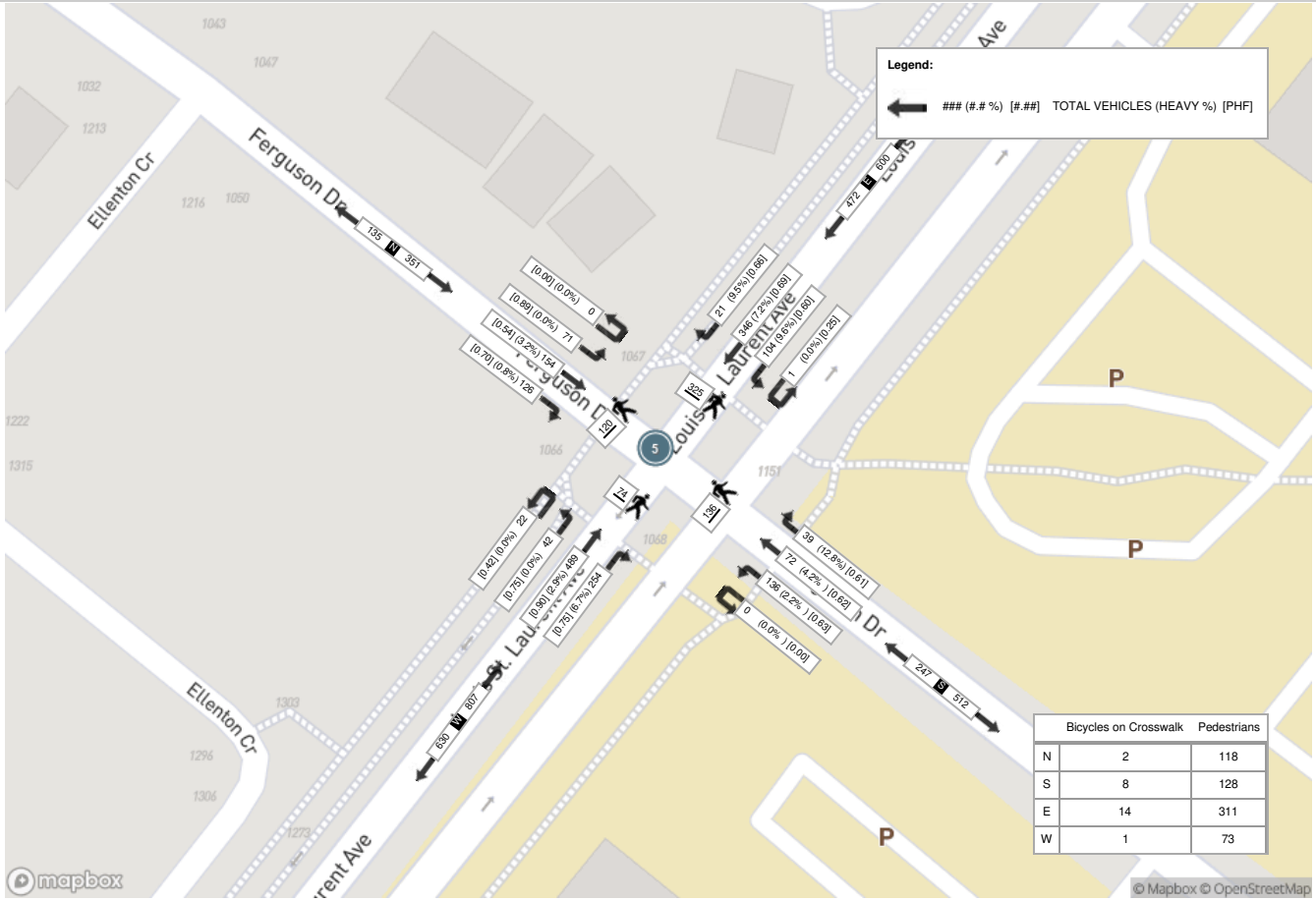
BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Selected Hour: 02:30 PM - 03:30 PM **Weather:**

Start Time	N Approach FERGUSON DR						E Approach LOUIS ST LAURENT AVE						S Approach FERGUSON DR						W Approach LOUIS ST LAURENT AVE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
14:30:00	29	20	8	0	78	57	7	113	14	0	240	134	10	29	75	0	91	114	30	71	22	0	73	123	428
14:45:00	28	11	6	0	29	45	9	98	17	0	94	124	11	17	74	0	44	102	40	60	18	0	24	118	389
15:00:00	8	3	4	0	11	15	10	124	6	0	15	140	2	7	26	0	3	35	11	71	12	0	0	94	284
15:15:00	24	4	6	0	2	34	9	123	9	0	2	141	6	2	16	0	3	24	11	91	27	0	2	129	328
Grand Total	89	38	24	0	120	151	35	458	46	0	351	539	29	55	191	0	141	275	92	293	79	0	99	464	**1429**
Approach%	58.9%	25.2%	15.9%	0%		-	6.5%	85%	8.5%	0%		-	10.5%	20%	69.5%	0%		-	19.8%	63.1%	17%	0%		-	**-**
Totals %	6.2%	2.7%	1.7%	0%		10.6%	2.4%	32.1%	3.2%	0%		37.7%	2%	3.8%	13.4%	0%		19.2%	6.4%	20.5%	5.5%	0%		32.5%	**-**
PHF	0.77	0.48	0.75	0		0.66	0.88	0.92	0.68	0		0.96	0.66	0.47	0.64	0		0.6	0.58	0.8	0.73	0		0.9	**-**
Heavy	2	4	2	0		8	0	14	6	0		20	1	4	13	0		18	2	13	0	0		15	**-**
Heavy %	2.2%	10.5%	8.3%	0%		5.3%	0%	3.1%	13%	0%		3.7%	3.4%	7.3%	6.8%	0%		6.5%	2.2%	4.4%	0%	0%		3.2%	**-**
Lights	87	34	22	0		143	35	444	40	0		519	28	51	178	0		257	90	280	79	0		449	**-**
Lights %	97.8%	89.5%	91.7%	0%		94.7%	100%	96.9%	87%	0%		96.3%	96.6%	92.7%	93.2%	0%		93.5%	97.8%	95.6%	100%	0%		96.8%	**-**
Single-Unit Trucks	0	1	0	0		1	0	3	1	0		4	1	1	0	0		2	0	6	0	0		6	**-**
Single-Unit Trucks %	0%	2.6%	0%	0%		0.7%	0%	0.7%	2.2%	0%		0.7%	3.4%	1.8%	0%	0%		0.7%	0%	2%	0%	0%		1.3%	**-**
Buses	2	3	2	0		7	0	11	5	0		16	0	3	11	0		14	1	6	0	0		7	**-**
Buses %	2.2%	7.9%	8.3%	0%		4.6%	0%	2.4%	10.9%	0%		3%	0%	5.5%	5.8%	0%		5.1%	1.1%	2%	0%	0%		1.5%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	2	0		2	1	1	0	0		2	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	1%	0%		0.7%	1.1%	0.3%	0%	0%		0.4%	**-**
Pedestrians	-	-	-	-	114	-	-	-	-	-	339	-	-	-	-	-	128	-	-	-	-	-	93	-	**-**
Pedestrians%	-	-	-	-	16%		-	-	-	-	47.7%		-	-	-	-	18%		-	-	-	-	13.1%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	2	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	6	-	-	-	-	-	12	-	-	-	-	-	13	-	-	-	-	-	6	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0.8%		-	-	-	-	1.7%		-	-	-	-	1.8%		-	-	-	-	0.8%		**-**

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

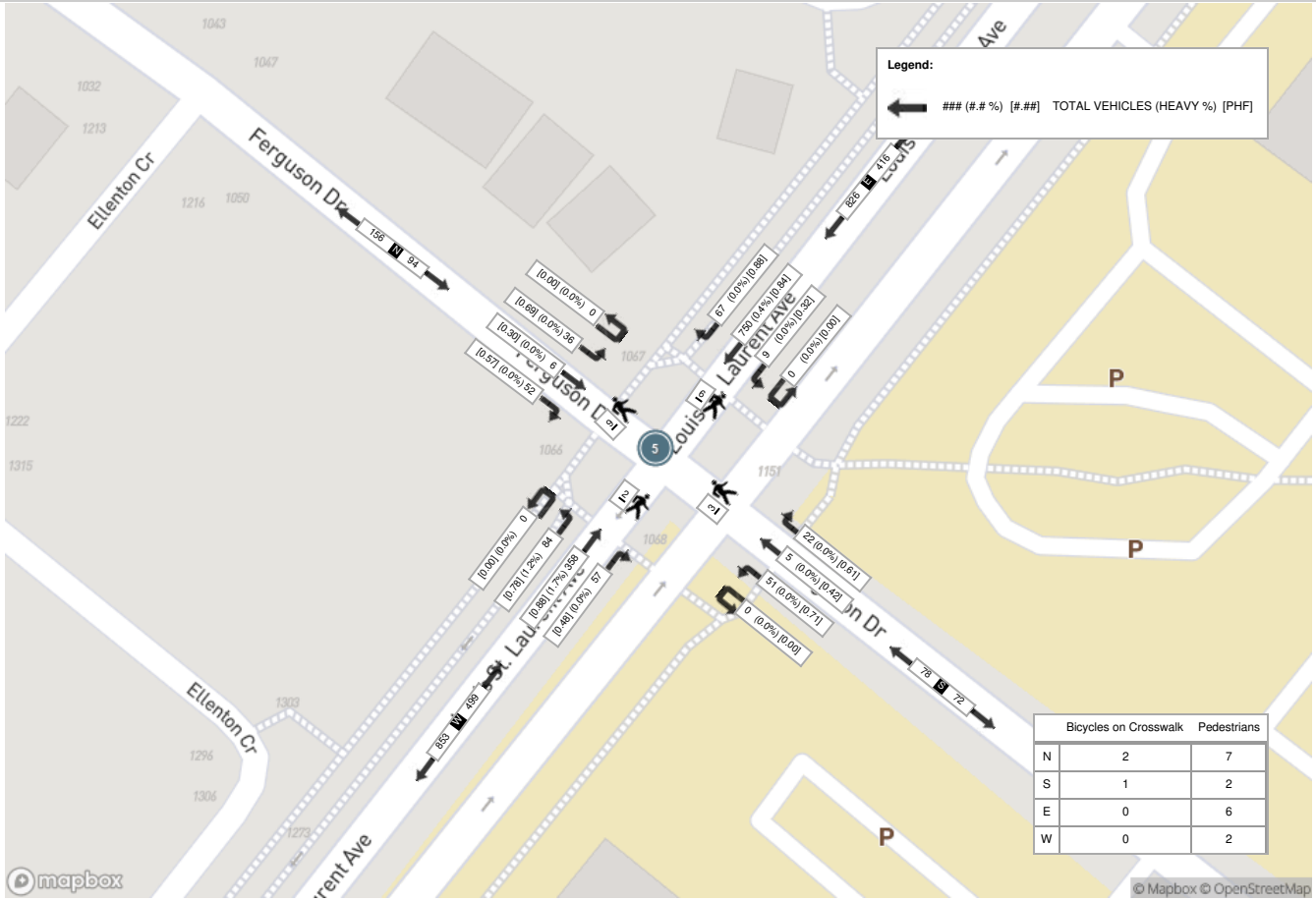
Peak Hour: 07:30 AM - 08:30 AM **Weather: Overcast Clouds (-2.78 °C)**



	Bicycles on Crosswalk	Pedestrians
N	2	118
S	8	128
E	14	311
W	1	73

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

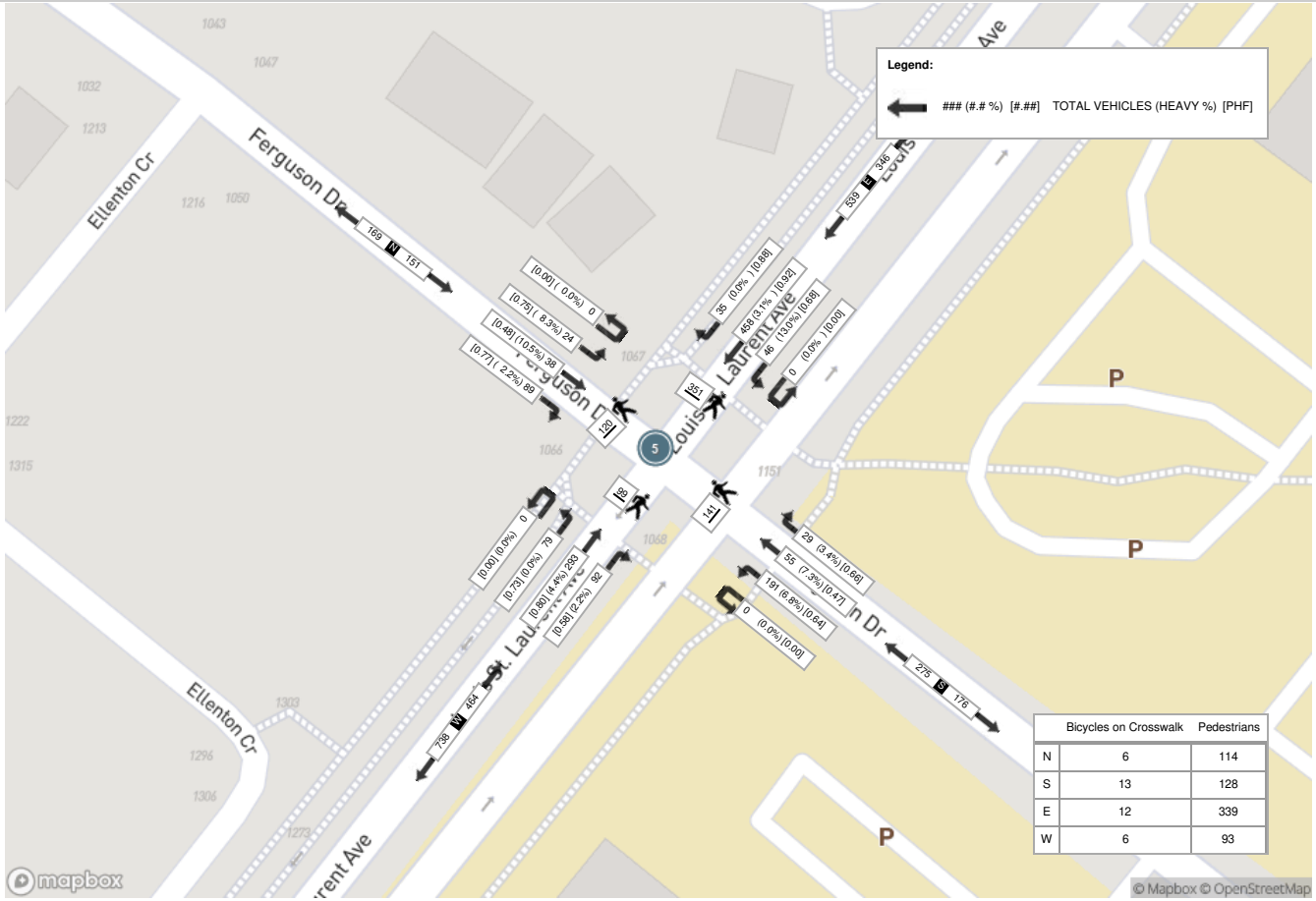
Peak Hour: 04:45 PM - 05:45 PM **Weather: Overcast Clouds (2.8 °C)**



	Bicycles on Crosswalk	Pedestrians
N	2	7
S	1	2
E	0	6
W	0	2

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Selected Hour: 02:30 PM - 03:30 PM **Weather:**



Spectrum

Turning Movement Count
Location Name: LOUIS ST LAURENT AVE & FOURTH LINE
Date: Tue, Feb 13, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Turning Movement Count (6 . LOUIS ST LAURENT AVE & FOURTH LINE)

Start Time	N Approach FOURTH LINE						E Approach LOUIS ST LAURENT AVE						S Approach FOURTH LINE						W Approach LOUIS ST LAURENT AVE						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	4	2	6	0	2	12	2	39	5	0	0	46	4	1	4	0	1	9	17	91	3	0	0	111	178	
07:15:00	6	7	4	0	7	17	4	50	10	0	0	64	4	3	6	0	0	13	8	122	1	0	2	131	225	
07:30:00	14	13	12	0	5	39	5	76	21	0	8	102	6	5	14	0	8	25	16	118	4	0	4	138	304	
07:45:00	31	36	17	0	25	84	8	74	35	0	28	117	20	8	24	0	31	52	22	134	35	5	49	196	449	1156
08:00:00	27	43	11	0	4	81	2	90	19	0	8	111	24	20	31	0	7	75	21	167	57	10	32	255	522	1500
08:15:00	14	11	7	0	2	32	0	49	10	0	0	59	7	2	13	0	0	22	16	120	6	0	2	142	255	1530
08:30:00	12	7	11	0	2	30	4	57	2	0	0	63	9	2	18	0	0	29	17	133	6	0	4	156	278	1504
08:45:00	13	5	5	0	2	23	5	50	4	0	3	59	4	1	15	0	3	20	11	88	6	0	6	105	207	1262
BREAK																										
14:00:00	10	0	4	0	2	14	3	58	7	0	0	68	4	2	10	0	0	16	8	44	4	0	0	56	154	
14:15:00	12	5	2	0	2	19	7	80	7	0	0	94	6	1	10	0	1	17	7	40	9	0	3	56	186	
14:30:00	17	9	0	0	20	26	4	78	10	0	12	92	16	19	31	0	21	66	15	77	22	6	86	120	304	
14:45:00	15	3	0	0	15	18	6	92	3	0	6	101	11	4	21	0	14	36	9	71	23	0	42	103	258	902
15:00:00	6	8	2	0	7	16	10	109	2	0	1	121	12	6	19	0	1	37	7	66	11	0	3	84	258	1006
15:15:00	14	9	5	0	5	28	4	113	8	0	0	125	11	3	14	0	2	28	15	82	12	1	1	110	291	1111
15:30:00	8	5	5	0	2	18	6	115	4	0	2	125	8	8	18	0	0	34	17	68	10	0	5	95	272	1079
15:45:00	9	6	1	0	4	16	12	142	2	0	0	156	9	7	15	0	0	31	13	79	6	0	0	98	301	1122
16:00:00	9	5	4	0	3	18	12	131	8	0	1	151	10	5	18	0	1	33	14	71	12	0	4	97	299	1163
16:15:00	14	3	5	0	3	22	9	146	4	0	3	159	6	9	20	0	2	35	10	60	12	0	2	82	298	1170
16:30:00	7	7	4	0	1	18	12	162	6	0	1	180	6	5	20	0	2	31	11	67	11	0	1	89	318	1216
16:45:00	12	8	4	0	2	24	16	162	15	0	0	193	10	8	24	0	0	42	35	63	10	0	4	108	367	1282
17:00:00	20	4	1	0	0	25	9	186	12	0	0	207	16	10	27	0	0	53	19	67	8	0	0	94	379	1362
17:15:00	6	3	3	0	0	12	12	167	12	0	0	191	9	3	21	0	0	33	16	63	13	0	0	92	328	1392
17:30:00	6	4	4	0	0	14	10	177	11	0	0	198	3	8	25	0	0	36	14	76	11	0	0	101	349	1423
17:45:00	11	2	1	0	6	14	10	147	17	0	1	174	8	9	14	0	2	31	17	70	6	0	1	93	312	1368
Grand Total	297	205	118	0	121	620	172	2550	234	0	74	2956	223	149	432	0	96	804	355	2037	298	22	251	2712	**7092**	-
Approach%	47.9%	33.1%	19%	0%		-	5.8%	86.3%	7.9%	0%		-	27.7%	18.5%	53.7%	0%		-	13.1%	75.1%	11%	0.8%		-	-	-
Totals %	4.2%	2.9%	1.7%	0%		8.7%	2.4%	36%	3.3%	0%		41.7%	3.1%	2.1%	6.1%	0%		11.3%	5%	28.7%	4.2%	0.3%		38.2%	-	-
Heavy	20	1	4	0		-	22	49	3	0		-	18	17	40	0		-	12	47	5	0		-	-	-
Heavy %	6.7%	0.5%	3.4%	0%		-	12.8%	1.9%	1.3%	0%		-	8.1%	11.4%	9.3%	0%		-	3.4%	2.3%	1.7%	0%		-	-	-
Bicycles	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	1	0	0	0		-	-	-
Bicycle %	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0.3%	0%	0%	0%		-	-	-

Peak Hour: 07:30 AM - 08:30 AM Weather: Overcast Clouds (-2.78 °C)

Start Time	N Approach FOURTH LINE						E Approach LOUIS ST LAURENT AVE						S Approach FOURTH LINE						W Approach LOUIS ST LAURENT AVE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
07:30:00	14	13	12	0	5	39	5	76	21	0	8	102	6	5	14	0	8	25	16	118	4	0	4	138	304
07:45:00	31	36	17	0	25	84	8	74	35	0	28	117	20	8	24	0	31	52	22	134	35	5	49	196	449
08:00:00	27	43	11	0	4	81	2	90	19	0	8	111	24	20	31	0	7	75	21	167	57	10	32	255	522
08:15:00	14	11	7	0	2	32	0	49	10	0	0	59	7	2	13	0	0	22	16	120	6	0	2	142	255
Grand Total	86	103	47	0	36	236	15	289	85	0	44	389	57	35	82	0	46	174	75	539	102	15	87	731	**1530**
Approach%	36.4%	43.6%	19.9%	0%		-	3.9%	74.3%	21.9%	0%		-	32.8%	20.1%	47.1%	0%		-	10.3%	73.7%	14%	2.1%		-	**-**
Totals %	5.6%	6.7%	3.1%	0%		15.4%	1%	18.9%	5.6%	0%		25.4%	3.7%	2.3%	5.4%	0%		11.4%	4.9%	35.2%	6.7%	1%		47.8%	**-**
PHF	0.69	0.6	0.69	0		0.7	0.47	0.8	0.61	0		0.83	0.59	0.44	0.66	0		0.58	0.85	0.81	0.45	0.38		0.72	**-**
Heavy	7	1	1	0		9	4	9	0	0		13	3	5	18	0		26	2	10	2	0		14	**-**
Heavy %	8.1%	1%	2.1%	0%		3.8%	26.7%	3.1%	0%	0%		3.3%	5.3%	14.3%	22%	0%		14.9%	2.7%	1.9%	2%	0%		1.9%	**-**
Lights	79	102	46	0		227	11	280	85	0		376	54	30	64	0		148	73	529	100	15		717	**-**
Lights %	91.9%	99%	97.9%	0%		96.2%	73.3%	96.9%	100%	0%		96.7%	94.7%	85.7%	78%	0%		85.1%	97.3%	98.1%	98%	100%		98.1%	**-**
Single-Unit Trucks	0	0	0	0		0	0	2	0	0		2	0	0	3	0		3	1	3	0	0		4	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0.7%	0%	0%		0.5%	0%	0%	3.7%	0%		1.7%	1.3%	0.6%	0%	0%		0.5%	**-**
Buses	7	1	1	0		9	4	3	0	0		7	3	5	15	0		23	1	6	2	0		9	**-**
Buses %	8.1%	1%	2.1%	0%		3.8%	26.7%	1%	0%	0%		1.8%	5.3%	14.3%	18.3%	0%		13.2%	1.3%	1.1%	2%	0%		1.2%	**-**
Articulated Trucks	0	0	0	0		0	0	4	0	0		4	0	0	0	0		0	0	1	0	0		1	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	1.4%	0%	0%		1%	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.1%	**-**
Pedestrians	-	-	-	-	35	-	-	-	-	-	40	-	-	-	-	-	43	-	-	-	-	-	81	-	**-**
Pedestrians%	-	-	-	-	16.4%		-	-	-	-	18.8%		-	-	-	-	20.2%		-	-	-	-	38%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	4	-	-	-	-	-	3	-	-	-	-	-	6	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0.5%		-	-	-	-	1.9%		-	-	-	-	1.4%		-	-	-	-	2.8%		**-**

Peak Hour: 04:45 PM - 05:45 PM Weather: Overcast Clouds (2.8 °C)

Start Time	N Approach FOURTH LINE						E Approach LOUIS ST LAURENT AVE						S Approach FOURTH LINE						W Approach LOUIS ST LAURENT AVE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:45:00	12	8	4	0	2	24	16	162	15	0	0	193	10	8	24	0	0	42	35	63	10	0	4	108	367
17:00:00	20	4	1	0	0	25	9	186	12	0	0	207	16	10	27	0	0	53	19	67	8	0	0	94	379
17:15:00	6	3	3	0	0	12	12	167	12	0	0	191	9	3	21	0	0	33	16	63	13	0	0	92	328
17:30:00	6	4	4	0	0	14	10	177	11	0	0	198	3	8	25	0	0	36	14	76	11	0	0	101	349
Grand Total	44	19	12	0	2	75	47	692	50	0	0	789	38	29	97	0	0	164	84	269	42	0	4	395	**1423**
Approach%	58.7%	25.3%	16%	0%		-	6%	87.7%	6.3%	0%		-	23.2%	17.7%	59.1%	0%		-	21.3%	68.1%	10.6%	0%		-	**-**
Totals %	3.1%	1.3%	0.8%	0%		5.3%	3.3%	48.6%	3.5%	0%		55.4%	2.7%	2%	6.8%	0%		11.5%	5.9%	18.9%	3%	0%		27.8%	**-**
PHF	0.55	0.59	0.75	0		0.75	0.73	0.93	0.83	0		0.95	0.59	0.73	0.9	0		0.77	0.6	0.88	0.81	0		0.91	**-**
Heavy	1	0	0	0		1	1	1	0	0		2	0	0	0	0		0	0	6	0	0		6	**-**
Heavy %	2.3%	0%	0%	0%		1.3%	2.1%	0.1%	0%	0%		0.3%	0%	0%	0%	0%		0%	0%	2.2%	0%	0%		1.5%	**-**
Lights	43	19	12	0		74	46	691	50	0		787	38	29	97	0		164	84	263	42	0		389	**-**
Lights %	97.7%	100%	100%	0%		98.7%	97.9%	99.9%	100%	0%		99.7%	100%	100%	100%	0%		100%	100%	97.8%	100%	0%		98.5%	**-**
Single-Unit Trucks	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	0	5	0	0		5	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0.1%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	1.9%	0%	0%		1.3%	**-**
Buses	1	0	0	0		1	1	0	0	0		1	0	0	0	0		0	0	0	0	0		0	**-**
Buses %	2.3%	0%	0%	0%		1.3%	2.1%	0%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.3%	**-**
Pedestrians	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	3	-	**-**
Pedestrians%	-	-	-	-	33.3%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	50%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	16.7%		**-**

Spectrum

Turning Movement Count
Location Name: LOUIS ST LAURENT AVE & FOURTH LINE
Date: Tue, Feb 13, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Selected Hour: 02:30 PM - 03:30 PM **Weather:**

Start Time	N Approach FOURTH LINE						E Approach LOUIS ST LAURENT AVE						S Approach FOURTH LINE						W Approach LOUIS ST LAURENT AVE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
14:30:00	17	9	0	0	20	26	4	78	10	0	12	92	16	19	31	0	21	66	15	77	22	6	86	120	304
14:45:00	15	3	0	0	15	18	6	92	3	0	6	101	11	4	21	0	14	36	9	71	23	0	42	103	258
15:00:00	6	8	2	0	7	16	10	109	2	0	1	121	12	6	19	0	1	37	7	66	11	0	3	84	258
15:15:00	14	9	5	0	5	28	4	113	8	0	0	125	11	3	14	0	2	28	15	82	12	1	1	110	291
Grand Total	52	29	7	0	47	88	24	392	23	0	19	439	50	32	85	0	38	167	46	296	68	7	132	417	**1111**
Approach%	59.1%	33%	8%	0%		-	5.5%	89.3%	5.2%	0%		-	29.9%	19.2%	50.9%	0%		-	11%	71%	16.3%	1.7%		-	**-**
Totals %	4.7%	2.6%	0.6%	0%		7.9%	2.2%	35.3%	2.1%	0%		39.5%	4.5%	2.9%	7.7%	0%		15%	4.1%	26.6%	6.1%	0.6%		37.5%	**-**
PHF	0.76	0.81	0.35	0		0.79	0.6	0.87	0.58	0		0.88	0.78	0.42	0.69	0		0.63	0.77	0.9	0.74	0.29		0.87	**-**
Heavy	3	0	2	0		5	3	9	1	0		13	5	10	8	0		23	4	10	2	0		16	**-**
Heavy %	5.8%	0%	28.6%	0%		5.7%	12.5%	2.3%	4.3%	0%		3%	10%	31.3%	9.4%	0%		13.8%	8.7%	3.4%	2.9%	0%		3.8%	**-**
Lights	49	29	5	0		83	21	383	22	0		426	45	22	77	0		144	42	286	66	7		401	**-**
Lights %	94.2%	100%	71.4%	0%		94.3%	87.5%	97.7%	95.7%	0%		97%	90%	68.8%	90.6%	0%		86.2%	91.3%	96.6%	97.1%	100%		96.2%	**-**
Single-Unit Trucks	0	0	0	0		0	0	2	0	0		2	3	1	1	0		5	3	5	0	0		8	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0.5%	0%	0%		0.5%	6%	3.1%	1.2%	0%		3%	6.5%	1.7%	0%	0%		1.9%	**-**
Buses	3	0	2	0		5	3	7	1	0		11	2	9	7	0		18	1	5	2	0		8	**-**
Buses %	5.8%	0%	28.6%	0%		5.7%	12.5%	1.8%	4.3%	0%		2.5%	4%	28.1%	8.2%	0%		10.8%	2.2%	1.7%	2.9%	0%		1.9%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	47	-	-	-	-	-	19	-	-	-	-	-	38	-	-	-	-	-	119	-	**-**
Pedestrians%	-	-	-	-	19.9%		-	-	-	-	8.1%		-	-	-	-	16.1%		-	-	-	-	50.4%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	13	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	5.5%		**-**

Peak Hour: 07:30 AM - 08:30 AM **Weather: Overcast Clouds (-2.78 °C)**

	Bicycles on Crosswalk	Pedestrians
N	1	35
S	3	43
E	4	40
W	6	81

Peak Hour: 04:45 PM - 05:45 PM **Weather: Overcast Clouds (2.8 °C)**

Selected Hour: 02:30 PM - 03:30 PM **Weather:**

	Bicycles on Crosswalk	Pedestrians
N	0	47
S	0	38
E	0	19
W	13	119

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Turning Movement Count (4 . LOUIS ST LAURENT AVE & FREEMAN TR)

Start Time	N Approach FREEMAN TR					E Approach LOUIS ST LAURENT AVE					W Approach LOUIS ST LAURENT AVE					Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	UTurn E:E	Peds E:	Approach Total	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	5	0	0	1	5	2	57	0	0	59	103	0	0	0	103	167	
07:15:00	4	0	0	4	4	1	59	0	0	60	141	0	0	0	141	205	
07:30:00	8	0	0	3	8	1	119	0	0	120	199	0	0	0	199	327	
07:45:00	16	0	0	19	16	7	163	0	0	170	290	0	0	0	290	476	1175
08:00:00	13	0	0	9	13	3	227	0	0	230	171	0	0	0	171	414	1422
08:15:00	5	0	0	6	5	1	115	0	1	116	148	0	0	0	148	269	1486
08:30:00	6	0	0	3	6	4	97	0	0	101	145	0	0	0	145	252	1411
08:45:00	5	0	0	1	5	1	83	0	0	84	123	0	0	0	123	212	1147
BREAK																	
14:00:00	1	0	0	1	1	2	87	0	0	89	83	0	0	0	83	173	
14:15:00	2	0	0	6	2	4	95	0	1	99	112	0	0	0	112	213	
14:30:00	3	0	0	36	3	5	206	0	0	211	137	0	0	0	137	351	
14:45:00	5	0	0	32	5	2	201	0	0	203	104	0	0	0	104	312	1049
15:00:00	4	0	0	13	4	3	152	0	0	155	91	0	0	0	91	250	1126
15:15:00	4	0	0	6	4	9	160	0	0	169	129	0	0	0	129	302	1215
15:30:00	2	0	0	8	2	9	161	0	0	170	122	0	0	0	122	294	1158
15:45:00	6	0	0	1	6	11	179	0	0	190	106	0	0	0	106	302	1148
16:00:00	1	0	0	5	1	5	166	0	0	171	109	0	0	0	109	281	1179
16:15:00	0	0	0	9	0	6	174	0	0	180	93	0	0	0	93	273	1150
16:30:00	3	0	0	1	3	6	193	0	0	199	133	0	0	0	133	335	1191
16:45:00	1	0	0	3	1	10	197	0	0	207	164	0	0	0	164	372	1261
17:00:00	5	0	0	2	5	10	234	0	0	244	122	0	0	0	122	371	1351
17:15:00	2	0	0	1	2	4	184	0	0	188	94	0	0	0	94	284	1362
17:30:00	3	0	0	2	3	6	214	0	0	220	120	0	0	0	120	343	1370
17:45:00	5	0	0	2	5	5	186	0	0	191	104	0	0	0	104	300	1298
Grand Total	109	0	0	174	109	117	3709	0	2	3826	3143	0	0	0	3143	**7078**	-
Approach%	100%	0%	0%		-	3.1%	96.9%	0%		-	100%	0%	0%		-	**-**	-
Totals %	1.5%	0%	0%		1.5%	1.7%	52.4%	0%		54.1%	44.4%	0%	0%		44.4%	**-**	-
Heavy	2	0	0		-	5	105	0		-	89	0	0		-	**-**	-
Heavy %	1.8%	0%	0%		-	4.3%	2.8%	0%		-	2.8%	0%	0%		-	**-**	-
Bicycles	0	0	0		-	0	1	0		-	2	0	0		-	**-**	-
Bicycle %	0%	0%	0%		-	0%	0%	0%		-	0.1%	0%	0%		-	**-**	-

Peak Hour: 07:30 AM - 08:30 AM Weather: Overcast Clouds (-2.78 °C)

Start Time	N Approach FREEMAN TR					E Approach LOUIS ST LAURENT AVE					W Approach LOUIS ST LAURENT AVE					Int. Total (15 min)
	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	
07:30:00	8	0	0	3	8	1	119	0	0	120	199	0	0	0	199	327
07:45:00	16	0	0	19	16	7	163	0	0	170	290	0	0	0	290	476
08:00:00	13	0	0	9	13	3	227	0	0	230	171	0	0	0	171	414
08:15:00	5	0	0	6	5	1	115	0	1	116	148	0	0	0	148	269
Grand Total	42	0	0	37	42	12	624	0	1	636	808	0	0	0	808	**1486**
Approach%	100%	0%	0%		-	1.9%	98.1%	0%		-	100%	0%	0%		-	**-**
Totals %	2.8%	0%	0%		2.8%	0.8%	42%	0%		42.8%	54.4%	0%	0%		54.4%	**-**
PHF	0.66	0	0		0.66	0.43	0.69	0		0.69	0.7	0	0		0.7	**-**
Heavy	1	0	0		1	2	27	0		29	29	0	0		29	**-**
Heavy %	2.4%	0%	0%		2.4%	16.7%	4.3%	0%		4.6%	3.6%	0%	0%		3.6%	**-**
Lights	41	0	0		41	10	597	0		607	779	0	0		779	**-**
Lights %	97.6%	0%	0%		97.6%	83.3%	95.7%	0%		95.4%	96.4%	0%	0%		96.4%	**-**
Single-Unit Trucks	0	0	0		0	0	5	0		5	5	0	0		5	**-**
Single-Unit Trucks %	0%	0%	0%		0%	0%	0.8%	0%		0.8%	0.6%	0%	0%		0.6%	**-**
Buses	1	0	0		1	2	20	0		22	21	0	0		21	**-**
Buses %	2.4%	0%	0%		2.4%	16.7%	3.2%	0%		3.5%	2.6%	0%	0%		2.6%	**-**
Articulated Trucks	0	0	0		0	0	2	0		2	3	0	0		3	**-**
Articulated Trucks %	0%	0%	0%		0%	0%	0.3%	0%		0.3%	0.4%	0%	0%		0.4%	**-**
Pedestrians	-	-	-	34	-	-	-	-	1	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	89.5%		-	-	-	2.6%		-	-	-	0%		**-**
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	1	0	0	0	-	**-**
Bicycles on Road%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	3	-	-	-	-	0	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	7.9%		-	-	-	0%		-	-	-	0%		**-**

Peak Hour: 04:45 PM - 05:45 PM Weather: Overcast Clouds (2.8 °C)

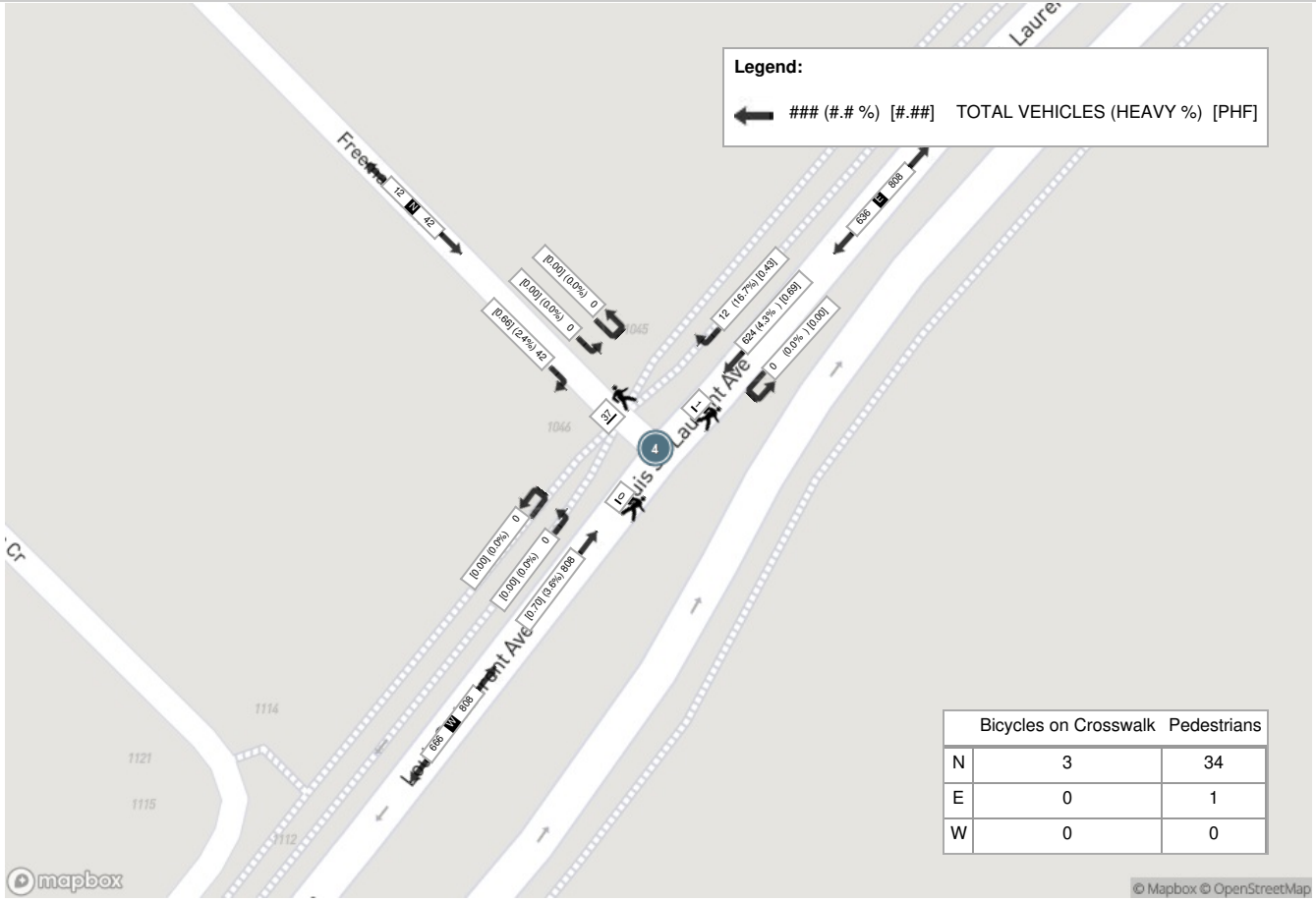
Start Time	N Approach FREEMAN TR					E Approach LOUIS ST LAURENT AVE					W Approach LOUIS ST LAURENT AVE					Int. Total (15 min)
	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	
16:45:00	1	0	0	3	1	10	197	0	0	207	164	0	0	0	164	372
17:00:00	5	0	0	2	5	10	234	0	0	244	122	0	0	0	122	371
17:15:00	2	0	0	1	2	4	184	0	0	188	94	0	0	0	94	284
17:30:00	3	0	0	2	3	6	214	0	0	220	120	0	0	0	120	343
Grand Total	11	0	0	8	11	30	829	0	0	859	500	0	0	0	500	**1370**
Approach%	100%	0%	0%		-	3.5%	96.5%	0%		-	100%	0%	0%		-	**-**
Totals %	0.8%	0%	0%		0.8%	2.2%	60.5%	0%		62.7%	36.5%	0%	0%		36.5%	**-**
PHF	0.55	0	0		0.55	0.75	0.89	0		0.88	0.76	0	0		0.76	**-**
Heavy	0	0	0		0	0	3	0		3	7	0	0		7	**-**
Heavy %	0%	0%	0%		0%	0%	0.4%	0%		0.3%	1.4%	0%	0%		1.4%	**-**
Lights	11	0	0		11	30	826	0		856	493	0	0		493	**-**
Lights %	100%	0%	0%		100%	100%	99.6%	0%		99.7%	98.6%	0%	0%		98.6%	**-**
Single-Unit Trucks	0	0	0		0	0	1	0		1	5	0	0		5	**-**
Single-Unit Trucks %	0%	0%	0%		0%	0%	0.1%	0%		0.1%	1%	0%	0%		1%	**-**
Buses	0	0	0		0	0	2	0		2	1	0	0		1	**-**
Buses %	0%	0%	0%		0%	0%	0.2%	0%		0.2%	0.2%	0%	0%		0.2%	**-**
Articulated Trucks	0	0	0		0	0	0	0		0	1	0	0		1	**-**
Articulated Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0.2%	0%	0%		0.2%	**-**
Pedestrians	-	-	-	6	-	-	-	-	0	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	75%		-	-	-	0%		-	-	-	0%		**-**
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	2	-	-	-	-	0	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	25%		-	-	-	0%		-	-	-	0%		**-**

Selected Hour: 02:30 PM - 03:30 PM Weather:

Start Time	N Approach FREEMAN TR					E Approach LOUIS ST LAURENT AVE					W Approach LOUIS ST LAURENT AVE					Int. Total (15 min)
	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	
14:30:00	3	0	0	36	3	5	206	0	0	211	137	0	0	0	137	351
14:45:00	5	0	0	32	5	2	201	0	0	203	104	0	0	0	104	312
15:00:00	4	0	0	13	4	3	152	0	0	155	91	0	0	0	91	250
15:15:00	4	0	0	6	4	9	160	0	0	169	129	0	0	0	129	302
Grand Total	16	0	0	87	16	19	719	0	0	738	461	0	0	0	461	**1215**
Approach%	100%	0%	0%		-	2.6%	97.4%	0%		-	100%	0%	0%		-	**-**
Totals %	1.3%	0%	0%		1.3%	1.6%	59.2%	0%		60.7%	37.9%	0%	0%		37.9%	**-**
PHF	0.8	0	0		0.8	0.53	0.87	0		0.87	0.84	0	0		0.84	**-**
Heavy	1	0	0		1	1	29	0		30	16	0	0		16	**-**
Heavy %	6.3%	0%	0%		6.3%	5.3%	4%	0%		4.1%	3.5%	0%	0%		3.5%	**-**
Lights	15	0	0		15	18	690	0		708	445	0	0		445	**-**
Lights %	93.8%	0%	0%		93.8%	94.7%	96%	0%		95.9%	96.5%	0%	0%		96.5%	**-**
Single-Unit Trucks	0	0	0		0	0	4	0		4	7	0	0		7	**-**
Single-Unit Trucks %	0%	0%	0%		0%	0%	0.6%	0%		0.5%	1.5%	0%	0%		1.5%	**-**
Buses	1	0	0		1	1	23	0		24	7	0	0		7	**-**
Buses %	6.3%	0%	0%		6.3%	5.3%	3.2%	0%		3.3%	1.5%	0%	0%		1.5%	**-**
Articulated Trucks	0	0	0		0	0	2	0		2	2	0	0		2	**-**
Articulated Trucks %	0%	0%	0%		0%	0%	0.3%	0%		0.3%	0.4%	0%	0%		0.4%	**-**
Pedestrians	-	-	-	81	-	-	-	-	0	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	93.1%		-	-	-	0%		-	-	-	0%		**-**
Bicycles on Road	0	0	0	0	-	0	1	0	0	-	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	6	-	-	-	-	0	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	6.9%		-	-	-	0%		-	-	-	0%		**-**

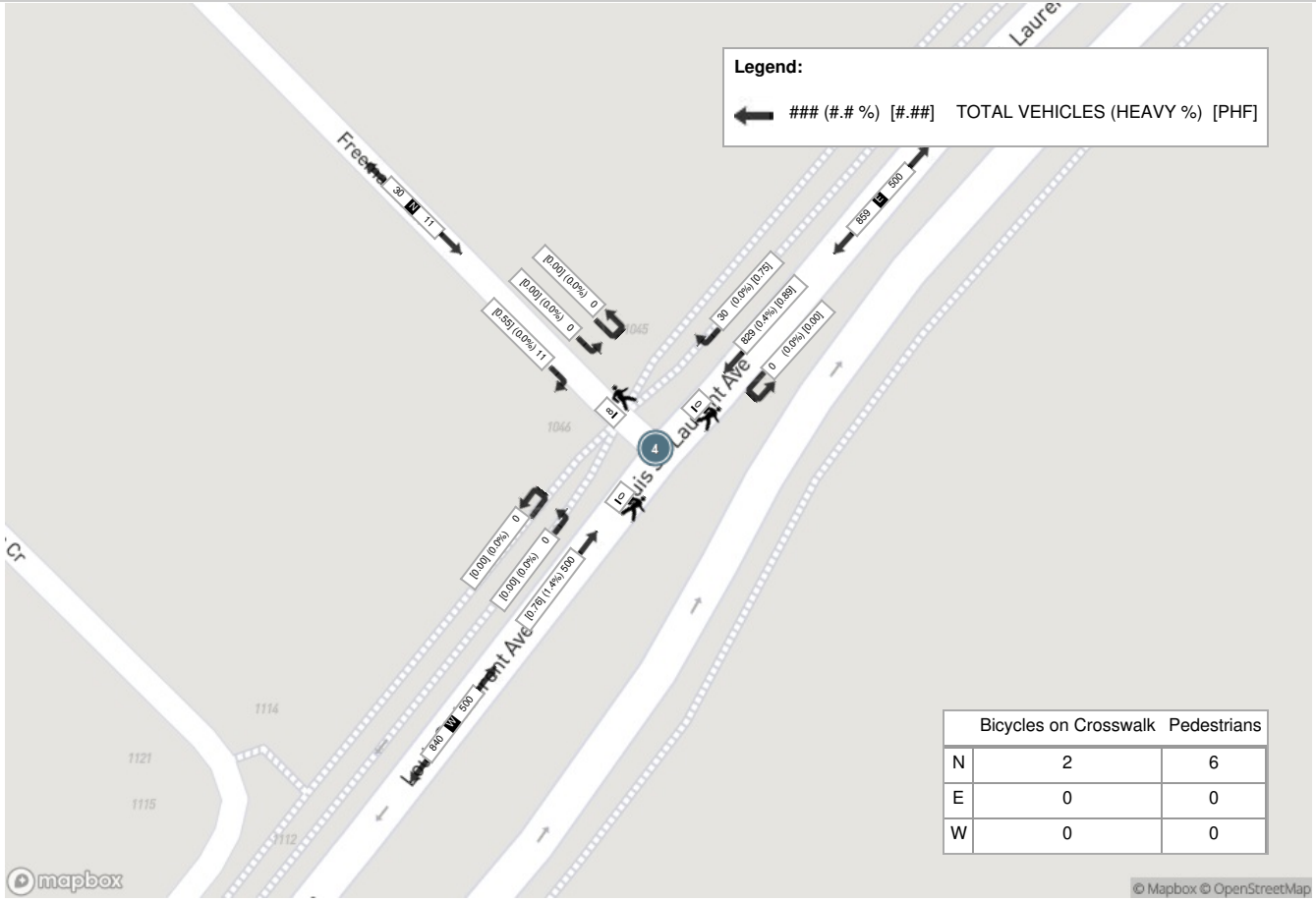
BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 07:30 AM - 08:30 AM Weather: Overcast Clouds (-2.78 °C)



	Bicycles on Crosswalk	Pedestrians
N	3	34
E	0	1
W	0	0

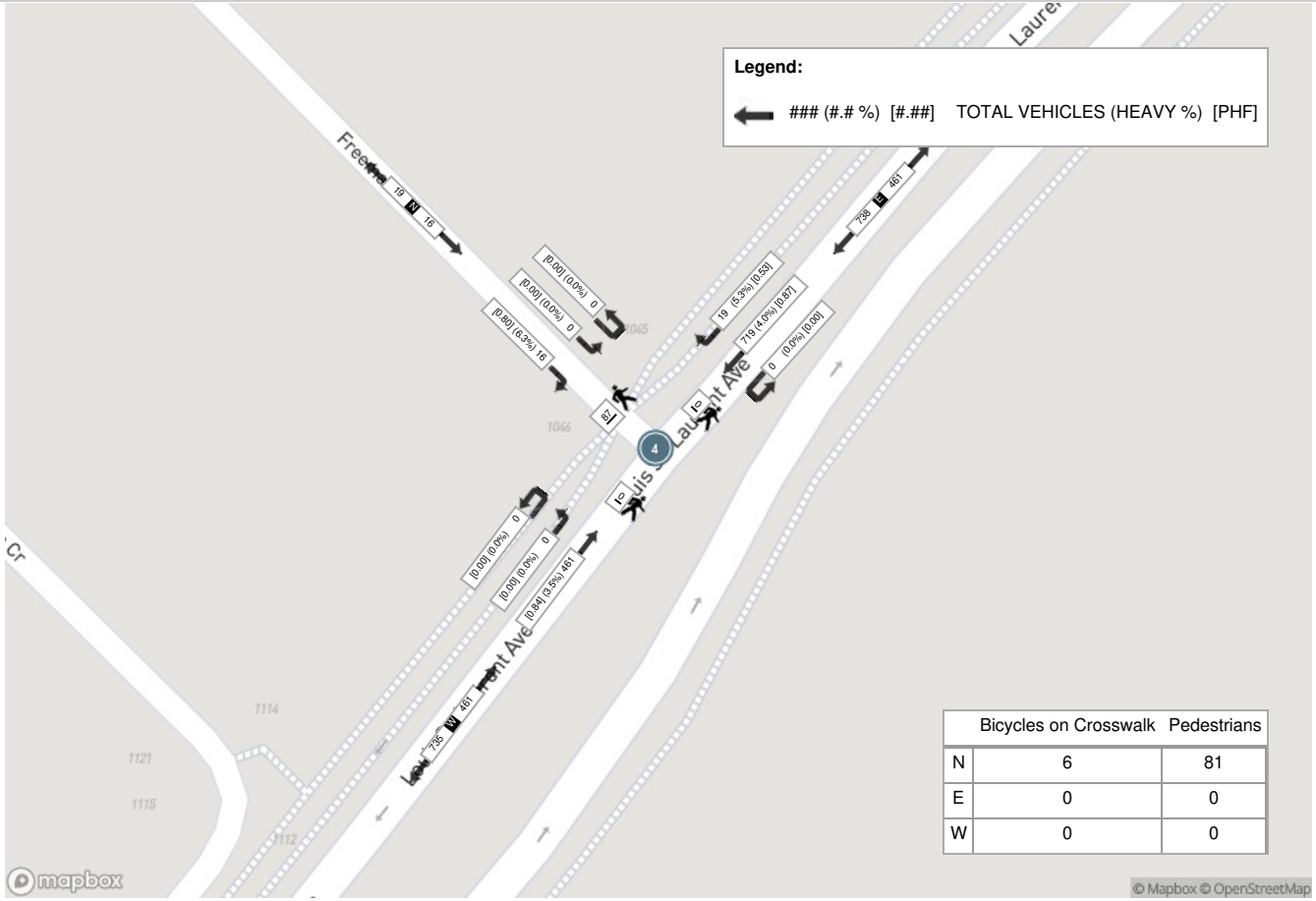
Peak Hour: 04:45 PM - 05:45 PM Weather: Overcast Clouds (2.8 °C)



	Bicycles on Crosswalk	Pedestrians
N	2	6
E	0	0
W	0	0

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Selected Hour: 02:30 PM - 03:30 PM Weather:



	Bicycles on Crosswalk	Pedestrians
N	6	81
E	0	0
W	0	0

Spectrum

Turning Movement Count
Location Name: LOUIS ST LAURENT AVE & JAMES SNOW PARKWAY
Date: Tue, Feb 13, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Turning Movement Count (8 . LOUIS ST LAURENT AVE & JAMES SNOW PARKWAY)

Start Time	N Approach JAMES SNOW PKWY S						E Approach LOUIS SAINT LAURENT AVE						S Approach JAMES SNOW PKWY S						W Approach LOUIS SAINT LAURENT AVE						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	22	63	3	0	0	88	0	6	0	0	0	6	0	18	7	0	0	25	27	21	52	0	0	100	219	
07:15:00	32	91	5	0	0	128	1	5	1	0	0	7	0	27	5	0	0	32	41	37	45	0	0	123	290	
07:30:00	46	86	14	0	0	146	1	11	0	0	0	12	1	21	15	0	0	37	33	35	55	0	0	123	318	
07:45:00	40	76	5	0	0	121	1	8	0	0	0	9	2	30	4	0	0	36	46	40	62	0	0	148	314	1141
08:00:00	50	77	5	0	0	132	1	5	0	0	0	6	0	36	8	0	0	44	37	54	74	0	0	165	347	1269
08:15:00	24	65	8	0	0	97	0	2	1	0	0	3	1	44	14	0	0	59	52	36	47	0	0	135	294	1273
08:30:00	27	68	9	0	0	104	0	0	0	0	0	0	1	28	14	0	0	43	39	42	58	0	0	139	286	1241
08:45:00	32	63	4	0	0	99	1	1	1	0	0	3	2	37	17	0	0	56	14	34	47	0	0	95	253	1180
BREAK																										
14:00:00	39	29	1	0	0	69	0	10	0	0	0	10	0	27	15	0	0	42	18	12	13	0	0	43	164	
14:15:00	42	17	0	0	0	59	0	13	1	0	0	14	0	28	31	0	0	59	12	15	16	0	0	43	175	
14:30:00	39	31	3	0	0	73	7	12	0	0	0	19	0	32	18	0	0	50	16	15	41	1	0	73	215	
14:45:00	53	39	3	0	0	95	0	20	0	0	0	20	1	55	23	0	0	79	23	15	31	0	0	69	263	817
15:00:00	66	34	0	0	0	100	4	9	0	0	0	13	0	32	29	0	0	61	20	19	34	0	0	73	247	900
15:15:00	78	28	6	0	0	112	2	10	1	0	0	13	1	44	29	0	0	74	15	11	47	0	0	73	272	997
15:30:00	60	33	1	0	0	94	2	12	2	0	0	16	4	52	42	0	0	98	16	27	32	0	0	75	283	1065
15:45:00	75	31	4	0	0	110	3	11	0	0	0	14	1	62	58	0	0	121	11	18	38	0	0	67	312	1114
16:00:00	80	23	2	0	0	105	3	19	0	0	0	22	1	50	43	0	0	94	21	12	25	0	0	58	279	1146
16:15:00	88	39	0	0	0	127	2	17	0	0	0	19	0	62	52	0	0	114	14	16	32	0	0	62	322	1196
16:30:00	97	40	2	0	0	139	4	27	2	0	0	33	1	58	53	0	0	112	18	20	32	0	0	70	354	1267
16:45:00	116	38	0	0	0	154	2	26	0	0	0	28	2	56	57	0	0	115	13	19	30	0	0	62	359	1314
17:00:00	124	45	4	0	0	173	5	23	0	0	0	28	0	70	51	0	0	121	20	19	39	0	0	78	400	1435
17:15:00	110	36	2	0	0	148	4	27	0	0	0	31	2	58	48	0	0	108	13	12	36	0	0	61	348	1461
17:30:00	111	43	2	0	0	156	7	19	0	0	0	26	1	62	54	0	0	117	11	25	32	0	0	68	367	1474
17:45:00	103	35	3	0	0	141	4	23	2	0	0	29	1	56	47	0	0	104	22	13	22	0	0	57	331	1446
Grand Total	1554	1130	86	0	0	2770	54	316	11	0	0	381	22	1045	734	0	0	1801	552	567	940	1	0	2060	**7012**	-
Approach%	56.1%	40.8%	3.1%	0%		-	14.2%	82.9%	2.9%	0%		-	1.2%	58%	40.8%	0%		-	26.8%	27.5%	45.6%	0%		-	**-**	-
Totals %	22.2%	16.1%	1.2%	0%		39.5%	0.8%	4.5%	0.2%	0%		5.4%	0.3%	14.9%	10.5%	0%		25.7%	7.9%	8.1%	13.4%	0%		29.4%	**-**	-
Heavy	32	57	5	0		-	1	1	3	0		-	2	54	10	0		-	12	7	33	0		-	**-**	-
Heavy %	2.1%	5%	5.8%	0%		-	1.9%	0.3%	27.3%	0%		-	9.1%	5.2%	1.4%	0%		-	2.2%	1.2%	3.5%	0%		-	**-**	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-

Peak Hour: 07:30 AM - 08:30 AM Weather: Overcast Clouds (-2.78 °C)

Start Time	N Approach JAMES SNOW PKWY S						E Approach LOUIS SAINT LAURENT AVE						S Approach JAMES SNOW PKWY S						W Approach LOUIS SAINT LAURENT AVE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
07:30:00	46	86	14	0	0	146	1	11	0	0	0	12	1	21	15	0	0	37	33	35	55	0	0	123	318
07:45:00	40	76	5	0	0	121	1	8	0	0	0	9	2	30	4	0	0	36	46	40	62	0	0	148	314
08:00:00	50	77	5	0	0	132	1	5	0	0	0	6	0	36	8	0	0	44	37	54	74	0	0	165	347
08:15:00	24	65	8	0	0	97	0	2	1	0	0	3	1	44	14	0	0	59	52	36	47	0	0	135	294
Grand Total	160	304	32	0	0	496	3	26	1	0	0	30	4	131	41	0	0	176	168	165	238	0	0	571	**1273**
Approach%	32.3%	61.3%	6.5%	0%		-	10%	86.7%	3.3%	0%		-	2.3%	74.4%	23.3%	0%		-	29.4%	28.9%	41.7%	0%		-	**-**
Totals %	12.6%	23.9%	2.5%	0%		39%	0.2%	2%	0.1%	0%		2.4%	0.3%	10.3%	3.2%	0%		13.8%	13.2%	13%	18.7%	0%		44.9%	**-**
PHF	0.8	0.88	0.57	0		0.85	0.75	0.59	0.25	0		0.63	0.5	0.74	0.68	0		0.75	0.81	0.76	0.8	0		0.87	**-**
Heavy	7	16	1	0		24	0	0	0	0		0	2	6	1	0		9	2	1	8	0		11	**-**
Heavy %	4.4%	5.3%	3.1%	0%		4.8%	0%	0%	0%	0%		0%	50%	4.6%	2.4%	0%		5.1%	1.2%	0.6%	3.4%	0%		1.9%	**-**
Lights	153	288	31	0		472	3	26	1	0		30	2	125	40	0		167	166	164	230	0		560	**-**
Lights %	95.6%	94.7%	96.9%	0%		95.2%	100%	100%	100%	0%		100%	50%	95.4%	97.6%	0%		94.9%	98.8%	99.4%	96.6%	0%		98.1%	**-**
Single-Unit Trucks	2	9	1	0		12	0	0	0	0		0	2	3	0	0		5	0	1	2	0		3	**-**
Single-Unit Trucks %	1.3%	3%	3.1%	0%		2.4%	0%	0%	0%	0%		0%	50%	2.3%	0%	0%		2.8%	0%	0.6%	0.8%	0%		0.5%	**-**
Buses	1	0	0	0		1	0	0	0	0		0	0	0	1	0		1	2	0	5	0		7	**-**
Buses %	0.6%	0%	0%	0%		0.2%	0%	0%	0%	0%		0%	0%	0%	2.4%	0%		0.6%	1.2%	0%	2.1%	0%		1.2%	**-**
Articulated Trucks	4	7	0	0		11	0	0	0	0		0	0	3	0	0		3	0	0	1	0		1	**-**
Articulated Trucks %	2.5%	2.3%	0%	0%		2.2%	0%	0%	0%	0%		0%	0%	2.3%	0%	0%		1.7%	0%	0%	0.4%	0%		0.2%	**-**

Spectrum

Turning Movement Count
Location Name: LOUIS ST LAURENT AVE & JAMES SNOW PARKWAY
Date: Tue, Feb 13, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

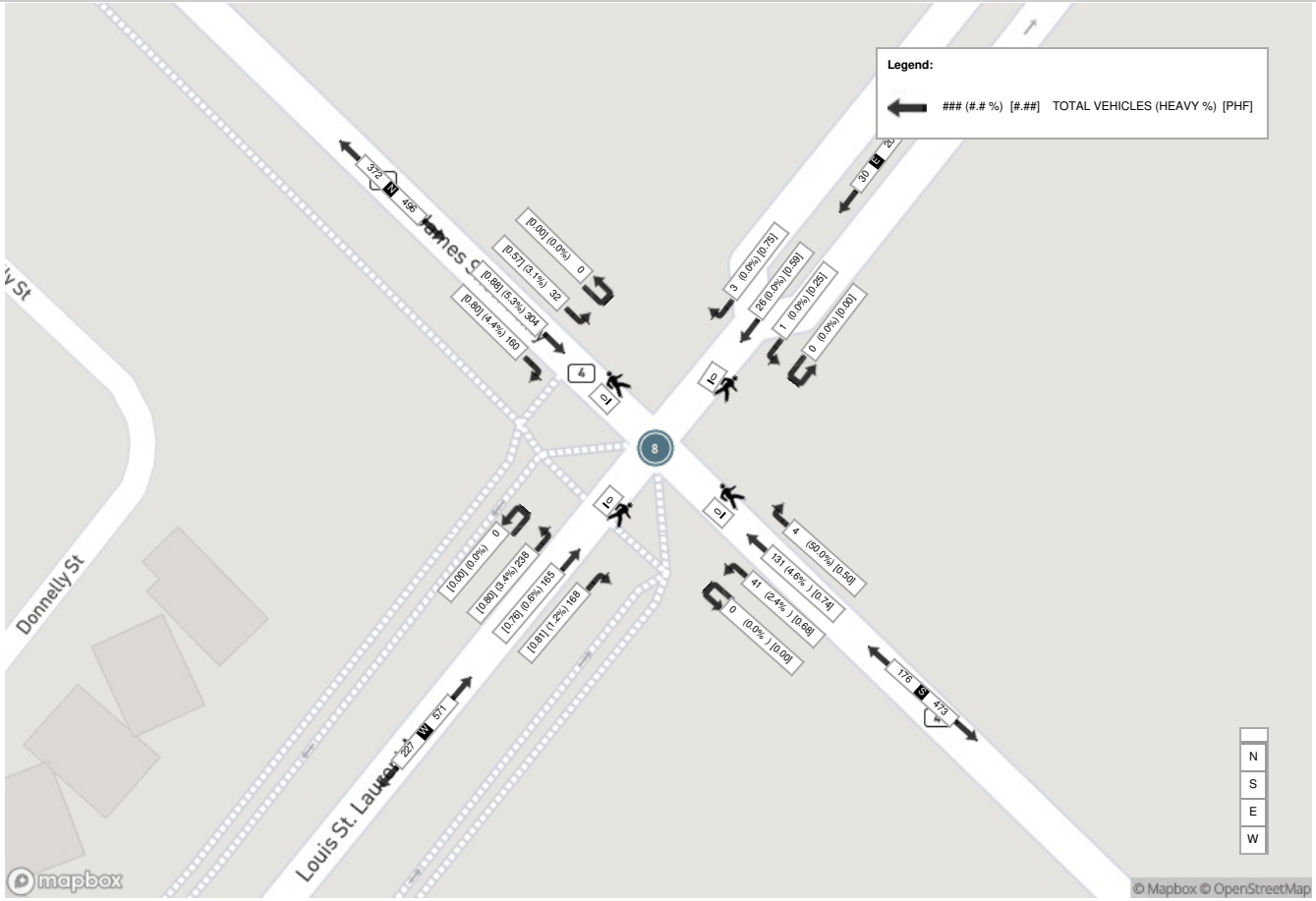
Peak Hour: 04:45 PM - 05:45 PM Weather: Overcast Clouds (2.8 °C)

Start Time	N Approach JAMES SNOW PKWY S						E Approach LOUIS SAINT LAURENT AVE						S Approach JAMES SNOW PKWY S						W Approach LOUIS SAINT LAURENT AVE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:45:00	116	38	0	0	0	154	2	26	0	0	0	28	2	56	57	0	0	115	13	19	30	0	0	62	359
17:00:00	124	45	4	0	0	173	5	23	0	0	0	28	0	70	51	0	0	121	20	19	39	0	0	78	400
17:15:00	110	36	2	0	0	148	4	27	0	0	0	31	2	58	48	0	0	108	13	12	36	0	0	61	348
17:30:00	111	43	2	0	0	156	7	19	0	0	0	26	1	62	54	0	0	117	11	25	32	0	0	68	367
Grand Total	461	162	8	0	0	631	18	95	0	0	0	113	5	246	210	0	0	461	57	75	137	0	0	269	**1474**
Approach%	73.1%	25.7%	1.3%	0%		-	15.9%	84.1%	0%	0%		-	1.1%	53.4%	45.6%	0%		-	21.2%	27.9%	50.9%	0%		-	**-**
Totals %	31.3%	11%	0.5%	0%		42.8%	1.2%	6.4%	0%	0%		7.7%	0.3%	16.7%	14.2%	0%		31.3%	3.9%	5.1%	9.3%	0%		18.2%	**-**
PHF	0.93	0.9	0.5	0		0.91	0.64	0.88	0	0		0.91	0.63	0.88	0.92	0		0.95	0.71	0.75	0.88	0		0.86	**-**
Heavy	0	2	2	0		4	0	0	0	0		0	0	5	1	0		6	2	2	2	0		6	**-**
Heavy %	0%	1.2%	25%	0%		0.6%	0%	0%	0%	0%		0%	0%	2%	0.5%	0%		1.3%	3.5%	2.7%	1.5%	0%		2.2%	**-**
Lights	461	160	6	0		627	18	95	0	0		113	5	241	209	0		455	55	73	135	0		263	**-**
Lights %	100%	98.8%	75%	0%		99.4%	100%	100%	0%	0%		100%	100%	98%	99.5%	0%		98.7%	96.5%	97.3%	98.5%	0%		97.8%	**-**
Single-Unit Trucks	0	1	2	0		3	0	0	0	0		0	0	1	1	0		2	2	2	1	0		5	**-**
Single-Unit Trucks %	0%	0.6%	25%	0%		0.5%	0%	0%	0%	0%		0%	0%	0.4%	0.5%	0%		0.4%	3.5%	2.7%	0.7%	0%		1.9%	**-**
Buses	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	**-**
Buses %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.2%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	1	0	0		1	0	0	0	0		0	0	3	0	0		3	0	0	1	0		1	**-**
Articulated Trucks %	0%	0.6%	0%	0%		0.2%	0%	0%	0%	0%		0%	0%	1.2%	0%	0%		0.7%	0%	0%	0.7%	0%		0.4%	**-**

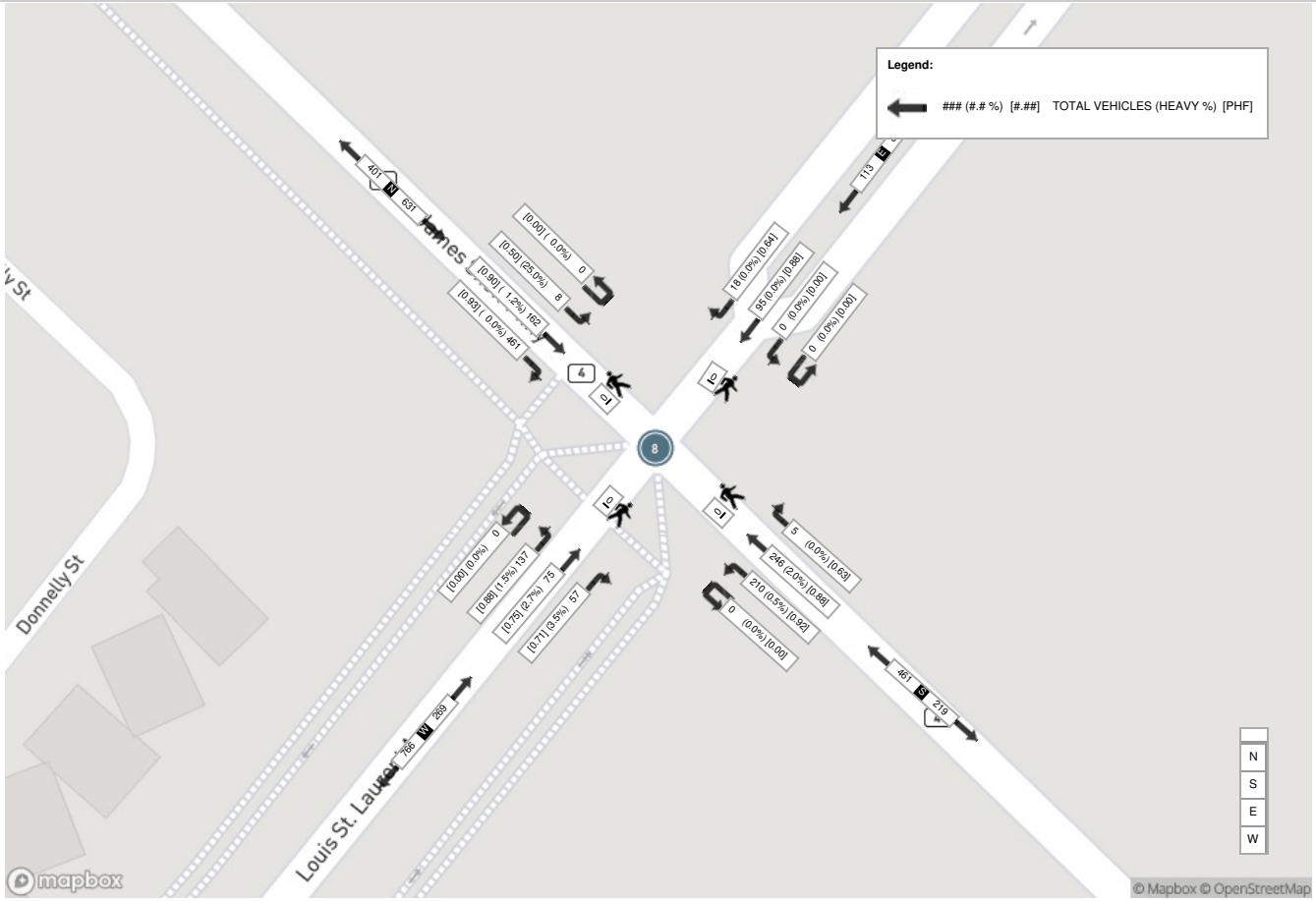
Selected Hour: 02:30 PM - 03:30 PM Weather:

Start Time	N Approach JAMES SNOW PKWY S						E Approach LOUIS SAINT LAURENT AVE						S Approach JAMES SNOW PKWY S						W Approach LOUIS SAINT LAURENT AVE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
14:30:00	39	31	3	0	0	73	7	12	0	0	0	19	0	32	18	0	0	50	16	15	41	1	0	73	215
14:45:00	53	39	3	0	0	95	0	20	0	0	0	20	1	55	23	0	0	79	23	15	31	0	0	69	263
15:00:00	66	34	0	0	0	100	4	9	0	0	0	13	0	32	29	0	0	61	20	19	34	0	0	73	247
15:15:00	78	28	6	0	0	112	2	10	1	0	0	13	1	44	29	0	0	74	15	11	47	0	0	73	272
Grand Total	236	132	12	0	0	380	13	51	1	0	0	65	2	163	99	0	0	264	74	60	153	1	0	288	**997**
Approach%	62.1%	34.7%	3.2%	0%		-	20%	78.5%	1.5%	0%		-	0.8%	61.7%	37.5%	0%		-	25.7%	20.8%	53.1%	0.3%		-	-
Totals %	23.7%	13.2%	1.2%	0%		38.1%	1.3%	5.1%	0.1%	0%		6.5%	0.2%	16.3%	9.9%	0%		26.5%	7.4%	6%	15.3%	0.1%		28.9%	-
PHF	0.76	0.85	0.5	0		0.85	0.46	0.64	0.25	0		0.81	0.5	0.74	0.85	0		0.84	0.8	0.79	0.81	0.25		0.99	-
Heavy	4	9	1	0		14	0	1	0	0		1	0	15	2	0		17	2	1	8	0		11	-
Heavy %	1.7%	6.8%	8.3%	0%		3.7%	0%	2%	0%	0%		1.5%	0%	9.2%	2%	0%		6.4%	2.7%	1.7%	5.2%	0%		3.8%	-
Lights	232	123	11	0		366	13	50	1	0		64	2	148	97	0		247	72	59	145	1		277	-
Lights %	98.3%	93.2%	91.7%	0%		96.3%	100%	98%	100%	0%		98.5%	100%	90.8%	98%	0%		93.6%	97.3%	98.3%	94.8%	100%		96.2%	-
Single-Unit Trucks	1	3	1	0		5	0	0	0	0		0	0	9	1	0		10	0	1	5	0		6	-
Single-Unit Trucks %	0.4%	2.3%	8.3%	0%		1.3%	0%	0%	0%	0%		0%	0%	5.5%	1%	0%		3.8%	0%	1.7%	3.3%	0%		2.1%	-
Buses	3	0	0	0		3	0	1	0	0		1	0	0	1	0		1	2	0	2	0		4	-
Buses %	1.3%	0%	0%	0%		0.8%	0%	2%	0%	0%		1.5%	0%	0%	1%	0%		0.4%	2.7%	0%	1.3%	0%		1.4%	-
Articulated Trucks	0	6	0	0		6	0	0	0	0		0	0	6	0	0		6	0	0	1	0		1	-
Articulated Trucks %	0%	4.5%	0%	0%		1.6%	0%	0%	0%	0%		0%	0%	3.7%	0%	0%		2.3%	0%	0%	0.7%	0%		0.3%	-

Peak Hour: 07:30 AM - 08:30 AM **Weather: Overcast Clouds (-2.78 °C)**

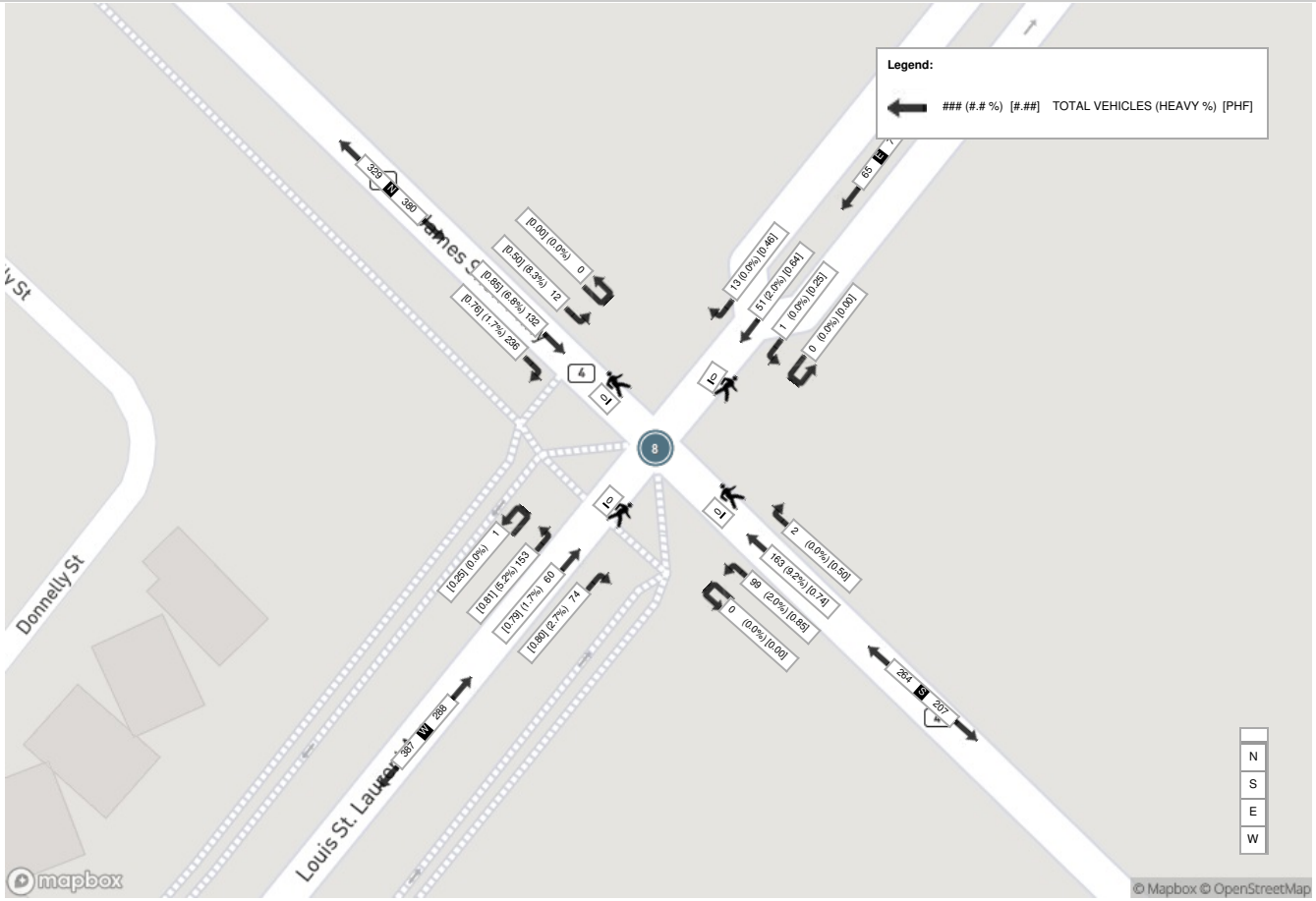


Peak Hour: 04:45 PM - 05:45 PM **Weather: Overcast Clouds (2.8 °C)**



BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Selected Hour: 02:30 PM - 03:30 PM **Weather:**



Spectrum

Turning Movement Count
Location Name: LOUIS ST LAURENT AVE & TRUDEAU DR
Date: Tue, Feb 13, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Turning Movement Count (7 . LOUIS ST LAURENT AVE & TRUDEAU DR)

Start Time	N Approach TRUDEAU DR						E Approach LOUIS ST LAURENT AVE						S Approach TRUDEAU DR						W Approach LOUIS ST LAURENT AVE						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	17	0	4	0	6	21	3	33	0	0	0	36	0	0	0	0	0	0	0	94	6	0	0	100	157	
07:15:00	17	0	4	0	3	21	1	40	0	0	0	41	0	0	0	0	0	0	1	127	4	0	0	132	194	
07:30:00	37	0	3	0	1	40	1	71	0	0	0	72	1	0	0	0	0	1	0	124	8	0	0	132	245	
07:45:00	62	0	8	0	12	70	1	51	0	0	4	52	0	0	0	0	4	0	1	135	34	5	1	175	297	893
08:00:00	50	0	13	0	0	63	4	56	1	0	0	61	0	0	2	0	0	2	0	154	47	3	0	204	330	1066
08:15:00	15	0	5	0	1	20	1	40	0	0	0	41	0	0	0	0	0	0	0	121	13	0	0	134	195	1067
08:30:00	26	0	7	0	5	33	0	39	0	0	0	39	0	0	0	0	0	0	0	140	11	0	0	151	223	1045
08:45:00	11	0	0	0	1	11	3	49	0	0	1	52	0	0	0	0	1	0	0	87	12	0	0	99	162	910
BREAK																										
14:00:00	11	0	5	0	0	16	5	60	0	0	0	65	0	0	1	0	0	1	0	39	12	0	0	51	133	
14:15:00	19	0	4	0	2	23	7	77	0	0	0	84	0	0	0	0	0	0	0	38	7	0	1	45	152	
14:30:00	21	0	3	0	3	24	1	73	0	0	3	74	0	0	0	0	3	0	0	70	25	1	4	96	194	
14:45:00	18	0	4	0	16	22	6	87	0	0	2	93	0	0	0	0	2	0	0	65	17	0	6	82	197	676
15:00:00	17	0	5	0	3	22	7	99	0	0	0	106	0	0	0	0	0	0	0	66	14	2	0	82	210	753
15:15:00	15	0	3	0	1	18	6	113	0	0	0	119	0	0	0	0	0	0	0	75	23	0	2	98	235	836
15:30:00	13	0	3	0	1	16	6	109	0	0	0	115	0	0	0	0	0	0	0	67	13	0	0	80	211	853
15:45:00	22	0	1	0	4	23	12	132	0	0	0	144	0	0	0	0	0	0	0	66	22	0	0	88	255	911
16:00:00	17	0	5	0	3	22	7	133	0	1	0	141	0	0	0	0	0	0	0	55	30	0	0	85	248	949
16:15:00	13	0	6	0	0	19	6	151	0	0	0	157	0	0	0	0	0	0	0	59	14	0	0	73	249	963
16:30:00	11	0	4	0	1	15	12	161	0	0	2	173	0	0	0	0	2	0	0	60	17	0	0	77	265	1017
16:45:00	16	0	1	1	1	18	9	194	0	0	0	203	0	0	0	0	0	0	0	65	12	0	0	77	298	1060
17:00:00	14	0	6	0	0	20	7	191	0	0	0	198	0	0	0	0	0	0	0	71	13	0	0	84	302	1114
17:15:00	11	0	5	0	2	16	13	167	0	0	0	180	0	0	0	0	0	0	0	57	15	0	0	72	268	1133
17:30:00	20	0	2	0	4	22	8	182	0	0	0	190	0	0	0	0	0	0	0	62	23	0	0	85	297	1165
17:45:00	16	0	2	0	1	18	8	164	0	0	0	172	0	0	0	0	0	0	0	57	22	0	0	79	269	1136
Grand Total	489	0	103	1	71	593	134	2472	1	1	12	2608	1	0	3	0	12	4	2	1954	414	11	14	2381	**5586**	-
Approach%	82.5%	0%	17.4%	0.2%		-	5.1%	94.8%	0%	0%		-	25%	0%	75%	0%		-	0.1%	82.1%	17.4%	0.5%		-	**-**	-
Totals %	8.8%	0%	1.8%	0%		10.6%	2.4%	44.3%	0%	0%		46.7%	0%	0%	0.1%	0%		0.1%	0%	35%	7.4%	0.2%		42.6%	**-**	-
Heavy	29	0	3	0		-	4	42	0	0		-	0	0	0	0		-	0	51	17	0		-	**-**	-
Heavy %	5.9%	0%	2.9%	0%		-	3%	1.7%	0%	0%		-	0%	0%	0%	0%		-	0%	2.6%	4.1%	0%		-	**-**	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-

Spectrum

Turning Movement Count
Location Name: LOUIS ST LAURENT AVE & TRUDEAU DR
Date: Tue, Feb 13, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 07:30 AM - 08:30 AM Weather: Overcast Clouds (-2.78 °C)

Start Time	N Approach TRUDEAU DR						E Approach LOUIS ST LAURENT AVE						S Approach TRUDEAU DR						W Approach LOUIS ST LAURENT AVE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
07:30:00	37	0	3	0	1	40	1	71	0	0	0	72	1	0	0	0	0	1	0	124	8	0	0	132	245
07:45:00	62	0	8	0	12	70	1	51	0	0	4	52	0	0	0	0	4	0	1	135	34	5	1	175	297
08:00:00	50	0	13	0	0	63	4	56	1	0	0	61	0	0	2	0	0	2	0	154	47	3	0	204	330
08:15:00	15	0	5	0	1	20	1	40	0	0	0	41	0	0	0	0	0	0	0	121	13	0	0	134	195
Grand Total	164	0	29	0	14	193	7	218	1	0	4	226	1	0	2	0	4	3	1	534	102	8	1	645	**1067**
Approach%	85%	0%	15%	0%		-	3.1%	96.5%	0.4%	0%		-	33.3%	0%	66.7%	0%		-	0.2%	82.8%	15.8%	1.2%		-	**-**
Totals %	15.4%	0%	2.7%	0%		18.1%	0.7%	20.4%	0.1%	0%		21.2%	0.1%	0%	0.2%	0%		0.3%	0.1%	50%	9.6%	0.7%		60.4%	**-**
PHF	0.66	0	0.56	0		0.69	0.44	0.77	0.25	0		0.78	0.25	0	0.25	0		0.38	0.25	0.87	0.54	0.4		0.79	**-**
Heavy	8	0	1	0		9	0	8	0	0		8	0	0	0	0		0	0	10	5	0		15	**-**
Heavy %	4.9%	0%	3.4%	0%		4.7%	0%	3.7%	0%	0%		3.5%	0%	0%	0%	0%		0%	0%	1.9%	4.9%	0%		2.3%	**-**
Lights	156	0	28	0		184	7	210	1	0		218	1	0	2	0		3	1	524	97	8		630	**-**
Lights %	95.1%	0%	96.6%	0%		95.3%	100%	96.3%	100%	0%		96.5%	100%	0%	100%	0%		100%	100%	98.1%	95.1%	100%		97.7%	**-**
Single-Unit Trucks	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	0	3	0	0		3	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0.9%	0%	0%		0.9%	0%	0%	0%	0%		0%	0%	0.6%	0%	0%		0.5%	**-**
Buses	8	0	1	0		9	0	2	0	0		2	0	0	0	0		0	0	6	5	0		11	**-**
Buses %	4.9%	0%	3.4%	0%		4.7%	0%	0.9%	0%	0%		0.9%	0%	0%	0%	0%		0%	0%	1.1%	4.9%	0%		1.7%	**-**
Articulated Trucks	0	0	0	0		0	0	4	0	0		4	0	0	0	0		0	0	1	0	0		1	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	1.8%	0%	0%		1.8%	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.2%	**-**
Pedestrians	-	-	-	-	14	-	-	-	-	-	4	-	-	-	-	-	4	-	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	-	60.9%		-	-	-	-	17.4%		-	-	-	-	17.4%		-	-	-	-	4.3%		**-**

Spectrum

Turning Movement Count
Location Name: LOUIS ST LAURENT AVE & TRUDEAU DR
Date: Tue, Feb 13, 2024 Deployment Lead: David Chu

BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 04:45 PM - 05:45 PM Weather: Overcast Clouds (2.8 °C)

Start Time	N Approach TRUDEAU DR						E Approach LOUIS ST LAURENT AVE						S Approach TRUDEAU DR						W Approach LOUIS ST LAURENT AVE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:45:00	16	0	1	1	1	18	9	194	0	0	0	203	0	0	0	0	0	0	0	65	12	0	0	77	298
17:00:00	14	0	6	0	0	20	7	191	0	0	0	198	0	0	0	0	0	0	0	71	13	0	0	84	302
17:15:00	11	0	5	0	2	16	13	167	0	0	0	180	0	0	0	0	0	0	0	57	15	0	0	72	268
17:30:00	20	0	2	0	4	22	8	182	0	0	0	190	0	0	0	0	0	0	0	62	23	0	0	85	297
Grand Total	61	0	14	1	7	76	37	734	0	0	0	771	0	0	0	0	0	0	0	255	63	0	0	318	**1165**
Approach%	80.3%	0%	18.4%	1.3%		-	4.8%	95.2%	0%	0%		-	0%	0%	0%	0%		-	0%	80.2%	19.8%	0%		-	**-**
Totals %	5.2%	0%	1.2%	0.1%		6.5%	3.2%	63%	0%	0%		66.2%	0%	0%	0%	0%		0%	0%	21.9%	5.4%	0%		27.3%	**-**
PHF	0.76	0	0.58	0.25		0.86	0.71	0.95	0	0		0.95	0	0	0	0		0	0	0.9	0.68	0		0.94	**-**
Heavy	1	0	0	0		1	0	1	0	0		1	0	0	0	0		0	0	6	0	0		6	**-**
Heavy %	1.6%	0%	0%	0%		1.3%	0%	0.1%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	2.4%	0%	0%		1.9%	**-**
Lights	60	0	14	1		75	37	733	0	0		770	0	0	0	0		0	0	249	63	0		312	**-**
Lights %	98.4%	0%	100%	100%		98.7%	100%	99.9%	0%	0%		99.9%	0%	0%	0%	0%		0%	0%	97.6%	100%	0%		98.1%	**-**
Single-Unit Trucks	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	0	5	0	0		5	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0.1%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	2%	0%	0%		1.6%	**-**
Buses	1	0	0	0		1	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Buses %	1.6%	0%	0%	0%		1.3%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.3%	**-**
Pedestrians	-	-	-	-	7	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	100%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: LOUIS ST LAURENT AVE & TRUDEAU DR
Date: Tue, Feb 13, 2024 Deployment Lead: David Chu

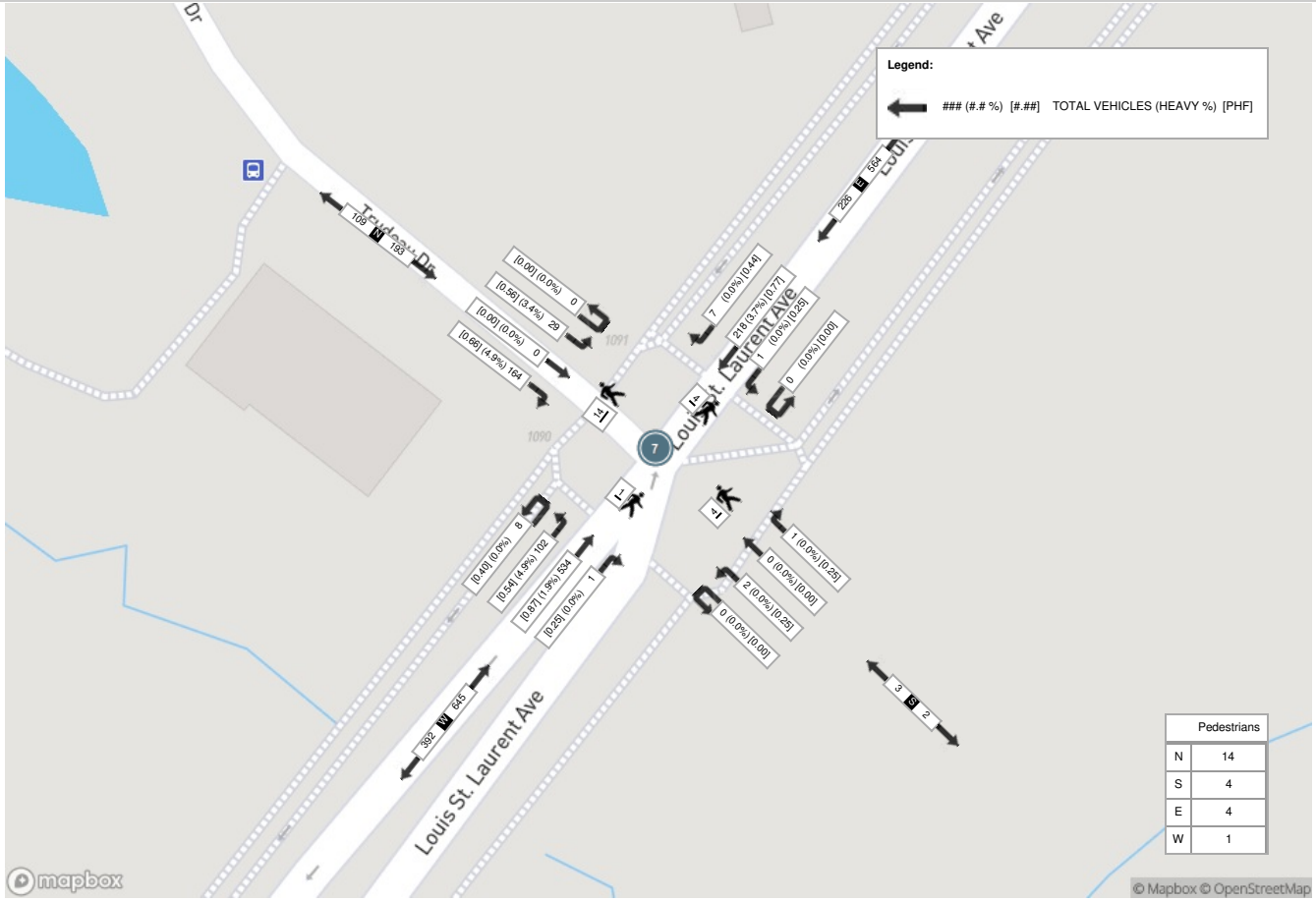
BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Selected Hour: 02:30 PM - 03:30 PM Weather:

Start Time	N Approach TRUDEAU DR						E Approach LOUIS ST LAURENT AVE						S Approach TRUDEAU DR						W Approach LOUIS ST LAURENT AVE						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
14:30:00	21	0	3	0	3	24	1	73	0	0	3	74	0	0	0	0	3	0	0	70	25	1	4	96	194
14:45:00	18	0	4	0	16	22	6	87	0	0	2	93	0	0	0	0	2	0	0	65	17	0	6	82	197
15:00:00	17	0	5	0	3	22	7	99	0	0	0	106	0	0	0	0	0	0	0	66	14	2	0	82	210
15:15:00	15	0	3	0	1	18	6	113	0	0	0	119	0	0	0	0	0	0	0	75	23	0	2	98	235
Grand Total	71	0	15	0	23	86	20	372	0	0	5	392	0	0	0	0	5	0	0	276	79	3	12	358	**836**
Approach%	82.6%	0%	17.4%	0%		-	5.1%	94.9%	0%	0%		-	0%	0%	0%	0%		-	0%	77.1%	22.1%	0.8%		-	**-**
Totals %	8.5%	0%	1.8%	0%		10.3%	2.4%	44.5%	0%	0%		46.9%	0%	0%	0%	0%		0%	0%	33%	9.4%	0.4%		42.8%	**-**
PHF	0.85	0	0.75	0		0.9	0.71	0.82	0	0		0.82	0	0	0	0		0	0	0.92	0.79	0.38		0.91	**-**
Heavy	7	0	0	0		7	1	7	0	0		8	0	0	0	0		0	0	12	5	0		17	**-**
Heavy %	9.9%	0%	0%	0%		8.1%	5%	1.9%	0%	0%		2%	0%	0%	0%	0%		0%	0%	4.3%	6.3%	0%		4.7%	**-**
Lights	64	0	15	0		79	19	365	0	0		384	0	0	0	0		0	0	264	74	3		341	**-**
Lights %	90.1%	0%	100%	0%		91.9%	95%	98.1%	0%	0%		98%	0%	0%	0%	0%		0%	0%	95.7%	93.7%	100%		95.3%	**-**
Single-Unit Trucks	0	0	0	0		0	0	3	0	0		3	0	0	0	0		0	0	7	0	0		7	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0.8%	0%	0%		0.8%	0%	0%	0%	0%		0%	0%	2.5%	0%	0%		2%	**-**
Buses	7	0	0	0		7	1	4	0	0		5	0	0	0	0		0	0	4	5	0		9	**-**
Buses %	9.9%	0%	0%	0%		8.1%	5%	1.1%	0%	0%		1.3%	0%	0%	0%	0%		0%	0%	1.4%	6.3%	0%		2.5%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.3%	**-**
Pedestrians	-	-	-	-	23	-	-	-	-	-	5	-	-	-	-	-	5	-	-	-	-	-	12	-	**-**
Pedestrians%	-	-	-	-	51.1%		-	-	-	-	11.1%		-	-	-	-	11.1%		-	-	-	-	26.7%		**-**

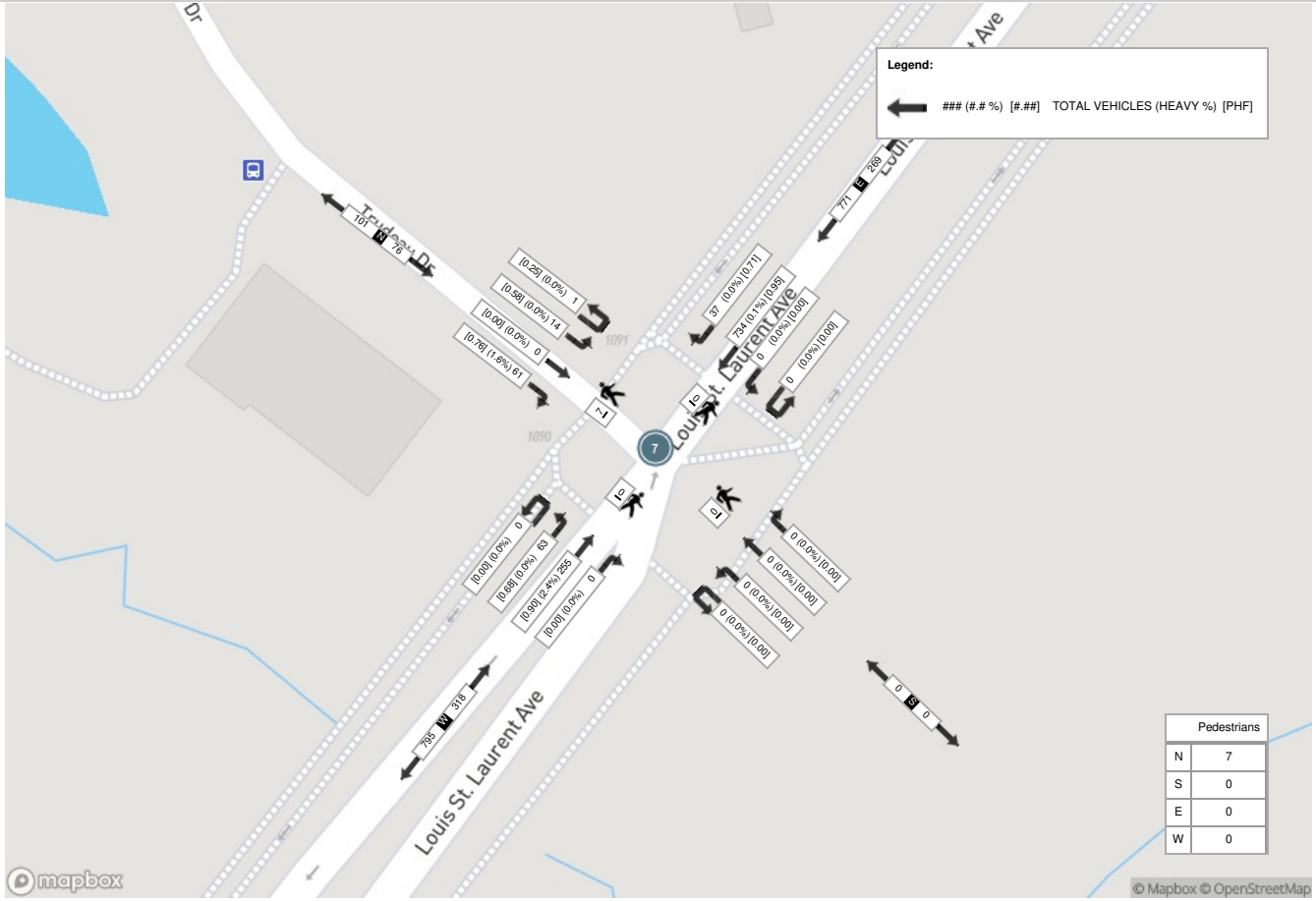
BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 07:30 AM - 08:30 AM **Weather: Overcast Clouds (-2.78 °C)**



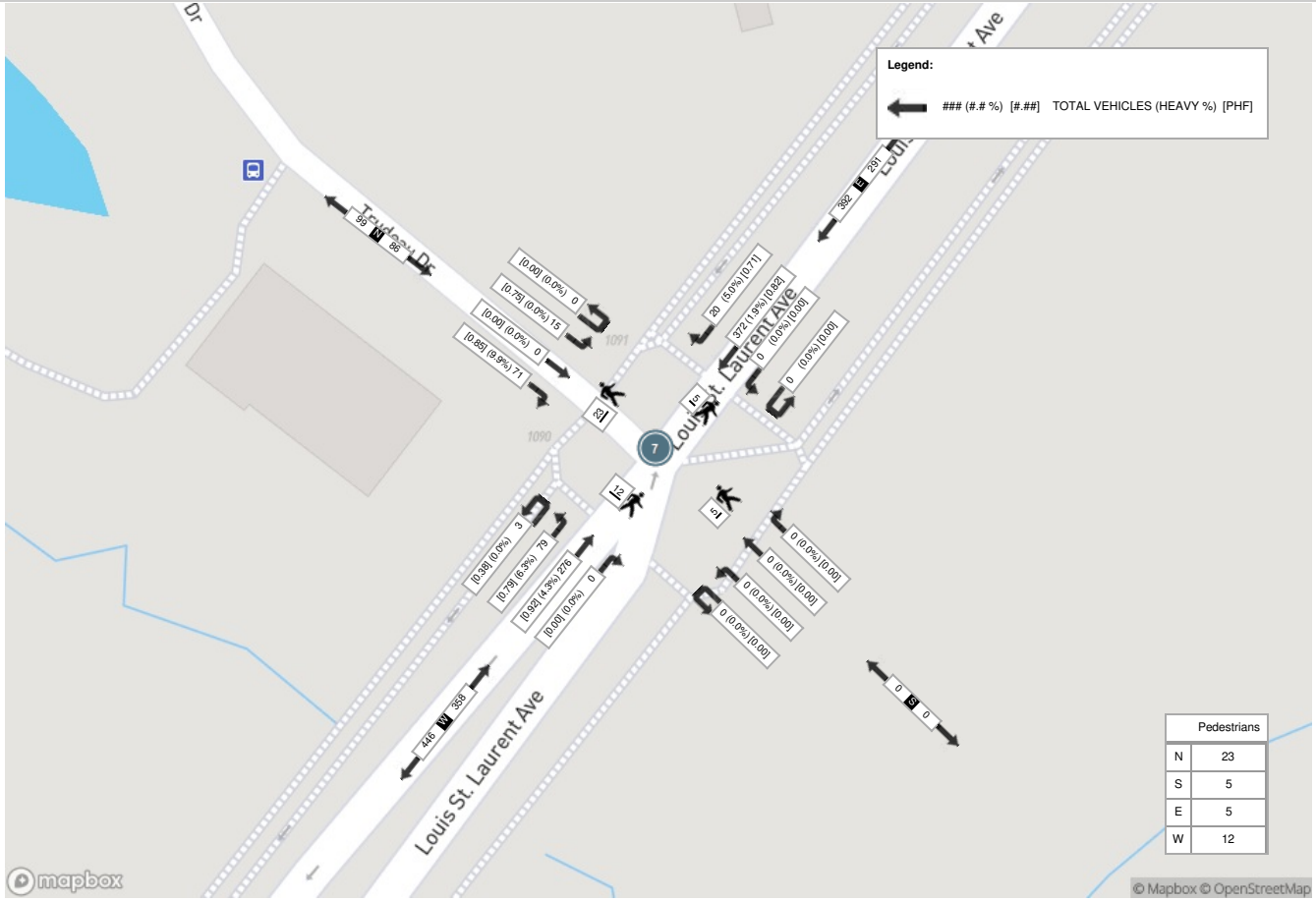
BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Peak Hour: 04:45 PM - 05:45 PM **Weather: Overcast Clouds (2.8 °C)**



BA Group
300 45 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1K9
CANADA

Selected Hour: 02:30 PM - 03:30 PM **Weather:**



	Pedestrians
N	23
S	5
E	5
W	12

Appendix H:
School Peak Transformation Factors

	East Block - Boyne Secondary RNA					
	PM Peak - Two Way		**Time of Day Distribution**		**Ratio**	**Composite**
Use	Trips	Fraction	PM Peak	School Peak	School Peak / PM	School Peak
Low & Medium Density	5344	80.0%	9.40%	5.11%	0.54	0.43
High Density	556	8.3%	8.12%	4.50%	0.55	0.05
Commercial	573	8.6%	8.82%	8.23%	0.93	0.08
Elementary School	94	1.4%	6.75%	12.96%	1.92	0.03
High School	110	1.6%	10.23%	16.95%	1.66	0.03
Total	**6677**	**100.0%**	NA	NA	NA	**0.62**

	Zone 40					
	PM Peak - Two Way		**Time of Day Distribution**		**Ratio**	**Composite**
Use	Trips	Fraction	PM Peak	School Peak	School Peak / PM	School Peak
Single Family	445	46.7%	9.69%	5.93%	0.61	0.29
Townhome	267	28.0%	9.11%	4.28%	0.47	0.13
Apartment	57	6.0%	8.12%	4.50%	0.55	0.03
School	128	13.4%	6.75%	12.96%	1.92	0.26
Daycare	56	5.9%	18.32%	4.98%	0.27	0.02
Total	**952.68**	**100.0%**	NA	NA	NA	**0.72**

	Bayview & Lexus III					
	PM Peak - Two Way		**Time of Day Distribution**		**Ratio**	**Composite**
Use	Trips	Fraction	PM Peak	School Peak	School Peak / PM	School Peak
Single Family	707	79.3%	9.69%	5.93%	0.61	0.49
Townhome	80	9.0%	9.69%	5.93%	0.61	0.05
Shopping Centre	104	11.7%	8.82%	8.23%	0.93	0.11
Total	**891**	**100.0%**	NA	NA	NA	**0.65**

	TOR Lands					
	PM Peak - Two Way		**Time of Day Distribution**		**Ratio**	**Composite**
Use	Trips	Fraction	PM Peak	School Peak	School Peak / PM	School Peak
Single Family	566	59.5%	9.69%	5.93%	0.61	0.36
Multi-Family	296	31.1%	9.69%	5.93%	0.61	0.19
Multi-Family Mid-Rise	89	9.4%	9.11%	4.28%	0.47	0.04
Total	**951**	**100.0%**	NA	NA	NA	**0.60**

	Derry Green Business Park					
	PM Peak - Two Way		**Time of Day Distribution**		**Ratio**	**Composite**
Use	Trips	Fraction	PM Peak	School Peak	School Peak / PM	School Peak
Office	566	100.0%	11.00%	7.52%	0.68	0.68
Total	**566**	**100.0%**	NA	NA	NA	**0.68**

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use

Source: ITE *Trip Generation Manual* , 11th Edition

Land Use Code	220			220		
Land Use	Multifamily Housing (Low-Rise)			Multifamily Housing (Low-Rise)		
Subcategory	Not Close to Rail Transit			Close to Rail Transit		
Setting	General Urban/Suburban			General Urban/Suburban		
Time Period	Weekday			Weekday		
# Data Sites	6			1		
	% of 24-Hour Vehicle Trips			% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting	Total	Entering	Exiting
12:00 - 1:00 AM	0.7%	0.9%	0.4%	0.4%	0.4%	0.3%
1:00 - 2:00 AM	0.4%	0.5%	0.3%	0.2%	0.1%	0.2%
2:00 - 3:00 AM	0.4%	0.4%	0.4%	0.1%	0.2%	0.0%
3:00 - 4:00 AM	0.4%	0.4%	0.3%	0.2%	0.1%	0.2%
4:00 - 5:00 AM	0.9%	0.3%	1.4%	0.2%	0.2%	0.1%
5:00 - 6:00 AM	1.6%	0.5%	2.6%	2.4%	0.9%	4.0%
6:00 - 7:00 AM	4.2%	1.4%	6.9%	4.4%	2.0%	6.7%
7:00 - 8:00 AM	6.5%	2.0%	10.8%	7.2%	4.2%	10.3%
8:00 - 9:00 AM	5.8%	3.1%	8.5%	5.2%	3.4%	6.9%
9:00 - 10:00 AM	3.9%	2.9%	4.9%	4.4%	3.1%	5.7%
10:00 - 11:00 AM	3.6%	2.4%	4.8%	3.9%	3.4%	4.4%
11:00 - 12:00 PM	4.3%	3.8%	4.7%	5.4%	6.4%	4.4%
12:00 - 1:00 PM	4.3%	4.5%	4.1%	6.1%	5.8%	6.5%
1:00 - 2:00 PM	4.2%	4.0%	4.4%	4.7%	4.1%	5.4%
2:00 - 3:00 PM	5.2%	5.6%	4.9%	6.8%	7.5%	6.1%
3:00 - 4:00 PM	6.1%	6.9%	5.3%	6.5%	7.6%	5.4%
4:00 - 5:00 PM	7.9%	10.1%	5.6%	9.5%	11.6%	7.5%
5:00 - 6:00 PM	9.5%	11.4%	7.6%	11.2%	13.5%	8.9%
6:00 - 7:00 PM	8.2%	9.7%	6.7%	7.2%	7.7%	6.6%
7:00 - 8:00 PM	6.4%	8.1%	4.7%	6.1%	7.5%	4.7%
8:00 - 9:00 PM	5.9%	7.7%	4.2%	3.2%	4.2%	2.2%
9:00 - 10:00 PM	4.4%	6.0%	2.7%	2.4%	3.3%	1.5%
10:00 - 11:00 PM	3.5%	4.7%	2.4%	1.3%	1.5%	1.0%
11:00 - 12:00 AM	1.9%	2.5%	1.4%	1.1%	1.2%	1.0%
12:00 - 1:00 AM	0.7%	0.9%	0.4%	0.4%	0.4%	0.3%
12:15 - 1:15 AM	0.5%	0.7%	0.4%	0.3%	0.2%	0.3%
12:30 - 1:30 AM	0.5%	0.6%	0.3%	0.2%	0.2%	0.2%
12:45 - 1:45 AM	0.5%	0.6%	0.4%	0.1%	0.1%	0.1%
1:00 - 2:00 AM	0.4%	0.5%	0.3%	0.2%	0.1%	0.2%
1:15 - 2:15 AM	0.4%	0.5%	0.3%	0.2%	0.2%	0.2%
1:30 - 2:30 AM	0.4%	0.4%	0.4%	0.3%	0.3%	0.2%
1:45 - 2:45 AM	0.4%	0.4%	0.4%	0.3%	0.3%	0.2%
2:00 - 3:00 AM	0.4%	0.4%	0.4%	0.1%	0.2%	0.0%
2:15 - 3:15 AM	0.4%	0.4%	0.4%	0.1%	0.1%	0.0%
2:30 - 3:30 AM	0.3%	0.4%	0.3%	0.1%	0.1%	0.1%
2:45 - 3:45 AM	0.3%	0.3%	0.2%	0.1%	0.1%	0.1%
3:00 - 4:00 AM	0.4%	0.4%	0.3%	0.2%	0.1%	0.2%
3:15 - 4:15 AM	0.4%	0.5%	0.4%	0.2%	0.1%	0.2%
3:30 - 4:30 AM	0.6%	0.4%	0.7%	0.1%	0.0%	0.1%
3:45 - 4:45 AM	0.7%	0.4%	1.0%	0.2%	0.1%	0.2%
4:00 - 5:00 AM	0.9%	0.3%	1.4%	0.2%	0.2%	0.1%
4:15 - 5:15 AM	1.0%	0.3%	1.7%	0.6%	0.3%	0.9%
4:30 - 5:30 AM	1.2%	0.4%	2.0%	1.1%	0.5%	1.7%
4:45 - 5:45 AM	1.4%	0.4%	2.4%	1.9%	0.7%	3.0%
5:00 - 6:00 AM	1.6%	0.5%	2.6%	2.4%	0.9%	4.0%
5:15 - 6:15 AM	1.9%	0.6%	3.1%	2.5%	0.9%	4.2%
5:30 - 6:30 AM	2.6%	0.8%	4.2%	2.8%	0.9%	4.7%
5:45 - 6:45 AM	3.4%	1.2%	5.5%	3.4%	1.3%	5.5%
6:00 - 7:00 AM	4.2%	1.4%	6.9%	4.4%	2.0%	6.7%
6:15 - 7:15 AM	5.2%	1.6%	8.7%	5.4%	3.0%	7.7%
6:30 - 7:30 AM	5.5%	1.7%	9.2%	6.4%	4.0%	8.9%
6:45 - 7:45 AM	6.0%	1.7%	10.2%	6.6%	4.5%	8.7%
7:00 - 8:00 AM	6.5%	2.0%	10.8%	7.2%	4.2%	10.3%
7:15 - 8:15 AM	6.4%	2.6%	10.2%	6.5%	4.0%	9.0%
7:30 - 8:30 AM	6.7%	2.9%	10.4%	6.4%	3.9%	8.9%
7:45 - 8:45 AM	6.5%	3.2%	9.7%	5.8%	3.1%	8.5%
8:00 - 9:00 AM	5.8%	3.1%	8.5%	5.2%	3.4%	6.9%
8:15 - 9:15 AM	5.3%	2.8%	7.7%	5.5%	3.2%	7.8%
8:30 - 9:30 AM	4.6%	2.7%	6.4%	4.8%	2.9%	6.6%
8:45 - 9:45 AM	4.1%	2.8%	5.3%	5.0%	3.2%	6.7%
9:00 - 10:00 AM	3.9%	2.9%	4.9%	4.4%	3.1%	5.7%
9:15 - 10:15 AM	3.9%	2.9%	4.8%	4.2%	3.3%	5.1%
9:30 - 10:30 AM	3.9%	2.8%	4.9%	4.1%	3.2%	4.9%
9:45 - 10:45 AM	3.7%	2.4%	4.9%	3.8%	3.4%	4.2%
10:00 - 11:00 AM	3.6%	2.4%	4.8%	3.9%	3.4%	4.4%
10:15 - 11:15 AM	3.6%	2.6%	4.6%	4.3%	4.0%	4.7%
10:30 - 11:30 AM	3.8%	3.1%	4.5%	4.5%	5.0%	4.1%
10:45 - 11:45 AM	4.1%	3.6%	4.5%	4.9%	5.4%	4.4%
11:00 - 12:00 PM	4.3%	3.8%	4.7%	5.4%	6.4%	4.4%
11:15 - 12:15 PM	4.4%	4.2%	4.5%	5.4%	6.1%	4.8%
11:30 - 12:30 PM	4.4%	4.4%	4.4%	6.3%	6.6%	6.0%
11:45 - 12:45 PM	4.4%	4.5%	4.3%	5.7%	6.1%	5.4%
12:00 - 1:00 PM	4.3%	4.5%	4.1%	6.1%	5.8%	6.5%
12:15 - 1:15 PM	4.3%	4.3%	4.3%	5.8%	5.6%	6.1%
12:30 - 1:30 PM	4.2%	4.0%	4.4%	4.5%	4.0%	5.0%
12:45 - 1:45 PM	4.0%	3.8%	4.1%	5.6%	4.7%	6.6%
1:00 - 2:00 PM	4.2%	4.0%	4.4%	4.7%	4.1%	5.4%
1:15 - 2:15 PM	4.3%	4.4%	4.2%	5.2%	5.1%	5.4%
1:30 - 2:30 PM	4.5%	4.7%	4.3%	6.7%	6.3%	7.1%
1:45 - 2:45 PM	5.0%	5.3%	4.8%	6.3%	6.6%	6.1%
2:00 - 3:00 PM	5.2%	5.6%	4.9%	6.8%	7.5%	6.1%
2:15 - 3:15 PM	5.5%	5.5%	5.4%	6.7%	7.4%	6.0%
2:30 - 3:30 PM	5.9%	6.4%	5.5%	6.0%	7.3%	4.7%
2:45 - 3:45 PM	5.9%	6.3%	5.5%	5.8%	7.0%	4.6%
3:00 - 4:00 PM	6.1%	6.9%	5.3%	6.5%	7.6%	5.4%
3:15 - 4:15 PM	6.3%	7.6%	4.9%	7.5%	8.7%	6.2%
3:30 - 4:30 PM	6.3%	7.8%	4.8%	8.8%	10.0%	7.5%
3:45 - 4:45 PM	7.1%	9.1%	5.1%	9.4%	11.2%	7.7%
4:00 - 5:00 PM	7.9%	10.1%	5.6%	9.5%	11.6%	7.5%
4:15 - 5:15 PM	8.7%	10.9%	6.4%	10.4%	12.5%	8.2%
4:30 - 5:30 PM	9.3%	11.7%	7.1%	10.5%	12.5%	8.5%
4:45 - 5:45 PM	9.7%	12.0%	7.4%	11.5%	13.9%	9.1%
5:00 - 6:00 PM	9.5%	11.4%	7.6%	11.2%	13.5%	8.9%
5:15 - 6:15 PM	9.3%	11.6%	7.1%	10.3%	11.9%	8.7%
5:30 - 6:30 PM	9.0%	10.9%	7.0%	9.2%	10.6%	7.7%
5:45 - 6:45 PM	8.3%	9.8%	6.8%	7.8%	8.6%	7.0%
6:00 - 7:00 PM	8.2%	9.7%	6.7%	7.2%	7.7%	6.6%
6:15 - 7:15 PM	7.7%	9.0%	6.5%	6.6%	7.8%	5.5%
6:30 - 7:30 PM	7.3%	8.7%	5.9%	6.2%	7.5%	4.9%
6:45 - 7:45 PM	6.8%	8.5%	5.3%	6.0%	7.3%	4.8%
7:00 - 8:00 PM	6.4%	8.1%	4.7%	6.1%	7.5%	4.7%
7:15 - 8:15 PM	6.4%	8.1%	4.7%	5.1%	6.2%	4.1%
7:30 - 8:30 PM	6.3%	7.9%	4.7%	4.8%	5.8%	3.8%
7:45 - 8:45 PM	6.3%	7.9%	4.7%	4.4%	5.7%	3.2%
8:00 - 9:00 PM	5.9%	7.7%	4.2%	3.2%	4.2%	2.2%
8:15 - 9:15 PM	5.5%	7.5%	3.6%	2.7%	3.9%	1.6%
8:30 - 9:30 PM	5.2%	7.3%	3.2%	2.8%	4.2%	1.4%
8:45 - 9:45 PM	4.7%	6.7%	2.8%	2.4%	3.2%	1.5%
9:00 - 10:00 PM	4.4%	6.0%	2.7%	2.4%	3.3%	1.5%
9:15 - 10:15 PM	4.0%	5.2%	2.7%	2.3%	3.0%	1.5%
9:30 - 10:30 PM	3.7%	4.8%	2.7%	1.7%	2.0%	1.4%
9:45 - 10:45 PM	3.6%	4.8%	2.5%	1.2%	1.5%	0.8%
10:00 - 11:00 PM	3.5%	4.7%	2.4%	1.3%	1.5%	1.0%
10:15 - 11:15 PM	3.2%	4.2%	2.1%	1.4%	1.5%	1.2%
10:30 - 11:30 PM	2.6%	3.6%	1.7%	1.4%	1.7%	1.0%
10:45 - 11:45 PM	2.3%	3.0%	1.6%	1.4%	1.6%	1.2%
11:00 - 12:00 AM	1.9%	2.5%	1.4%	1.1%	1.2%	1.0%
11:15 - 12:15 AM	1.6%	2.1%	1.1%	0.8%	1.0%	0.5%
11:30 - 12:30 AM	1.3%	1.7%	1.0%	0.5%	0.5%	0.5%
11:45 - 12:45 AM	0.9%	1.3%	0.6%	0.3%	0.3%	0.3%

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use

Source: ITE *Trip Generation Manual* , 11th Edition

Land Use Code	220			220		
Land Use	Multifamily Housing (Low-Rise)			Multifamily Housing (Low-Rise)		
Subcategory	Not Close to Rail Transit			Close to Rail Transit		
Setting	General Urban/Suburban			General Urban/Suburban		
Time Period	Weekday			Weekday		
# Data Sites	6			1		
	% of 24-Hour Vehicle Trips			% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting	Total	Entering	Exiting
12:00 - 1:00 AM	0.7%	0.9%	0.4%	0.4%	0.4%	0.3%
1:00 - 2:00 AM	0.4%	0.5%	0.3%	0.2%	0.1%	0.2%
2:00 - 3:00 AM	0.4%	0.4%	0.4%	0.1%	0.2%	0.0%
3:00 - 4:00 AM	0.4%	0.4%	0.3%	0.2%	0.1%	0.2%
4:00 - 5:00 AM	0.9%	0.3%	1.4%	0.2%	0.2%	0.1%
5:00 - 6:00 AM	1.6%	0.5%	2.6%	2.4%	0.9%	4.0%
6:00 - 7:00 AM	4.2%	1.4%	6.9%	4.4%	2.0%	6.7%
7:00 - 8:00 AM	6.5%	2.0%	10.8%	7.2%	4.2%	10.3%
8:00 - 9:00 AM	5.8%	3.1%	8.5%	5.2%	3.4%	6.9%
9:00 - 10:00 AM	3.9%	2.9%	4.9%	4.4%	3.1%	5.7%
10:00 - 11:00 AM	3.6%	2.4%	4.8%	3.9%	3.4%	4.4%
11:00 - 12:00 PM	4.3%	3.8%	4.7%	5.4%	6.4%	4.4%
12:00 - 1:00 PM	4.3%	4.5%	4.1%	6.1%	5.8%	6.5%
1:00 - 2:00 PM	4.2%	4.0%	4.4%	4.7%	4.1%	5.4%
2:00 - 3:00 PM	5.2%	5.6%	4.9%	6.8%	7.5%	6.1%
3:00 - 4:00 PM	6.1%	6.9%	5.3%	6.5%	7.6%	5.4%
4:00 - 5:00 PM	7.9%	10.1%	5.6%	9.5%	11.6%	7.5%
5:00 - 6:00 PM	9.5%	11.4%	7.6%	11.2%	13.5%	8.9%
6:00 - 7:00 PM	8.2%	9.7%	6.7%	7.2%	7.7%	6.6%
7:00 - 8:00 PM	6.4%	8.1%	4.7%	6.1%	7.5%	4.7%
8:00 - 9:00 PM	5.9%	7.7%	4.2%	3.2%	4.2%	2.2%
9:00 - 10:00 PM	4.4%	6.0%	2.7%	2.4%	3.3%	1.5%
10:00 - 11:00 PM	3.5%	4.7%	2.4%	1.3%	1.5%	1.0%
11:00 - 12:00 AM	1.9%	2.5%	1.4%	1.1%	1.2%	1.0%

12:00 - 1:00 AM	0.7%	0.9%	0.4%	0.4%	0.4%	0.3%
12:15 - 1:15 AM	0.5%	0.7%	0.4%	0.3%	0.2%	0.3%
12:30 - 1:30 AM	0.5%	0.6%	0.3%	0.2%	0.2%	0.2%
12:45 - 1:45 AM	0.5%	0.6%	0.4%	0.1%	0.1%	0.1%
1:00 - 2:00 AM	0.4%	0.5%	0.3%	0.2%	0.1%	0.2%
1:15 - 2:15 AM	0.4%	0.5%	0.3%	0.2%	0.2%	0.2%
1:30 - 2:30 AM	0.4%	0.4%	0.4%	0.3%	0.3%	0.2%
1:45 - 2:45 AM	0.4%	0.4%	0.4%	0.3%	0.3%	0.2%
2:00 - 3:00 AM	0.4%	0.4%	0.4%	0.1%	0.2%	0.0%
2:15 - 3:15 AM	0.4%	0.4%	0.4%	0.1%	0.1%	0.0%
2:30 - 3:30 AM	0.3%	0.4%	0.3%	0.1%	0.1%	0.1%
2:45 - 3:45 AM	0.3%	0.3%	0.2%	0.1%	0.1%	0.1%
3:00 - 4:00 AM	0.4%	0.4%	0.3%	0.2%	0.1%	0.2%
3:15 - 4:15 AM	0.4%	0.5%	0.4%	0.2%	0.1%	0.2%
3:30 - 4:30 AM	0.6%	0.4%	0.7%	0.1%	0.0%	0.1%
3:45 - 4:45 AM	0.7%	0.4%	1.0%	0.2%	0.1%	0.2%
4:00 - 5:00 AM	0.9%	0.3%	1.4%	0.2%	0.2%	0.1%
4:15 - 5:15 AM	1.0%	0.3%	1.7%	0.6%	0.3%	0.9%
4:30 - 5:30 AM	1.2%	0.4%	2.0%	1.1%	0.5%	1.7%
4:45 - 5:45 AM	1.4%	0.4%	2.4%	1.9%	0.7%	3.0%
5:00 - 6:00 AM	1.6%	0.5%	2.6%	2.4%	0.9%	4.0%
5:15 - 6:15 AM	1.9%	0.6%	3.1%	2.5%	0.9%	4.2%
5:30 - 6:30 AM	2.6%	0.8%	4.2%	2.8%	0.9%	4.7%

5:45 - 6:45 AM	3.4%	1.2%	5.5%	3.4%	1.3%	5.5%
6:00 - 7:00 AM	4.2%	1.4%	6.9%	4.4%	2.0%	6.7%
6:15 - 7:15 AM	5.2%	1.6%	8.7%	5.4%	3.0%	7.7%
6:30 - 7:30 AM	5.5%	1.7%	9.2%	6.4%	4.0%	8.9%
6:45 - 7:45 AM	6.0%	1.7%	10.2%	6.6%	4.5%	8.7%
7:00 - 8:00 AM	6.5%	2.0%	10.8%	7.2%	4.2%	10.3%
7:15 - 8:15 AM	6.4%	2.6%	10.2%	6.5%	4.0%	9.0%
7:30 - 8:30 AM	6.7%	2.9%	10.4%	6.4%	3.9%	8.9%
7:45 - 8:45 AM	6.5%	3.2%	9.7%	5.8%	3.1%	8.5%
8:00 - 9:00 AM	5.8%	3.1%	8.5%	5.2%	3.4%	6.9%
8:15 - 9:15 AM	5.3%	2.8%	7.7%	5.5%	3.2%	7.8%
8:30 - 9:30 AM	4.6%	2.7%	6.4%	4.8%	2.9%	6.6%
8:45 - 9:45 AM	4.1%	2.8%	5.3%	5.0%	3.2%	6.7%
9:00 - 10:00 AM	3.9%	2.9%	4.9%	4.4%	3.1%	5.7%
9:15 - 10:15 AM	3.9%	2.9%	4.8%	4.2%	3.3%	5.1%
9:30 - 10:30 AM	3.9%	2.8%	4.9%	4.1%	3.2%	4.9%
9:45 - 10:45 AM	3.7%	2.4%	4.9%	3.8%	3.4%	4.2%
10:00 - 11:00 AM	3.6%	2.4%	4.8%	3.9%	3.4%	4.4%
10:15 - 11:15 AM	3.6%	2.6%	4.6%	4.3%	4.0%	4.7%
10:30 - 11:30 AM	3.8%	3.1%	4.5%	4.5%	5.0%	4.1%
10:45 - 11:45 AM	4.1%	3.6%	4.5%	4.9%	5.4%	4.4%
11:00 - 12:00 PM	4.3%	3.8%	4.7%	5.4%	6.4%	4.4%
11:15 - 12:15 PM	4.4%	4.2%	4.5%	5.4%	6.1%	4.8%
11:30 - 12:30 PM	4.4%	4.4%	4.4%	6.3%	6.6%	6.0%
11:45 - 12:45 PM	4.4%	4.5%	4.3%	5.7%	6.1%	5.4%
12:00 - 1:00 PM	4.3%	4.5%	4.1%	6.1%	5.8%	6.5%
12:15 - 1:15 PM	4.3%	4.3%	4.3%	5.8%	5.6%	6.1%
12:30 - 1:30 PM	4.2%	4.0%	4.4%	4.5%	4.0%	5.0%
12:45 - 1:45 PM	4.0%	3.8%	4.1%	5.6%	4.7%	6.6%
1:00 - 2:00 PM	4.2%	4.0%	4.4%	4.7%	4.1%	5.4%
1:15 - 2:15 PM	4.3%	4.4%	4.2%	5.2%	5.1%	5.4%
1:30 - 2:30 PM	4.5%	4.7%	4.3%	6.7%	6.3%	7.1%
1:45 - 2:45 PM	5.0%	5.3%	4.8%	6.3%	6.6%	6.1%
2:00 - 3:00 PM	5.2%	5.6%	4.9%	6.8%	7.5%	6.1%
2:15 - 3:15 PM	5.5%	5.5%	5.4%	6.7%	7.4%	6.0%
2:30 - 3:30 PM	5.9%	6.4%	5.5%	6.0%	7.3%	4.7%
2:45 - 3:45 PM	5.9%	6.3%	5.5%	5.8%	7.0%	4.6%
3:00 - 4:00 PM	6.1%	6.9%	5.3%	6.5%	7.6%	5.4%
3:15 - 4:15 PM	6.3%	7.6%	4.9%	7.5%	8.7%	6.2%
3:30 - 4:30 PM	6.3%	7.8%	4.8%	8.8%	10.0%	7.5%
3:45 - 4:45 PM	7.1%	9.1%	5.1%	9.4%	11.2%	7.7%
4:00 - 5:00 PM	7.9%	10.1%	5.6%	9.5%	11.6%	7.5%
4:15 - 5:15 PM	8.7%	10.9%	6.4%	10.4%	12.5%	8.2%
4:30 - 5:30 PM	9.3%	11.7%	7.1%	10.5%	12.5%	8.5%
4:45 - 5:45 PM	9.7%	12.0%	7.4%	11.5%	13.9%	9.1%
5:00 - 6:00 PM	9.5%	11.4%	7.6%	11.2%	13.5%	8.9%
5:15 - 6:15 PM	9.3%	11.6%	7.1%	10.3%	11.9%	8.7%
5:30 - 6:30 PM	9.0%	10.9%	7.0%	9.2%	10.6%	7.7%
5:45 - 6:45 PM	8.3%	9.8%	6.8%	7.8%	8.6%	7.0%
6:00 - 7:00 PM	8.2%	9.7%	6.7%	7.2%	7.7%	6.6%
6:15 - 7:15 PM	7.7%	9.0%	6.5%	6.6%	7.8%	5.5%
6:30 - 7:30 PM	7.3%	8.7%	5.9%	6.2%	7.5%	4.9%
6:45 - 7:45 PM	6.8%	8.5%	5.3%	6.0%	7.3%	4.8%
7:00 - 8:00 PM	6.4%	8.1%	4.7%	6.1%	7.5%	4.7%
7:15 - 8:15 PM	6.4%	8.1%	4.7%	5.1%	6.2%	4.1%
7:30 - 8:30 PM	6.3%	7.9%	4.7%	4.8%	5.8%	3.8%
7:45 - 8:45 PM	6.3%	7.9%	4.7%	4.4%	5.7%	3.2%
8:00 - 9:00 PM	5.9%	7.7%	4.2%	3.2%	4.2%	2.2%
8:15 - 9:15 PM	5.5%	7.5%	3.6%	2.7%	3.9%	1.6%
8:30 - 9:30 PM	5.2%	7.3%	3.2%	2.8%	4.2%	1.4%
8:45 - 9:45 PM	4.7%	6.7%	2.8%	2.4%	3.2%	1.5%

9:00 - 10:00 PM	4.4%	6.0%	2.7%	2.4%	3.3%	1.5%
9:15 - 10:15 PM	4.0%	5.2%	2.7%	2.3%	3.0%	1.5%
9:30 - 10:30 PM	3.7%	4.8%	2.7%	1.7%	2.0%	1.4%
9:45 - 10:45 PM	3.6%	4.8%	2.5%	1.2%	1.5%	0.8%
10:00 - 11:00 PM	3.5%	4.7%	2.4%	1.3%	1.5%	1.0%
10:15 - 11:15 PM	3.2%	4.2%	2.1%	1.4%	1.5%	1.2%
10:30 - 11:30 PM	2.6%	3.6%	1.7%	1.4%	1.7%	1.0%
10:45 - 11:45 PM	2.3%	3.0%	1.6%	1.4%	1.6%	1.2%
11:00 - 12:00 AM	1.9%	2.5%	1.4%	1.1%	1.2%	1.0%
11:15 - 12:15 AM	1.6%	2.1%	1.1%	0.8%	1.0%	0.5%
11:30 - 12:30 AM	1.3%	1.7%	1.0%	0.5%	0.5%	0.5%
11:45 - 12:45 AM	0.9%	1.3%	0.6%	0.3%	0.3%	0.3%

Land Use Code	221			
Land Use	Multifamily Housing (Mid-Rise)			Mul
Subcategory	Not Close to Rail transit			
Setting	General Urban/Suburban			G
Time Period	Weekday			
# Data Sites	6			
	% of 24-Hour Vehicle Trips			%
Time	Total	Entering	Exiting	Total
12:00 - 1:00 AM	0.8%	1.2%	0.4%	1.8%
1:00 - 2:00 AM	0.4%	0.6%	0.3%	0.3%
2:00 - 3:00 AM	0.2%	0.3%	0.1%	0.5%
3:00 - 4:00 AM	0.2%	0.2%	0.2%	1.7%
4:00 - 5:00 AM	0.3%	0.1%	0.5%	0.3%
5:00 - 6:00 AM	1.2%	0.4%	2.0%	0.2%
6:00 - 7:00 AM	4.4%	1.0%	7.8%	1.2%
7:00 - 8:00 AM	8.6%	2.5%	14.7%	3.5%
8:00 - 9:00 AM	7.8%	3.0%	12.5%	3.8%
9:00 - 10:00 AM	4.5%	2.2%	6.9%	5.8%
10:00 - 11:00 AM	3.7%	2.7%	4.6%	6.4%
11:00 - 12:00 PM	3.7%	3.4%	4.0%	6.4%
12:00 - 1:00 PM	4.6%	4.3%	4.8%	6.6%
1:00 - 2:00 PM	4.4%	4.4%	4.4%	6.2%
2:00 - 3:00 PM	3.9%	4.1%	3.7%	7.3%
3:00 - 4:00 PM	4.9%	5.9%	3.8%	6.7%
4:00 - 5:00 PM	7.2%	9.2%	5.1%	6.2%
5:00 - 6:00 PM	9.4%	13.1%	5.8%	7.7%
6:00 - 7:00 PM	9.0%	12.1%	6.0%	6.8%
7:00 - 8:00 PM	7.4%	9.4%	5.4%	5.4%
8:00 - 9:00 PM	5.4%	7.7%	3.1%	4.3%
9:00 - 10:00 PM	4.0%	6.5%	1.5%	4.0%
10:00 - 11:00 PM	2.6%	3.7%	1.6%	3.9%
11:00 - 12:00 AM	1.4%	2.1%	0.8%	3.0%

12:00 - 1:00 AM	0.8%	1.2%	0.4%	1.8%
12:15 - 1:15 AM	0.7%	1.0%	0.3%	1.4%
12:30 - 1:30 AM	0.4%	0.6%	0.3%	1.0%
12:45 - 1:45 AM	0.4%	0.6%	0.2%	0.5%
1:00 - 2:00 AM	0.4%	0.6%	0.3%	0.3%
1:15 - 2:15 AM	0.5%	0.6%	0.4%	0.6%

1:30 - 2:30 AM	0.4%	0.5%	0.3%	0.5%
1:45 - 2:45 AM	0.3%	0.4%	0.2%	0.5%
2:00 - 3:00 AM	0.2%	0.3%	0.1%	0.5%
2:15 - 3:15 AM	0.1%	0.2%	0.1%	0.6%
2:30 - 3:30 AM	0.2%	0.2%	0.1%	1.3%
2:45 - 3:45 AM	0.3%	0.3%	0.2%	1.5%
3:00 - 4:00 AM	0.2%	0.2%	0.2%	1.7%
3:15 - 4:15 AM	0.2%	0.2%	0.2%	1.5%
3:30 - 4:30 AM	0.2%	0.2%	0.3%	0.8%
3:45 - 4:45 AM	0.2%	0.1%	0.4%	0.6%
4:00 - 5:00 AM	0.3%	0.1%	0.5%	0.3%
4:15 - 5:15 AM	0.5%	0.1%	0.9%	0.2%
4:30 - 5:30 AM	0.7%	0.3%	1.1%	0.2%
4:45 - 5:45 AM	0.8%	0.3%	1.4%	0.1%
5:00 - 6:00 AM	1.2%	0.4%	2.0%	0.2%
5:15 - 6:15 AM	1.6%	0.6%	2.6%	0.2%
5:30 - 6:30 AM	2.2%	0.6%	3.8%	0.5%
5:45 - 6:45 AM	3.1%	0.8%	5.4%	1.0%
6:00 - 7:00 AM	4.4%	1.0%	7.8%	1.2%
6:15 - 7:15 AM	5.4%	1.2%	9.5%	1.6%
6:30 - 7:30 AM	6.6%	1.6%	11.6%	1.8%
6:45 - 7:45 AM	7.9%	1.9%	13.9%	2.4%
7:00 - 8:00 AM	8.6%	2.5%	14.7%	3.5%
7:15 - 8:15 AM	9.2%	2.9%	15.6%	4.3%
7:30 - 8:30 AM	9.2%	3.2%	15.2%	4.3%
7:45 - 8:45 AM	8.5%	3.2%	13.8%	4.0%
8:00 - 9:00 AM	7.8%	3.0%	12.5%	3.8%
8:15 - 9:15 AM	6.9%	2.4%	11.3%	3.9%
8:30 - 9:30 AM	5.9%	2.2%	9.5%	4.3%
8:45 - 9:45 AM	5.1%	2.1%	8.0%	5.4%
9:00 - 10:00 AM	4.5%	2.2%	6.9%	5.8%
9:15 - 10:15 AM	4.1%	2.6%	5.7%	5.4%
9:30 - 10:30 AM	4.0%	2.6%	5.4%	5.6%
9:45 - 10:45 AM	4.0%	2.7%	5.2%	5.6%
10:00 - 11:00 AM	3.7%	2.7%	4.6%	6.4%
10:15 - 11:15 AM	3.5%	2.7%	4.2%	6.9%
10:30 - 11:30 AM	3.5%	2.8%	4.3%	7.2%
10:45 - 11:45 AM	3.6%	3.3%	3.9%	6.9%
11:00 - 12:00 PM	3.7%	3.4%	4.0%	6.4%
11:15 - 12:15 PM	4.2%	3.8%	4.5%	6.2%
11:30 - 12:30 PM	4.4%	4.3%	4.4%	6.2%
11:45 - 12:45 PM	4.3%	4.2%	4.4%	6.6%
12:00 - 1:00 PM	4.6%	4.3%	4.8%	6.6%
12:15 - 1:15 PM	4.5%	4.4%	4.6%	6.0%

12:30 - 1:30 PM	4.4%	4.4%	4.5%	6.4%
12:45 - 1:45 PM	4.6%	4.3%	4.9%	7.0%
1:00 - 2:00 PM	4.4%	4.4%	4.4%	6.2%
1:15 - 2:15 PM	4.0%	4.0%	4.0%	6.9%
1:30 - 2:30 PM	3.9%	3.8%	3.9%	7.4%
1:45 - 2:45 PM	3.7%	3.8%	3.5%	7.0%
2:00 - 3:00 PM	3.9%	4.1%	3.7%	7.3%
2:15 - 3:15 PM	4.1%	4.5%	3.7%	7.2%
2:30 - 3:30 PM	4.3%	4.9%	3.7%	5.8%
2:45 - 3:45 PM	4.6%	5.4%	3.8%	5.8%
3:00 - 4:00 PM	4.9%	5.9%	3.8%	6.7%
3:15 - 4:15 PM	5.3%	6.5%	4.1%	6.6%
3:30 - 4:30 PM	5.8%	7.3%	4.3%	6.9%
3:45 - 4:45 PM	6.4%	8.1%	4.7%	6.3%
4:00 - 5:00 PM	7.2%	9.2%	5.1%	6.2%
4:15 - 5:15 PM	8.1%	10.6%	5.6%	7.3%
4:30 - 5:30 PM	8.9%	11.9%	5.9%	7.8%
4:45 - 5:45 PM	9.1%	12.2%	6.0%	8.5%
5:00 - 6:00 PM	9.4%	13.1%	5.8%	7.7%
5:15 - 6:15 PM	9.4%	13.2%	5.6%	6.9%
5:30 - 6:30 PM	9.3%	12.7%	5.9%	7.2%
5:45 - 6:45 PM	9.3%	12.8%	5.8%	6.4%
6:00 - 7:00 PM	9.0%	12.1%	6.0%	6.8%
6:15 - 7:15 PM	8.6%	11.0%	6.3%	5.9%
6:30 - 7:30 PM	8.1%	10.6%	5.7%	6.2%
6:45 - 7:45 PM	7.8%	10.1%	5.6%	6.0%
7:00 - 8:00 PM	7.4%	9.4%	5.4%	5.4%
7:15 - 8:15 PM	6.9%	9.3%	4.5%	5.6%
7:30 - 8:30 PM	6.5%	8.8%	4.3%	4.2%
7:45 - 8:45 PM	5.9%	8.1%	3.7%	3.8%
8:00 - 9:00 PM	5.4%	7.7%	3.1%	4.3%
8:15 - 9:15 PM	5.2%	7.5%	2.8%	4.0%
8:30 - 9:30 PM	4.5%	6.8%	2.2%	4.3%
8:45 - 9:45 PM	4.4%	7.0%	1.9%	4.7%
9:00 - 10:00 PM	4.0%	6.5%	1.5%	4.0%
9:15 - 10:15 PM	3.7%	5.7%	1.7%	4.5%
9:30 - 10:30 PM	3.7%	5.5%	1.8%	3.8%
9:45 - 10:45 PM	2.9%	4.3%	1.5%	3.6%
10:00 - 11:00 PM	2.6%	3.7%	1.6%	3.9%
10:15 - 11:15 PM	2.3%	3.2%	1.4%	3.9%
10:30 - 11:30 PM	1.9%	2.6%	1.1%	4.0%
10:45 - 11:45 PM	1.7%	2.4%	1.1%	3.8%
11:00 - 12:00 AM	1.4%	2.1%	0.8%	3.0%
11:15 - 12:15 AM	1.1%	1.8%	0.5%	2.2%

11:30 - 12:30 AM	1.1%	1.7%	0.5%	2.0%
11:45 - 12:45 AM	0.8%	1.3%	0.4%	1.9%

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use

Source: ITE *Trip Generation Manual* , 11th Edition

221		221		
tifamily Housing (Mid-Rise)		Multifamily Housing (Mid-Rise)		
Not Close to Rail transit		Not Close to Rail transit		
General Urban/Suburban		General Urban/Suburban		
Saturday		Sunday		
1		1		
of 24-Hour Vehicle Trips		% of 24-Hour Vehicle Trips		
Entering	Exiting	Total	Entering	Exiting
2.8%	0.8%	3.5%	5.5%	1.2%
0.4%	0.2%	2.0%	2.9%	0.9%
0.9%	0.2%	3.3%	4.7%	1.8%
2.4%	1.0%	0.6%	0.5%	0.6%
0.4%	0.2%	0.6%	1.0%	0.0%
0.2%	0.2%	0.4%	0.5%	0.3%
0.4%	1.9%	0.6%	0.0%	1.2%
3.0%	4.0%	1.3%	0.8%	1.8%
2.8%	4.8%	2.2%	0.8%	3.9%
3.5%	8.1%	2.9%	1.8%	4.2%
5.0%	7.7%	5.4%	3.9%	7.2%
6.1%	6.7%	6.8%	3.7%	10.4%
4.5%	8.5%	6.8%	6.0%	7.8%
6.9%	5.4%	7.3%	6.0%	8.7%
7.1%	7.5%	6.7%	6.3%	7.2%
8.2%	5.2%	7.8%	5.8%	10.1%
6.3%	6.0%	5.6%	5.8%	5.4%
7.8%	7.7%	7.7%	7.9%	7.5%
6.3%	7.3%	7.8%	9.2%	6.3%
6.9%	4.0%	6.6%	9.2%	3.6%
4.5%	4.2%	4.7%	5.0%	4.5%
4.3%	3.7%	4.3%	5.8%	2.7%
4.8%	3.1%	3.9%	5.2%	2.4%
4.3%	1.7%	1.3%	1.8%	0.6%

2.8%	0.8%	3.5%	5.5%	1.2%
2.2%	0.6%	2.8%	4.2%	1.2%
1.7%	0.2%	2.2%	3.7%	0.6%
0.6%	0.4%	2.4%	3.7%	0.9%
0.4%	0.2%	2.0%	2.9%	0.9%
1.1%	0.2%	2.4%	3.1%	1.5%

0.9%	0.2%	3.2%	3.9%	2.4%
0.9%	0.2%	3.8%	5.0%	2.4%
0.9%	0.2%	3.3%	4.7%	1.8%
0.4%	0.8%	2.8%	3.9%	1.5%
1.3%	1.2%	1.5%	2.4%	0.6%
1.9%	1.0%	0.7%	0.8%	0.6%
2.4%	1.0%	0.6%	0.5%	0.6%
2.4%	0.6%	0.3%	0.3%	0.3%
1.5%	0.2%	0.4%	0.5%	0.3%
1.1%	0.2%	0.4%	0.8%	0.0%
0.4%	0.2%	0.6%	1.0%	0.0%
0.4%	0.0%	0.7%	1.3%	0.0%
0.4%	0.0%	0.6%	1.0%	0.0%
0.2%	0.0%	0.4%	0.8%	0.0%
0.2%	0.2%	0.4%	0.5%	0.3%
0.0%	0.4%	0.4%	0.3%	0.6%
0.0%	1.0%	0.7%	0.3%	1.2%
0.4%	1.5%	0.8%	0.3%	1.5%
0.4%	1.9%	0.6%	0.0%	1.2%
0.9%	2.3%	0.4%	0.0%	0.9%
0.9%	2.7%	0.4%	0.0%	0.9%
1.7%	3.1%	0.8%	0.3%	1.5%
3.0%	4.0%	1.3%	0.8%	1.8%
3.5%	5.2%	2.0%	1.0%	3.0%
3.7%	5.0%	2.5%	1.6%	3.6%
2.8%	5.2%	2.2%	1.3%	3.3%
2.8%	4.8%	2.2%	0.8%	3.9%
2.6%	5.2%	2.0%	0.5%	3.6%
3.2%	5.4%	2.0%	0.5%	3.6%
3.5%	7.3%	2.4%	1.3%	3.6%
3.5%	8.1%	2.9%	1.8%	4.2%
3.2%	7.5%	3.1%	2.4%	3.9%
3.9%	7.3%	3.5%	2.6%	4.5%
4.5%	6.7%	4.9%	2.9%	7.2%
5.0%	7.7%	5.4%	3.9%	7.2%
5.4%	8.3%	7.0%	4.5%	9.9%
5.2%	9.1%	7.4%	5.0%	10.1%
5.4%	8.3%	5.9%	3.9%	8.1%
6.1%	6.7%	6.8%	3.7%	10.4%
5.8%	6.4%	7.0%	4.2%	10.1%
5.2%	7.1%	7.1%	4.2%	10.4%
5.6%	7.5%	7.8%	5.5%	10.4%
4.5%	8.5%	6.8%	6.0%	7.8%
5.0%	7.1%	6.3%	6.0%	6.6%

6.5%	6.2%	6.1%	5.8%	6.6%
7.6%	6.4%	7.8%	6.5%	9.3%
6.9%	5.4%	7.3%	6.0%	8.7%
7.6%	6.2%	7.3%	5.2%	9.6%
7.6%	7.3%	7.0%	5.5%	8.7%
6.7%	7.3%	5.7%	5.2%	6.3%
7.1%	7.5%	6.7%	6.3%	7.2%
7.4%	7.1%	6.8%	7.3%	6.3%
6.7%	5.0%	7.4%	7.6%	7.2%
7.6%	4.2%	8.1%	7.6%	8.7%
8.2%	5.2%	7.8%	5.8%	10.1%
7.6%	5.6%	6.8%	4.7%	9.3%
7.4%	6.4%	6.4%	5.0%	8.1%
5.6%	6.9%	5.4%	4.5%	6.6%
6.3%	6.0%	5.6%	5.8%	5.4%
7.6%	7.1%	7.3%	7.9%	6.6%
8.2%	7.5%	7.1%	7.6%	6.6%
9.1%	7.9%	7.1%	7.3%	6.9%
7.8%	7.7%	7.7%	7.9%	7.5%
6.9%	6.9%	7.0%	7.6%	6.3%
6.9%	7.5%	7.5%	8.6%	6.3%
5.8%	6.9%	8.5%	9.9%	6.9%
6.3%	7.3%	7.8%	9.2%	6.3%
5.6%	6.2%	7.8%	9.4%	6.0%
6.3%	6.0%	7.7%	8.6%	6.6%
6.7%	5.4%	7.3%	9.2%	5.1%
6.9%	4.0%	6.6%	9.2%	3.6%
6.9%	4.4%	6.1%	7.6%	4.5%
5.2%	3.3%	5.7%	7.3%	3.9%
4.8%	2.9%	5.2%	6.3%	3.9%
4.5%	4.2%	4.7%	5.0%	4.5%
4.3%	3.7%	4.0%	4.5%	3.6%
4.8%	4.0%	3.8%	4.7%	2.7%
4.3%	5.0%	3.8%	4.7%	2.7%
4.3%	3.7%	4.3%	5.8%	2.7%
4.8%	4.2%	4.9%	6.5%	3.0%
4.1%	3.5%	4.9%	6.5%	3.0%
4.1%	3.1%	4.0%	5.5%	2.4%
4.8%	3.1%	3.9%	5.2%	2.4%
5.0%	2.9%	2.9%	3.9%	1.8%
5.4%	2.7%	2.2%	2.9%	1.5%
5.6%	2.1%	1.8%	2.4%	1.2%
4.3%	1.7%	1.3%	1.8%	0.6%
3.5%	1.0%	2.1%	3.7%	0.3%

3.0%	1.0%	2.6%	4.2%	0.9%
3.2%	0.6%	2.8%	4.5%	0.9%

221			221	
Multifamily Housing (Mid-Rise)			Multifamily Housing (Mid-R	
Not Close to Rail transit			Close to Rail transit	
Dense Multi-Use Urban			Dense Multi-Use Urban	
Weekday			Weekday	
1			1	
% of 24-Hour Vehicle Trips			% of 24-Hour Vehicle Trip	
Total	Entering	Exiting	Total	Entering
0.6%	1.0%	0.2%	1.1%	1.6%
0.2%	0.0%	0.5%	0.4%	0.4%
0.2%	0.2%	0.2%	0.6%	1.0%
0.0%	0.0%	0.0%	0.3%	0.3%
0.6%	0.0%	1.2%	0.1%	0.3%
2.2%	0.7%	3.6%	0.6%	0.1%
4.2%	1.5%	7.0%	2.7%	1.3%
9.8%	1.9%	17.6%	7.3%	1.0%
9.5%	1.9%	17.1%	7.5%	4.4%
5.2%	3.4%	7.0%	4.5%	2.3%
3.9%	2.9%	4.8%	5.6%	4.2%
3.5%	3.6%	3.4%	4.5%	2.5%
4.5%	4.1%	4.8%	5.2%	5.1%
4.1%	4.6%	3.6%	5.5%	5.4%
3.3%	2.9%	3.6%	3.9%	3.9%
4.1%	4.1%	4.1%	5.6%	6.3%
5.0%	6.3%	3.6%	6.8%	8.6%
9.1%	13.1%	5.1%	7.7%	11.0%
9.4%	15.0%	3.9%	6.7%	8.3%
8.3%	13.1%	3.6%	6.5%	8.7%
5.1%	7.3%	2.9%	5.1%	5.9%
4.0%	7.0%	1.0%	5.8%	8.6%
2.4%	3.9%	1.0%	3.5%	5.2%
0.8%	1.5%	0.2%	2.6%	3.5%

0.6%	1.0%	0.2%	1.1%	1.6%
0.6%	1.0%	0.2%	1.1%	1.7%
0.6%	0.7%	0.5%	0.6%	1.1%
0.2%	0.2%	0.2%	0.5%	0.7%
0.2%	0.0%	0.5%	0.4%	0.4%
0.4%	0.2%	0.5%	0.1%	0.1%

0.4%	0.2%	0.5%	0.2%	0.3%
0.4%	0.2%	0.5%	0.5%	1.0%
0.2%	0.2%	0.2%	0.6%	1.0%
0.1%	0.0%	0.2%	0.7%	1.3%
0.0%	0.0%	0.0%	0.6%	1.1%
0.0%	0.0%	0.0%	0.4%	0.4%
0.0%	0.0%	0.0%	0.3%	0.3%
0.1%	0.0%	0.2%	0.1%	0.0%
0.4%	0.0%	0.7%	0.1%	0.0%
0.5%	0.0%	1.0%	0.1%	0.1%
0.6%	0.0%	1.2%	0.1%	0.3%
0.8%	0.2%	1.4%	0.1%	0.3%
1.0%	0.5%	1.4%	0.2%	0.3%
1.4%	0.5%	2.4%	0.3%	0.1%
2.2%	0.7%	3.6%	0.6%	0.1%
2.5%	0.5%	4.6%	0.8%	0.3%
3.0%	0.5%	5.5%	1.3%	0.6%
3.7%	0.7%	6.7%	2.0%	1.0%
4.2%	1.5%	7.0%	2.7%	1.3%
5.0%	1.9%	8.0%	3.9%	1.4%
6.9%	1.9%	11.8%	5.0%	1.6%
8.2%	2.2%	14.2%	6.8%	1.3%
9.8%	1.9%	17.6%	7.3%	1.0%
10.4%	1.7%	19.0%	8.0%	1.7%
10.3%	1.7%	18.8%	8.5%	2.8%
9.5%	1.7%	17.3%	7.7%	3.8%
9.5%	1.9%	17.1%	7.5%	4.4%
8.9%	2.7%	15.2%	6.2%	3.8%
7.6%	3.4%	11.8%	5.1%	2.5%
6.9%	3.4%	10.4%	4.9%	2.3%
5.2%	3.4%	7.0%	4.5%	2.3%
4.8%	3.6%	6.0%	5.1%	2.7%
4.6%	3.4%	5.8%	5.2%	3.4%
4.3%	3.6%	5.1%	5.0%	3.8%
3.9%	2.9%	4.8%	5.6%	4.2%
3.5%	2.4%	4.6%	5.6%	4.4%
3.0%	2.4%	3.6%	5.4%	3.8%
2.9%	2.9%	2.9%	4.9%	3.0%
3.5%	3.6%	3.4%	4.5%	2.5%
3.6%	3.6%	3.6%	3.9%	2.5%
4.1%	3.9%	4.3%	4.1%	3.5%
4.6%	3.9%	5.3%	4.5%	3.9%
4.5%	4.1%	4.8%	5.2%	5.1%
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4.8%	4.8%	4.8%	5.9%	5.6%
4.5%	5.1%	3.9%	5.4%	5.6%
4.1%	4.6%	3.6%	5.5%	5.4%
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3.6%	3.9%	3.4%	4.8%	4.4%
3.4%	2.9%	3.9%	4.7%	4.2%
3.3%	2.9%	3.6%	3.9%	3.9%
3.0%	2.7%	3.4%	4.2%	4.8%
3.6%	3.6%	3.6%	4.6%	5.2%
3.9%	4.1%	3.6%	5.4%	6.2%
4.1%	4.1%	4.1%	5.6%	6.3%
4.3%	4.4%	4.3%	6.0%	6.5%
4.2%	4.4%	4.1%	6.2%	6.9%
4.3%	4.8%	3.9%	6.3%	7.9%
5.0%	6.3%	3.6%	6.8%	8.6%
5.7%	7.5%	3.9%	7.8%	9.9%
6.9%	10.2%	3.6%	8.0%	10.6%
8.8%	12.6%	5.1%	7.9%	10.6%
9.1%	13.1%	5.1%	7.7%	11.0%
9.9%	14.8%	5.1%	6.2%	9.4%
9.5%	13.6%	5.5%	6.5%	9.6%
9.1%	14.0%	4.1%	6.3%	8.9%
9.4%	15.0%	3.9%	6.7%	8.3%
8.9%	14.5%	3.4%	6.5%	8.0%
9.5%	15.7%	3.4%	6.3%	8.0%
8.7%	13.8%	3.6%	6.5%	7.9%
8.3%	13.1%	3.6%	6.5%	8.7%
7.6%	11.4%	3.9%	6.8%	9.3%
6.6%	9.9%	3.4%	6.3%	8.2%
5.9%	8.7%	3.1%	5.8%	7.8%
5.1%	7.3%	2.9%	5.1%	5.9%
5.2%	8.2%	2.2%	5.4%	6.6%
4.5%	7.3%	1.7%	5.7%	7.1%
4.2%	7.5%	1.0%	6.3%	8.3%
4.0%	7.0%	1.0%	5.8%	8.6%
3.5%	5.8%	1.2%	5.5%	8.5%
3.5%	5.6%	1.4%	4.9%	7.6%
3.0%	4.6%	1.4%	3.8%	6.1%
2.4%	3.9%	1.0%	3.5%	5.2%
1.4%	2.4%	0.5%	3.2%	4.1%
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Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use

Source: ITE *Trip Generation Manual* , 11th Edition

Land Use Code	222			222		
Land Use	Multifamily Housing (High-Rise)			Multifamily Housing (High-Rise)		
Subcategory	Close to Rail Transit			Close to Rail Transit		
Setting	General Urban/Suburban			Dense Multi-Use Urban		
Time Period	Weekday			Weekday		
# Data Sites	2			8		
	% of 24-Hour Vehicle Trips			% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting	Total	Entering	Exiting
12:00 - 1:00 AM	1.1%	1.4%	0.9%	0.8%	1.4%	0.3%
1:00 - 2:00 AM	0.9%	1.1%	0.6%	0.5%	0.7%	0.4%
2:00 - 3:00 AM	0.7%	0.9%	0.6%	0.6%	0.6%	0.7%
3:00 - 4:00 AM	0.4%	0.5%	0.3%	1.1%	0.4%	1.8%
4:00 - 5:00 AM	0.6%	0.4%	0.8%	1.2%	0.6%	1.9%
5:00 - 6:00 AM	1.1%	0.3%	2.0%	1.3%	0.4%	2.2%
6:00 - 7:00 AM	3.2%	1.1%	5.4%	3.8%	1.0%	6.4%
7:00 - 8:00 AM	6.7%	2.2%	11.3%	8.6%	2.0%	15.0%
8:00 - 9:00 AM	7.7%	2.1%	13.4%	8.8%	2.4%	14.9%
9:00 - 10:00 AM	4.2%	1.9%	6.6%	5.2%	2.2%	8.1%
10:00 - 11:00 AM	2.9%	2.0%	3.8%	3.2%	2.2%	4.3%
11:00 - 12:00 PM	2.8%	2.6%	3.0%	3.0%	2.4%	3.5%
12:00 - 1:00 PM	2.9%	2.7%	3.0%	3.6%	3.5%	3.7%
1:00 - 2:00 PM	4.2%	4.2%	4.3%	4.2%	4.5%	4.0%
2:00 - 3:00 PM	4.0%	4.5%	3.5%	4.2%	4.3%	4.0%
3:00 - 4:00 PM	5.6%	6.1%	5.1%	4.7%	6.0%	3.5%
4:00 - 5:00 PM	7.0%	9.1%	4.9%	6.4%	9.3%	3.5%
5:00 - 6:00 PM	8.6%	11.4%	5.9%	8.5%	12.5%	4.6%
6:00 - 7:00 PM	9.3%	12.2%	6.5%	9.0%	11.9%	6.2%
7:00 - 8:00 PM	8.1%	10.3%	5.9%	7.1%	9.4%	4.8%
8:00 - 9:00 PM	6.1%	7.7%	4.6%	5.2%	7.7%	2.8%
9:00 - 10:00 PM	5.0%	6.5%	3.5%	4.3%	6.9%	1.6%
10:00 - 11:00 PM	4.0%	5.4%	2.6%	3.0%	4.8%	1.2%
11:00 - 12:00 AM	2.6%	3.4%	1.8%	1.8%	2.9%	0.7%

12:00 - 1:00 AM	1.1%	1.4%	0.9%	0.8%	1.4%	0.3%
12:15 - 1:15 AM	1.1%	1.3%	0.8%	0.7%	1.1%	0.3%
12:30 - 1:30 AM	1.0%	1.3%	0.8%	0.6%	0.8%	0.3%
12:45 - 1:45 AM	0.9%	1.1%	0.7%	0.6%	0.8%	0.3%
1:00 - 2:00 AM	0.9%	1.1%	0.6%	0.5%	0.7%	0.4%
1:15 - 2:15 AM	0.9%	1.1%	0.7%	0.6%	0.6%	0.5%
1:30 - 2:30 AM	0.8%	1.0%	0.6%	0.5%	0.6%	0.5%
1:45 - 2:45 AM	0.8%	1.1%	0.6%	0.6%	0.6%	0.6%
2:00 - 3:00 AM	0.7%	0.9%	0.6%	0.6%	0.6%	0.7%
2:15 - 3:15 AM	0.5%	0.7%	0.4%	0.7%	0.6%	0.8%
2:30 - 3:30 AM	0.5%	0.5%	0.4%	0.9%	0.5%	1.3%
2:45 - 3:45 AM	0.4%	0.5%	0.3%	1.1%	0.5%	1.6%
3:00 - 4:00 AM	0.4%	0.5%	0.3%	1.1%	0.4%	1.8%
3:15 - 4:15 AM	0.4%	0.4%	0.4%	1.2%	0.4%	2.0%
3:30 - 4:30 AM	0.4%	0.4%	0.4%	1.2%	0.5%	1.9%
3:45 - 4:45 AM	0.4%	0.3%	0.4%	1.2%	0.5%	1.9%
4:00 - 5:00 AM	0.6%	0.4%	0.8%	1.2%	0.6%	1.9%
4:15 - 5:15 AM	0.7%	0.4%	1.1%	1.2%	0.7%	1.8%
4:30 - 5:30 AM	0.9%	0.4%	1.4%	1.1%	0.6%	1.7%
4:45 - 5:45 AM	1.1%	0.4%	1.9%	1.2%	0.5%	1.8%
5:00 - 6:00 AM	1.1%	0.3%	2.0%	1.3%	0.4%	2.2%
5:15 - 6:15 AM	1.4%	0.4%	2.4%	1.7%	0.4%	2.9%
5:30 - 6:30 AM	1.9%	0.5%	3.3%	2.1%	0.5%	3.7%

5:45 - 6:45 AM	2.3%	0.6%	3.9%	2.8%	0.6%	5.0%
6:00 - 7:00 AM	3.2%	1.1%	5.4%	3.8%	1.0%	6.4%
6:15 - 7:15 AM	3.9%	1.5%	6.4%	5.0%	1.5%	8.3%
6:30 - 7:30 AM	4.7%	1.8%	7.6%	6.3%	1.7%	10.7%
6:45 - 7:45 AM	5.9%	2.2%	9.8%	7.5%	1.9%	13.0%
7:00 - 8:00 AM	6.7%	2.2%	11.3%	8.6%	2.0%	15.0%
7:15 - 8:15 AM	7.5%	2.2%	12.9%	9.3%	2.2%	16.3%
7:30 - 8:30 AM	8.1%	1.9%	14.3%	9.4%	2.2%	16.5%
7:45 - 8:45 AM	7.8%	2.0%	13.7%	9.2%	2.4%	15.8%
8:00 - 9:00 AM	7.7%	2.1%	13.4%	8.8%	2.4%	14.9%
8:15 - 9:15 AM	7.0%	1.9%	12.1%	7.9%	2.5%	13.1%
8:30 - 9:30 AM	6.0%	2.1%	9.9%	7.2%	2.6%	11.5%
8:45 - 9:45 AM	5.2%	2.0%	8.4%	6.1%	2.4%	9.8%
9:00 - 10:00 AM	4.2%	1.9%	6.6%	5.2%	2.2%	8.1%
9:15 - 10:15 AM	3.6%	1.9%	5.3%	4.3%	1.9%	6.7%
9:30 - 10:30 AM	3.2%	1.8%	4.5%	3.8%	1.9%	5.6%
9:45 - 10:45 AM	3.0%	1.8%	4.3%	3.5%	2.1%	4.8%
10:00 - 11:00 AM	2.9%	2.0%	3.8%	3.2%	2.2%	4.3%
10:15 - 11:15 AM	2.8%	2.2%	3.4%	3.2%	2.2%	4.1%
10:30 - 11:30 AM	2.8%	2.3%	3.3%	3.0%	2.1%	3.9%
10:45 - 11:45 AM	2.8%	2.6%	3.0%	3.0%	2.2%	3.7%
11:00 - 12:00 PM	2.8%	2.6%	3.0%	3.0%	2.4%	3.5%
11:15 - 12:15 PM	2.9%	2.5%	3.3%	3.0%	2.5%	3.4%
11:30 - 12:30 PM	3.0%	2.7%	3.2%	3.2%	2.9%	3.6%
11:45 - 12:45 PM	2.8%	2.7%	2.9%	3.5%	3.2%	3.8%
12:00 - 1:00 PM	2.9%	2.7%	3.0%	3.6%	3.5%	3.7%
12:15 - 1:15 PM	3.2%	3.2%	3.2%	4.0%	4.0%	4.0%
12:30 - 1:30 PM	3.5%	3.5%	3.4%	4.0%	4.2%	3.9%
12:45 - 1:45 PM	3.7%	3.7%	3.7%	4.0%	4.3%	3.8%
1:00 - 2:00 PM	4.2%	4.2%	4.3%	4.2%	4.5%	4.0%
1:15 - 2:15 PM	4.2%	4.4%	4.0%	4.0%	4.4%	3.7%
1:30 - 2:30 PM	4.4%	4.6%	4.2%	4.0%	4.2%	3.8%
1:45 - 2:45 PM	4.5%	4.7%	4.2%	4.0%	4.1%	3.9%
2:00 - 3:00 PM	4.0%	4.5%	3.5%	4.2%	4.3%	4.0%
2:15 - 3:15 PM	4.4%	4.6%	4.1%	4.4%	4.7%	4.1%
2:30 - 3:30 PM	4.5%	4.9%	4.1%	4.6%	5.1%	4.0%
2:45 - 3:45 PM	4.9%	5.4%	4.4%	4.7%	5.8%	3.7%
3:00 - 4:00 PM	5.6%	6.1%	5.1%	4.7%	6.0%	3.5%
3:15 - 4:15 PM	6.3%	7.2%	5.3%	4.9%	6.5%	3.3%
3:30 - 4:30 PM	6.6%	7.9%	5.2%	5.2%	7.3%	3.2%
3:45 - 4:45 PM	6.9%	8.6%	5.2%	5.7%	8.1%	3.4%
4:00 - 5:00 PM	7.0%	9.1%	4.9%	6.4%	9.3%	3.5%
4:15 - 5:15 PM	7.1%	9.5%	4.8%	7.1%	10.4%	3.8%
4:30 - 5:30 PM	7.6%	10.2%	5.0%	7.5%	11.2%	3.9%
4:45 - 5:45 PM	8.1%	10.7%	5.5%	8.0%	11.9%	4.2%
5:00 - 6:00 PM	8.6%	11.4%	5.9%	8.5%	12.5%	4.6%
5:15 - 6:15 PM	9.0%	11.7%	6.1%	8.8%	12.6%	5.2%
5:30 - 6:30 PM	9.2%	12.0%	6.4%	9.1%	12.7%	5.5%
5:45 - 6:45 PM	9.4%	12.2%	6.6%	9.2%	12.5%	6.0%
6:00 - 7:00 PM	9.3%	12.2%	6.5%	9.0%	11.9%	6.2%
6:15 - 7:15 PM	9.2%	12.0%	6.4%	8.6%	11.2%	6.0%
6:30 - 7:30 PM	8.8%	11.5%	6.1%	8.2%	10.6%	5.9%
6:45 - 7:45 PM	8.6%	11.0%	6.1%	7.6%	10.0%	5.3%
7:00 - 8:00 PM	8.1%	10.3%	5.9%	7.1%	9.4%	4.8%
7:15 - 8:15 PM	7.6%	9.3%	5.8%	6.6%	9.2%	4.2%
7:30 - 8:30 PM	7.0%	8.4%	5.6%	6.1%	8.5%	3.8%
7:45 - 8:45 PM	6.4%	7.8%	5.0%	5.7%	8.2%	3.2%
8:00 - 9:00 PM	6.1%	7.7%	4.6%	5.2%	7.7%	2.8%
8:15 - 9:15 PM	5.6%	7.1%	4.0%	4.8%	7.4%	2.3%
8:30 - 9:30 PM	5.2%	6.9%	3.6%	4.6%	7.3%	1.9%
8:45 - 9:45 PM	5.0%	6.6%	3.3%	4.3%	6.9%	1.8%

9:00 - 10:00 PM	5.0%	6.5%	3.5%	4.3%	6.9%	1.6%
9:15 - 10:15 PM	5.1%	6.7%	3.5%	4.1%	6.6%	1.6%
9:30 - 10:30 PM	5.0%	6.7%	3.4%	3.7%	6.1%	1.4%
9:45 - 10:45 PM	4.6%	6.2%	3.0%	3.4%	5.6%	1.2%
10:00 - 11:00 PM	4.0%	5.4%	2.6%	3.0%	4.8%	1.2%
10:15 - 11:15 PM	3.6%	4.9%	2.2%	2.6%	4.1%	1.2%
10:30 - 11:30 PM	3.3%	4.4%	2.1%	2.3%	3.7%	1.0%
10:45 - 11:45 PM	3.0%	4.0%	2.0%	2.1%	3.3%	0.8%
11:00 - 12:00 AM	2.6%	3.4%	1.8%	1.8%	2.9%	0.7%
11:15 - 12:15 AM	2.2%	2.8%	1.5%	1.4%	2.3%	0.5%
11:30 - 12:30 AM	1.7%	2.2%	1.2%	1.1%	1.9%	0.4%
11:45 - 12:45 AM	1.4%	1.8%	1.0%	0.9%	1.5%	0.3%

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use			
Source: ITE *Trip Generation Manual* , 11th Edition			
Land Use Code	520		
Land Use	Elementary School		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	13		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.0%	0.0%	0.0%
1:00 - 2:00 AM	0.0%	0.0%	0.0%
2:00 - 3:00 AM	0.0%	0.0%	0.0%
3:00 - 4:00 AM	0.0%	0.0%	0.0%
4:00 - 5:00 AM	0.0%	0.0%	0.0%
5:00 - 6:00 AM	0.0%	0.1%	0.0%
6:00 - 7:00 AM	2.3%	3.2%	1.4%
7:00 - 8:00 AM	31.0%	35.7%	26.3%
8:00 - 9:00 AM	13.0%	11.6%	14.4%
9:00 - 10:00 AM	2.0%	2.1%	2.0%
10:00 - 11:00 AM	2.0%	1.9%	2.1%
11:00 - 12:00 PM	2.7%	2.5%	2.8%
12:00 - 1:00 PM	2.4%	2.7%	2.2%
1:00 - 2:00 PM	3.7%	3.6%	3.9%
2:00 - 3:00 PM	15.4%	14.7%	16.0%
3:00 - 4:00 PM	10.3%	8.5%	12.1%
4:00 - 5:00 PM	8.2%	7.0%	9.4%
5:00 - 6:00 PM	5.2%	4.9%	5.6%
6:00 - 7:00 PM	1.1%	1.1%	1.1%
7:00 - 8:00 PM	0.2%	0.2%	0.2%
8:00 - 9:00 PM	0.2%	0.1%	0.3%
9:00 - 10:00 PM	0.0%	0.0%	0.0%
10:00 - 11:00 PM	0.0%	0.0%	0.0%
11:00 - 12:00 AM	0.0%	0.0%	0.0%

12:00 - 1:00 AM	0.0%	0.0%	0.0%
12:15 - 1:15 AM	0.0%	0.0%	0.0%
12:30 - 1:30 AM	0.0%	0.0%	0.0%
12:45 - 1:45 AM	0.0%	0.0%	0.0%
1:00 - 2:00 AM	0.0%	0.0%	0.0%
1:15 - 2:15 AM	0.0%	0.0%	0.0%
1:30 - 2:30 AM	0.0%	0.0%	0.0%

1:45 - 2:45 AM	0.0%	0.0%	0.0%
2:00 - 3:00 AM	0.0%	0.0%	0.0%
2:15 - 3:15 AM	0.0%	0.0%	0.0%
2:30 - 3:30 AM	0.0%	0.0%	0.0%
2:45 - 3:45 AM	0.0%	0.0%	0.0%
3:00 - 4:00 AM	0.0%	0.0%	0.0%
3:15 - 4:15 AM	0.0%	0.0%	0.0%
3:30 - 4:30 AM	0.0%	0.0%	0.0%
3:45 - 4:45 AM	0.0%	0.0%	0.0%
4:00 - 5:00 AM	0.0%	0.0%	0.0%
4:15 - 5:15 AM	0.0%	0.0%	0.0%
4:30 - 5:30 AM	0.0%	0.0%	0.0%
4:45 - 5:45 AM	0.0%	0.0%	0.0%
5:00 - 6:00 AM	0.0%	0.1%	0.0%
5:15 - 6:15 AM	0.1%	0.2%	0.0%
5:30 - 6:30 AM	0.4%	0.7%	0.1%
5:45 - 6:45 AM	1.1%	1.6%	0.6%
6:00 - 7:00 AM	2.3%	3.2%	1.4%
6:15 - 7:15 AM	4.9%	6.6%	3.2%
6:30 - 7:30 AM	10.1%	13.0%	7.2%
6:45 - 7:45 AM	19.5%	24.1%	14.7%
7:00 - 8:00 AM	31.0%	35.7%	26.3%
7:15 - 8:15 AM	35.5%	38.3%	32.7%
7:30 - 8:30 AM	33.2%	34.0%	32.3%
7:45 - 8:45 AM	24.8%	23.6%	25.9%
8:00 - 9:00 AM	13.0%	11.6%	14.4%
8:15 - 9:15 AM	6.5%	6.1%	6.9%
8:30 - 9:30 AM	3.9%	3.9%	3.8%
8:45 - 9:45 AM	2.6%	2.7%	2.6%
9:00 - 10:00 AM	2.0%	2.1%	2.0%
9:15 - 10:15 AM	1.8%	1.9%	1.7%
9:30 - 10:30 AM	1.6%	1.7%	1.6%
9:45 - 10:45 AM	1.7%	1.8%	1.6%
10:00 - 11:00 AM	2.0%	1.9%	2.1%
10:15 - 11:15 AM	2.4%	2.4%	2.5%
10:30 - 11:30 AM	2.7%	2.5%	2.8%
10:45 - 11:45 AM	2.8%	2.7%	2.9%
11:00 - 12:00 PM	2.7%	2.5%	2.8%
11:15 - 12:15 PM	2.4%	2.3%	2.5%
11:30 - 12:30 PM	2.5%	2.5%	2.5%
11:45 - 12:45 PM	2.5%	2.4%	2.5%
12:00 - 1:00 PM	2.4%	2.7%	2.2%
12:15 - 1:15 PM	2.7%	2.9%	2.5%
12:30 - 1:30 PM	2.8%	2.8%	2.7%

12:45 - 1:45 PM	2.7%	2.8%	2.7%
1:00 - 2:00 PM	3.7%	3.6%	3.9%
1:15 - 2:15 PM	5.0%	5.3%	4.6%
1:30 - 2:30 PM	9.1%	9.8%	8.3%
1:45 - 2:45 PM	12.7%	13.4%	12.0%
2:00 - 3:00 PM	15.4%	14.7%	16.0%
2:15 - 3:15 PM	15.6%	14.1%	17.1%
2:30 - 3:30 PM	13.0%	11.0%	14.9%
2:45 - 3:45 PM	11.3%	9.2%	13.5%
3:00 - 4:00 PM	10.3%	8.5%	12.1%
3:15 - 4:15 PM	10.0%	7.9%	12.0%
3:30 - 4:30 PM	9.7%	7.8%	11.6%
3:45 - 4:45 PM	9.3%	7.4%	11.2%
4:00 - 5:00 PM	8.2%	7.0%	9.4%
4:15 - 5:15 PM	8.4%	7.6%	9.2%
4:30 - 5:30 PM	8.1%	7.5%	8.8%
4:45 - 5:45 PM	6.7%	6.3%	7.2%
5:00 - 6:00 PM	5.2%	4.9%	5.6%
5:15 - 6:15 PM	3.5%	3.3%	3.6%
5:30 - 6:30 PM	2.2%	2.1%	2.2%
5:45 - 6:45 PM	1.6%	1.5%	1.7%
6:00 - 7:00 PM	1.1%	1.1%	1.1%
6:15 - 7:15 PM	0.8%	0.7%	0.9%
6:30 - 7:30 PM	0.5%	0.4%	0.7%
6:45 - 7:45 PM	0.3%	0.3%	0.3%
7:00 - 8:00 PM	0.2%	0.2%	0.2%
7:15 - 8:15 PM	0.2%	0.2%	0.3%
7:30 - 8:30 PM	0.2%	0.1%	0.3%
7:45 - 8:45 PM	0.2%	0.1%	0.3%
8:00 - 9:00 PM	0.2%	0.1%	0.3%
8:15 - 9:15 PM	0.1%	0.1%	0.1%
8:30 - 9:30 PM	0.0%	0.0%	0.0%
8:45 - 9:45 PM	0.0%	0.0%	0.0%
9:00 - 10:00 PM	0.0%	0.0%	0.0%
9:15 - 10:15 PM	0.0%	0.0%	0.0%
9:30 - 10:30 PM	0.0%	0.0%	0.0%
9:45 - 10:45 PM	0.0%	0.0%	0.0%
10:00 - 11:00 PM	0.0%	0.0%	0.0%
10:15 - 11:15 PM	0.0%	0.0%	0.1%
10:30 - 11:30 PM	0.0%	0.0%	0.1%
10:45 - 11:45 PM	0.0%	0.0%	0.1%
11:00 - 12:00 AM	0.0%	0.0%	0.0%
11:15 - 12:15 AM	0.0%	0.0%	0.0%
11:30 - 12:30 AM	0.0%	0.0%	0.0%

11:45 - 12:45 AM	0.0%	0.0%	0.0%

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use			
Source: ITE *Trip Generation Manual* , 11th Edition			
Land Use Code	525		
Land Use	High School		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	2		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.1%	0.1%	0.0%
1:00 - 2:00 AM	0.0%	0.0%	0.0%
2:00 - 3:00 AM	0.0%	0.0%	0.0%
3:00 - 4:00 AM	0.0%	0.0%	0.0%
4:00 - 5:00 AM	0.1%	0.1%	0.0%
5:00 - 6:00 AM	0.5%	0.6%	0.4%
6:00 - 7:00 AM	7.5%	10.4%	4.6%
7:00 - 8:00 AM	22.4%	31.3%	13.3%
8:00 - 9:00 AM	6.5%	8.9%	4.0%
9:00 - 10:00 AM	2.5%	2.4%	2.6%
10:00 - 11:00 AM	3.5%	3.5%	3.5%
11:00 - 12:00 PM	2.8%	3.1%	2.6%
12:00 - 1:00 PM	4.0%	3.4%	4.7%
1:00 - 2:00 PM	4.2%	4.1%	4.4%
2:00 - 3:00 PM	4.9%	5.9%	3.9%
3:00 - 4:00 PM	18.4%	9.0%	27.9%
4:00 - 5:00 PM	7.5%	6.3%	8.7%
5:00 - 6:00 PM	10.4%	8.2%	12.7%
6:00 - 7:00 PM	3.5%	2.3%	4.8%
7:00 - 8:00 PM	0.9%	0.3%	1.6%
8:00 - 9:00 PM	0.1%	0.0%	0.2%
9:00 - 10:00 PM	0.1%	0.1%	0.0%
10:00 - 11:00 PM	0.0%	0.0%	0.1%
11:00 - 12:00 AM	0.1%	0.1%	0.1%

12:00 - 1:00 AM	0.1%	0.1%	0.0%
12:15 - 1:15 AM	0.0%	0.0%	0.0%
12:30 - 1:30 AM	0.0%	0.0%	0.0%
12:45 - 1:45 AM	0.0%	0.0%	0.0%
1:00 - 2:00 AM	0.0%	0.0%	0.0%
1:15 - 2:15 AM	0.0%	0.0%	0.0%
1:30 - 2:30 AM	0.0%	0.0%	0.0%

1:45 - 2:45 AM	0.0%	0.0%	0.0%
2:00 - 3:00 AM	0.0%	0.0%	0.0%
2:15 - 3:15 AM	0.0%	0.0%	0.0%
2:30 - 3:30 AM	0.0%	0.0%	0.0%
2:45 - 3:45 AM	0.0%	0.0%	0.0%
3:00 - 4:00 AM	0.0%	0.0%	0.0%
3:15 - 4:15 AM	0.0%	0.0%	0.0%
3:30 - 4:30 AM	0.0%	0.0%	0.0%
3:45 - 4:45 AM	0.0%	0.0%	0.0%
4:00 - 5:00 AM	0.1%	0.1%	0.0%
4:15 - 5:15 AM	0.1%	0.2%	0.1%
4:30 - 5:30 AM	0.2%	0.2%	0.1%
4:45 - 5:45 AM	0.2%	0.3%	0.1%
5:00 - 6:00 AM	0.5%	0.6%	0.4%
5:15 - 6:15 AM	0.9%	1.1%	0.7%
5:30 - 6:30 AM	1.9%	2.4%	1.4%
5:45 - 6:45 AM	3.8%	5.2%	2.3%
6:00 - 7:00 AM	7.5%	10.4%	4.6%
6:15 - 7:15 AM	13.2%	18.2%	8.0%
6:30 - 7:30 AM	18.2%	25.1%	11.2%
6:45 - 7:45 AM	21.2%	29.2%	13.1%
7:00 - 8:00 AM	22.4%	31.3%	13.3%
7:15 - 8:15 AM	20.6%	29.1%	12.0%
7:30 - 8:30 AM	15.9%	22.5%	9.2%
7:45 - 8:45 AM	11.3%	16.0%	6.6%
8:00 - 9:00 AM	6.5%	8.9%	4.0%
8:15 - 9:15 AM	2.6%	3.1%	2.1%
8:30 - 9:30 AM	1.8%	2.0%	1.5%
8:45 - 9:45 AM	1.9%	2.1%	1.7%
9:00 - 10:00 AM	2.5%	2.4%	2.6%
9:15 - 10:15 AM	2.9%	2.7%	3.2%
9:30 - 10:30 AM	3.0%	3.0%	3.0%
9:45 - 10:45 AM	3.2%	3.4%	2.9%
10:00 - 11:00 AM	3.5%	3.5%	3.5%
10:15 - 11:15 AM	3.2%	3.3%	3.0%
10:30 - 11:30 AM	3.3%	3.3%	3.3%
10:45 - 11:45 AM	3.3%	3.0%	3.6%
11:00 - 12:00 PM	2.8%	3.1%	2.6%
11:15 - 12:15 PM	3.0%	3.4%	2.6%
11:30 - 12:30 PM	4.0%	3.6%	4.5%
11:45 - 12:45 PM	4.2%	3.7%	4.8%
12:00 - 1:00 PM	4.0%	3.4%	4.7%
12:15 - 1:15 PM	4.0%	3.2%	4.7%
12:30 - 1:30 PM	3.6%	3.6%	3.6%

12:45 - 1:45 PM	3.9%	4.0%	3.9%
1:00 - 2:00 PM	4.2%	4.1%	4.4%
1:15 - 2:15 PM	4.6%	4.2%	4.9%
1:30 - 2:30 PM	4.0%	3.8%	4.2%
1:45 - 2:45 PM	3.9%	3.8%	4.0%
2:00 - 3:00 PM	4.9%	5.9%	3.9%
2:15 - 3:15 PM	10.6%	8.4%	12.8%
2:30 - 3:30 PM	16.9%	10.8%	23.3%
2:45 - 3:45 PM	18.4%	10.9%	26.1%
3:00 - 4:00 PM	18.4%	9.0%	27.9%
3:15 - 4:15 PM	13.3%	7.0%	19.7%
3:30 - 4:30 PM	8.0%	5.0%	11.0%
3:45 - 4:45 PM	7.1%	5.3%	9.0%
4:00 - 5:00 PM	7.5%	6.3%	8.7%
4:15 - 5:15 PM	8.2%	7.0%	9.5%
4:30 - 5:30 PM	8.8%	7.6%	10.0%
4:45 - 5:45 PM	10.2%	8.2%	12.3%
5:00 - 6:00 PM	10.4%	8.2%	12.7%
5:15 - 6:15 PM	9.5%	7.5%	11.7%
5:30 - 6:30 PM	8.5%	5.9%	11.1%
5:45 - 6:45 PM	5.5%	4.0%	7.1%
6:00 - 7:00 PM	3.5%	2.3%	4.8%
6:15 - 7:15 PM	2.2%	1.1%	3.3%
6:30 - 7:30 PM	1.4%	0.8%	2.0%
6:45 - 7:45 PM	1.2%	0.5%	1.9%
7:00 - 8:00 PM	0.9%	0.3%	1.6%
7:15 - 8:15 PM	0.6%	0.1%	1.2%
7:30 - 8:30 PM	0.1%	0.0%	0.2%
7:45 - 8:45 PM	0.1%	0.0%	0.2%
8:00 - 9:00 PM	0.1%	0.0%	0.2%
8:15 - 9:15 PM	0.1%	0.0%	0.2%
8:30 - 9:30 PM	0.1%	0.0%	0.1%
8:45 - 9:45 PM	0.1%	0.1%	0.0%
9:00 - 10:00 PM	0.1%	0.1%	0.0%
9:15 - 10:15 PM	0.1%	0.1%	0.1%
9:30 - 10:30 PM	0.1%	0.0%	0.1%
9:45 - 10:45 PM	0.0%	0.0%	0.1%
10:00 - 11:00 PM	0.0%	0.0%	0.1%
10:15 - 11:15 PM	0.1%	0.1%	0.1%
10:30 - 11:30 PM	0.1%	0.1%	0.1%
10:45 - 11:45 PM	0.1%	0.1%	0.1%
11:00 - 12:00 AM	0.1%	0.1%	0.1%
11:15 - 12:15 AM	0.1%	0.1%	0.1%
11:30 - 12:30 AM	0.1%	0.1%	0.0%

11:45 - 12:45 AM	0.1%	0.1%	0.0%

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use			
Source: ITE *Trip Generation Manual* , 11th Edition			
Land Use Code	565		
Land Use	Day Care Center		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	19		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.0%	0.0%	0.0%
1:00 - 2:00 AM	0.0%	0.0%	0.0%
2:00 - 3:00 AM	0.0%	0.0%	0.0%
3:00 - 4:00 AM	0.0%	0.0%	0.0%
4:00 - 5:00 AM	0.0%	0.0%	0.0%
5:00 - 6:00 AM	0.6%	1.0%	0.2%
6:00 - 7:00 AM	5.3%	6.2%	4.3%
7:00 - 8:00 AM	17.9%	19.5%	16.3%
8:00 - 9:00 AM	13.0%	13.2%	12.8%
9:00 - 10:00 AM	5.0%	5.4%	4.6%
10:00 - 11:00 AM	2.7%	2.6%	2.9%
11:00 - 12:00 PM	2.6%	2.6%	2.6%
12:00 - 1:00 PM	2.4%	2.1%	2.6%
1:00 - 2:00 PM	3.1%	3.0%	3.2%
2:00 - 3:00 PM	4.3%	4.1%	4.5%
3:00 - 4:00 PM	7.2%	7.5%	6.9%
4:00 - 5:00 PM	13.8%	13.6%	14.0%
5:00 - 6:00 PM	17.7%	16.7%	18.7%
6:00 - 7:00 PM	4.3%	2.4%	6.3%
7:00 - 8:00 PM	0.0%	0.0%	0.0%
8:00 - 9:00 PM	0.0%	0.0%	0.0%
9:00 - 10:00 PM	0.0%	0.0%	0.0%
10:00 - 11:00 PM	0.0%	0.0%	0.0%
11:00 - 12:00 AM	0.0%	0.0%	0.0%

12:00 - 1:00 AM	0.0%	0.0%	0.0%
12:15 - 1:15 AM	0.0%	0.0%	0.0%
12:30 - 1:30 AM	0.0%	0.0%	0.0%
12:45 - 1:45 AM	0.0%	0.0%	0.0%
1:00 - 2:00 AM	0.0%	0.0%	0.0%
1:15 - 2:15 AM	0.0%	0.0%	0.0%
1:30 - 2:30 AM	0.0%	0.0%	0.0%

1:45 - 2:45 AM	0.0%	0.0%	0.0%
2:00 - 3:00 AM	0.0%	0.0%	0.0%
2:15 - 3:15 AM	0.0%	0.0%	0.0%
2:30 - 3:30 AM	0.0%	0.0%	0.0%
2:45 - 3:45 AM	0.0%	0.0%	0.0%
3:00 - 4:00 AM	0.0%	0.0%	0.0%
3:15 - 4:15 AM	0.0%	0.0%	0.0%
3:30 - 4:30 AM	0.0%	0.0%	0.0%
3:45 - 4:45 AM	0.0%	0.0%	0.0%
4:00 - 5:00 AM	0.0%	0.0%	0.0%
4:15 - 5:15 AM	0.1%	0.1%	0.0%
4:30 - 5:30 AM	0.1%	0.3%	0.0%
4:45 - 5:45 AM	0.3%	0.5%	0.1%
5:00 - 6:00 AM	0.6%	1.0%	0.2%
5:15 - 6:15 AM	1.0%	1.5%	0.5%
5:30 - 6:30 AM	1.9%	2.7%	1.2%
5:45 - 6:45 AM	3.5%	4.3%	2.6%
6:00 - 7:00 AM	5.3%	6.2%	4.3%
6:15 - 7:15 AM	8.1%	8.9%	7.3%
6:30 - 7:30 AM	11.4%	12.4%	10.5%
6:45 - 7:45 AM	15.3%	16.9%	13.8%
7:00 - 8:00 AM	17.9%	19.5%	16.3%
7:15 - 8:15 AM	19.6%	21.1%	18.0%
7:30 - 8:30 AM	18.1%	19.4%	16.7%
7:45 - 8:45 AM	15.5%	16.0%	15.0%
8:00 - 9:00 AM	13.0%	13.2%	12.8%
8:15 - 9:15 AM	10.1%	10.7%	9.6%
8:30 - 9:30 AM	8.3%	8.7%	8.0%
8:45 - 9:45 AM	6.4%	6.9%	6.0%
9:00 - 10:00 AM	5.0%	5.4%	4.6%
9:15 - 10:15 AM	3.8%	3.7%	3.9%
9:30 - 10:30 AM	3.4%	3.3%	3.5%
9:45 - 10:45 AM	2.8%	2.6%	3.0%
10:00 - 11:00 AM	2.7%	2.6%	2.9%
10:15 - 11:15 AM	2.5%	2.6%	2.5%
10:30 - 11:30 AM	2.4%	2.3%	2.5%
10:45 - 11:45 AM	2.5%	2.7%	2.3%
11:00 - 12:00 PM	2.6%	2.6%	2.6%
11:15 - 12:15 PM	2.9%	2.7%	3.0%
11:30 - 12:30 PM	2.8%	2.8%	2.9%
11:45 - 12:45 PM	2.6%	2.3%	2.9%
12:00 - 1:00 PM	2.4%	2.1%	2.6%
12:15 - 1:15 PM	2.7%	2.5%	2.9%
12:30 - 1:30 PM	2.6%	2.4%	2.9%

12:45 - 1:45 PM	2.8%	2.6%	3.0%
1:00 - 2:00 PM	3.1%	3.0%	3.2%
1:15 - 2:15 PM	3.2%	3.1%	3.3%
1:30 - 2:30 PM	3.9%	3.8%	4.0%
1:45 - 2:45 PM	4.4%	4.3%	4.4%
2:00 - 3:00 PM	4.3%	4.1%	4.5%
2:15 - 3:15 PM	4.5%	4.3%	4.8%
2:30 - 3:30 PM	5.0%	4.9%	5.0%
2:45 - 3:45 PM	5.5%	5.5%	5.5%
3:00 - 4:00 PM	7.2%	7.5%	6.9%
3:15 - 4:15 PM	9.1%	9.4%	8.7%
3:30 - 4:30 PM	10.2%	10.3%	10.2%
3:45 - 4:45 PM	12.2%	12.1%	12.3%
4:00 - 5:00 PM	13.8%	13.6%	14.0%
4:15 - 5:15 PM	15.1%	14.9%	15.4%
4:30 - 5:30 PM	17.6%	17.4%	17.9%
4:45 - 5:45 PM	18.3%	17.5%	19.1%
5:00 - 6:00 PM	17.7%	16.7%	18.7%
5:15 - 6:15 PM	15.2%	13.7%	16.8%
5:30 - 6:30 PM	11.6%	9.4%	13.8%
5:45 - 6:45 PM	7.6%	5.7%	9.6%
6:00 - 7:00 PM	4.3%	2.4%	6.3%
6:15 - 7:15 PM	2.0%	0.7%	3.4%
6:30 - 7:30 PM	0.4%	0.0%	0.8%
6:45 - 7:45 PM	0.1%	0.0%	0.3%
7:00 - 8:00 PM	0.0%	0.0%	0.0%
7:15 - 8:15 PM	0.0%	0.0%	0.0%
7:30 - 8:30 PM	0.0%	0.0%	0.0%
7:45 - 8:45 PM	0.0%	0.0%	0.0%
8:00 - 9:00 PM	0.0%	0.0%	0.0%
8:15 - 9:15 PM	0.0%	0.0%	0.0%
8:30 - 9:30 PM	0.0%	0.0%	0.0%
8:45 - 9:45 PM	0.0%	0.0%	0.0%
9:00 - 10:00 PM	0.0%	0.0%	0.0%
9:15 - 10:15 PM	0.0%	0.0%	0.0%
9:30 - 10:30 PM	0.0%	0.0%	0.0%
9:45 - 10:45 PM	0.0%	0.0%	0.0%
10:00 - 11:00 PM	0.0%	0.0%	0.0%
10:15 - 11:15 PM	0.0%	0.0%	0.0%
10:30 - 11:30 PM	0.0%	0.0%	0.0%
10:45 - 11:45 PM	0.0%	0.0%	0.0%
11:00 - 12:00 AM	0.0%	0.0%	0.0%
11:15 - 12:15 AM	0.0%	0.0%	0.0%
11:30 - 12:30 AM	0.0%	0.0%	0.0%

11:45 - 12:45 AM	0.0%	0.0%	0.0%

Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use			
Source: ITE *Trip Generation Manual* , 11th Edition			
Land Use Code	710		
Land Use	General Office Building		
Setting	General Urban/Suburban		
Time Period	Weekday		
# Data Sites	11		
	% of 24-Hour Vehicle Trips		
Time	Total	Entering	Exiting
12:00 - 1:00 AM	0.1%	0.2%	0.1%
1:00 - 2:00 AM	0.0%	0.0%	0.1%
2:00 - 3:00 AM	0.0%	0.0%	0.0%
3:00 - 4:00 AM	0.1%	0.0%	0.1%
4:00 - 5:00 AM	0.2%	0.2%	0.2%
5:00 - 6:00 AM	0.3%	0.4%	0.1%
6:00 - 7:00 AM	2.6%	4.8%	0.5%
7:00 - 8:00 AM	7.8%	13.6%	2.0%
8:00 - 9:00 AM	8.9%	14.3%	3.4%
9:00 - 10:00 AM	5.3%	6.3%	4.4%
10:00 - 11:00 AM	5.7%	5.5%	6.0%
11:00 - 12:00 PM	8.1%	6.0%	10.3%
12:00 - 1:00 PM	10.2%	10.2%	10.1%
1:00 - 2:00 PM	7.8%	9.0%	6.6%
2:00 - 3:00 PM	7.4%	8.3%	6.5%
3:00 - 4:00 PM	7.8%	7.3%	8.4%
4:00 - 5:00 PM	10.3%	5.4%	15.2%
5:00 - 6:00 PM	9.9%	4.0%	15.8%
6:00 - 7:00 PM	2.1%	1.7%	2.6%
7:00 - 8:00 PM	1.6%	0.9%	2.3%
8:00 - 9:00 PM	1.0%	0.7%	1.3%
9:00 - 10:00 PM	1.1%	0.5%	1.6%
10:00 - 11:00 PM	1.2%	0.3%	2.1%
11:00 - 12:00 AM	0.3%	0.4%	0.2%

12:00 - 1:00 AM	0.1%	0.2%	0.1%
12:15 - 1:15 AM	0.1%	0.2%	0.1%
12:30 - 1:30 AM	0.1%	0.1%	0.1%
12:45 - 1:45 AM	0.1%	0.1%	0.1%
1:00 - 2:00 AM	0.0%	0.0%	0.1%
1:15 - 2:15 AM	0.0%	0.0%	0.1%
1:30 - 2:30 AM	0.0%	0.0%	0.0%

1:45 - 2:45 AM	0.0%	0.0%	0.0%
2:00 - 3:00 AM	0.0%	0.0%	0.0%
2:15 - 3:15 AM	0.0%	0.0%	0.0%
2:30 - 3:30 AM	0.0%	0.0%	0.0%
2:45 - 3:45 AM	0.1%	0.0%	0.1%
3:00 - 4:00 AM	0.1%	0.0%	0.1%
3:15 - 4:15 AM	0.1%	0.0%	0.1%
3:30 - 4:30 AM	0.1%	0.0%	0.2%
3:45 - 4:45 AM	0.2%	0.1%	0.2%
4:00 - 5:00 AM	0.2%	0.2%	0.2%
4:15 - 5:15 AM	0.2%	0.2%	0.2%
4:30 - 5:30 AM	0.2%	0.3%	0.1%
4:45 - 5:45 AM	0.2%	0.3%	0.1%
5:00 - 6:00 AM	0.3%	0.4%	0.1%
5:15 - 6:15 AM	0.7%	1.1%	0.2%
5:30 - 6:30 AM	1.1%	1.8%	0.3%
5:45 - 6:45 AM	1.9%	3.5%	0.4%
6:00 - 7:00 AM	2.6%	4.8%	0.5%
6:15 - 7:15 AM	3.5%	6.5%	0.6%
6:30 - 7:30 AM	4.4%	7.9%	0.8%
6:45 - 7:45 AM	5.7%	10.2%	1.2%
7:00 - 8:00 AM	7.8%	13.6%	2.0%
7:15 - 8:15 AM	9.7%	16.8%	2.6%
7:30 - 8:30 AM	10.9%	18.6%	3.2%
7:45 - 8:45 AM	10.5%	17.2%	3.7%
8:00 - 9:00 AM	8.9%	14.3%	3.4%
8:15 - 9:15 AM	7.2%	10.6%	3.8%
8:30 - 9:30 AM	5.9%	8.0%	3.8%
8:45 - 9:45 AM	5.2%	6.7%	3.7%
9:00 - 10:00 AM	5.3%	6.3%	4.4%
9:15 - 10:15 AM	5.4%	5.9%	4.8%
9:30 - 10:30 AM	5.7%	6.0%	5.4%
9:45 - 10:45 AM	5.8%	5.9%	5.8%
10:00 - 11:00 AM	5.7%	5.5%	6.0%
10:15 - 11:15 AM	5.9%	5.0%	6.8%
10:30 - 11:30 AM	6.1%	4.8%	7.4%
10:45 - 11:45 AM	7.5%	5.5%	9.6%
11:00 - 12:00 PM	8.1%	6.0%	10.3%
11:15 - 12:15 PM	8.9%	6.7%	11.1%
11:30 - 12:30 PM	9.7%	8.0%	11.4%
11:45 - 12:45 PM	9.5%	8.7%	10.3%
12:00 - 1:00 PM	10.2%	10.2%	10.1%
12:15 - 1:15 PM	9.8%	10.9%	8.8%
12:30 - 1:30 PM	9.2%	10.6%	7.9%

12:45 - 1:45 PM	8.5%	10.0%	7.1%
1:00 - 2:00 PM	7.8%	9.0%	6.6%
1:15 - 2:15 PM	7.3%	8.4%	6.3%
1:30 - 2:30 PM	7.1%	8.0%	6.2%
1:45 - 2:45 PM	7.3%	8.0%	6.7%
2:00 - 3:00 PM	7.4%	8.3%	6.5%
2:15 - 3:15 PM	7.5%	8.2%	6.9%
2:30 - 3:30 PM	7.5%	8.2%	6.8%
2:45 - 3:45 PM	7.6%	8.0%	7.3%
3:00 - 4:00 PM	7.8%	7.3%	8.4%
3:15 - 4:15 PM	8.6%	7.0%	10.1%
3:30 - 4:30 PM	9.3%	6.3%	12.3%
3:45 - 4:45 PM	10.0%	5.8%	14.2%
4:00 - 5:00 PM	10.3%	5.4%	15.2%
4:15 - 5:15 PM	11.5%	5.1%	17.9%
4:30 - 5:30 PM	11.6%	5.0%	18.1%
4:45 - 5:45 PM	11.0%	4.6%	17.4%
5:00 - 6:00 PM	9.9%	4.0%	15.8%
5:15 - 6:15 PM	6.9%	3.0%	10.9%
5:30 - 6:30 PM	5.0%	2.6%	7.4%
5:45 - 6:45 PM	3.1%	2.1%	4.1%
6:00 - 7:00 PM	2.1%	1.7%	2.6%
6:15 - 7:15 PM	1.9%	1.7%	2.1%
6:30 - 7:30 PM	1.5%	1.1%	1.9%
6:45 - 7:45 PM	1.6%	1.0%	2.2%
7:00 - 8:00 PM	1.6%	0.9%	2.3%
7:15 - 8:15 PM	1.3%	0.8%	1.8%
7:30 - 8:30 PM	1.4%	0.9%	1.8%
7:45 - 8:45 PM	1.1%	0.7%	1.4%
8:00 - 9:00 PM	1.0%	0.7%	1.3%
8:15 - 9:15 PM	1.0%	0.7%	1.4%
8:30 - 9:30 PM	1.0%	0.6%	1.5%
8:45 - 9:45 PM	1.1%	0.6%	1.7%
9:00 - 10:00 PM	1.1%	0.5%	1.6%
9:15 - 10:15 PM	1.7%	0.4%	2.9%
9:30 - 10:30 PM	1.5%	0.3%	2.7%
9:45 - 10:45 PM	1.3%	0.4%	2.3%
10:00 - 11:00 PM	1.2%	0.3%	2.1%
10:15 - 11:15 PM	0.6%	0.6%	0.5%
10:30 - 11:30 PM	0.5%	0.6%	0.3%
10:45 - 11:45 PM	0.4%	0.5%	0.3%
11:00 - 12:00 AM	0.3%	0.4%	0.2%
11:15 - 12:15 AM	0.1%	0.1%	0.1%
11:30 - 12:30 AM	0.1%	0.1%	0.1%

11:45 - 12:45 AM	0.1%	0.1%	0.1%

Appendix I:
ITE Trip Generation Manual Excerpts

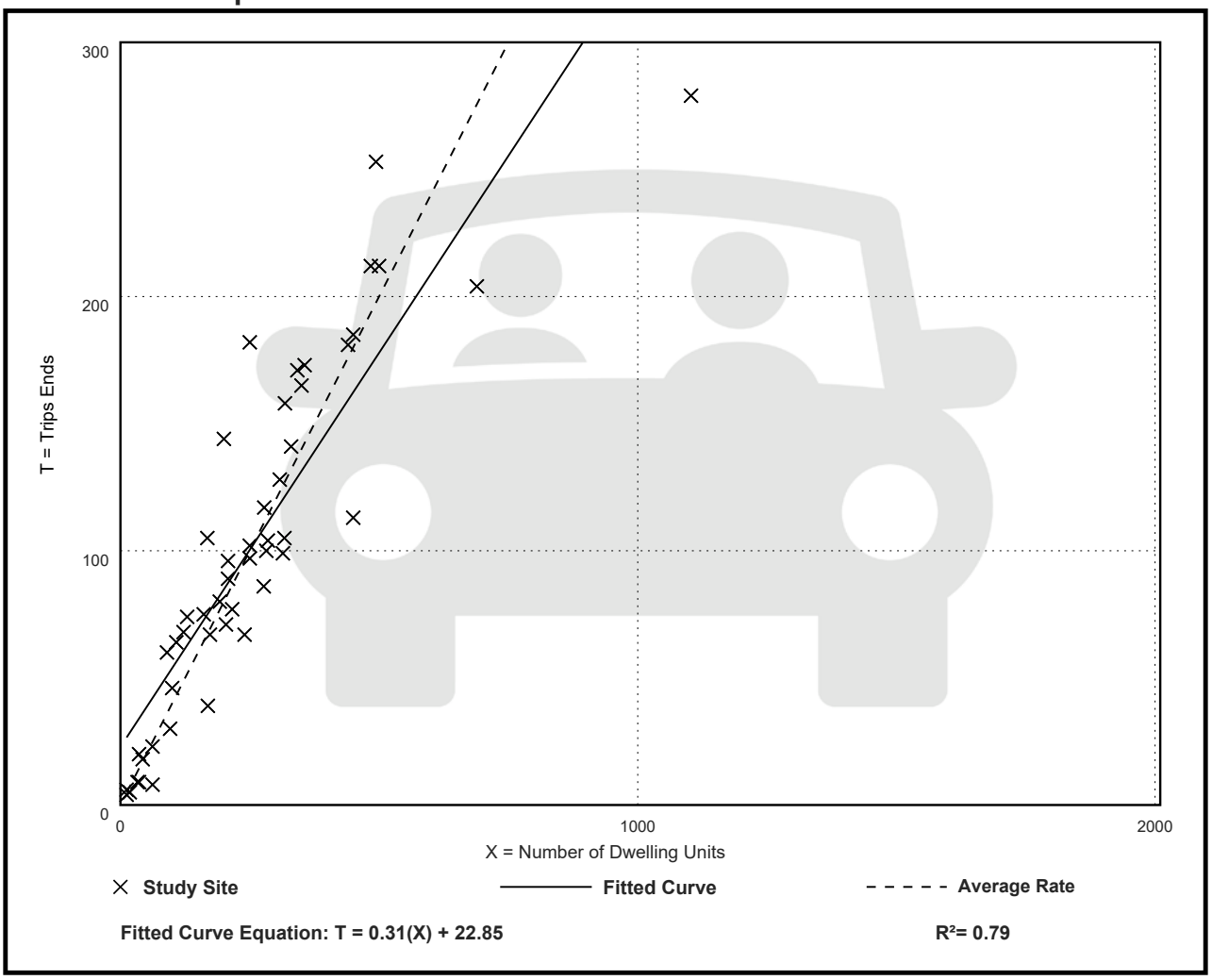
Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 49
Avg. Num. of Dwelling Units: 249
Directional Distribution: 24% entering, 76% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.40	0.13 - 0.73	0.12

Data Plot and Equation



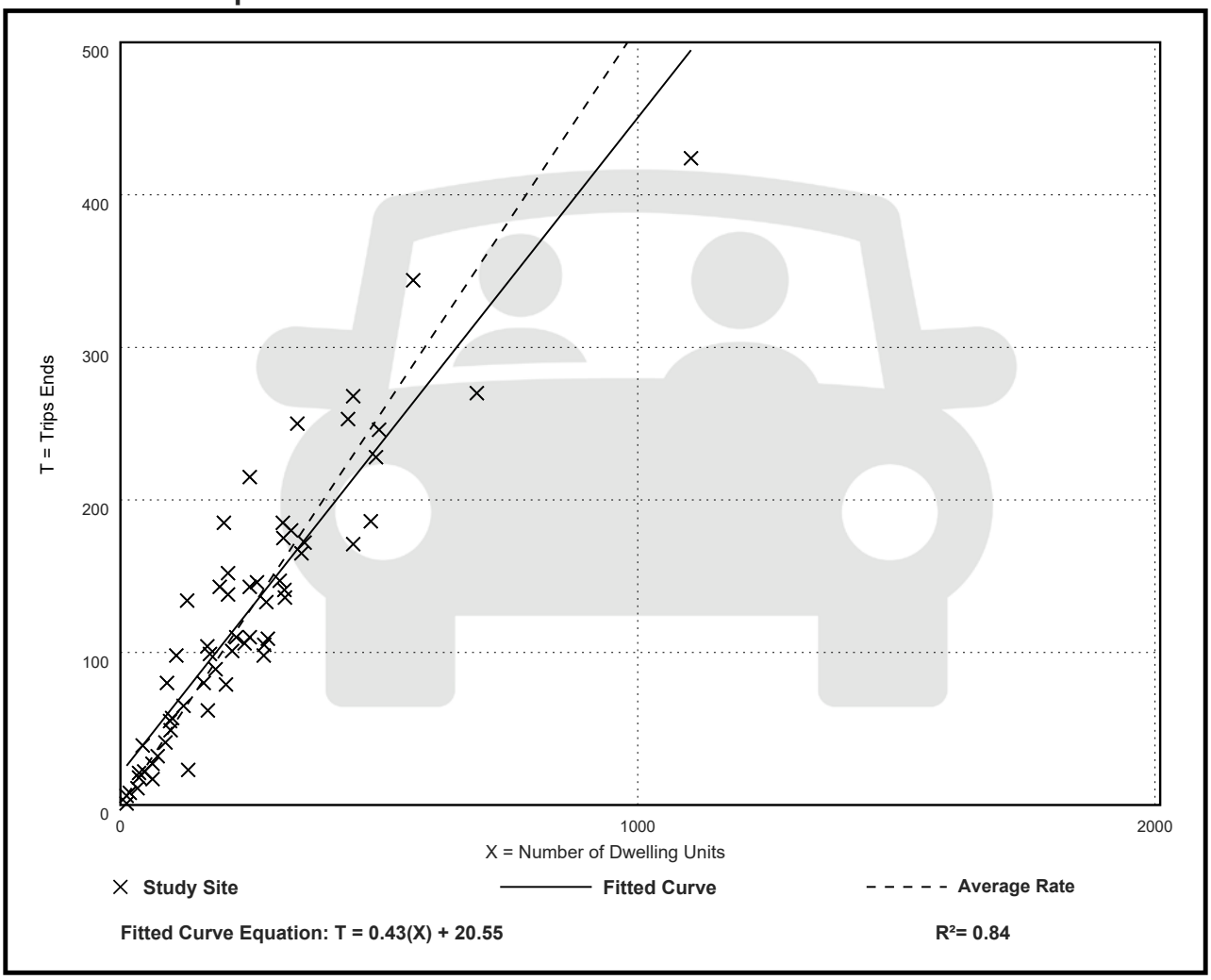
Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 59
Avg. Num. of Dwelling Units: 241
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.51	0.08 - 1.04	0.15

Data Plot and Equation



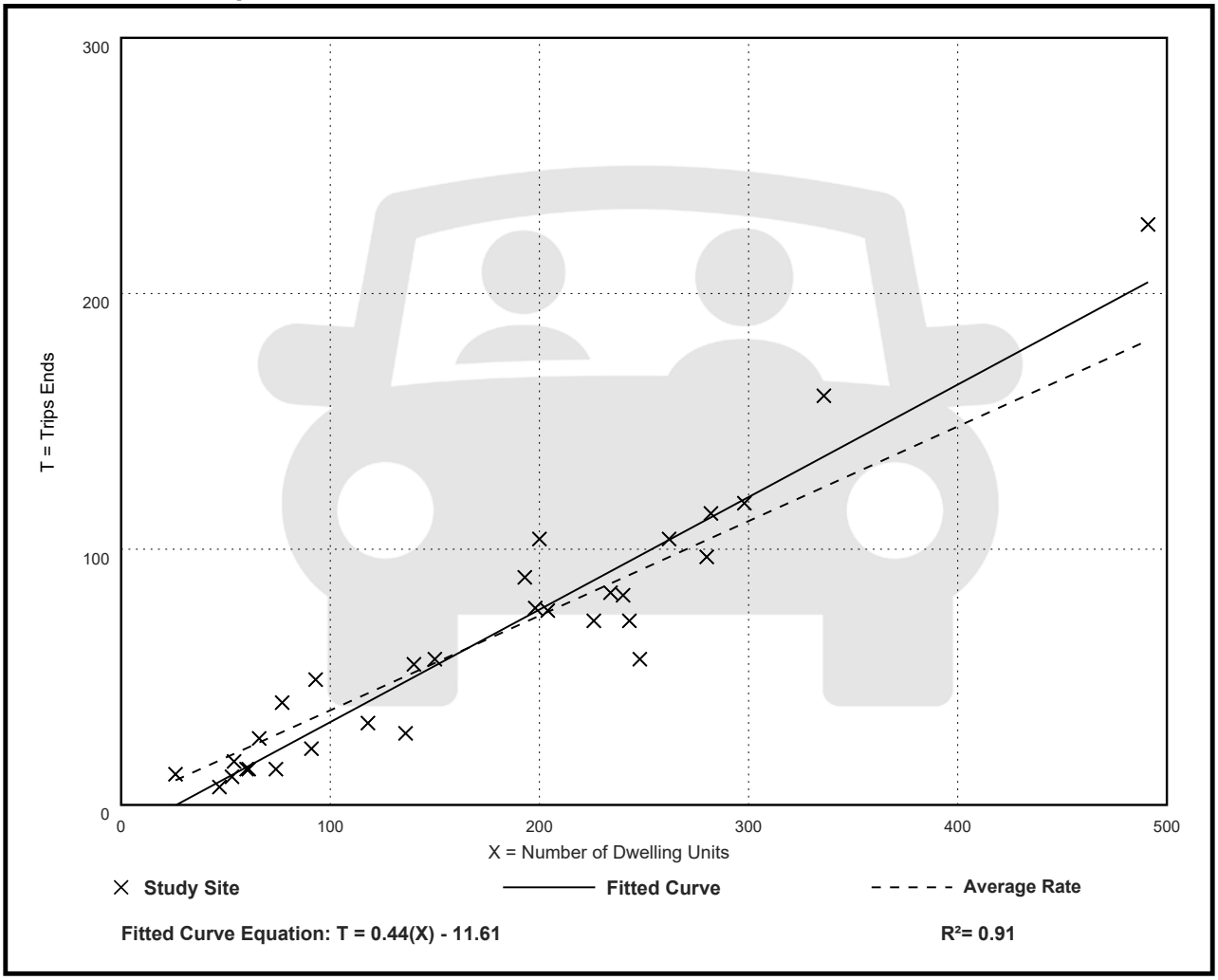
Multifamily Housing (Mid-Rise)
Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 30
Avg. Num. of Dwelling Units: 173
Directional Distribution: 23% entering, 77% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.37	0.15 - 0.53	0.09

Data Plot and Equation



Fitted Curve Equation: T = 0.44(X) - 11.61

R^2= 0.91

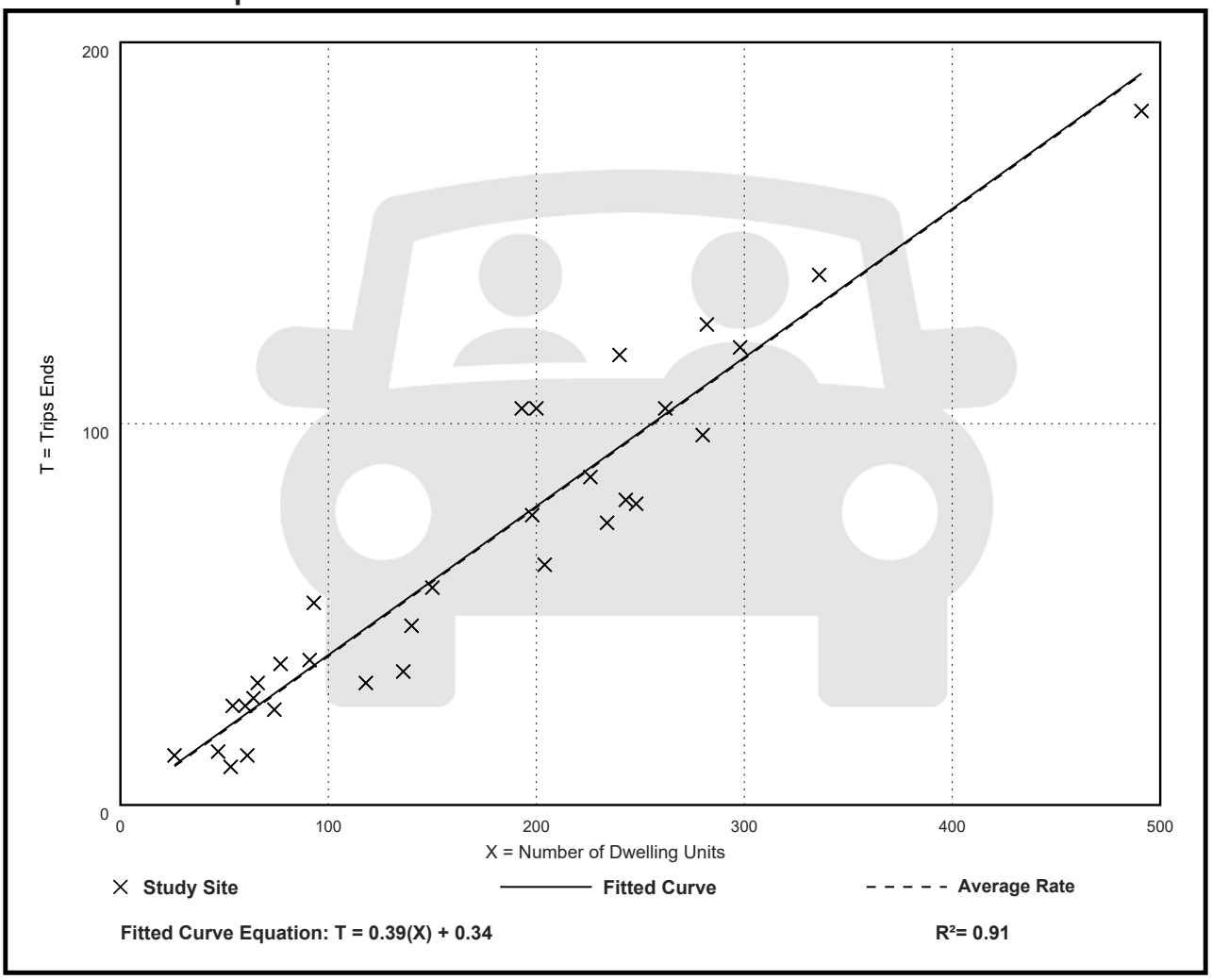
Multifamily Housing (Mid-Rise)
Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 31
Avg. Num. of Dwelling Units: 169
Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.39	0.19 - 0.57	0.08

Data Plot and Equation



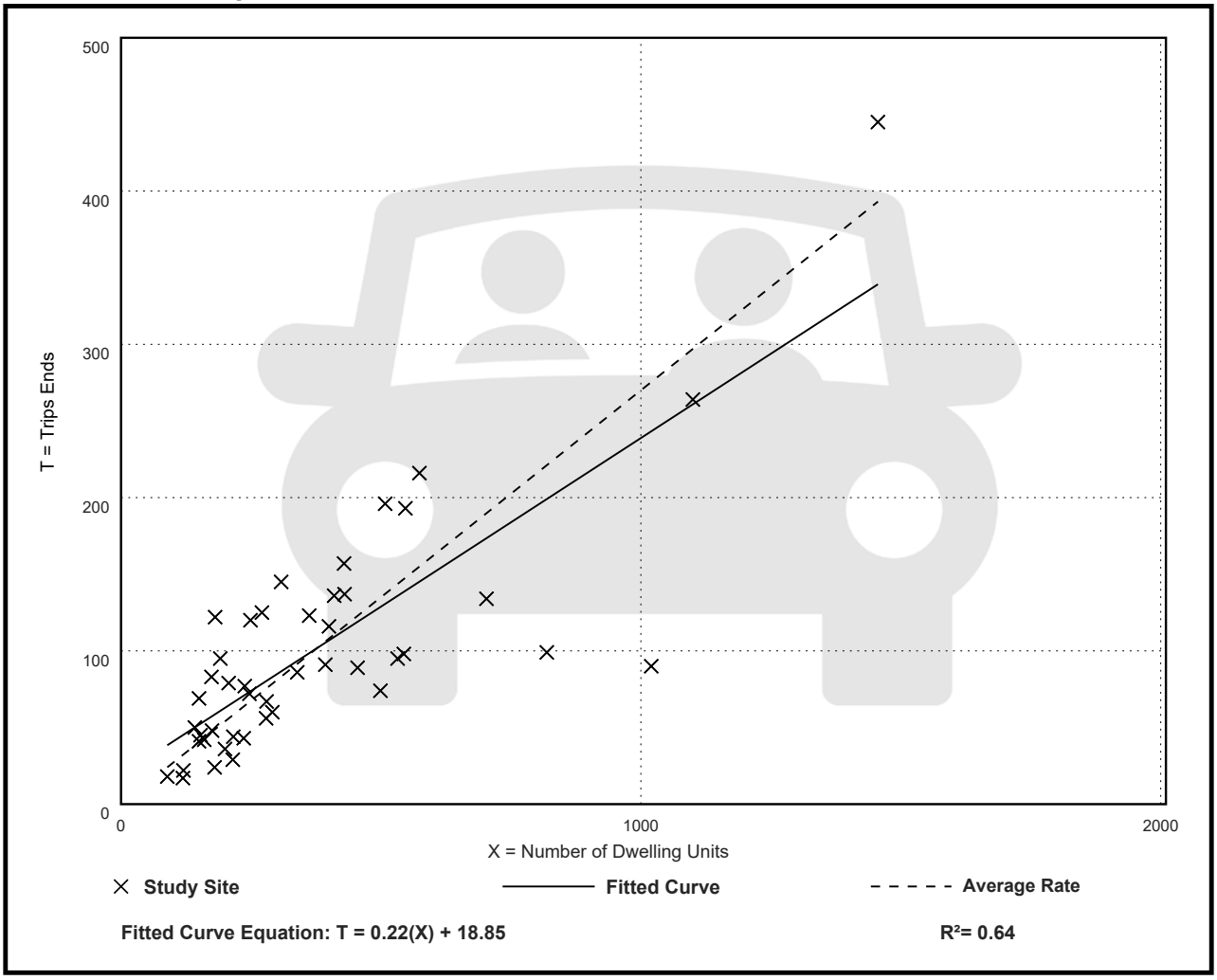
Multifamily Housing (High-Rise)
Not Close to Rail Transit (222)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 45
Avg. Num. of Dwelling Units: 372
Directional Distribution: 34% entering, 66% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.27	0.09 - 0.67	0.11

Data Plot and Equation



Fitted Curve Equation: T = 0.22(X) + 18.85

R^2= 0.64

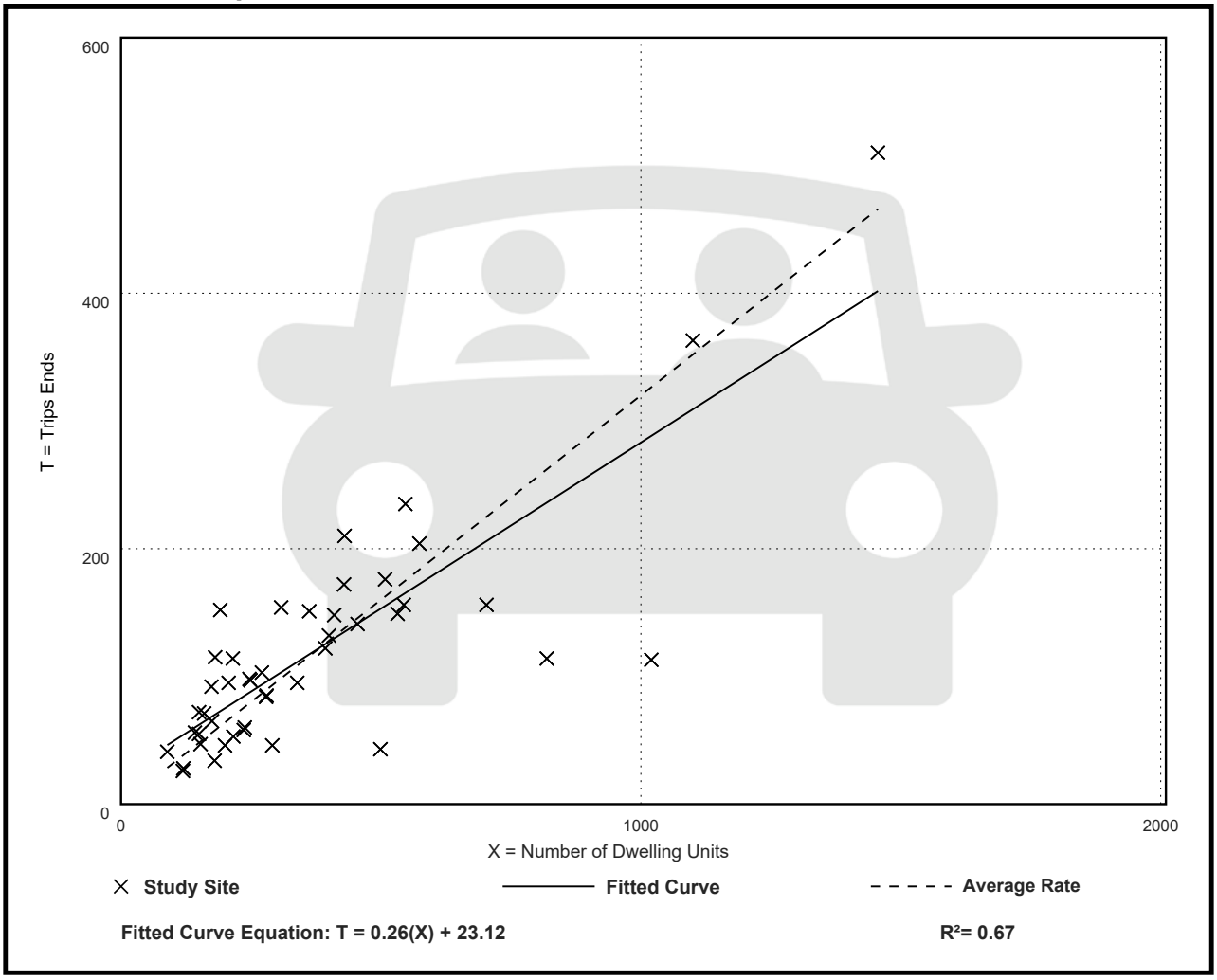
Multifamily Housing (High-Rise)
Not Close to Rail Transit (222)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 45
Avg. Num. of Dwelling Units: 372
Directional Distribution: 56% entering, 44% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.32	0.09 - 0.80	0.13

Data Plot and Equation



Fitted Curve Equation: T = 0.26(X) + 23.12

R^2= 0.67

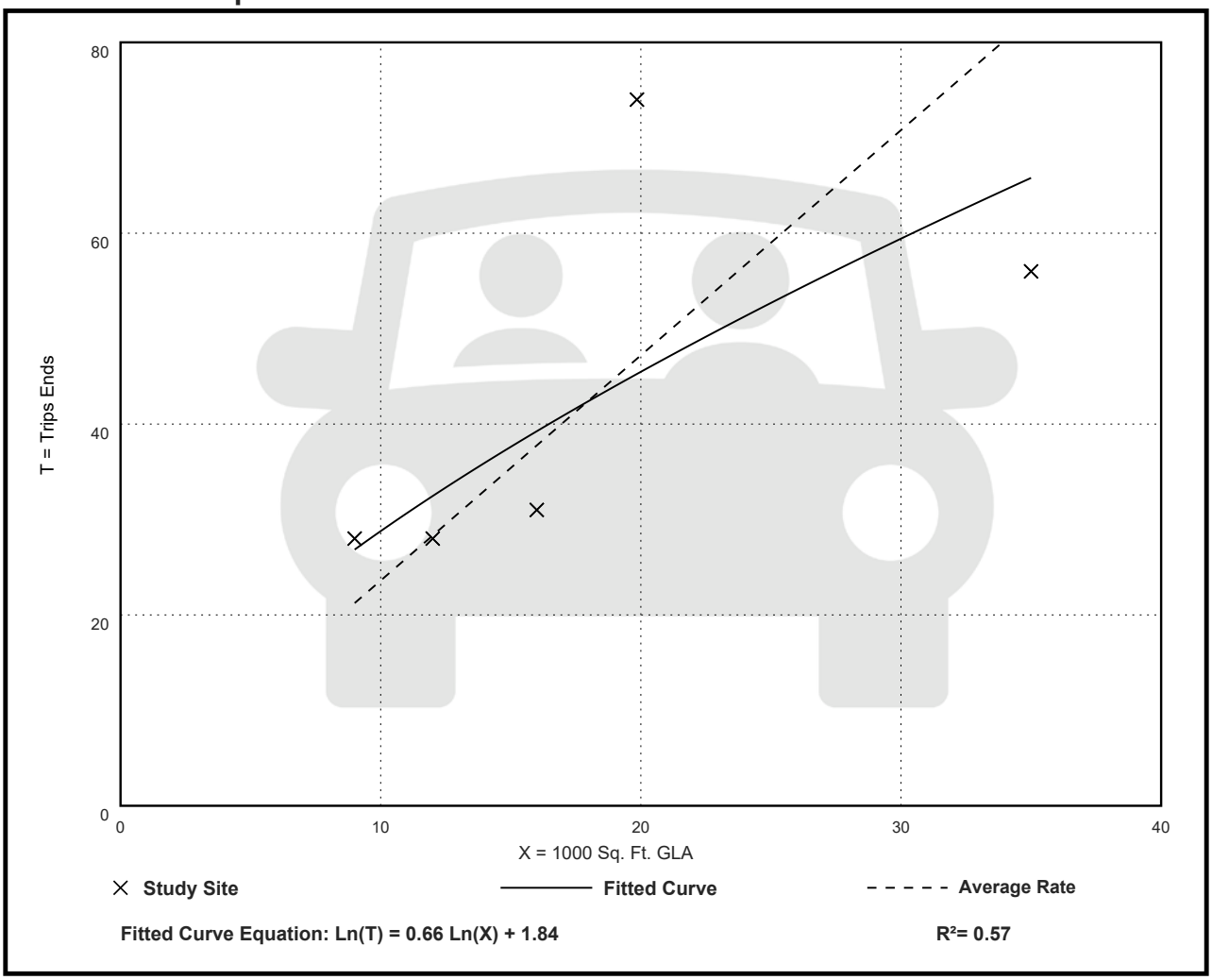
Strip Retail Plaza (<40k)
(822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 5
Avg. 1000 Sq. Ft. GLA: 18
Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
2.36	1.60 - 3.73	0.94

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.66 Ln(X) + 1.84

R^2= 0.57

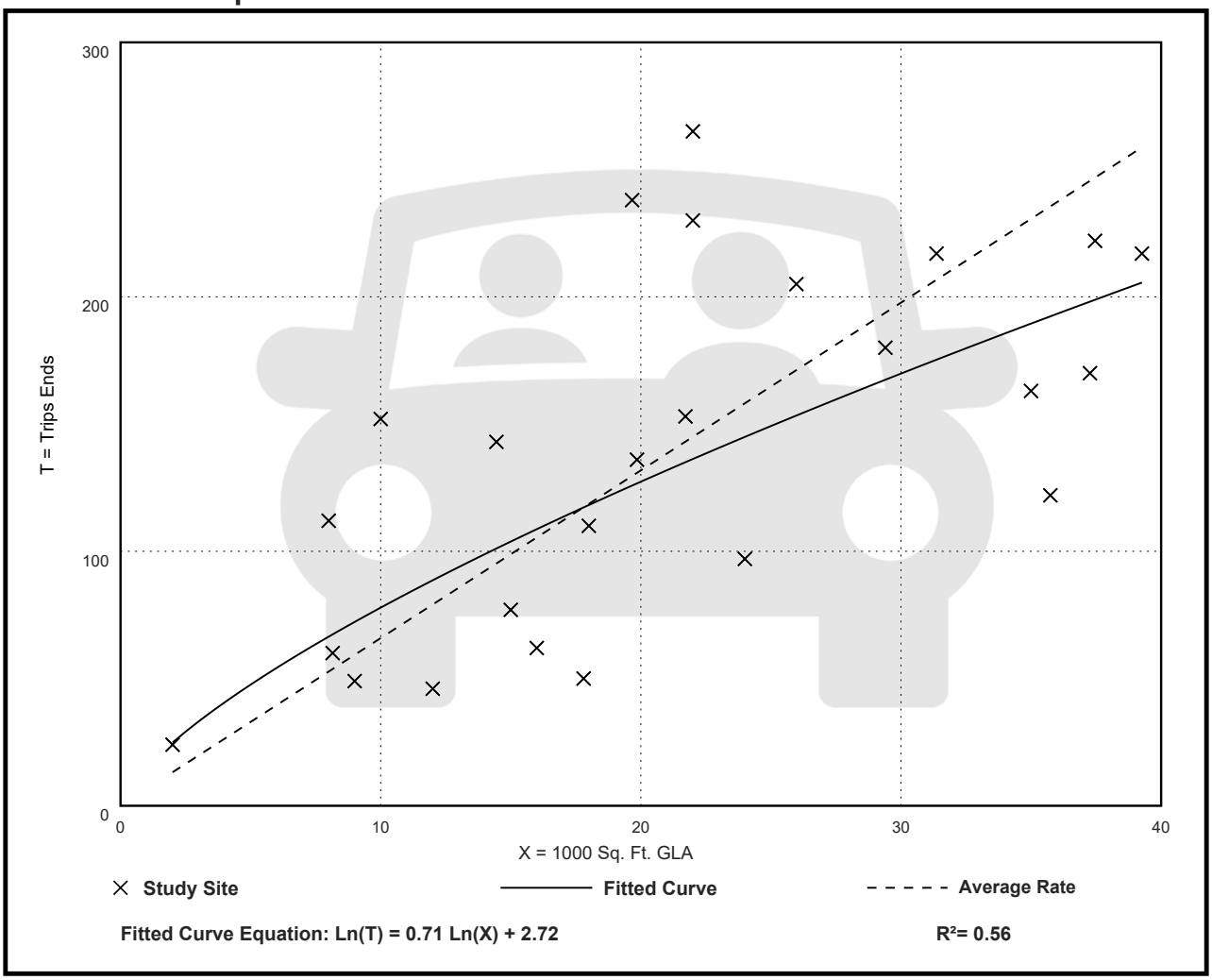
Strip Retail Plaza (<40k)
(822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 25
Avg. 1000 Sq. Ft. GLA: 21
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.59	2.81 - 15.20	2.94

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.71 Ln(X) + 2.72

R^2= 0.56

Appendix J:
TTS Query Data

			To the XX via YY														
			East	West	North	South	North	South	North	North	South	North	South	North	North	South	
Zone	Auto	Fraction	Louis st. Laurent	Louis st. Laurent	Thompson	Thompson	Kennedy Circle	Kennedy Circle	Freeman Trail	Ferguson	Ferguson	Fourth Line	Fourth Line	Trudeau	James Snow	James Snow	Sum
PD 1 of Toronto	181	1.59%	100%														100%
PD 2 of Toronto	0	0.00%	90%										10%				100%
PD 3 of Toronto	67	0.59%	90%										10%				100%
PD 4 of Toronto	0	0.00%	90%										10%				100%
PD 5 of Toronto	23	0.20%	100%														100%
PD 6 of Toronto	19	0.17%	100%														100%
PD 7 of Toronto	40	0.35%	80%										20%				100%
PD 8 of Toronto	82	0.72%	60%										40%				100%
PD 9 of Toronto	213	1.87%	100%														100%
PD 10 of Toronto	84	0.74%	100%														100%
PD 11 of Toronto	160	1.41%	90%										10%				100%
PD 12 of Toronto	20	0.18%	100%														100%
PD 16 of Toronto	44	0.39%	100%														100%
Ajax	15	0.13%	100%														100%
Clarington	18	0.16%	100%														100%
Newmarket	23	0.20%	100%														100%
Richmond Hill	25	0.22%	100%														100%
Markham	116	1.02%	100%														100%
King	23	0.20%	100%														100%
Vaughan	307	2.70%	100%														100%
Caledon	88	0.77%	100%														100%
Brampton	1111	9.76%	90%		10%												100%
Mississauga	3392	29.79%	50%			20%									30%		100%
4100	9	0.08%		100%													100%
4103	11	0.10%		100%													100%
4104	45	0.40%		100%													100%
4105	91	0.80%		100%													100%
4108	345	3.03%		50%						50%							100%
4109	171	1.50%									100%						100%
4110	637	5.59%					10%		15%	30%		45%					100%
4117	184	1.62%													100%		100%
4119	183	1.61%													100%		100%
4120	236	2.07%								100%							100%
4122	58	0.51%			100%												100%
4123	136	1.19%			100%												100%
4124	230	2.02%			100%												100%
4125	695	6.10%		100%													100%
4126	18	0.16%		100%													100%
4130	13	0.11%		50%	50%												100%
4144	59	0.52%													100%		100%
4145	75	0.66%													100%		100%
4148	95	0.83%													100%		100%
4192	60	0.53%					100%										100%
Oakville	917	8.05%	10%	30%		60%											100%
Burlington	357	3.14%		90%		10%											100%
Flamborough	22	0.19%		100%													100%
Glanbrook	47	0.41%		100%													100%
Stoney Creek	3	0.03%		100%													100%
Hamilton	162	1.42%		100%													100%
St. Catharines	39	0.34%		100%													100%
Niagara Falls	17	0.15%		100%													100%
Waterloo	97	0.85%	100%														100%
Kitchener	22	0.19%	100%														100%
Cambridge	142	1.25%	100%														100%
Woolwich	46	0.40%	100%														100%
City of Guelph	82	0.72%	100%														100%
Puslinch	15	0.13%	100%														100%
Erin	10	0.09%	100%														100%
Perth	6	0.05%	100%														100%

	To the XX via YY														
	East	West	North	South	North	South	North	North	South	North	South	North	North	South	
Zone	Louis st. Laurent	Louis st. Laurent	Thompson	Thompson	Kennedy Ci	Kennedy Ci	Freeman Trail	Ferguson	Ferguson	Fourth Line	Fourth Line	Trudeau	James Snov	James Snov	
PD 1 of Toronto	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
PD 2 of Toronto	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
PD 3 of Toronto	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
PD 4 of Toronto	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
PD 5 of Toronto	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
PD 6 of Toronto	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
PD 7 of Toronto	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
PD 8 of Toronto	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
PD 9 of Toronto	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
PD 10 of Toronto	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
PD 11 of Toronto	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
PD 12 of Toronto	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
PD 16 of Toronto	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Ajax	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Clarington	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Newmarket	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Richmond Hill	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Markham	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
King	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Vaughan	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Caledon	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Brampton	9%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Mississauga	15%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	100%
4100	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
4103	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
4104	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
4105	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
4108	0%	2%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	100%
4109	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	100%
4110	0%	0%	0%	0%	1%	0%	1%	2%	0%	3%	0%	0%	0%	0%	100%
4117	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	100%
4119	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	100%
4120	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	100%
4122	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
4123	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
4124	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
4125	0%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
4126	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
4130	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
4144	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	100%
4145	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	100%
4148	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	100%
4192	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Oakville	1%	2%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Burlington	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Flamborough	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Glanbrook	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Stoney Creek	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Hamilton	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
St. Catharines	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Niagara Falls	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Waterloo	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Kitchener	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Cambridge	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Woolwich	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
City of Guelph	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Puslinch	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Erin	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Perth	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%

			From the XX via YY																													
			East	West	North	South	North	South	North	North	South	North	South	North	North	South		From the XX via YY																
Zone	Auto	Fraction	Louis st. Lau	Louis st. La	Thompson	Thompson	Kennedy C	Kennedy C	Freeman T	Ferguson	Ferguson	Fourth Line	Fourth Line	Trudeau	James Sno	James Sno	Sum	East	West	North	South	North	South	North	North	South	North	South	North	North	South	
																		Louis st. La	Louis st. Lau	Thompson	Thompson	Kennedy C	Kennedy C	Freeman T	Ferguson	Ferguson	Fourth Line	Fourth Line	Trudeau	James Sno	James Sno	
PD 1 of Toronto	252	2.48%	95%													5%	100%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PD 2 of Toronto	0	0.00%	95%													5%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PD 3 of Toronto	83	0.82%	100%														100%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PD 4 of Toronto	12	0.12%	90%									10%					100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PD 5 of Toronto	11	0.11%	100%														100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PD 7 of Toronto	64	0.63%	100%														100%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PD 8 of Toronto	23	0.23%	80%									20%					100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PD 9 of Toronto	115	1.13%	60%									40%					100%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PD 10 of Toronto	126	1.24%	100%														100%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PD 11 of Toronto	132	1.30%	100%														100%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PD 12 of Toronto	9	0.09%	90%									10%					100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
PD 16 of Toronto	49	0.48%	100%														100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Ajax	15	0.15%	100%														100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Whitby	19	0.19%	100%														100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Oshawa	18	0.18%	100%														100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Clarington	18	0.18%	100%														100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Newmarket	23	0.23%	100%														100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Richmond Hill	41	0.40%	100%														100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Markham	14	0.14%	100%														100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
King	23	0.23%	100%														100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Vaughan	303	2.98%	100%														100%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Caledon	106	1.04%	100%														100%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Brampton	792	7.79%	100%														100%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Mississauga	2630	25.86%	40%							20%					40%		100%	10%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	10%	0%	
Halton Hills	232	2.28%													100%		100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	
4103	11	0.11%	100%														100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
4105	150	1.48%	100%														100%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
4108	272	2.67%								100%							100%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	0%	
																	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
4110	483	4.75%			20%		20%			40%			20%				100%	0%	0%	1%	0%	1%	0%	0%	2%	0%	0%	1%	0%	0%	0%	
4117	144	1.42%													100%		100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	
4119	270	2.66%								25%					75%		100%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	2%	0%	
4120	460	4.52%			25%					50%		25%					100%	0%	0%	1%	0%	0%	0%	0%	2%	0%	1%	0%	0%	0%	0%	
4122	58	0.57%		40%											60%		100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
4123	83	0.82%		75%						25%							100%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
4124	309	3.04%		75%						25%							100%	0%	2%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	
4125	425	4.18%		75%						25%							100%	0%	3%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	
4126	53	0.52%		75%						25%							100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
4127	34	0.33%		100%													100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
4136	7	0.07%		25%											75%		100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
4144	97	0.95%								25%					75%		100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	
4145	77	0.76%								25%					75%		100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	
4147	21	0.21%								25%					75%		100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
4148	287	2.82%													100%		100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	
4192	54	0.53%													100%		100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	
Oakville	873	8.58%				50%							20%			30%	100%	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	2%	0%	0%	3%
Burlington	342	3.36%		25%		75%											100%	0%	1%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Flamborough	22	0.22%		100%													100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Glanbrook	47	0.46%		25%		75%											100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Stoney Creek	11	0.11%		25%		75%											100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Hamilton	118	1.16%		25%		75%											100%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Waterloo	105	1.03%		10%											90%		100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	
Cambridge	69	0.68%		25%											75%		100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	
Woolwich	16	0.16%													100%		100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
City of Guelph	66	0.65%													100%		100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	
Puslinch	32	0.31%		25%		75%											100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Erin	10	0.10%													100%		100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
New Tecumseth	15	0.15%													100%		100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Perth	6	0.06%													100%		100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
External	32	0.31%													100%		100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	

Appendix K:
Signal Timings Plans

Date: 6-Apr-2023
Intersection: James Snow Pkwy @ Louis St Laurent Ave

8 Phase Basic Timing Sheet

	1	2	3	4	5	6	7	8	2 Ped	4 Ped	6 Ped	8 Ped
Phases in use		X		X		X		X		x	x	
Direction		NB		EB		SB		WB				
Min Green		25		15		25		15				
Veh Ext.		3.0		3.0		3.0		3.0				
Yellow		4.2		3.3		4.2		3.3				
Red		2.5		3.7		2.5		3.7				
Walk		7		7		7		7				
Don't Walk		24		19		24		19				
Max 1		54		35		54		35				
Max 2												
Max 3												
Veh Recall		x				x						
Ped Recall												

Notes: Sync 3:15
Phases 4 & 8 are Split Phased
Ped Reservice Advice

Controller Timing Data

Timing Plan 1																
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green		20		10		20		10								
Delayed Green																
Walk		10		10		10		10								
Walk 2																
Walk Max																
Pedestrian Clearance		18		20		18		20								
Pedestrian Clearance 2																
Pedestrian Clearance Max																
Vehicle Extension				3.0				3.0								
Vehicle Extension 2																
Max 1		40		30		40		30								
Max 2 (730am-815am)		30		50		30		50								
Max 3 (230pm-315pm)		30		50		30		50								
Dynamic Max																
Dynamic Max Step																
Yellow Change		4.0		4.0		4.0		4.0								
Red Clearance		3.0		3.0		3.0		3.0								

Controller Timing Data

Timing Plan 1																
Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green		20		10		20		10								
Delayed Green																
Walk		10		10		10		10								
Walk 2																
Walk Max																
Pedestrian Clearance		14		18		14		18								
Pedestrian Clearance 2																
Pedestrian Clearance Max																
Vehicle Extension				3.0				3.0								
Vehicle Extension 2																
Max 1		40		30		40		30								
Max 2																
Max 3																
Dynamic Max																
Dynamic Max Step																
Yellow Change		4.0		4.0		4.0		4.0								
Red Clearance		3.0		3.0		3.0		3.0								

Appendix L:
Signal Timing Improvements

Table 1 Signal Timing Adjustments

Phase	Existing Conditions	Future Background	Future Total
	Louis St. Laurent Avenue / Thompson Road		
	Cycle Length: 92 (92) [92]	**Cycle Length:** 92 (92) [92]	**Cycle Length:** 92 (92) [92]
N/S			
Walk	10 (10) [10]	10 (10) [10]	10 (10) [10]
FDW	16 (16) [16]	16 (16) [16]	16 (16) [16]
Total Split	33 (33) [33/34]	33/35.3 (33) [33/34]	33/35.3 (33) [33/34]
N/S Advance			
Total Split	12 (12) [8/9]	9.7/12 (12) [8/9]	9.7/12 (12) [8/9]
E-W			
Walk	10 (10) [10]	10 (10) [10]	10 (10) [10]
FDW	18 (18) [18]	18 (18) [18]	18 (18) [18]
Total Split	35 (35) [35/41]	35 (38/39) [35/41]	35 (38/39) [35/41]
E/W Advance			
Total Split	12 (12) [9/11]	11 (12/13) [9/11]	11 (12/13) [9/11]
Phase	**Louis St. Laurent Avenue / Ferguson Drive**		
	Cycle Length: 87 (72) [90]	**Cycle Length:** 90 (90) [90]	**Cycle Length:** 90 (90) [90]
N/S			
Walk	10 (10) [10]	10 (10) [10]	10 (10) [10]
FDW	20 (20) [20]	20 (20) [20]	20 (20) [20]
Total Split	37 (37) [44]	38 (37) [40]	38 (37) [40]
N/S Advance			
Total Split	- (-)	- (-)	- (-)
E-W			
Walk	10 (10) [10]	10 (10) [10]	10 (10) [10]
FDW	18 (18) [18]	18 (18) [18]	18 (18) [18]
Total Split	35 (35) [36/46]	38/41 (35.9/43.4) [35.3/50]	38/41 (35.9/43.4) [35.3/50]
E/W Advance			
Total Split	15 (-) [0/10]	11/14 (9.6/17.1) [0/14.7]	11/14 (9.6/17.1) [0/14.7]

Phase	Existing Conditions[1]	Future Background	Future Total
	Louis St. Laurent Avenue / Fourth Line		
	Cycle Length: 85 (66) [92]	**Cycle Length** N.A.	**Cycle Length** N.A.
N/S Walk FDW Total Split **N/S Advance** Total Split **E-W** Walk FDW Total Split **E/W Advance** Total Split	10 (10) [10] 18 (18) [18] 35 (35) [35] - (-) [-] 10 (10) [10] 14 (14) [14] 50 (31) [31] - (-) [-]	Converted to Stop-Controlled Intersection	Converted to Stop-Controlled Intersection
	Louis St. Laurent Avenue / James Snow Parkway		
	Cycle Length: 89 (89) [89]	**Cycle Length:** 90 (90) [90]	**Cycle Length:** 90 (90) [90]
N/S Walk FDW Total Split **N/S Advance** Total Split **E-W** Walk FDW Total Split **E/W Advance** Total Split	7 (7) [7] 24 (24) [24] 54 (54) [54] - (-) [-] 7 (7) [7] 24 (24) [24] 35 (35) [35] - (-) [-]	7 (7) [7] 24 (24) [24] 37.7 (41/51) [42] 9.5 (0/10) [-] 7 (7) [7] 24 (24) [24] 33.3/42.8 (39) [48] 0/9.5 (-) [-]	7 (7) [7] 24 (24) [24] 37.7 (41/51) [42] 9.5 (0/10) [-] 7 (7) [7] 24 (24) [24] 33.3/42.8 (39) [48] 0/9.5 (-) [-]

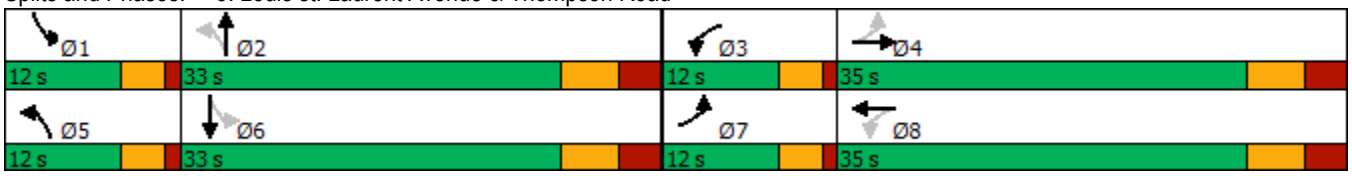
Phase	Existing Conditions[1]	Future Background	Future Total
	Louis St. Laurent Avenue / Trudeau Drive		
	Cycle Length: N.A.	**Cycle Length:** 90 (90) [90]	**Cycle Length:** 90 (90) [90]
N/S	Stop-Controlled Intersection		
Walk		7 (10) [10]	7 (10) [10]
FDW		11 (18) [18]	11 (18) [18]
Total Split		24.6/34.2 (25) [30]	24.6/34.2 (25) [30]
N/S Advance			
Total Split		0/9.6 (-) [-]	0/9.6 (-) [-]
E-W			
Walk		7 (10) [10]	7 (10) [10]
FDW		11 (14) [14]	11 (14) [14]
Total Split		39.9/55.8 (65) [60]	39.9/55.8 (65) [60]
E/W Advance			
Total Split		0/15.9 (-) [-]	0/15.9 (-) [-]

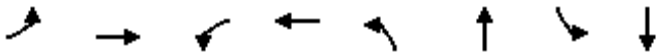
Appendix M:
Synchro Calculation Sheets

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	145	470	150	440	95	255	160	300
Future Volume (vph)	145	470	150	440	95	255	160	300
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	28.0	4.0	28.0	4.0	26.0	4.0	26.0
Minimum Split (s)	8.0	35.0	8.0	35.0	8.0	33.0	8.0	33.0
Total Split (s)	12.0	35.0	12.0	35.0	12.0	33.0	12.0	33.0
Total Split (%)	13.0%	38.0%	13.0%	38.0%	13.0%	35.9%	13.0%	35.9%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	3.0	1.0	3.0	1.0	3.0	1.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	Min	None	Min
Act Effct Green (s)	40.9	29.0	40.9	29.0	38.6	27.0	39.4	27.4
Actuated g/C Ratio	0.45	0.32	0.45	0.32	0.42	0.29	0.43	0.30
v/c Ratio	0.51	0.68	0.60	0.59	0.30	0.48	0.52	0.50
Control Delay	19.5	29.6	23.0	28.0	16.8	18.2	21.1	25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.5	29.6	23.0	28.0	16.8	18.2	21.1	25.2
LOS	B	C	C	C	B	B	C	C
Approach Delay		27.7		26.8		18.0		24.1
Approach LOS		C		C		B		C

Intersection Summary	
Cycle Length: 92	
Actuated Cycle Length: 91.9	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 24.6	Intersection LOS: C
Intersection Capacity Utilization 78.8%	ICU Level of Service D
Analysis Period (min) 15	

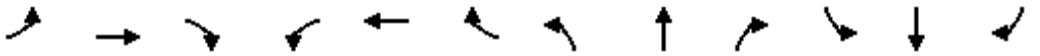
Splits and Phases: 3: Louis st. Laurent Avenue & Thompson Road





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	179	747	185	642	117	537	198	512
v/c Ratio	0.51	0.68	0.60	0.59	0.30	0.48	0.52	0.50
Control Delay	19.5	29.6	23.0	28.0	16.8	18.2	21.1	25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.5	29.6	23.0	28.0	16.8	18.2	21.1	25.2
Queue Length 50th (m)	18.6	59.9	19.3	50.5	12.3	26.5	21.9	36.1
Queue Length 95th (m)	28.1	69.6	28.9	59.7	20.2	35.1	32.4	45.1
Internal Link Dist (m)		163.9		124.6		375.0		677.0
Turn Bay Length (m)	70.0		70.0		70.0		100.0	
Base Capacity (vph)	355	1095	310	1097	401	1110	378	1033
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	0.50	0.68	0.60	0.59	0.29	0.48	0.52	0.50

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	145	470	135	150	440	80	95	255	180	160	300	115
Future Volume (vph)	145	470	135	150	440	80	95	255	180	160	300	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.0		3.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.94		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1750	3383		1735	3422		1766	3312		1735	3326	
Flt Permitted	0.29	1.00		0.22	1.00		0.38	1.00		0.35	1.00	
Satd. Flow (perm)	530	3383		404	3422		703	3312		630	3326	
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	179	580	167	185	543	99	117	315	222	198	370	142
RTOR Reduction (vph)	0	29	0	0	16	0	0	138	0	0	44	0
Lane Group Flow (vph)	179	718	0	185	626	0	117	399	0	198	468	0
Confl. Peds. (#/hr)	16		4	4		16	13		2	2		13
Heavy Vehicles (%)	3%	3%	2%	4%	2%	6%	2%	0%	4%	4%	3%	4%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	35.9	28.0		35.9	28.0		33.6	26.0		34.4	26.4	
Effective Green, g (s)	37.9	29.0		37.9	29.0		35.6	27.0		36.4	27.4	
Actuated g/C Ratio	0.41	0.32		0.41	0.32		0.39	0.29		0.40	0.30	
Clearance Time (s)	4.0	7.0		4.0	7.0		4.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	336	1067		295	1079		371	973		357	991	
v/s Ratio Prot	0.05	c0.21		c0.06	0.18		0.03	0.12		c0.05	0.14	
v/s Ratio Perm	0.17			0.20			0.09			c0.16		
v/c Ratio	0.53	0.67		0.63	0.58		0.32	0.41		0.55	0.47	
Uniform Delay, d1	18.2	27.3		18.8	26.3		18.6	26.1		19.2	26.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.6	1.7		4.1	0.8		0.5	0.3		1.9	0.4	
Delay (s)	19.8	29.0		22.9	27.1		19.1	26.3		21.1	26.7	
Level of Service	B	C		C	C		B	C		C	C	
Approach Delay (s)		27.2			26.2			25.0			25.1	
Approach LOS		C			C			C			C	

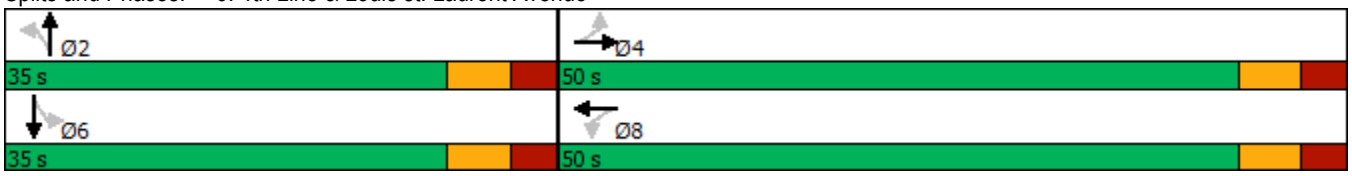
Intersection Summary			
HCM 2000 Control Delay	26.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	91.9	Sum of lost time (s)	18.0
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	115	540	85	290	80	35	45	105
Future Volume (vph)	115	540	85	290	80	35	45	105
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	24.0	24.0	24.0	24.0	28.0	28.0	28.0	28.0
Minimum Split (s)	31.0	31.0	31.0	31.0	35.0	35.0	35.0	35.0
Total Split (s)	50.0	50.0	50.0	50.0	35.0	35.0	35.0	35.0
Total Split (%)	58.8%	58.8%	58.8%	58.8%	41.2%	41.2%	41.2%	41.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0		-1.0		-1.0
Total Lost Time (s)	6.0	6.0	6.0	6.0		6.0		6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	27.3	27.3	27.3	27.3		29.1		29.1
Actuated g/C Ratio	0.40	0.40	0.40	0.40		0.42		0.42
v/c Ratio	0.44	0.61	0.64	0.30		0.45		0.31
Control Delay	19.1	17.7	34.7	14.2		16.5		15.6
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	19.1	17.7	34.7	14.2		16.5		15.6
LOS	B	B	C	B		B		B
Approach Delay		17.9		18.7		16.5		15.6
Approach LOS		B		B		B		B

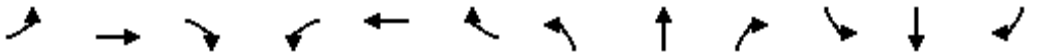
Intersection Summary	
Cycle Length: 85	
Actuated Cycle Length: 68.5	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 17.7	Intersection LOS: B
Intersection Capacity Utilization 78.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 6: 4th Line & Louis st. Laurent Avenue



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	158	843	116	418	233	206
v/c Ratio	0.44	0.61	0.64	0.30	0.45	0.31
Control Delay	19.1	17.7	34.7	14.2	16.5	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.1	17.7	34.7	14.2	16.5	15.6
Queue Length 50th (m)	14.9	44.1	12.1	19.0	16.9	16.3
Queue Length 95th (m)	22.3	44.8	21.6	21.9	33.1	30.8
Internal Link Dist (m)		300.4		294.1	422.8	423.8
Turn Bay Length (m)	74.0		93.0			
Base Capacity (vph)	587	2220	292	2209	516	667
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.38	0.40	0.19	0.45	0.31

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	540	75	85	290	15	80	35	55	45	105	0
Future Volume (vph)	115	540	75	85	290	15	80	35	55	45	105	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00			0.99			1.00	
Flpb, ped/bikes	0.97	1.00		0.98	1.00			0.98			0.99	
Frt	1.00	0.98		1.00	0.99			0.96			1.00	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1719	3434		1774	3426			1490			1835	
Flt Permitted	0.51	1.00		0.24	1.00			0.77			0.85	
Satd. Flow (perm)	918	3434		455	3426			1181			1575	
Peak-hour factor, PHF	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Adj. Flow (vph)	158	740	103	116	397	21	110	48	75	62	144	0
RTOR Reduction (vph)	0	16	0	0	5	0	0	18	0	0	0	0
Lane Group Flow (vph)	158	827	0	116	413	0	0	215	0	0	206	0
Confl. Peds. (#/hr)	36		46	46		36	87		44	44		87
Heavy Vehicles (%)	2%	2%	3%	0%	3%	27%	22%	14%	5%	2%	1%	8%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	26.4	26.4		26.4	26.4			28.1			28.1	
Effective Green, g (s)	27.4	27.4		27.4	27.4			29.1			29.1	
Actuated g/C Ratio	0.40	0.40		0.40	0.40			0.42			0.42	
Clearance Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	367	1373		182	1370			501			669	
v/s Ratio Prot		0.24			0.12							
v/s Ratio Perm	0.17			c0.25				c0.18			0.13	
v/c Ratio	0.43	0.60		0.64	0.30			0.43			0.31	
Uniform Delay, d1	14.9	16.2		16.5	14.0			13.9			13.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.8	0.8		7.1	0.1			0.6			0.3	
Delay (s)	15.7	17.0		23.7	14.1			14.5			13.3	
Level of Service	B	B		C	B			B			B	
Approach Delay (s)		16.8			16.2			14.5			13.3	
Approach LOS		B			B			B			B	

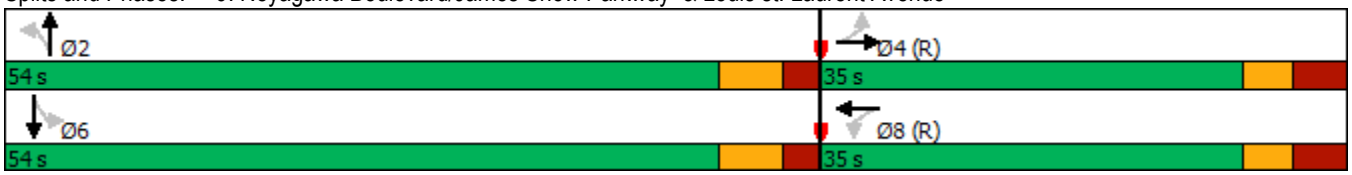
Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	68.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	240	165	25	40	130	30	305
Future Volume (vph)	240	165	25	40	130	30	305
Turn Type	Perm	NA	NA	Perm	NA	Perm	NA
Protected Phases		4	8		2		6
Permitted Phases	4			2		6	
Detector Phase	4	4	8	2	2	6	6
Switch Phase							
Minimum Initial (s)	26.0	26.0	26.0	31.0	31.0	31.0	31.0
Minimum Split (s)	33.0	33.0	33.0	37.7	37.7	37.7	37.7
Total Split (s)	35.0	35.0	35.0	54.0	54.0	54.0	54.0
Total Split (%)	39.3%	39.3%	39.3%	60.7%	60.7%	60.7%	60.7%
Yellow Time (s)	3.3	3.3	3.3	4.2	4.2	4.2	4.2
All-Red Time (s)	3.7	3.7	3.7	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0	6.0	5.7	5.7	5.7	5.7
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Min	C-Min	C-Min	None	None	None	None
Act Effct Green (s)	45.3	45.3	45.3	32.0	32.0	32.0	32.0
Actuated g/C Ratio	0.51	0.51	0.51	0.36	0.36	0.36	0.36
v/c Ratio	0.38	0.21	0.02	0.16	0.12	0.08	0.39
Control Delay	15.3	6.0	9.7	21.4	18.8	19.5	14.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.3	6.0	9.7	21.4	18.8	19.5	14.9
LOS	B	A	A	C	B	B	B
Approach Delay		9.9	9.7		19.4		15.2
Approach LOS		A	A		B		B

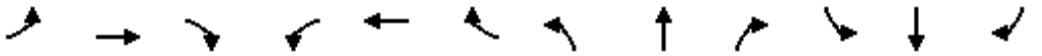
Intersection Summary	
Cycle Length: 89	
Actuated Cycle Length: 89	
Offset: 22.5 (25%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.39	
Intersection Signal Delay: 13.2	Intersection LOS: B
Intersection Capacity Utilization 64.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 9: Neyagawa Boulevard/James Snow Parkway & Louis st. Laurent Avenue



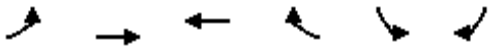
Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	261	364	32	43	146	33	506
v/c Ratio	0.38	0.21	0.02	0.16	0.12	0.08	0.39
Control Delay	15.3	6.0	9.7	21.4	18.8	19.5	14.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.3	6.0	9.7	21.4	18.8	19.5	14.9
Queue Length 50th (m)	27.1	8.3	1.2	5.2	8.7	3.8	22.5
Queue Length 95th (m)	45.4	15.8	3.4	13.2	15.4	10.2	36.0
Internal Link Dist (m)		330.0	133.8		451.3		633.9
Turn Bay Length (m)	200.0			95.0		165.0	
Base Capacity (vph)	690	1772	1797	409	1831	659	1850
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.21	0.02	0.11	0.08	0.05	0.27

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	240	165	170	0	25	5	40	130	5	30	305	160
Future Volume (vph)	240	165	170	0	25	5	40	130	5	30	305	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	0.95			0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.92			0.98		1.00	0.99		1.00	0.95	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	3302			3525		1770	3371		1752	3271	
Flt Permitted	0.74	1.00			1.00		0.40	1.00		0.66	1.00	
Satd. Flow (perm)	1356	3302			3525		754	3371		1216	3271	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	261	179	185	0	27	5	43	141	5	33	332	174
RTOR Reduction (vph)	0	91	0	0	2	0	0	3	0	0	107	0
Lane Group Flow (vph)	261	273	0	0	30	0	43	143	0	33	399	0
Heavy Vehicles (%)	3%	1%	1%	0%	0%	0%	2%	5%	50%	3%	5%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	44.3	44.3			44.3		31.0	31.0		31.0	31.0	
Effective Green, g (s)	45.3	45.3			45.3		32.0	32.0		32.0	32.0	
Actuated g/C Ratio	0.51	0.51			0.51		0.36	0.36		0.36	0.36	
Clearance Time (s)	7.0	7.0			7.0		6.7	6.7		6.7	6.7	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	690	1680			1794		271	1212		437	1176	
v/s Ratio Prot		0.08			0.01			0.04			c0.12	
v/s Ratio Perm	c0.19						0.06			0.03		
v/c Ratio	0.38	0.16			0.02		0.16	0.12		0.08	0.34	
Uniform Delay, d1	13.3	11.7			10.8		19.4	19.1		18.8	20.8	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.6	0.2			0.0		0.3	0.0		0.1	0.2	
Delay (s)	14.9	11.9			10.8		19.6	19.1		18.8	21.0	
Level of Service	B	B			B		B	B		B	C	
Approach Delay (s)		13.1			10.8			19.2			20.8	
Approach LOS		B			B			B			C	

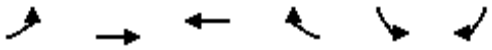
Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	89.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	810	625	10	0	40
Future Volume (Veh/h)	0	810	625	10	0	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	0	1038	801	13	0	51
Pedestrians			1		37	
Lane Width (m)			3.6		3.6	
Walking Speed (m/s)			1.2		1.2	
Percent Blockage			0		3	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	851				1364	444
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	851				1364	444
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	91
cM capacity (veh/h)	772				137	544

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	519	519	534	280	51
Volume Left	0	0	0	0	0
Volume Right	0	0	0	13	51
cSH	1700	1700	1700	1700	544
Volume to Capacity	0.31	0.31	0.31	0.16	0.09
Queue Length 95th (m)	0.0	0.0	0.0	0.0	2.5
Control Delay (s)	0.0	0.0	0.0	0.0	12.3
Lane LOS					B
Approach Delay (s)	0.0		0.0		12.3
Approach LOS					B

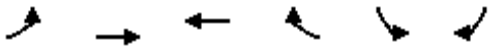
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	27.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	110	535	220	5	30	165
Future Volume (Veh/h)	110	535	220	5	30	165
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	136	660	272	6	37	204
Pedestrians		1	4		14	
Lane Width (m)		3.6	3.6		3.6	
Walking Speed (m/s)		1.2	1.2		1.2	
Percent Blockage		0	0		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		318	354			
pX, platoon unblocked						
vC, conflicting volume	292				895	154
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	292				895	154
tC, single (s)	4.2				6.9	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				85	76
cM capacity (veh/h)	1231				244	844

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	136	330	330	181	97	37	204
Volume Left	136	0	0	0	0	37	0
Volume Right	0	0	0	0	6	0	204
cSH	1231	1700	1700	1700	1700	244	844
Volume to Capacity	0.11	0.19	0.19	0.11	0.06	0.15	0.24
Queue Length 95th (m)	3.0	0.0	0.0	0.0	0.0	4.2	7.6
Control Delay (s)	8.3	0.0	0.0	0.0	0.0	22.4	10.6
Lane LOS	A					C	B
Approach Delay (s)	1.4			0.0		12.4	
Approach LOS						B	

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	28.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	755	650	25	0	25
Future Volume (Veh/h)	0	755	650	25	0	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	0	932	802	31	0	31
Pedestrians		1			13	
Lane Width (m)		3.6			3.6	
Walking Speed (m/s)		1.2			1.2	
Percent Blockage		0			1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		149				
pX, platoon unblocked					0.86	
vC, conflicting volume	846				1296	430
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	846				1012	430
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	95
cM capacity (veh/h)	791				203	572

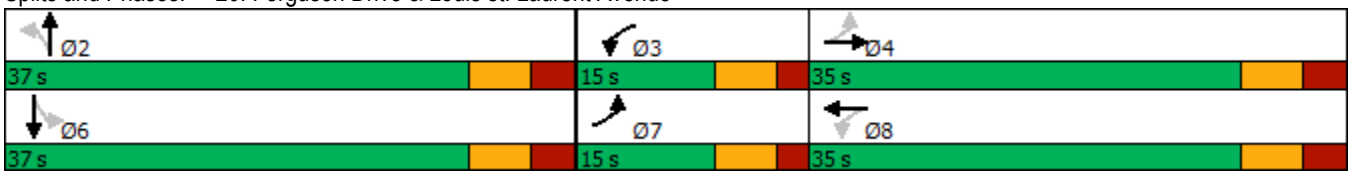
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	466	466	535	298	31
Volume Left	0	0	0	0	0
Volume Right	0	0	0	31	31
cSH	1700	1700	1700	1700	572
Volume to Capacity	0.27	0.27	0.31	0.18	0.05
Queue Length 95th (m)	0.0	0.0	0.0	0.0	1.4
Control Delay (s)	0.0	0.0	0.0	0.0	11.7
Lane LOS					B
Approach Delay (s)	0.0		0.0		11.7
Approach LOS					B

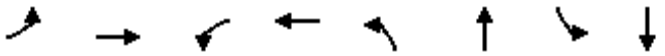
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	31.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	65	500	105	345	135	70	70	155
Future Volume (vph)	65	500	105	345	135	70	70	155
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	28.0	5.0	28.0	30.0	30.0	30.0	30.0
Minimum Split (s)	11.0	35.0	11.0	35.0	37.0	37.0	37.0	37.0
Total Split (s)	15.0	35.0	15.0	35.0	37.0	37.0	37.0	37.0
Total Split (%)	17.2%	40.2%	17.2%	40.2%	42.5%	42.5%	42.5%	42.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	Min	None	Min	None	None	None	None
Act Effct Green (s)	38.4	29.0	41.0	32.3	31.0	31.0	31.0	31.0
Actuated g/C Ratio	0.44	0.34	0.48	0.37	0.36	0.36	0.36	0.36
v/c Ratio	0.18	0.86	0.51	0.37	0.63	0.25	0.25	0.55
Control Delay	11.9	33.6	20.0	21.4	35.9	15.6	22.2	22.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	33.6	20.0	21.4	35.9	15.6	22.2	22.6
LOS	B	C	C	C	D	B	C	C
Approach Delay		31.9		21.1		26.8		22.6
Approach LOS		C		C		C		C

Intersection Summary	
Cycle Length: 87	
Actuated Cycle Length: 86.3	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 26.8	Intersection LOS: C
Intersection Capacity Utilization 99.3%	ICU Level of Service F
Analysis Period (min) 15	

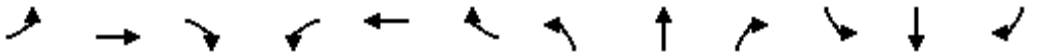
Splits and Phases: 20: Ferguson Drive & Louis st. Laurent Avenue





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	81	944	131	456	169	138	88	350
v/c Ratio	0.18	0.86	0.51	0.37	0.63	0.25	0.25	0.55
Control Delay	11.9	33.6	20.0	21.4	35.9	15.6	22.2	22.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	33.6	20.0	21.4	35.9	15.6	22.2	22.6
Queue Length 50th (m)	6.8	72.4	11.4	30.6	24.3	12.0	10.8	41.0
Queue Length 95th (m)	12.3	81.5	19.1	39.2	40.8	21.8	19.7	57.1
Internal Link Dist (m)		385.0		300.4		136.9		272.5
Turn Bay Length (m)	65.0		48.0		30.0		35.0	
Base Capacity (vph)	497	1092	271	1240	268	562	350	636
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	0.16	0.86	0.48	0.37	0.63	0.25	0.25	0.55

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	500	255	105	345	20	135	70	40	70	155	125
Future Volume (vph)	65	500	255	105	345	20	135	70	40	70	155	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.92		1.00	0.99		1.00	0.89		1.00	0.97	
Flpb, ped/bikes	0.96	1.00		1.00	1.00		0.97	1.00		0.77	1.00	
Frt	1.00	0.95		1.00	0.99		1.00	0.95		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1724	3031		1635	3304		1708	1499		1381	1678	
Flt Permitted	0.48	1.00		0.14	1.00		0.42	1.00		0.67	1.00	
Satd. Flow (perm)	873	3031		234	3304		747	1499		972	1678	
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	81	625	319	131	431	25	169	88	50	88	194	156
RTOR Reduction (vph)	0	73	0	0	4	0	0	24	0	0	34	0
Lane Group Flow (vph)	81	871	0	131	452	0	169	114	0	88	316	0
Confl. Peds. (#/hr)	120		136	136		120	74		325	325		74
Heavy Vehicles (%)	0%	3%	7%	10%	7%	10%	2%	4%	13%	0%	3%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	35.5	29.3		39.5	31.3		30.0	30.0		30.0	30.0	
Effective Green, g (s)	37.5	30.3		41.5	32.3		31.0	31.0		31.0	31.0	
Actuated g/C Ratio	0.43	0.35		0.47	0.37		0.35	0.35		0.35	0.35	
Clearance Time (s)	6.0	7.0		6.0	7.0		7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	444	1049		258	1219		264	531		344	594	
v/s Ratio Prot	0.02	c0.29		c0.05	0.14			0.08			0.19	
v/s Ratio Perm	0.06			0.19			c0.23			0.09		
v/c Ratio	0.18	0.83		0.51	0.37		0.64	0.21		0.26	0.53	
Uniform Delay, d1	15.0	26.2		15.6	20.2		23.6	19.7		20.1	22.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	5.7		1.6	0.2		5.2	0.2		0.4	0.9	
Delay (s)	15.2	32.0		17.1	20.4		28.8	19.9		20.5	23.4	
Level of Service	B	C		B	C		C	B		C	C	
Approach Delay (s)		30.6			19.6			24.8			22.8	
Approach LOS		C			B			C			C	

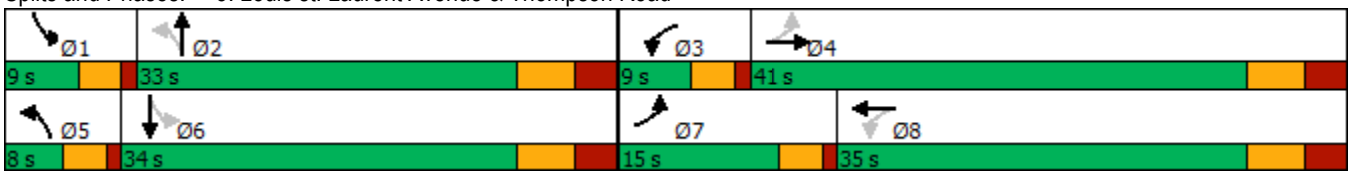
Intersection Summary			
HCM 2000 Control Delay	25.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	87.5	Sum of lost time (s)	17.0
Intersection Capacity Utilization	99.3%	ICU Level of Service	F
Analysis Period (min)	15		

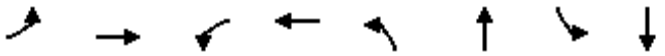
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	195	295	120	470	90	270	105	155
Future Volume (vph)	195	295	120	470	90	270	105	155
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	28.0	4.0	28.0	4.0	26.0	4.0	26.0
Minimum Split (s)	8.0	35.0	8.0	35.0	8.0	33.0	8.0	33.0
Total Split (s)	15.0	41.0	9.0	35.0	8.0	33.0	9.0	34.0
Total Split (%)	16.3%	44.6%	9.8%	38.0%	8.7%	35.9%	9.8%	37.0%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	3.0	1.0	3.0	1.0	3.0	1.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	Min	None	Min
Act Effct Green (s)	46.1	34.2	38.1	29.1	34.0	27.1	35.6	27.9
Actuated g/C Ratio	0.52	0.38	0.43	0.33	0.38	0.30	0.40	0.31
v/c Ratio	0.48	0.27	0.27	0.55	0.22	0.36	0.27	0.28
Control Delay	16.4	18.7	14.0	26.2	17.8	22.5	18.2	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.4	18.7	14.0	26.2	17.8	22.5	18.2	13.3
LOS	B	B	B	C	B	C	B	B
Approach Delay		17.9		24.1		21.6		14.6
Approach LOS		B		C		C		B

Intersection Summary	
Cycle Length: 92	
Actuated Cycle Length: 89.4	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.55	
Intersection Signal Delay: 20.2	Intersection LOS: C
Intersection Capacity Utilization 78.3%	ICU Level of Service D
Analysis Period (min) 15	

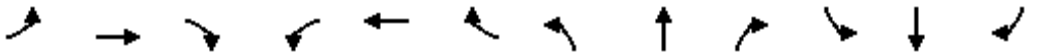
Splits and Phases: 3: Louis st. Laurent Avenue & Thompson Road





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	203	359	125	605	94	380	109	302
v/c Ratio	0.48	0.27	0.27	0.55	0.22	0.36	0.27	0.28
Control Delay	16.4	18.7	14.0	26.2	17.8	22.5	18.2	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.4	18.7	14.0	26.2	17.8	22.5	18.2	13.3
Queue Length 50th (m)	19.9	22.1	11.7	46.5	10.4	24.9	12.1	11.5
Queue Length 95th (m)	33.3	33.0	21.4	64.0	20.3	37.9	22.7	21.8
Internal Link Dist (m)		163.9		124.6		375.0		677.0
Turn Bay Length (m)	70.0		70.0		70.0		100.0	
Base Capacity (vph)	434	1364	465	1101	427	1051	410	1088
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	0.47	0.26	0.27	0.55	0.22	0.36	0.27	0.28

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	195	295	50	120	470	110	90	270	95	105	155	135
Future Volume (vph)	195	295	50	120	470	110	90	270	95	105	155	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.0		3.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.98		1.00	0.99		1.00	0.96	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		0.98	1.00		0.99	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	0.96		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1738	3437		1725	3319		1727	3343		1772	3156	
Flt Permitted	0.29	1.00		0.54	1.00		0.57	1.00		0.48	1.00	
Satd. Flow (perm)	530	3437		975	3319		1032	3343		887	3156	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	203	307	52	125	490	115	94	281	99	109	161	141
RTOR Reduction (vph)	0	15	0	0	22	0	0	38	0	0	97	0
Lane Group Flow (vph)	203	344	0	125	583	0	94	342	0	109	205	0
Confl. Peds. (#/hr)	97		21	21		97	64		33	33		64
Heavy Vehicles (%)	3%	2%	4%	4%	3%	6%	2%	2%	4%	1%	3%	2%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	42.2	33.2		33.1	28.1		29.2	26.1		30.8	26.9	
Effective Green, g (s)	43.2	34.2		35.1	29.1		31.2	27.1		32.8	27.9	
Actuated g/C Ratio	0.48	0.38		0.39	0.32		0.35	0.30		0.36	0.31	
Clearance Time (s)	4.0	7.0		4.0	7.0		4.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	402	1303		429	1070		388	1004		370	976	
v/s Ratio Prot	c0.06	0.10		0.02	0.18		0.01	c0.10		c0.02	0.06	
v/s Ratio Perm	c0.18			0.09			0.07			0.09		
v/c Ratio	0.50	0.26		0.29	0.55		0.24	0.34		0.29	0.21	
Uniform Delay, d1	14.6	19.3		18.1	25.1		20.4	24.6		19.5	23.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.1		0.4	0.6		0.3	0.2		0.4	0.1	
Delay (s)	15.6	19.4		18.5	25.7		20.7	24.8		20.0	23.1	
Level of Service	B	B		B	C		C	C		B	C	
Approach Delay (s)		18.1			24.5			24.0			22.3	
Approach LOS		B			C			C			C	

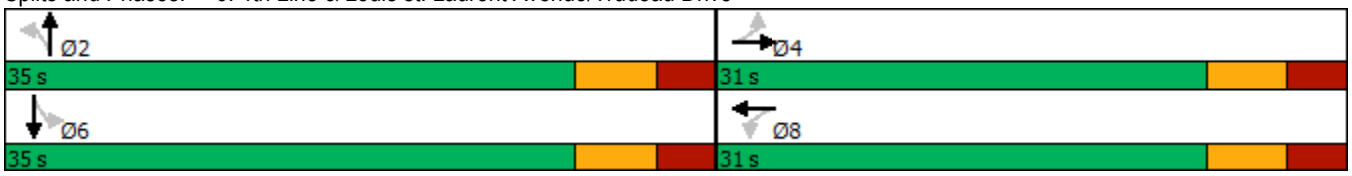
Intersection Summary			
HCM 2000 Control Delay	22.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	75	295	25	390	85	30	5	30
Future Volume (vph)	75	295	25	390	85	30	5	30
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	24.0	24.0	24.0	24.0	28.0	28.0	28.0	28.0
Minimum Split (s)	31.0	31.0	31.0	31.0	35.0	35.0	35.0	35.0
Total Split (s)	31.0	31.0	31.0	31.0	35.0	35.0	35.0	35.0
Total Split (%)	47.0%	47.0%	47.0%	47.0%	53.0%	53.0%	53.0%	53.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0		-1.0		-1.0
Total Lost Time (s)	6.0	6.0	6.0	6.0		6.0		6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	31.2	31.2	31.2	31.2		29.6		29.6
Actuated g/C Ratio	0.50	0.50	0.50	0.50		0.48		0.48
v/c Ratio	0.19	0.22	0.06	0.26		0.30		0.12
Control Delay	15.8	12.7	13.8	13.6		11.0		6.2
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	15.8	12.7	13.8	13.6		11.0		6.2
LOS	B	B	B	B		B		A
Approach Delay		13.2		13.6		11.0		6.2
Approach LOS		B		B		B		A

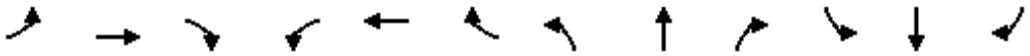
Intersection Summary	
Cycle Length: 66	
Actuated Cycle Length: 62	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.30	
Intersection Signal Delay: 12.5	Intersection LOS: B
Intersection Capacity Utilization 78.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 6: 4th Line & Louis st. Laurent Avenue/Trudeau Drive



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	82	373	27	456	181	93
v/c Ratio	0.19	0.22	0.06	0.26	0.30	0.12
Control Delay	15.8	12.7	13.8	13.6	11.0	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.8	12.7	13.8	13.6	11.0	6.2
Queue Length 50th (m)	7.1	15.6	2.2	20.8	10.8	2.7
Queue Length 95th (m)	16.8	25.0	6.9	31.7	24.1	10.1
Internal Link Dist (m)		300.4		294.1	422.8	423.8
Turn Bay Length (m)	74.0		93.0			
Base Capacity (vph)	437	1713	472	1751	601	761
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.22	0.06	0.26	0.30	0.12

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	295	45	25	390	25	85	30	50	5	30	50
Future Volume (vph)	75	295	45	25	390	25	85	30	50	5	30	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00			0.99			0.94	
Flpb, ped/bikes	0.97	1.00		0.97	1.00			0.96			1.00	
Frt	1.00	0.98		1.00	0.99			0.96			0.92	
Flt Protected	0.95	1.00		0.95	1.00			0.97			1.00	
Satd. Flow (prot)	1695	3379		1684	3470			1493			1560	
Flt Permitted	0.49	1.00		0.53	1.00			0.79			0.98	
Satd. Flow (perm)	872	3379		939	3470			1216			1538	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	82	324	49	27	429	27	93	33	55	5	33	55
RTOR Reduction (vph)	0	16	0	0	6	0	0	27	0	0	36	0
Lane Group Flow (vph)	82	357	0	27	450	0	0	154	0	0	57	0
Confl. Peds. (#/hr)	47		38	38		41	132		19	19		132
Heavy Vehicles (%)	3%	3%	9%	4%	2%	13%	9%	31%	10%	29%	0%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	28.5	28.5		28.5	28.5			21.0			21.0	
Effective Green, g (s)	29.5	29.5		29.5	29.5			22.0			22.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.35			0.35	
Clearance Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	405	1569		436	1612			421			532	
v/s Ratio Prot		0.11			c0.13							
v/s Ratio Perm	0.09			0.03				c0.13			0.04	
v/c Ratio	0.20	0.23		0.06	0.28			0.36			0.11	
Uniform Delay, d1	10.0	10.2		9.4	10.5			15.5			14.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.2	0.1		0.1	0.1			0.5			0.1	
Delay (s)	10.3	10.3		9.4	10.6			16.1			14.2	
Level of Service	B	B		A	B			B			B	
Approach Delay (s)		10.3			10.5			16.1			14.2	
Approach LOS		B			B			B			B	

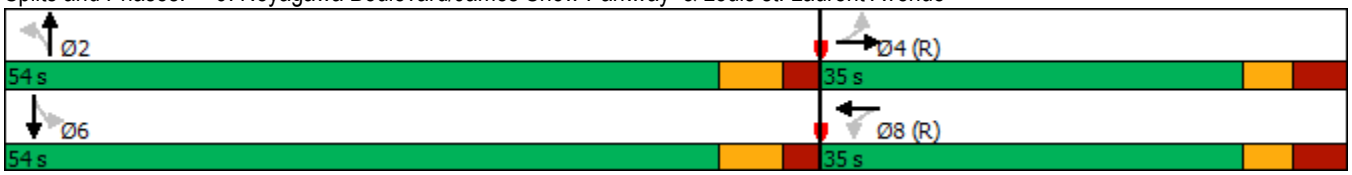
Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	63.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	155	60	50	100	165	10	130
Future Volume (vph)	155	60	50	100	165	10	130
Turn Type	Perm	NA	NA	Perm	NA	Perm	NA
Protected Phases		4	8		2		6
Permitted Phases	4			2		6	
Detector Phase	4	4	8	2	2	6	6
Switch Phase							
Minimum Initial (s)	26.0	26.0	26.0	31.0	31.0	31.0	31.0
Minimum Split (s)	33.0	33.0	33.0	37.7	37.7	37.7	37.7
Total Split (s)	35.0	35.0	35.0	54.0	54.0	54.0	54.0
Total Split (%)	39.3%	39.3%	39.3%	60.7%	60.7%	60.7%	60.7%
Yellow Time (s)	3.3	3.3	3.3	4.2	4.2	4.2	4.2
All-Red Time (s)	3.7	3.7	3.7	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0	6.0	5.7	5.7	5.7	5.7
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Min	C-Min	C-Min	None	None	None	None
Act Effct Green (s)	45.3	45.3	45.3	32.0	32.0	32.0	32.0
Actuated g/C Ratio	0.51	0.51	0.51	0.36	0.36	0.36	0.36
v/c Ratio	0.26	0.09	0.04	0.32	0.11	0.03	0.22
Control Delay	13.7	5.6	9.0	24.1	19.2	18.9	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.7	5.6	9.0	24.1	19.2	18.9	7.4
LOS	B	A	A	C	B	B	A
Approach Delay		9.9	9.0		21.1		7.7
Approach LOS		A	A		C		A

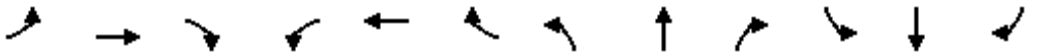
Intersection Summary	
Cycle Length: 89	
Actuated Cycle Length: 89	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.32	
Intersection Signal Delay: 12.0	Intersection LOS: B
Intersection Capacity Utilization 87.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 9: Neyagawa Boulevard/James Snow Parkway & Louis st. Laurent Avenue



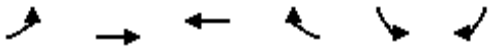
Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	170	148	71	110	181	11	401
v/c Ratio	0.26	0.09	0.04	0.32	0.11	0.03	0.22
Control Delay	13.7	5.6	9.0	24.1	19.2	18.9	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.7	5.6	9.0	24.1	19.2	18.9	7.4
Queue Length 50th (m)	16.4	3.0	2.4	14.1	7.8	1.3	6.1
Queue Length 95th (m)	29.4	7.7	5.8	28.4	12.8	4.8	12.9
Internal Link Dist (m)		330.0	133.8		451.3		633.9
Turn Bay Length (m)	200.0			95.0		165.0	
Base Capacity (vph)	652	1676	1755	512	2582	604	2567
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.09	0.04	0.21	0.07	0.02	0.16

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	60	75	0	50	15	100	165	0	10	130	235
Future Volume (vph)	155	60	75	0	50	15	100	165	0	10	130	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	0.95			0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.92			0.97		1.00	1.00		1.00	0.90	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1719	3214			3435		1770	4759		1671	4516	
Flt Permitted	0.71	1.00			1.00		0.51	1.00		0.63	1.00	
Satd. Flow (perm)	1282	3214			3435		945	4759		1113	4516	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	170	66	82	0	55	16	110	181	0	11	143	258
RTOR Reduction (vph)	0	40	0	0	8	0	0	0	0	0	165	0
Lane Group Flow (vph)	170	108	0	0	63	0	110	181	0	11	236	0
Heavy Vehicles (%)	5%	3%	3%	0%	2%	0%	2%	9%	0%	8%	7%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	44.3	44.3			44.3		31.0	31.0		31.0	31.0	
Effective Green, g (s)	45.3	45.3			45.3		32.0	32.0		32.0	32.0	
Actuated g/C Ratio	0.51	0.51			0.51		0.36	0.36		0.36	0.36	
Clearance Time (s)	7.0	7.0			7.0		6.7	6.7		6.7	6.7	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	652	1635			1748		339	1711		400	1623	
v/s Ratio Prot		0.03			0.02			0.04			0.05	
v/s Ratio Perm	c0.13						c0.12			0.01		
v/c Ratio	0.26	0.07			0.04		0.32	0.11		0.03	0.15	
Uniform Delay, d1	12.4	11.1			10.9		20.7	19.0		18.4	19.3	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.1			0.0		0.6	0.0		0.0	0.0	
Delay (s)	13.3	11.2			11.0		21.2	19.0		18.5	19.3	
Level of Service	B	B			B		C	B		B	B	
Approach Delay (s)		12.3			11.0			19.8			19.3	
Approach LOS		B			B			B			B	

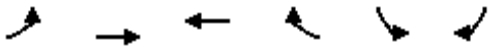
Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	89.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	460	720	20	0	15
Future Volume (Veh/h)	0	460	720	20	0	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	529	828	23	0	17
Pedestrians					87	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					7	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	938				1191	512
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	938				1191	512
tC, single (s)	4.1				6.8	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	100				100	96
cM capacity (veh/h)	685				170	460

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	264	264	552	299	17
Volume Left	0	0	0	0	0
Volume Right	0	0	0	23	17
cSH	1700	1700	1700	1700	460
Volume to Capacity	0.16	0.16	0.32	0.18	0.04
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.9
Control Delay (s)	0.0	0.0	0.0	0.0	13.1
Lane LOS					B
Approach Delay (s)	0.0		0.0		13.1
Approach LOS					B

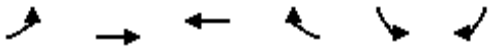
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	30.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	80	275	370	20	15	70
Future Volume (Veh/h)	80	275	370	20	15	70
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	90	309	416	22	17	79
Pedestrians		12	5		23	
Lane Width (m)		3.6	3.6		3.6	
Walking Speed (m/s)		1.2	1.2		1.2	
Percent Blockage		1	0		2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		318	354			
pX, platoon unblocked						
vC, conflicting volume	461				790	254
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	461				790	254
tC, single (s)	4.2				6.8	7.1
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.4
p0 queue free %	91				94	89
cM capacity (veh/h)	1048				296	701

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	90	154	154	277	161	17	79
Volume Left	90	0	0	0	0	17	0
Volume Right	0	0	0	0	22	0	79
cSH	1048	1700	1700	1700	1700	296	701
Volume to Capacity	0.09	0.09	0.09	0.16	0.09	0.06	0.11
Queue Length 95th (m)	2.2	0.0	0.0	0.0	0.0	1.5	3.0
Control Delay (s)	8.8	0.0	0.0	0.0	0.0	17.9	10.8
Lane LOS	A					C	B
Approach Delay (s)	2.0			0.0		12.0	
Approach LOS						B	

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	33.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	445	620	105	0	70
Future Volume (Veh/h)	0	445	620	105	0	70
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	478	667	113	0	75
Pedestrians		1			54	
Lane Width (m)		3.6			3.6	
Walking Speed (m/s)		1.2			1.2	
Percent Blockage		0			5	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		149				
pX, platoon unblocked					0.97	
vC, conflicting volume	834				1016	445
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	834				952	445
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	86
cM capacity (veh/h)	772				242	538

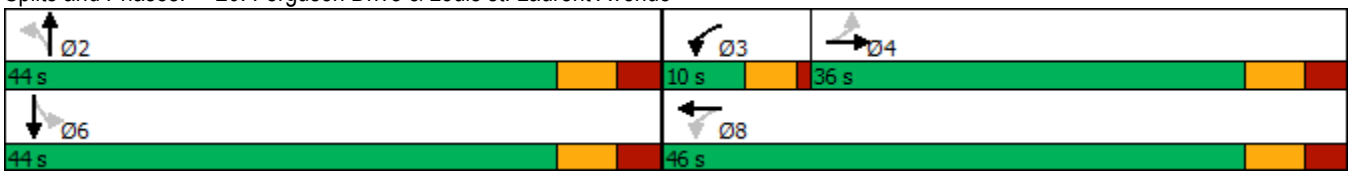
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	239	239	445	335	75
Volume Left	0	0	0	0	0
Volume Right	0	0	0	113	75
cSH	1700	1700	1700	1700	538
Volume to Capacity	0.14	0.14	0.26	0.20	0.14
Queue Length 95th (m)	0.0	0.0	0.0	0.0	3.9
Control Delay (s)	0.0	0.0	0.0	0.0	12.8
Lane LOS					B
Approach Delay (s)	0.0		0.0		12.8
Approach LOS					B

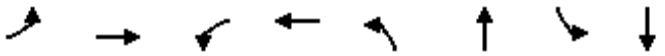
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	32.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	80	295	45	460	190	55	25	40
Future Volume (vph)	80	295	45	460	190	55	25	40
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases		4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	28.0	28.0	5.0	28.0	30.0	30.0	30.0	30.0
Minimum Split (s)	35.0	35.0	9.5	35.0	37.0	37.0	37.0	37.0
Total Split (s)	36.0	36.0	10.0	46.0	44.0	44.0	44.0	44.0
Total Split (%)	40.0%	40.0%	11.1%	51.1%	48.9%	48.9%	48.9%	48.9%
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	1.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0	3.5	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes					
Recall Mode	Min	Min	None	Min	None	None	None	None
Act Effct Green (s)	29.1	29.1	37.3	34.8	31.4	31.4	31.4	31.4
Actuated g/C Ratio	0.37	0.37	0.48	0.44	0.40	0.40	0.40	0.40
v/c Ratio	0.35	0.38	0.15	0.39	0.53	0.16	0.08	0.23
Control Delay	24.0	18.0	11.8	15.0	24.3	12.1	17.0	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.0	18.0	11.8	15.0	24.3	12.1	17.0	8.0
LOS	C	B	B	B	C	B	B	A
Approach Delay		19.0		14.8		20.5		9.5
Approach LOS		B		B		C		A

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 78.3	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 16.7	Intersection LOS: B
Intersection Capacity Utilization 116.7%	ICU Level of Service H
Analysis Period (min) 15	

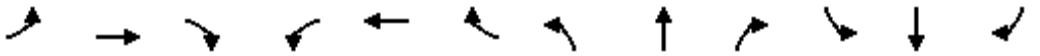
Splits and Phases: 20: Ferguson Drive & Louis st. Laurent Avenue





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	96	463	54	596	229	102	30	156
v/c Ratio	0.35	0.38	0.15	0.39	0.53	0.16	0.08	0.23
Control Delay	24.0	18.0	11.8	15.0	24.3	12.1	17.0	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.0	18.0	11.8	15.0	24.3	12.1	17.0	8.0
Queue Length 50th (m)	11.5	26.3	4.3	30.5	29.1	6.9	3.1	5.8
Queue Length 95th (m)	23.5	36.3	9.5	39.9	46.5	15.3	8.1	15.7
Internal Link Dist (m)		385.0		300.4		136.9		272.5
Turn Bay Length (m)	65.0		48.0		30.0		35.0	
Base Capacity (vph)	285	1251	372	1761	528	758	436	788
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	0.37	0.15	0.34	0.43	0.13	0.07	0.20

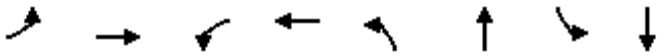
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	295	90	45	460	35	190	55	30	25	40	90
Future Volume (vph)	80	295	90	45	460	35	190	55	30	25	40	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		3.5	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.95		1.00	0.99		1.00	0.90		1.00	0.94	
Flpb, ped/bikes	0.92	1.00		0.96	1.00		0.94	1.00		0.76	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	0.95		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1670	3194		1540	3429		1579	1531		1263	1524	
Flt Permitted	0.43	1.00		0.40	1.00		0.66	1.00		0.69	1.00	
Satd. Flow (perm)	750	3194		655	3429		1094	1531		919	1524	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	96	355	108	54	554	42	229	66	36	30	48	108
RTOR Reduction (vph)	0	31	0	0	6	0	0	22	0	0	61	0
Lane Group Flow (vph)	96	432	0	54	590	0	229	80	0	30	95	0
Confl. Peds. (#/hr)	120		141	141		120	99		351	351		99
Heavy Vehicles (%)	0%	4%	2%	13%	3%	0%	7%	7%	3%	8%	11%	2%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	28.1	28.1		35.7	35.7		30.4	30.4		30.4	30.4	
Effective Green, g (s)	29.1	29.1		36.7	36.7		31.4	31.4		31.4	31.4	
Actuated g/C Ratio	0.36	0.36		0.46	0.46		0.39	0.39		0.39	0.39	
Clearance Time (s)	7.0	7.0		4.5	7.0		7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	272	1160		345	1571		428	600		360	597	
v/s Ratio Prot		0.14		0.01	c0.17			0.05			0.06	
v/s Ratio Perm	0.13			0.06			c0.21			0.03		
v/c Ratio	0.35	0.37		0.16	0.38		0.54	0.13		0.08	0.16	
Uniform Delay, d1	18.6	18.8		12.4	14.2		18.7	15.6		15.3	15.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.2		0.2	0.2		1.3	0.1		0.1	0.1	
Delay (s)	19.4	19.0		12.6	14.4		20.0	15.7		15.4	15.9	
Level of Service	B	B		B	B		C	B		B	B	
Approach Delay (s)		19.1			14.2			18.7			15.8	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	16.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	80.1	Sum of lost time (s)	15.5
Intersection Capacity Utilization	116.7%	ICU Level of Service	H
Analysis Period (min)	15		

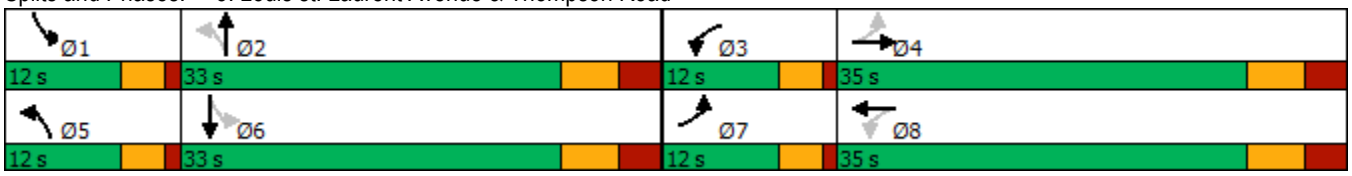
c Critical Lane Group

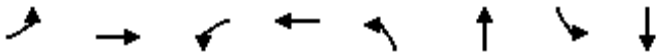


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	215	345	160	550	125	335	115	195
Future Volume (vph)	215	345	160	550	125	335	115	195
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	28.0	4.0	28.0	4.0	26.0	4.0	26.0
Minimum Split (s)	8.0	35.0	8.0	35.0	8.0	33.0	8.0	33.0
Total Split (s)	12.0	35.0	12.0	35.0	12.0	33.0	12.0	33.0
Total Split (%)	13.0%	38.0%	13.0%	38.0%	13.0%	35.9%	13.0%	35.9%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	3.0	1.0	3.0	1.0	3.0	1.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	Min	None	Min
Act Effct Green (s)	41.2	29.2	40.8	29.0	38.8	27.0	38.7	27.0
Actuated g/C Ratio	0.45	0.32	0.44	0.32	0.42	0.29	0.42	0.29
v/c Ratio	0.63	0.38	0.36	0.58	0.29	0.42	0.28	0.36
Control Delay	23.5	24.4	16.2	28.2	16.6	25.5	16.5	14.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.5	24.4	16.2	28.2	16.6	25.5	16.5	14.0
LOS	C	C	B	C	B	C	B	B
Approach Delay		24.1		25.7		23.5		14.6
Approach LOS		C		C		C		B

Intersection Summary	
Cycle Length: 92	
Actuated Cycle Length: 91.7	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 22.6	Intersection LOS: C
Intersection Capacity Utilization 80.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: Louis st. Laurent Avenue & Thompson Road





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	229	426	170	654	133	446	122	398
v/c Ratio	0.63	0.38	0.36	0.58	0.29	0.42	0.28	0.36
Control Delay	23.5	24.4	16.2	28.2	16.6	25.5	16.5	14.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.5	24.4	16.2	28.2	16.6	25.5	16.5	14.0
Queue Length 50th (m)	24.5	30.7	17.5	52.1	14.0	32.3	12.8	15.2
Queue Length 95th (m)	40.1	44.1	30.2	70.4	25.4	46.6	23.5	27.4
Internal Link Dist (m)		163.9		124.6		375.0		677.0
Turn Bay Length (m)	70.0		70.0		70.0		100.0	
Base Capacity (vph)	361	1116	479	1128	469	1052	440	1105
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	0.63	0.38	0.35	0.58	0.28	0.42	0.28	0.36

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	215	345	55	160	550	65	125	335	85	115	195	180
Future Volume (vph)	215	345	55	160	550	65	125	335	85	115	195	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.0		3.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.97		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1802	3469		1805	3542		1805	3485		1801	3296	
Flt Permitted	0.28	1.00		0.46	1.00		0.47	1.00		0.43	1.00	
Satd. Flow (perm)	529	3469		868	3542		891	3485		808	3296	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	229	367	59	170	585	69	133	356	90	122	207	191
RTOR Reduction (vph)	0	14	0	0	10	0	0	24	0	0	135	0
Lane Group Flow (vph)	229	412	0	170	644	0	133	422	0	122	263	0
Confl. Peds. (#/hr)	19		1	1		19	1		10	10		1
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	36.2	28.2		35.8	28.0		33.7	26.0		33.7	26.0	
Effective Green, g (s)	38.2	29.2		37.8	29.0		35.7	27.0		35.7	27.0	
Actuated g/C Ratio	0.42	0.32		0.41	0.32		0.39	0.29		0.39	0.29	
Clearance Time (s)	4.0	7.0		4.0	7.0		4.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	345	1104		447	1120		433	1026		408	970	
v/s Ratio Prot	c0.07	0.12		0.04	0.18		c0.03	c0.12		0.03	0.08	
v/s Ratio Perm	c0.21			0.12			0.09			0.09		
v/c Ratio	0.66	0.37		0.38	0.58		0.31	0.41		0.30	0.27	
Uniform Delay, d1	18.5	24.2		17.5	26.2		18.5	26.0		18.4	24.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.8	0.2		0.5	0.7		0.4	0.3		0.4	0.2	
Delay (s)	23.3	24.4		18.1	26.9		18.9	26.2		18.8	25.0	
Level of Service	C	C		B	C		B	C		B	C	
Approach Delay (s)		24.0			25.1			24.6			23.5	
Approach LOS		C			C			C			C	

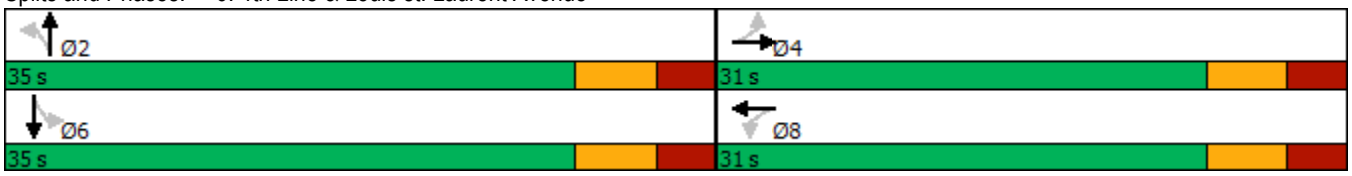
Intersection Summary			
HCM 2000 Control Delay	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	91.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	40	270	50	690	95	30	10	20
Future Volume (vph)	40	270	50	690	95	30	10	20
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	24.0	24.0	24.0	24.0	28.0	28.0	28.0	28.0
Minimum Split (s)	31.0	31.0	31.0	31.0	35.0	35.0	35.0	35.0
Total Split (s)	31.0	31.0	31.0	31.0	35.0	35.0	35.0	35.0
Total Split (%)	47.0%	47.0%	47.0%	47.0%	53.0%	53.0%	53.0%	53.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0		-1.0		-1.0
Total Lost Time (s)	6.0	6.0	6.0	6.0		6.0		6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	31.2	31.2	31.2	31.2		29.6		29.6
Actuated g/C Ratio	0.50	0.50	0.50	0.50		0.48		0.48
v/c Ratio	0.15	0.21	0.11	0.43		0.25		0.10
Control Delay	15.8	11.1	14.4	15.4		10.9		6.1
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	15.8	11.1	14.4	15.4		10.9		6.1
LOS	B	B	B	B		B		A
Approach Delay		11.6		15.3		10.9		6.1
Approach LOS		B		B		B		A

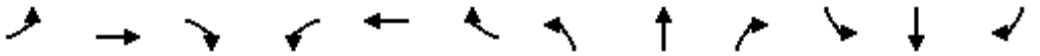
Intersection Summary	
Cycle Length: 66	
Actuated Cycle Length: 62	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.43	
Intersection Signal Delay: 13.3	Intersection LOS: B
Intersection Capacity Utilization 74.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 6: 4th Line & Louis st. Laurent Avenue



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	43	377	53	782	176	80
v/c Ratio	0.15	0.21	0.11	0.43	0.25	0.10
Control Delay	15.8	11.1	14.4	15.4	10.9	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.8	11.1	14.4	15.4	10.9	6.1
Queue Length 50th (m)	3.6	13.6	4.4	40.2	11.1	2.3
Queue Length 95th (m)	10.7	22.8	11.3	56.8	23.3	9.1
Internal Link Dist (m)		300.4		294.1	422.8	423.8
Turn Bay Length (m)	74.0		93.0			
Base Capacity (vph)	292	1760	504	1800	698	812
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.21	0.11	0.43	0.25	0.10

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	270	85	50	690	45	95	30	40	10	20	45
Future Volume (vph)	40	270	85	50	690	45	95	30	40	10	20	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.96		1.00	0.99			0.97			0.92	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.99	
Satd. Flow (prot)	1804	3429		1805	3567			1784			1719	
Flt Permitted	0.31	1.00		0.53	1.00			0.78			0.95	
Satd. Flow (perm)	582	3429		1003	3567			1429			1649	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	43	287	90	53	734	48	101	32	43	11	21	48
RTOR Reduction (vph)	0	39	0	0	6	0	0	20	0	0	31	0
Lane Group Flow (vph)	43	338	0	53	776	0	0	156	0	0	49	0
Confl. Peds. (#/hr)	2					2	4					4
Heavy Vehicles (%)	0%	2%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	28.5	28.5		28.5	28.5			21.0			21.0	
Effective Green, g (s)	29.5	29.5		29.5	29.5			22.0			22.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.35			0.35	
Clearance Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	270	1593		465	1657			495			571	
v/s Ratio Prot		0.10			c0.22							
v/s Ratio Perm	0.07			0.05				c0.11			0.03	
v/c Ratio	0.16	0.21		0.11	0.47			0.31			0.09	
Uniform Delay, d1	9.8	10.1		9.6	11.6			15.2			14.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.3	0.1		0.1	0.2			0.4			0.1	
Delay (s)	10.1	10.2		9.7	11.8			15.6			14.0	
Level of Service	B	B		A	B			B			B	
Approach Delay (s)		10.2			11.7			15.6			14.0	
Approach LOS		B			B			B			B	

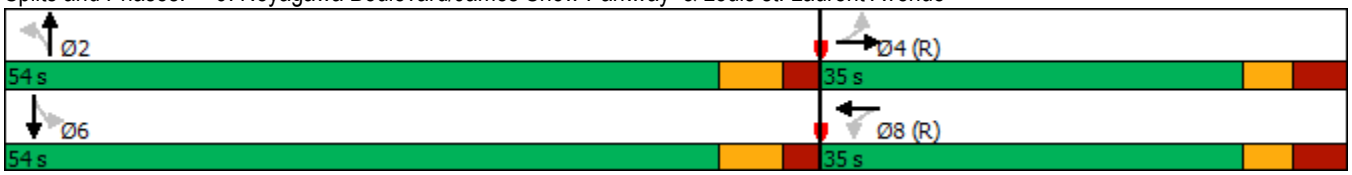
Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	63.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	135	75	95	210	245	10	160
Future Volume (vph)	135	75	95	210	245	10	160
Turn Type	Perm	NA	NA	Perm	NA	Perm	NA
Protected Phases		4	8		2		6
Permitted Phases	4			2		6	
Detector Phase	4	4	8	2	2	6	6
Switch Phase							
Minimum Initial (s)	26.0	26.0	26.0	31.0	31.0	31.0	31.0
Minimum Split (s)	33.0	33.0	33.0	37.7	37.7	37.7	37.7
Total Split (s)	35.0	35.0	35.0	54.0	54.0	54.0	54.0
Total Split (%)	39.3%	39.3%	39.3%	60.7%	60.7%	60.7%	60.7%
Yellow Time (s)	3.3	3.3	3.3	4.2	4.2	4.2	4.2
All-Red Time (s)	3.7	3.7	3.7	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0	6.0	5.7	5.7	5.7	5.7
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Min	C-Min	C-Min	None	None	None	None
Act Effct Green (s)	38.0	38.0	38.0	39.3	39.3	39.3	39.3
Actuated g/C Ratio	0.43	0.43	0.43	0.44	0.44	0.44	0.44
v/c Ratio	0.27	0.10	0.08	0.83	0.17	0.03	0.40
Control Delay	21.1	11.4	15.0	46.3	14.1	10.7	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.1	11.4	15.0	46.3	14.1	10.7	4.1
LOS	C	B	B	D	B	B	A
Approach Delay		16.3	15.0		28.8		4.2
Approach LOS		B	B		C		A

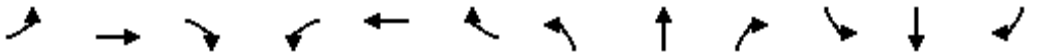
Intersection Summary	
Cycle Length: 89	
Actuated Cycle Length: 89	
Offset: 22.5 (25%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 14.9	Intersection LOS: B
Intersection Capacity Utilization 87.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 9: Neyagawa Boulevard/James Snow Parkway & Louis st. Laurent Avenue



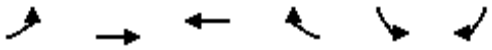
Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	147	142	125	228	271	11	674
v/c Ratio	0.27	0.10	0.08	0.83	0.17	0.03	0.40
Control Delay	21.1	11.4	15.0	46.3	14.1	10.7	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.1	11.4	15.0	46.3	14.1	10.7	4.1
Queue Length 50th (m)	15.9	4.2	5.3	36.7	15.5	1.1	9.8
Queue Length 95th (m)	38.3	12.4	13.5	57.2	17.0	3.1	15.1
Internal Link Dist (m)		330.0	133.8		451.3		633.9
Turn Bay Length (m)	200.0			95.0		165.0	
Base Capacity (vph)	541	1445	1529	340	1933	486	1977
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.10	0.08	0.67	0.14	0.02	0.34

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	75	55	0	95	20	210	245	5	10	160	460
Future Volume (vph)	135	75	55	0	95	20	210	245	5	10	160	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	0.95			0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.94			0.97		1.00	1.00		1.00	0.89	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3269			3515		1787	3531		1444	3200	
Flt Permitted	0.67	1.00			1.00		0.33	1.00		0.58	1.00	
Satd. Flow (perm)	1253	3269			3515		621	3531		889	3200	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	147	82	60	0	103	22	228	266	5	11	174	500
RTOR Reduction (vph)	0	34	0	0	13	0	0	2	0	0	279	0
Lane Group Flow (vph)	147	108	0	0	112	0	228	269	0	11	395	0
Heavy Vehicles (%)	2%	3%	4%	0%	0%	0%	1%	2%	0%	25%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	37.0	37.0			37.0		38.3	38.3		38.3	38.3	
Effective Green, g (s)	38.0	38.0			38.0		39.3	39.3		39.3	39.3	
Actuated g/C Ratio	0.43	0.43			0.43		0.44	0.44		0.44	0.44	
Clearance Time (s)	7.0	7.0			7.0		6.7	6.7		6.7	6.7	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	534	1395			1500		274	1559		392	1413	
v/s Ratio Prot		0.03			0.03			0.08			0.12	
v/s Ratio Perm	c0.12						c0.37			0.01		
v/c Ratio	0.28	0.08			0.07		0.83	0.17		0.03	0.28	
Uniform Delay, d1	16.6	15.1			15.1		21.9	15.0		14.1	15.8	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.3	0.1			0.1		19.0	0.1		0.0	0.1	
Delay (s)	17.8	15.2			15.2		40.9	15.1		14.1	15.9	
Level of Service	B	B			B		D	B		B	B	
Approach Delay (s)		16.5			15.2			26.9			15.9	
Approach LOS		B			B			C			B	

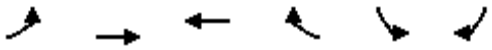
Intersection Summary			
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	89.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	500	830	30	0	10
Future Volume (Veh/h)	0	500	830	30	0	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	543	902	33	0	11
Pedestrians					8	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	943				1198	476
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	943				1198	476
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	98
cM capacity (veh/h)	731				180	537

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	272	272	601	334	11
Volume Left	0	0	0	0	0
Volume Right	0	0	0	33	11
cSH	1700	1700	1700	1700	537
Volume to Capacity	0.16	0.16	0.35	0.20	0.02
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.5
Control Delay (s)	0.0	0.0	0.0	0.0	11.8
Lane LOS					B
Approach Delay (s)	0.0		0.0		11.8
Approach LOS					B

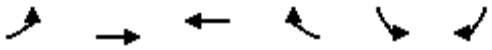
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	33.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	65	255	735	35	15	60
Future Volume (Veh/h)	65	255	735	35	15	60
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	68	266	766	36	16	62
Pedestrians					7	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		318	354			
pX, platoon unblocked						
vC, conflicting volume	809				1060	408
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	809				1060	408
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				92	89
cM capacity (veh/h)	821				203	589

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	68	133	133	511	291	16	62
Volume Left	68	0	0	0	0	16	0
Volume Right	0	0	0	0	36	0	62
cSH	821	1700	1700	1700	1700	203	589
Volume to Capacity	0.08	0.08	0.08	0.30	0.17	0.08	0.11
Queue Length 95th (m)	2.2	0.0	0.0	0.0	0.0	2.0	2.8
Control Delay (s)	9.8	0.0	0.0	0.0	0.0	24.3	11.8
Lane LOS	A					C	B
Approach Delay (s)	2.0			0.0		14.4	
Approach LOS						B	

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	38.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	500	675	180	0	100
Future Volume (Veh/h)	0	500	675	180	0	100
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	549	742	198	0	110
Pedestrians					6	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		149				
pX, platoon unblocked					0.94	
vC, conflicting volume	946				1122	476
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	946				994	476
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	80
cM capacity (veh/h)	730				229	538

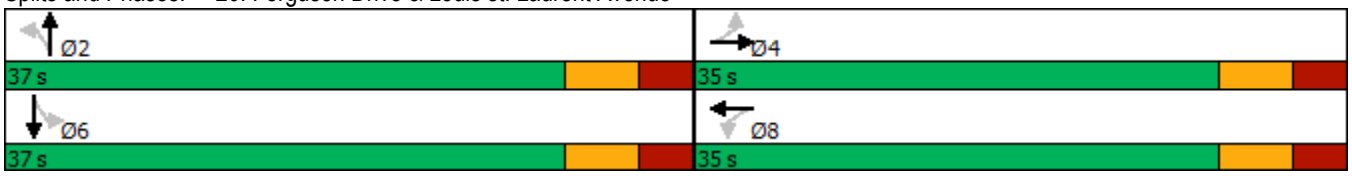
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	274	274	495	445	110
Volume Left	0	0	0	0	0
Volume Right	0	0	0	198	110
cSH	1700	1700	1700	1700	538
Volume to Capacity	0.16	0.16	0.29	0.26	0.20
Queue Length 95th (m)	0.0	0.0	0.0	0.0	6.1
Control Delay (s)	0.0	0.0	0.0	0.0	13.4
Lane LOS					B
Approach Delay (s)	0.0		0.0		13.4
Approach LOS					B

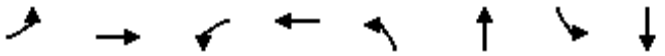
Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	37.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	85	360	10	750	50	5	35	5
Future Volume (vph)	85	360	10	750	50	5	35	5
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	28.0	28.0	28.0	28.0	30.0	30.0	30.0	30.0
Minimum Split (s)	35.0	35.0	35.0	35.0	37.0	37.0	37.0	37.0
Total Split (s)	35.0	35.0	35.0	35.0	37.0	37.0	37.0	37.0
Total Split (%)	48.6%	48.6%	48.6%	48.6%	51.4%	51.4%	51.4%	51.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None
Act Effct Green (s)	38.9	38.9	38.9	38.9	33.2	33.2	33.2	33.2
Actuated g/C Ratio	0.64	0.64	0.64	0.64	0.55	0.55	0.55	0.55
v/c Ratio	0.26	0.20	0.02	0.38	0.07	0.03	0.05	0.06
Control Delay	17.5	10.8	13.3	12.9	12.0	6.6	12.0	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	10.8	13.3	12.9	12.0	6.6	12.0	4.8
LOS	B	B	B	B	B	A	B	A
Approach Delay		12.0		12.9		10.2		7.6
Approach LOS		B		B		B		A

Intersection Summary	
Cycle Length: 72	
Actuated Cycle Length: 60.7	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.38	
Intersection Signal Delay: 12.1	Intersection LOS: B
Intersection Capacity Utilization 86.7%	ICU Level of Service E
Analysis Period (min) 15	

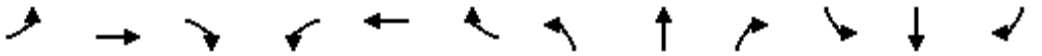
Splits and Phases: 20: Ferguson Drive & Louis st. Laurent Avenue





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	91	446	11	876	54	27	38	59
v/c Ratio	0.26	0.20	0.02	0.38	0.07	0.03	0.05	0.06
Control Delay	17.5	10.8	13.3	12.9	12.0	6.6	12.0	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	10.8	13.3	12.9	12.0	6.6	12.0	4.8
Queue Length 50th (m)	9.0	20.5	0.9	49.4	4.4	0.4	3.0	0.4
Queue Length 95th (m)	22.5	31.1	3.9	67.7	10.7	4.5	8.3	6.5
Internal Link Dist (m)		385.0		300.4		136.9		272.5
Turn Bay Length (m)	65.0		48.0		30.0		35.0	
Base Capacity (vph)	349	2235	601	2288	746	910	766	911
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	0.26	0.20	0.02	0.38	0.07	0.03	0.05	0.06

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	360	55	10	750	65	50	5	20	35	5	50
Future Volume (vph)	85	360	55	10	750	65	50	5	20	35	5	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.88		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1782	3467		1802	3558		1803	1646		1798	1619	
Flt Permitted	0.29	1.00		0.49	1.00		0.72	1.00		0.74	1.00	
Satd. Flow (perm)	544	3467		937	3558		1364	1646		1400	1619	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	91	387	59	11	806	70	54	5	22	38	5	54
RTOR Reduction (vph)	0	12	0	0	7	0	0	16	0	0	40	0
Lane Group Flow (vph)	91	434	0	11	869	0	54	11	0	38	19	0
Confl. Peds. (#/hr)	9		3	3		9	2		6	6		2
Heavy Vehicles (%)	1%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	34.5	34.5		34.5	34.5		15.2	15.2		15.2	15.2	
Effective Green, g (s)	35.5	35.5		35.5	35.5		16.2	16.2		16.2	16.2	
Actuated g/C Ratio	0.56	0.56		0.56	0.56		0.25	0.25		0.25	0.25	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	303	1932		522	1982		346	418		356	411	
v/s Ratio Prot		0.13			c0.24			0.01			0.01	
v/s Ratio Perm	0.17			0.01			c0.04			0.03		
v/c Ratio	0.30	0.22		0.02	0.44		0.16	0.03		0.11	0.05	
Uniform Delay, d1	7.5	7.1		6.3	8.3		18.4	17.8		18.2	17.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.1		0.0	0.2		0.2	0.0		0.1	0.0	
Delay (s)	8.1	7.2		6.3	8.4		18.7	17.8		18.3	18.0	
Level of Service	A	A		A	A		B	B		B	B	
Approach Delay (s)		7.3			8.4			18.4			18.1	
Approach LOS		A			A			B			B	

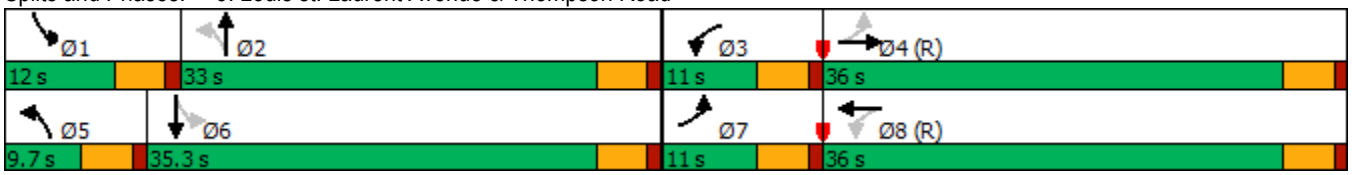
Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	63.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.7%	ICU Level of Service	E
Analysis Period (min)	15		

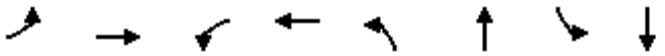
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	145	715	150	635	110	310	180	365
Future Volume (vph)	145	715	150	635	110	310	180	365
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	28.0	4.0	28.0	4.0	26.0	4.0	26.0
Minimum Split (s)	8.5	35.0	8.5	35.0	8.5	33.0	8.5	33.0
Total Split (s)	11.0	36.0	11.0	36.0	9.7	33.0	12.0	35.3
Total Split (%)	12.0%	39.1%	12.0%	39.1%	10.5%	35.9%	13.0%	38.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	Min	None	Min
Act Effct Green (s)	41.2	31.7	41.3	31.8	34.7	27.0	39.3	31.2
Actuated g/C Ratio	0.45	0.34	0.45	0.35	0.38	0.29	0.43	0.34
v/c Ratio	0.47	0.71	0.54	0.64	0.29	0.46	0.49	0.41
Control Delay	18.8	29.4	21.3	27.3	18.1	20.5	21.6	22.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.8	29.4	21.3	27.3	18.1	20.5	21.6	22.7
LOS	B	C	C	C	B	C	C	C
Approach Delay		27.9		26.3		20.1		22.4
Approach LOS		C		C		C		C

Intersection Summary	
Cycle Length: 92	
Actuated Cycle Length: 92	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 24.8	Intersection LOS: C
Intersection Capacity Utilization 77.4%	ICU Level of Service D
Analysis Period (min) 15	

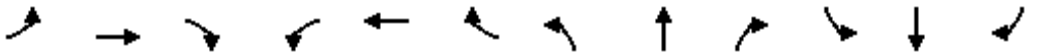
Splits and Phases: 3: Louis st. Laurent Avenue & Thompson Road





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	145	850	150	760	110	490	180	480
v/c Ratio	0.47	0.71	0.54	0.64	0.29	0.46	0.49	0.41
Control Delay	18.8	29.4	21.3	27.3	18.1	20.5	21.6	22.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.8	29.4	21.3	27.3	18.1	20.5	21.6	22.7
Queue Length 50th (m)	15.3	72.8	15.9	62.5	11.3	27.7	19.4	32.8
Queue Length 95th (m)	25.0	90.3	25.7	78.4	23.1	42.7	35.8	47.4
Internal Link Dist (m)		163.9		124.6		375.0		677.0
Turn Bay Length (m)	70.0		70.0		70.0		100.0	
Base Capacity (vph)	306	1237	276	1238	378	1162	366	1243
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	0.47	0.69	0.54	0.61	0.29	0.42	0.49	0.39

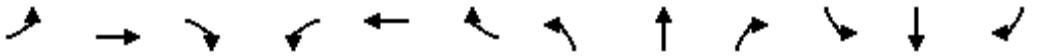
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	145	715	135	150	635	125	110	310	180	180	365	115
Future Volume (vph)	145	715	135	150	635	125	110	310	180	180	365	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.94		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1751	3418		1735	3414		1765	3344		1735	3350	
Flt Permitted	0.20	1.00		0.15	1.00		0.43	1.00		0.31	1.00	
Satd. Flow (perm)	367	3418		279	3414		791	3344		570	3350	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	145	715	135	150	635	125	110	310	180	180	365	115
RTOR Reduction (vph)	0	17	0	0	19	0	0	93	0	0	33	0
Lane Group Flow (vph)	145	833	0	150	741	0	110	397	0	180	447	0
Confl. Peds. (#/hr)	16		4	4		16	13		2	2		13
Heavy Vehicles (%)	3%	3%	2%	4%	2%	6%	2%	0%	4%	4%	3%	4%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	38.4	29.9		38.4	29.9		32.2	26.8		39.0	30.2	
Effective Green, g (s)	40.4	30.9		40.4	30.9		34.2	27.8		41.0	31.2	
Actuated g/C Ratio	0.44	0.34		0.44	0.34		0.37	0.30		0.45	0.34	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	304	1148		272	1146		361	1010		378	1136	
v/s Ratio Prot	0.05	c0.24		c0.06	0.22		0.02	0.12		c0.05	0.13	
v/s Ratio Perm	0.16			0.18			0.09			c0.16		
v/c Ratio	0.48	0.73		0.55	0.65		0.30	0.39		0.48	0.39	
Uniform Delay, d1	17.1	26.8		17.9	25.9		19.4	25.4		16.5	23.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	4.0		2.4	2.8		0.5	0.3		0.9	0.2	
Delay (s)	18.3	30.8		20.3	28.7		19.9	25.7		17.5	23.4	
Level of Service	B	C		C	C		B	C		B	C	
Approach Delay (s)		29.0			27.4			24.6			21.8	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	92.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	77.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1105	90	0	600	15	0	0	325	0	0	125
Future Volume (Veh/h)	0	1105	90	0	600	15	0	0	325	0	0	125
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	1105	90	0	600	15	0	0	325	0	0	125
Pedestrians		87			44			46			36	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		7			4			4			3	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		324			318							
pX, platoon unblocked				0.81			0.81	0.81	0.81	0.81	0.81	
vC, conflicting volume	651			1241			1708	1847	688	1565	1884	430
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	651			823			1401	1573	138	1224	1620	430
tC, single (s)	4.1			4.1			7.9	6.8	7.0	7.5	6.5	7.1
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.7	4.1	3.3	3.5	4.0	3.4
p0 queue free %	100			100			100	100	50	100	100	75
cM capacity (veh/h)	903			634			43	73	655	49	78	501

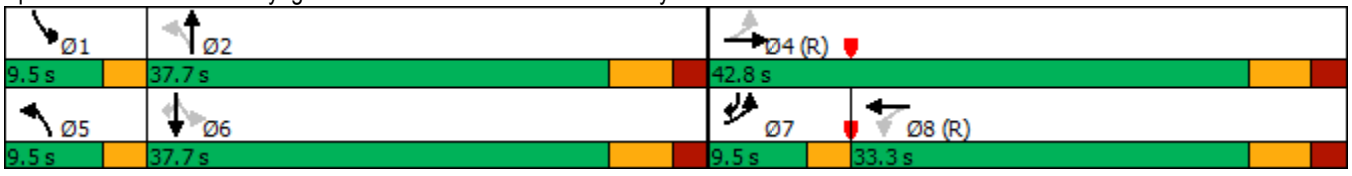
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	737	458	400	215	325	125
Volume Left	0	0	0	0	0	0
Volume Right	0	90	0	15	325	125
cSH	1700	1700	1700	1700	655	501
Volume to Capacity	0.43	0.27	0.24	0.13	0.50	0.25
Queue Length 95th (m)	0.0	0.0	0.0	0.0	22.1	7.8
Control Delay (s)	0.0	0.0	0.0	0.0	15.8	14.6
Lane LOS					C	B
Approach Delay (s)	0.0		0.0		15.8	14.6
Approach LOS					C	B

Intersection Summary				
Average Delay	3.1			
Intersection Capacity Utilization	64.1%	ICU Level of Service		C
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	415	725	100	200	50	255	35	445	305
Future Volume (vph)	415	725	100	200	50	255	35	445	305
Turn Type	pm+pt	NA	Perm	NA	pm+pt	NA	pm+pt	NA	pm+ov
Protected Phases	7	4		8	5	2	1	6	7
Permitted Phases	4		8		2		6		6
Detector Phase	7	4	8	8	5	2	1	6	7
Switch Phase									
Minimum Initial (s)	5.0	26.0	26.0	26.0	5.0	31.0	5.0	31.0	5.0
Minimum Split (s)	9.5	33.2	33.2	33.2	9.5	37.7	9.5	37.7	9.5
Total Split (s)	9.5	42.8	33.3	33.3	9.5	37.7	9.5	37.7	9.5
Total Split (%)	10.6%	47.6%	37.0%	37.0%	10.6%	41.9%	10.6%	41.9%	10.6%
Yellow Time (s)	3.0	4.2	4.2	4.2	3.0	4.2	3.0	4.2	3.0
All-Red Time (s)	0.0	2.5	2.5	2.5	0.0	2.5	0.0	2.5	0.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	2.0	5.7	5.7	5.7	2.0	5.7	2.0	5.7	2.0
Lead/Lag	Lead		Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	C-Min	None	None	None	None	None
Act Effct Green (s)	44.5	40.8	28.2	28.2	40.3	32.1	40.2	32.0	48.4
Actuated g/C Ratio	0.49	0.45	0.31	0.31	0.45	0.36	0.45	0.36	0.54
v/c Ratio	0.68	0.58	0.56	0.18	0.11	0.26	0.07	0.25	0.31
Control Delay	36.2	35.1	40.3	23.0	12.6	13.4	12.3	21.0	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.2	35.1	40.3	23.0	12.6	13.4	12.3	21.0	2.5
LOS	D	D	D	C	B	B	B	C	A
Approach Delay		35.4		28.7		13.4		13.4	
Approach LOS		D		C		B		B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green, Master Intersection	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 25.3	Intersection LOS: C
Intersection Capacity Utilization 95.8%	ICU Level of Service F
Analysis Period (min) 15	

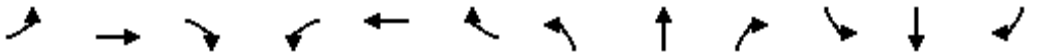
Splits and Phases: 9: Neyagawa Boulevard/James Snow Parkway & Louis st. Laurent Avenue



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	415	930	100	205	50	395	35	445	305
v/c Ratio	0.68	0.58	0.56	0.18	0.11	0.26	0.07	0.25	0.31
Control Delay	36.2	35.1	40.3	23.0	12.6	13.4	12.3	21.0	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.2	35.1	40.3	23.0	12.6	13.4	12.3	21.0	2.5
Queue Length 50th (m)	69.7	85.5	15.4	14.2	4.4	11.4	3.1	20.6	0.0
Queue Length 95th (m)	#101.3	105.4	#36.7	22.8	10.3	18.9	7.9	28.7	12.6
Internal Link Dist (m)		330.0		133.8		451.3		633.9	
Turn Bay Length (m)	200.0				95.0		165.0		
Base Capacity (vph)	610	1597	180	1132	475	1537	487	1756	975
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.58	0.56	0.18	0.11	0.26	0.07	0.25	0.31

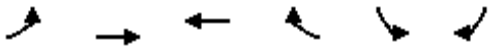
Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	415	725	205	100	200	5	50	255	140	35	445	305
Future Volume (vph)	415	725	205	100	200	5	50	255	140	35	445	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0	5.7		5.7	5.7		2.0	5.7		2.0	5.7	2.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	1.00
Frt	1.00	0.97		1.00	1.00		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	3456		1805	3597		1770	4061		1752	4940	1553
Flt Permitted	0.58	1.00		0.30	1.00		0.48	1.00		0.51	1.00	1.00
Satd. Flow (perm)	1070	3456		575	3597		899	4061		941	4940	1553
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	415	725	205	100	200	5	50	255	140	35	445	305
RTOR Reduction (vph)	0	27	0	0	2	0	0	90	0	0	0	160
Lane Group Flow (vph)	415	903	0	100	203	0	50	305	0	35	445	145
Heavy Vehicles (%)	3%	1%	1%	0%	0%	0%	2%	5%	50%	3%	5%	4%
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	7	4			8		5	2		1	6	7
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	38.6	38.6		25.9	25.9		35.1	31.1		34.9	31.0	40.7
Effective Green, g (s)	39.6	39.6		26.9	26.9		37.1	32.1		36.9	32.0	42.7
Actuated g/C Ratio	0.44	0.44		0.30	0.30		0.41	0.36		0.41	0.36	0.47
Clearance Time (s)	3.0	6.7		6.7	6.7		3.0	6.7		3.0	6.7	3.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	551	1520		171	1075		418	1448		429	1756	736
v/s Ratio Prot	c0.09	c0.26			0.06		c0.01	0.08		0.00	c0.09	0.02
v/s Ratio Perm	0.24			0.17			0.04			0.03		0.07
v/c Ratio	0.75	0.59		0.58	0.19		0.12	0.21		0.08	0.25	0.20
Uniform Delay, d1	19.4	19.1		26.8	23.4		16.0	20.1		16.0	20.5	13.7
Progression Factor	1.73	1.86		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.4	1.3		13.8	0.4		0.1	0.1		0.1	0.1	0.1
Delay (s)	38.0	36.8		40.6	23.8		16.1	20.2		16.1	20.6	13.8
Level of Service	D	D		D	C		B	C		B	C	B
Approach Delay (s)		37.2			29.3			19.8			17.8	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	28.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	95.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1160	885	10	0	40
Future Volume (Veh/h)	0	1160	885	10	0	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	1160	885	10	0	40
Pedestrians			1		37	
Lane Width (m)			3.6		3.6	
Walking Speed (m/s)			1.2		1.2	
Percent Blockage			0		3	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	932				1508	484
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	932				1508	484
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	92
cM capacity (veh/h)	720				110	512

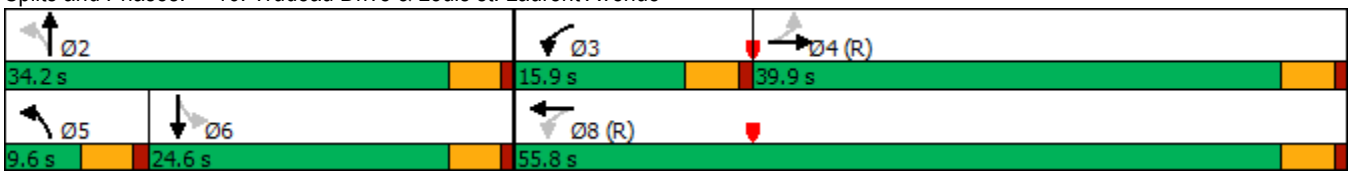
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	580	580	590	305	40
Volume Left	0	0	0	0	0
Volume Right	0	0	0	10	40
cSH	1700	1700	1700	1700	512
Volume to Capacity	0.34	0.34	0.35	0.18	0.08
Queue Length 95th (m)	0.0	0.0	0.0	0.0	2.0
Control Delay (s)	0.0	0.0	0.0	0.0	12.6
Lane LOS					B
Approach Delay (s)	0.0		0.0		12.6
Approach LOS					B

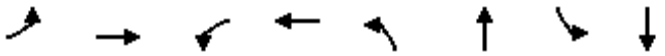
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	35.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	275	1145	240	310	95	120	75	145
Future Volume (vph)	275	1145	240	310	95	120	75	145
Turn Type	Perm	NA	pm+pt	NA	pm+pt	NA	Perm	NA
Protected Phases		4	3	8	5	2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	3	8	5	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	39.9	39.9	15.9	55.8	9.6	34.2	24.6	24.6
Total Split (%)	44.3%	44.3%	17.7%	62.0%	10.7%	38.0%	27.3%	27.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag	Lag	Lag	Lead		Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes		Yes	Yes
Recall Mode	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effct Green (s)	41.1	41.1	56.0	56.0	27.0	27.0	19.3	19.3
Actuated g/C Ratio	0.46	0.46	0.62	0.62	0.30	0.30	0.21	0.21
v/c Ratio	0.61	0.72	0.76	0.15	0.49	0.42	0.31	0.85
Control Delay	33.7	31.3	37.0	6.8	30.1	20.0	32.8	46.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.7	31.3	37.0	6.8	30.1	20.0	32.8	46.1
LOS	C	C	D	A	C	C	C	D
Approach Delay		31.8		19.8		22.9		43.7
Approach LOS		C		B		C		D

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 30.1	Intersection LOS: C
Intersection Capacity Utilization 84.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 16: Trudeau Drive & Louis st. Laurent Avenue

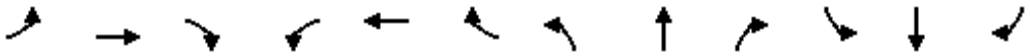




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	275	1160	240	315	95	235	75	350
v/c Ratio	0.61	0.72	0.76	0.15	0.49	0.42	0.31	0.85
Control Delay	33.7	31.3	37.0	6.8	30.1	20.0	32.8	46.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.7	31.3	37.0	6.8	30.1	20.0	32.8	46.1
Queue Length 50th (m)	49.7	113.1	30.3	10.8	11.9	23.4	11.3	47.7
Queue Length 95th (m)	m67.4	m135.1	#60.5	15.9	23.2	43.4	24.0	#91.8
Internal Link Dist (m)		294.1		330.0		146.3		345.5
Turn Bay Length (m)	84.0		50.0		30.0		30.0	
Base Capacity (vph)	453	1614	335	2156	195	627	263	445
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	0.61	0.72	0.72	0.15	0.49	0.37	0.29	0.79

Intersection Summary

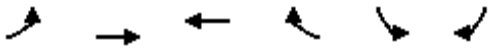
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	275	1145	15	240	310	5	95	120	115	75	145	205
Future Volume (vph)	275	1145	15	240	310	5	95	120	115	75	145	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.98	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	0.93		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1680	3532		1770	3462		1770	1726		1745	1657	
Flt Permitted	0.56	1.00		0.10	1.00		0.18	1.00		0.61	1.00	
Satd. Flow (perm)	991	3532		189	3462		327	1726		1125	1657	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	275	1145	15	240	310	5	95	120	115	75	145	205
RTOR Reduction (vph)	0	1	0	0	1	0	0	40	0	0	58	0
Lane Group Flow (vph)	275	1159	0	240	314	0	95	195	0	75	292	0
Confl. Peds. (#/hr)	14					14				4		1
Heavy Vehicles (%)	5%	2%	2%	2%	4%	0%	2%	2%	2%	3%	2%	5%
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	39.2	39.2		54.1	54.1		26.9	26.9		18.3	18.3	
Effective Green, g (s)	40.2	40.2		55.1	55.1		27.9	27.9		19.3	19.3	
Actuated g/C Ratio	0.45	0.45		0.61	0.61		0.31	0.31		0.21	0.21	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	442	1577		315	2119		183	535		241	355	
v/s Ratio Prot		0.33		c0.10	0.09		c0.03	0.11			c0.18	
v/s Ratio Perm	0.28			c0.37			0.13			0.07		
v/c Ratio	0.62	0.73		0.76	0.15		0.52	0.36		0.31	0.82	
Uniform Delay, d1	19.1	20.5		19.2	7.4		24.4	24.2		29.8	33.7	
Progression Factor	1.31	1.33		1.27	0.83		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.5	2.6		10.2	0.1		2.5	0.4		0.7	14.2	
Delay (s)	30.5	30.0		34.7	6.4		26.9	24.6		30.5	47.9	
Level of Service	C	C		C	A		C	C		C	D	
Approach Delay (s)		30.1			18.6			25.2			44.8	
Approach LOS		C			B			C			D	

Intersection Summary			
HCM 2000 Control Delay	29.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	84.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1020	885	25	0	25
Future Volume (Veh/h)	0	1020	885	25	0	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	1020	885	25	0	25
Pedestrians		1			13	
Lane Width (m)		3.6			3.6	
Walking Speed (m/s)		1.2			1.2	
Percent Blockage		0			1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		149				
pX, platoon unblocked					0.81	
vC, conflicting volume	923				1420	469
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	923				1053	469
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	95
cM capacity (veh/h)	740				180	540

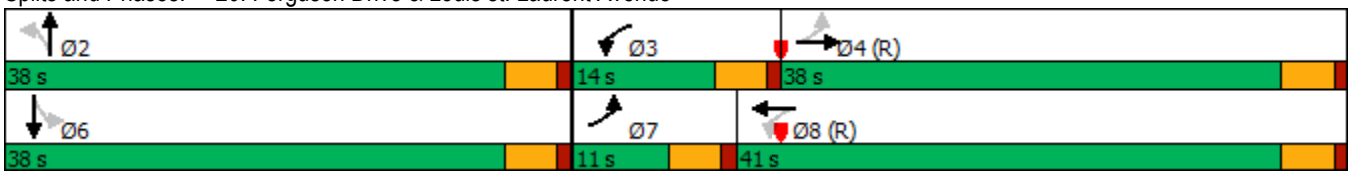
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	510	510	590	320	25
Volume Left	0	0	0	0	0
Volume Right	0	0	0	25	25
cSH	1700	1700	1700	1700	540
Volume to Capacity	0.30	0.30	0.35	0.19	0.05
Queue Length 95th (m)	0.0	0.0	0.0	0.0	1.2
Control Delay (s)	0.0	0.0	0.0	0.0	12.0
Lane LOS					B
Approach Delay (s)	0.0		0.0		12.0
Approach LOS					B

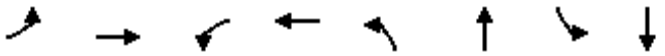
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	38.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	65	805	225	525	210	140	70	215
Future Volume (vph)	65	805	225	525	210	140	70	215
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	28.0	5.0	28.0	30.0	30.0	30.0	30.0
Minimum Split (s)	11.0	35.0	11.0	35.0	37.0	37.0	37.0	37.0
Total Split (s)	11.0	38.0	14.0	41.0	38.0	38.0	38.0	38.0
Total Split (%)	12.2%	42.2%	15.6%	45.6%	42.2%	42.2%	42.2%	42.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Act Effct Green (s)	42.7	35.3	49.9	41.3	32.9	32.9	32.9	32.9
Actuated g/C Ratio	0.47	0.39	0.55	0.46	0.37	0.37	0.37	0.37
v/c Ratio	0.15	0.88	0.80	0.36	0.82	0.63	0.31	0.53
Control Delay	10.8	33.6	46.0	11.0	52.4	22.6	24.3	22.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.8	33.6	46.0	11.0	52.4	22.6	24.3	22.9
LOS	B	C	D	B	D	C	C	C
Approach Delay		32.4		21.2		34.0		23.1
Approach LOS		C		C		C		C

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 28.4	Intersection LOS: C
Intersection Capacity Utilization 109.7%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 20: Ferguson Drive & Louis st. Laurent Avenue



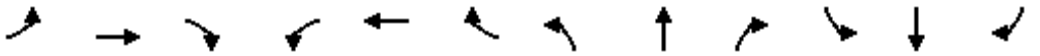


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	65	1110	225	545	210	340	70	340
v/c Ratio	0.15	0.88	0.80	0.36	0.82	0.63	0.31	0.53
Control Delay	10.8	33.6	46.0	11.0	52.4	22.6	24.3	22.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.8	33.6	46.0	11.0	52.4	22.6	24.3	22.9
Queue Length 50th (m)	5.2	92.8	27.6	23.3	33.7	35.9	8.9	41.8
Queue Length 95th (m)	11.4	#135.1	m#63.0	m35.0	#72.8	65.1	20.0	66.8
Internal Link Dist (m)		385.0		300.4		136.9		272.5
Turn Bay Length (m)	65.0		48.0		30.0		35.0	
Base Capacity (vph)	450	1263	280	1526	269	558	241	677
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	0.14	0.88	0.80	0.36	0.78	0.61	0.29	0.50

Intersection Summary

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

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	805	305	225	525	20	210	140	200	70	215	125
Future Volume (vph)	65	805	305	225	525	20	210	140	200	70	215	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.94		1.00	0.99		1.00	0.82		1.00	0.97	
Flpb, ped/bikes	0.96	1.00		1.00	1.00		0.97	1.00		0.85	1.00	
Frt	1.00	0.96		1.00	0.99		1.00	0.91		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1740	3111		1639	3326		1708	1307		1530	1706	
Flt Permitted	0.44	1.00		0.10	1.00		0.39	1.00		0.39	1.00	
Satd. Flow (perm)	800	3111		178	3326		702	1307		629	1706	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	65	805	305	225	525	20	210	140	200	70	215	125
RTOR Reduction (vph)	0	43	0	0	3	0	0	59	0	0	24	0
Lane Group Flow (vph)	65	1067	0	225	542	0	210	281	0	70	316	0
Confl. Peds. (#/hr)	120		136	136		120	74		325	325		74
Heavy Vehicles (%)	0%	3%	7%	10%	7%	10%	2%	4%	13%	0%	3%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	39.6	34.3		49.1	39.3		31.9	31.9		31.9	31.9	
Effective Green, g (s)	41.6	35.3		50.1	40.3		32.9	32.9		32.9	32.9	
Actuated g/C Ratio	0.46	0.39		0.56	0.45		0.37	0.37		0.37	0.37	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	435	1220		282	1489		256	477		229	623	
v/s Ratio Prot	0.01	c0.34		c0.10	0.16			0.22			0.19	
v/s Ratio Perm	0.06			0.34			c0.30			0.11		
v/c Ratio	0.15	0.87		0.80	0.36		0.82	0.59		0.31	0.51	
Uniform Delay, d1	13.5	25.3		20.7	16.4		25.9	23.1		20.4	22.2	
Progression Factor	1.00	1.00		1.29	0.62		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	8.9		14.0	0.7		18.6	1.9		0.8	0.7	
Delay (s)	13.7	34.2		40.7	10.8		44.5	24.9		21.2	22.9	
Level of Service	B	C		D	B		D	C		C	C	
Approach Delay (s)		33.0			19.5			32.4			22.6	
Approach LOS		C			B			C			C	

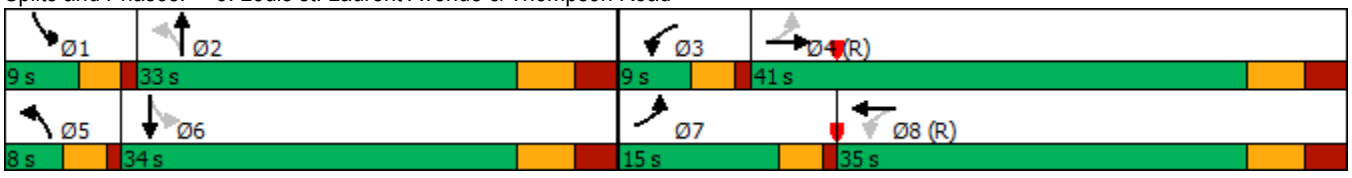
Intersection Summary			
HCM 2000 Control Delay	27.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	109.7%	ICU Level of Service	H
Analysis Period (min)	15		

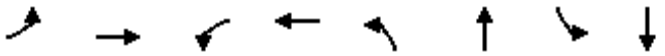
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	195	480	120	630	95	330	130	190
Future Volume (vph)	195	480	120	630	95	330	130	190
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	28.0	4.0	28.0	4.0	26.0	4.0	26.0
Minimum Split (s)	8.0	35.0	8.0	35.0	8.0	33.0	8.0	33.0
Total Split (s)	15.0	41.0	9.0	35.0	8.0	33.0	9.0	34.0
Total Split (%)	16.3%	44.6%	9.8%	38.0%	8.7%	35.9%	9.8%	37.0%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	3.0	1.0	3.0	1.0	3.0	1.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	Min	None	Min
Act Effct Green (s)	46.9	35.0	38.9	29.9	35.0	27.0	37.4	29.6
Actuated g/C Ratio	0.51	0.38	0.42	0.32	0.38	0.29	0.41	0.32
v/c Ratio	0.56	0.40	0.29	0.68	0.23	0.42	0.34	0.29
Control Delay	19.0	21.3	14.4	30.0	17.9	25.0	19.4	14.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.0	21.3	14.4	30.0	17.9	25.0	19.4	14.6
LOS	B	C	B	C	B	C	B	B
Approach Delay		20.7		27.9		23.7		16.0
Approach LOS		C		C		C		B

Intersection Summary	
Cycle Length: 92	
Actuated Cycle Length: 92	
Offset: 22.5 (24%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 22.9	Intersection LOS: C
Intersection Capacity Utilization 79.7%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: Louis st. Laurent Avenue & Thompson Road





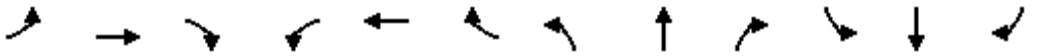
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	195	530	120	755	95	425	130	325
v/c Ratio	0.56	0.40	0.29	0.68	0.23	0.42	0.34	0.29
Control Delay	19.0	21.3	14.4	30.0	17.9	25.0	19.4	14.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.0	21.3	14.4	30.0	17.9	25.0	19.4	14.6
Queue Length 50th (m)	19.1	36.1	11.2	62.5	10.5	29.9	14.7	13.6
Queue Length 95th (m)	32.0	50.2	20.8	83.7	20.4	43.8	26.5	24.6
Internal Link Dist (m)		163.9		124.6		375.0		677.0
Turn Bay Length (m)	70.0		70.0		70.0		100.0	
Base Capacity (vph)	363	1329	407	1104	418	1017	381	1118
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	0.54	0.40	0.29	0.68	0.23	0.42	0.34	0.29

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	195	480	50	120	630	125	95	330	95	130	190	135
Future Volume (vph)	195	480	50	120	630	125	95	330	95	130	190	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.0		3.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.98		1.00	0.99		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.98	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.97		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1746	3472		1728	3342		1729	3370		1775	3192	
Flt Permitted	0.20	1.00		0.46	1.00		0.56	1.00		0.42	1.00	
Satd. Flow (perm)	361	3472		828	3342		1010	3370		785	3192	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	195	480	50	120	630	125	95	330	95	130	190	135
RTOR Reduction (vph)	0	9	0	0	18	0	0	29	0	0	92	0
Lane Group Flow (vph)	195	521	0	120	737	0	95	396	0	130	233	0
Confl. Peds. (#/hr)	97		21	21		97	64		33	33		64
Heavy Vehicles (%)	3%	2%	4%	4%	3%	6%	2%	2%	4%	1%	3%	2%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	42.2	33.2		33.1	28.1		30.0	26.8		33.6	28.6	
Effective Green, g (s)	43.2	34.2		35.1	29.1		32.0	27.8		35.6	29.6	
Actuated g/C Ratio	0.47	0.37		0.38	0.32		0.35	0.30		0.39	0.32	
Clearance Time (s)	4.0	7.0		4.0	7.0		4.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	336	1290		374	1057		384	1018		368	1026	
v/s Ratio Prot	c0.07	0.15		0.02	c0.22		0.01	c0.12		c0.02	0.07	
v/s Ratio Perm	0.20			0.10			0.07			0.11		
v/c Ratio	0.58	0.40		0.32	0.70		0.25	0.39		0.35	0.23	
Uniform Delay, d1	16.3	21.4		18.9	27.6		20.7	25.4		18.8	22.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.5	0.9		0.5	3.8		0.3	0.2		0.6	0.1	
Delay (s)	18.8	22.3		19.4	31.4		21.0	25.6		19.4	22.9	
Level of Service	B	C		B	C		C	C		B	C	
Approach Delay (s)		21.4			29.8			24.8			21.9	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	25.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	92.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	580	70	0	740	25	0	0	145	0	0	85
Future Volume (Veh/h)	0	580	70	0	740	25	0	0	145	0	0	85
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	580	70	0	740	25	0	0	145	0	0	85
Pedestrians		132			19			38			47	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		11			2			3			4	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		324			318							
pX, platoon unblocked	0.90			0.99			0.91	0.91	0.99	0.91	0.91	0.90
vC, conflicting volume	812			688			1240	1465	382	1254	1488	562
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	570			655			991	1239	345	1006	1264	291
tC, single (s)	4.2			4.2			7.7	7.1	7.1	8.1	6.5	7.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.3	3.4	3.8	4.0	3.4
p0 queue free %	100			100			100	100	75	100	100	84
cM capacity (veh/h)	858			873			119	117	590	99	144	534

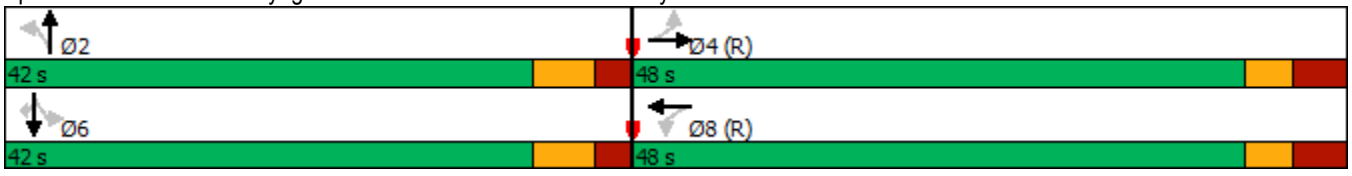
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	387	263	493	272	145	85
Volume Left	0	0	0	0	0	0
Volume Right	0	70	0	25	145	85
cSH	1700	1700	1700	1700	590	534
Volume to Capacity	0.23	0.15	0.29	0.16	0.25	0.16
Queue Length 95th (m)	0.0	0.0	0.0	0.0	7.7	4.5
Control Delay (s)	0.0	0.0	0.0	0.0	13.1	13.0
Lane LOS					B	B
Approach Delay (s)	0.0		0.0		13.1	13.0
Approach LOS					B	B

Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	41.3%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	235	280	105	260	120	235	10	240	415
Future Volume (vph)	235	280	105	260	120	235	10	240	415
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	26.0	26.0	26.0	26.0	31.0	31.0	31.0	31.0	31.0
Minimum Split (s)	33.0	33.0	33.0	33.0	37.7	37.7	37.7	37.7	37.7
Total Split (s)	48.0	48.0	48.0	48.0	42.0	42.0	42.0	42.0	42.0
Total Split (%)	53.3%	53.3%	53.3%	53.3%	46.7%	46.7%	46.7%	46.7%	46.7%
Yellow Time (s)	3.3	3.3	3.3	3.3	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	3.7	3.7	3.7	3.7	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	5.7	5.7	5.7	5.7	5.7
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None
Act Effct Green (s)	46.3	46.3	46.3	46.3	32.0	32.0	32.0	32.0	32.0
Actuated g/C Ratio	0.51	0.51	0.51	0.51	0.36	0.36	0.36	0.36	0.36
v/c Ratio	0.44	0.21	0.20	0.15	0.30	0.17	0.03	0.14	0.50
Control Delay	15.3	6.9	13.1	11.3	23.7	16.6	19.3	20.0	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.3	6.9	13.1	11.3	23.7	16.6	19.3	20.0	4.5
LOS	B	A	B	B	C	B	B	B	A
Approach Delay		10.2		11.8		18.7		10.3	
Approach LOS		B		B		B		B	

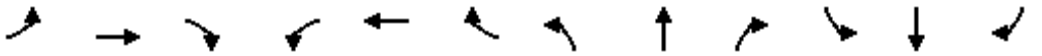
Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.50	
Intersection Signal Delay: 12.2	Intersection LOS: B
Intersection Capacity Utilization 114.5%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 9: Neyagawa Boulevard/James Snow Parkway & Louis st. Laurent Avenue



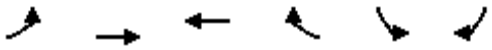
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	235	370	105	280	120	285	10	240	415
v/c Ratio	0.44	0.21	0.20	0.15	0.30	0.17	0.03	0.14	0.50
Control Delay	15.3	6.9	13.1	11.3	23.7	16.6	19.3	20.0	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.3	6.9	13.1	11.3	23.7	16.6	19.3	20.0	4.5
Queue Length 50th (m)	41.5	16.7	9.8	12.7	15.6	10.4	1.2	10.6	0.0
Queue Length 95th (m)	61.1	18.6	19.7	19.7	30.1	16.7	4.7	16.5	19.0
Internal Link Dist (m)		330.0		133.8		451.3		633.9	
Turn Bay Length (m)	200.0				95.0		165.0		
Base Capacity (vph)	540	1769	520	1808	447	1926	404	1955	886
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.21	0.20	0.15	0.27	0.15	0.02	0.12	0.47

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	280	90	105	260	20	120	235	50	10	240	415
Future Volume (vph)	235	280	90	105	260	20	120	235	50	10	240	415
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	5.7
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	1.00
Frt	1.00	0.96		1.00	0.99		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1719	3377		1805	3506		1770	4702		1671	4848	1583
Flt Permitted	0.58	1.00		0.53	1.00		0.60	1.00		0.57	1.00	1.00
Satd. Flow (perm)	1049	3377		1010	3506		1111	4702		1003	4848	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	235	280	90	105	260	20	120	235	50	10	240	415
RTOR Reduction (vph)	0	31	0	0	6	0	0	32	0	0	0	267
Lane Group Flow (vph)	235	339	0	105	274	0	120	253	0	10	240	148
Heavy Vehicles (%)	5%	3%	3%	0%	2%	0%	2%	9%	0%	8%	7%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	45.3	45.3		45.3	45.3		31.0	31.0		31.0	31.0	31.0
Effective Green, g (s)	46.3	46.3		46.3	46.3		32.0	32.0		32.0	32.0	32.0
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.36	0.36		0.36	0.36	0.36
Clearance Time (s)	7.0	7.0		7.0	7.0		6.7	6.7		6.7	6.7	6.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	539	1737		519	1803		395	1671		356	1723	562
v/s Ratio Prot		0.10			0.08			0.05			0.05	
v/s Ratio Perm	c0.22			0.10			c0.11			0.01		0.09
v/c Ratio	0.44	0.20		0.20	0.15		0.30	0.15		0.03	0.14	0.26
Uniform Delay, d1	13.7	11.8		11.8	11.5		21.0	19.8		18.9	19.7	20.6
Progression Factor	0.89	0.68		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.5	0.2		0.9	0.2		0.4	0.0		0.0	0.0	0.3
Delay (s)	14.7	8.3		12.7	11.7		21.4	19.8		18.9	19.7	20.9
Level of Service	B	A		B	B		C	B		B	B	C
Approach Delay (s)		10.8			12.0			20.3			20.4	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	114.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	695	950	20	0	15
Future Volume (Veh/h)	0	695	950	20	0	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	695	950	20	0	15
Pedestrians					87	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					7	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1057				1394	572
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1057				1394	572
tC, single (s)	4.1				6.8	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	100				100	96
cM capacity (veh/h)	618				125	420

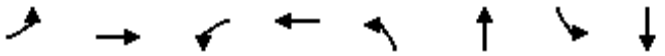
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	348	348	633	337	15
Volume Left	0	0	0	0	0
Volume Right	0	0	0	20	15
cSH	1700	1700	1700	1700	420
Volume to Capacity	0.20	0.20	0.37	0.20	0.04
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.9
Control Delay (s)	0.0	0.0	0.0	0.0	13.9
Lane LOS					B
Approach Delay (s)	0.0		0.0		13.9
Approach LOS					B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	37.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	175	535	175	570	90	65	20	85
Future Volume (vph)	175	535	175	570	90	65	20	85
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	60.0	60.0	60.0	60.0	30.0	30.0	30.0	30.0
Total Split (%)	66.7%	66.7%	66.7%	66.7%	33.3%	33.3%	33.3%	33.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	Max	Max
Act Effct Green (s)	32.0	32.0	32.0	32.0	51.0	51.0	51.0	51.0
Actuated g/C Ratio	0.36	0.36	0.36	0.36	0.57	0.57	0.57	0.57
v/c Ratio	0.89	0.45	0.79	0.47	0.14	0.11	0.03	0.20
Control Delay	56.7	15.9	46.5	22.0	14.0	9.1	14.1	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.7	15.9	46.5	22.0	14.0	9.1	14.1	9.3
LOS	E	B	D	C	B	A	B	A
Approach Delay		25.6		27.6		11.3		9.8
Approach LOS		C		C		B		A

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 23.2	Intersection LOS: C
Intersection Capacity Utilization 59.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 16: Trudeau Drive/Louis st. Laurent Avenue



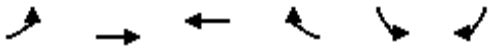
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	175	560	175	590	90	115	20	185
v/c Ratio	0.89	0.45	0.79	0.47	0.14	0.11	0.03	0.20
Control Delay	56.7	15.9	46.5	22.0	14.0	9.1	14.1	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.7	15.9	46.5	22.0	14.0	9.1	14.1	9.3
Queue Length 50th (m)	16.2	24.8	28.7	44.7	7.1	5.4	1.5	9.3
Queue Length 95th (m)	18.1	21.1	33.7	37.9	21.9	19.4	7.0	29.5
Internal Link Dist (m)		294.1		330.0		138.2		345.5
Turn Bay Length (m)	84.0		50.0		30.0		30.0	
Base Capacity (vph)	345	2169	390	2205	663	1005	730	944
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	0.51	0.26	0.45	0.27	0.14	0.11	0.03	0.20

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	535	25	175	570	20	90	65	50	20	85	100
Future Volume (vph)	175	535	25	175	570	20	90	65	50	20	85	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	0.98	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.93		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1670	3451		1770	3509		1770	1741		1793	1616	
Flt Permitted	0.31	1.00		0.33	1.00		0.63	1.00		0.68	1.00	
Satd. Flow (perm)	552	3451		621	3509		1171	1741		1289	1616	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	175	535	25	175	570	20	90	65	50	20	85	100
RTOR Reduction (vph)	0	6	0	0	5	0	0	19	0	0	29	0
Lane Group Flow (vph)	175	554	0	175	585	0	90	96	0	20	156	0
Confl. Peds. (#/hr)	23					23				5		12
Heavy Vehicles (%)	6%	4%	2%	2%	2%	5%	2%	2%	2%	0%	2%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	31.0	31.0		31.0	31.0		50.0	50.0		50.0	50.0	
Effective Green, g (s)	32.0	32.0		32.0	32.0		51.0	51.0		51.0	51.0	
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.57	0.57		0.57	0.57	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	196	1227		220	1247		663	986		730	915	
v/s Ratio Prot		0.16			0.17			0.06			c0.10	
v/s Ratio Perm	c0.32			0.28			0.08			0.02		
v/c Ratio	0.89	0.45		0.80	0.47		0.14	0.10		0.03	0.17	
Uniform Delay, d1	27.4	22.3		26.1	22.4		9.2	8.9		8.6	9.4	
Progression Factor	0.65	0.72		0.96	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	35.0	0.3		17.1	0.3		0.4	0.2		0.1	0.4	
Delay (s)	52.7	16.2		42.2	22.6		9.6	9.1		8.7	9.8	
Level of Service	D	B		D	C		A	A		A	A	
Approach Delay (s)		24.9			27.1			9.3			9.6	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	22.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	655	795	105	0	70
Future Volume (Veh/h)	0	655	795	105	0	70
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	655	795	105	0	70
Pedestrians		1			54	
Lane Width (m)		3.6			3.6	
Walking Speed (m/s)		1.2			1.2	
Percent Blockage		0			5	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		149				
pX, platoon unblocked					0.91	
vC, conflicting volume	954				1229	505
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	954				1060	505
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	86
cM capacity (veh/h)	696				194	491

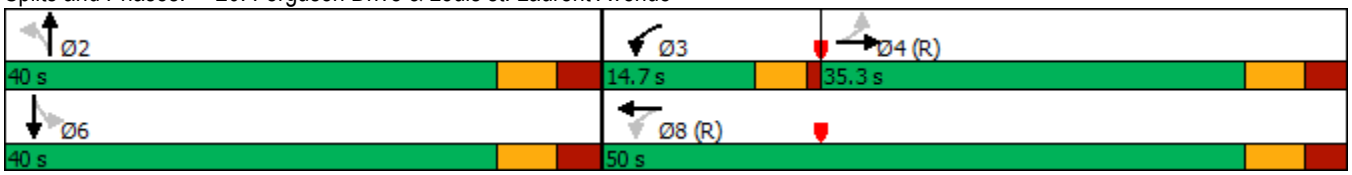
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	328	328	530	370	70
Volume Left	0	0	0	0	0
Volume Right	0	0	0	105	70
cSH	1700	1700	1700	1700	491
Volume to Capacity	0.19	0.19	0.31	0.22	0.14
Queue Length 95th (m)	0.0	0.0	0.0	0.0	3.9
Control Delay (s)	0.0	0.0	0.0	0.0	13.5
Lane LOS					B
Approach Delay (s)	0.0		0.0		13.5
Approach LOS					B

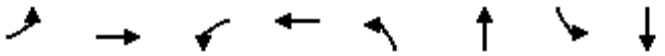
Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	37.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	80	460	150	650	225	90	25	110
Future Volume (vph)	80	460	150	650	225	90	25	110
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases		4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	28.0	28.0	5.0	28.0	30.0	30.0	30.0	30.0
Minimum Split (s)	35.0	35.0	9.5	35.0	37.0	37.0	37.0	37.0
Total Split (s)	35.3	35.3	14.7	50.0	40.0	40.0	40.0	40.0
Total Split (%)	39.2%	39.2%	16.3%	55.6%	44.4%	44.4%	44.4%	44.4%
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	1.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0	3.5	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes					
Recall Mode	C-Min	C-Min	None	C-Min	None	None	None	None
Act Effct Green (s)	32.7	32.7	48.9	46.4	31.6	31.6	31.6	31.6
Actuated g/C Ratio	0.36	0.36	0.54	0.52	0.35	0.35	0.35	0.35
v/c Ratio	0.32	0.53	0.40	0.39	0.64	0.34	0.08	0.34
Control Delay	26.4	22.7	8.7	7.4	33.9	15.2	20.1	17.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.4	22.7	8.7	7.4	33.9	15.2	20.1	17.2
LOS	C	C	A	A	C	B	C	B
Approach Delay		23.2		7.7		25.4		17.5
Approach LOS		C		A		C		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 17.1	Intersection LOS: B
Intersection Capacity Utilization 116.7%	ICU Level of Service H
Analysis Period (min) 15	

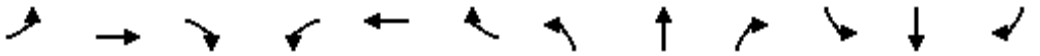
Splits and Phases: 20: Ferguson Drive & Louis st. Laurent Avenue





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	80	625	150	685	225	185	25	200
v/c Ratio	0.32	0.53	0.40	0.39	0.64	0.34	0.08	0.34
Control Delay	26.4	22.7	8.7	7.4	33.9	15.2	20.1	17.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.4	22.7	8.7	7.4	33.9	15.2	20.1	17.2
Queue Length 50th (m)	10.3	41.6	4.2	10.7	34.2	15.0	3.0	19.1
Queue Length 95th (m)	24.5	62.7	14.2	30.6	57.9	30.6	8.4	35.0
Internal Link Dist (m)		385.0		300.4		136.9		272.5
Turn Bay Length (m)	65.0		48.0		30.0		35.0	
Base Capacity (vph)	249	1177	393	1779	379	573	319	630
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	0.32	0.53	0.38	0.39	0.59	0.32	0.08	0.32

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	460	165	150	650	35	225	90	95	25	110	90
Future Volume (vph)	80	460	165	150	650	35	225	90	95	25	110	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		3.5	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.94		1.00	0.99		1.00	0.84		1.00	0.96	
Flpb, ped/bikes	0.93	1.00		0.98	1.00		0.93	1.00		0.77	1.00	
Frt	1.00	0.96		1.00	0.99		1.00	0.92		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1671	3137		1565	3446		1576	1406		1284	1583	
Flt Permitted	0.39	1.00		0.30	1.00		0.61	1.00		0.63	1.00	
Satd. Flow (perm)	688	3137		489	3446		1005	1406		847	1583	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	80	460	165	150	650	35	225	90	95	25	110	90
RTOR Reduction (vph)	0	38	0	0	4	0	0	44	0	0	34	0
Lane Group Flow (vph)	80	587	0	150	681	0	225	141	0	25	166	0
Confl. Peds. (#/hr)	120		141	141		120	99		351	351		99
Heavy Vehicles (%)	0%	4%	2%	13%	3%	0%	7%	7%	3%	8%	11%	2%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	31.7	31.7		45.4	45.4		30.6	30.6		30.6	30.6	
Effective Green, g (s)	32.7	32.7		46.4	46.4		31.6	31.6		31.6	31.6	
Actuated g/C Ratio	0.36	0.36		0.52	0.52		0.35	0.35		0.35	0.35	
Clearance Time (s)	7.0	7.0		4.5	7.0		7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	249	1139		374	1776		352	493		297	555	
v/s Ratio Prot		c0.19		0.05	c0.20			0.10			0.10	
v/s Ratio Perm	0.12			0.16			c0.22			0.03		
v/c Ratio	0.32	0.52		0.40	0.38		0.64	0.29		0.08	0.30	
Uniform Delay, d1	20.7	22.4		12.4	13.2		24.4	21.1		19.5	21.2	
Progression Factor	1.00	1.00		0.52	0.51		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.4	1.7		0.7	0.6		3.8	0.3		0.1	0.3	
Delay (s)	24.0	24.1		7.2	7.4		28.2	21.4		19.6	21.5	
Level of Service	C	C		A	A		C	C		B	C	
Approach Delay (s)		24.1			7.3			25.1			21.3	
Approach LOS		C			A			C			C	

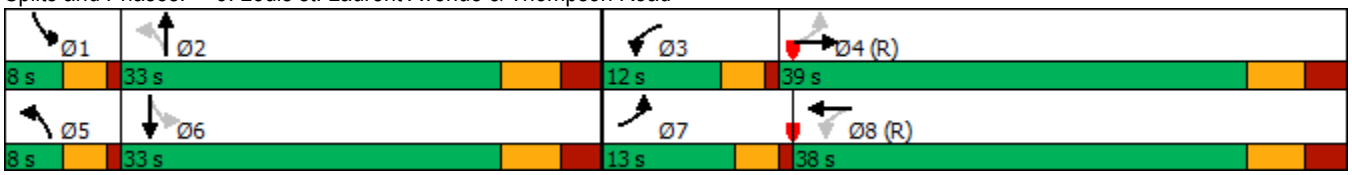
Intersection Summary			
HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	116.7%	ICU Level of Service	H
Analysis Period (min)	15		

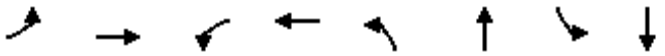
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	215	590	160	835	135	410	150	240
Future Volume (vph)	215	590	160	835	135	410	150	240
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	28.0	4.0	28.0	4.0	26.0	4.0	26.0
Minimum Split (s)	8.0	35.0	8.0	35.0	8.0	33.0	8.0	33.0
Total Split (s)	13.0	39.0	12.0	38.0	8.0	33.0	8.0	33.0
Total Split (%)	14.1%	42.4%	13.0%	41.3%	8.7%	35.9%	8.7%	35.9%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	3.0	1.0	3.0	1.0	3.0	1.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	Min	None	Min
Act Effct Green (s)	44.6	31.7	42.4	30.6	36.5	27.0	36.6	27.1
Actuated g/C Ratio	0.48	0.34	0.46	0.33	0.40	0.29	0.40	0.29
v/c Ratio	0.74	0.53	0.41	0.78	0.33	0.47	0.41	0.38
Control Delay	32.1	25.5	15.6	32.4	19.7	26.9	21.3	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.1	25.5	15.6	32.4	19.7	26.9	21.3	15.5
LOS	C	C	B	C	B	C	C	B
Approach Delay		27.2		29.9		25.4		17.0
Approach LOS		C		C		C		B

Intersection Summary	
Cycle Length: 92	
Actuated Cycle Length: 92	
Offset: 22.5 (24%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 25.9	Intersection LOS: C
Intersection Capacity Utilization 84.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 3: Louis st. Laurent Avenue & Thompson Road

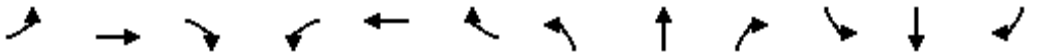




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	215	645	160	920	135	495	150	420
v/c Ratio	0.74	0.53	0.41	0.78	0.33	0.47	0.41	0.38
Control Delay	32.1	25.5	15.6	32.4	19.7	26.9	21.3	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.1	25.5	15.6	32.4	19.7	26.9	21.3	15.5
Queue Length 50th (m)	21.5	49.5	15.5	79.6	15.0	37.4	16.9	17.8
Queue Length 95th (m)	#50.4	64.7	25.8	100.5	28.1	52.7	30.7	30.7
Internal Link Dist (m)		163.9		124.6		375.0		677.0
Turn Bay Length (m)	70.0		70.0		70.0		100.0	
Base Capacity (vph)	293	1261	394	1242	405	1047	365	1105
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	0.73	0.51	0.41	0.74	0.33	0.47	0.41	0.38

Intersection Summary

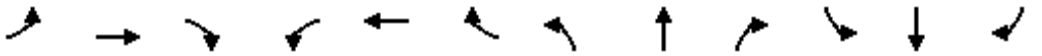
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	215	590	55	160	835	85	135	410	85	150	240	180
Future Volume (vph)	215	590	55	160	835	85	135	410	85	150	240	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.0		3.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.97		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1804	3496		1805	3550		1805	3503		1802	3326	
Flt Permitted	0.14	1.00		0.31	1.00		0.45	1.00		0.38	1.00	
Satd. Flow (perm)	259	3496		597	3550		853	3503		729	3326	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	215	590	55	160	835	85	135	410	85	150	240	180
RTOR Reduction (vph)	0	8	0	0	9	0	0	19	0	0	127	0
Lane Group Flow (vph)	215	637	0	160	911	0	135	476	0	150	293	0
Confl. Peds. (#/hr)	19		1	1		19	1		10	10		1
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	39.5	30.6		37.3	29.5		31.6	26.1		31.6	26.1	
Effective Green, g (s)	41.5	31.6		39.3	30.5		33.6	27.1		33.6	27.1	
Actuated g/C Ratio	0.45	0.34		0.43	0.33		0.37	0.29		0.37	0.29	
Clearance Time (s)	4.0	7.0		4.0	7.0		4.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	283	1200		370	1176		378	1031		342	979	
v/s Ratio Prot	c0.08	0.18		0.04	0.26		0.03	c0.14		c0.03	0.09	
v/s Ratio Perm	c0.26			0.14			0.11			0.13		
v/c Ratio	0.76	0.53		0.43	0.77		0.36	0.46		0.44	0.30	
Uniform Delay, d1	18.4	24.2		16.9	27.7		20.1	26.5		20.4	25.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	11.1	1.7		0.8	5.0		0.6	0.3		0.9	0.2	
Delay (s)	29.5	25.9		17.7	32.7		20.7	26.8		21.3	25.3	
Level of Service	C	C		B	C		C	C		C	C	
Approach Delay (s)		26.8			30.5			25.5			24.2	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	27.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	92.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	84.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	580	120	0	1220	45	0	0	190	0	0	95
Future Volume (Veh/h)	0	580	120	0	1220	45	0	0	190	0	0	95
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	580	120	0	1220	45	0	0	190	0	0	95
Pedestrians		4									2	
Lane Width (m)		3.6									3.6	
Walking Speed (m/s)		1.2									1.2	
Percent Blockage		0									0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		324			318							
pX, platoon unblocked	0.81			0.92			0.85	0.85	0.92	0.85	0.85	0.81
vC, conflicting volume	1267			700			1349	1907	350	1724	1944	638
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	873			508			658	1312	128	1098	1356	101
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	77	100	100	88
cM capacity (veh/h)	636			985			263	136	834	112	128	762

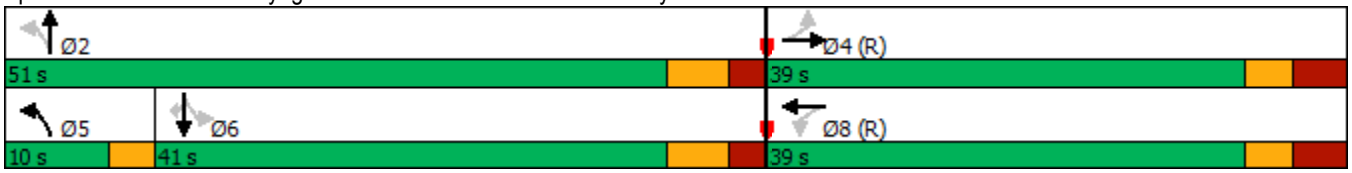
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	387	313	813	452	190	95
Volume Left	0	0	0	0	0	0
Volume Right	0	120	0	45	190	95
cSH	1700	1700	1700	1700	834	762
Volume to Capacity	0.23	0.18	0.48	0.27	0.23	0.12
Queue Length 95th (m)	0.0	0.0	0.0	0.0	7.0	3.4
Control Delay (s)	0.0	0.0	0.0	0.0	10.6	10.4
Lane LOS					B	B
Approach Delay (s)	0.0		0.0		10.6	10.4
Approach LOS					B	B

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	235	400	150	410	255	350	10	310	750
Future Volume (vph)	235	400	150	410	255	350	10	310	750
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA	Perm
Protected Phases		4		8	5	2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	5	2	6	6	6
Switch Phase									
Minimum Initial (s)	26.0	26.0	26.0	26.0	5.0	31.0	31.0	31.0	31.0
Minimum Split (s)	33.0	33.0	33.0	33.0	9.5	37.7	37.7	37.7	37.7
Total Split (s)	39.0	39.0	39.0	39.0	10.0	51.0	41.0	41.0	41.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	11.1%	56.7%	45.6%	45.6%	45.6%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.0	4.2	4.2	4.2	4.2
All-Red Time (s)	3.7	3.7	3.7	3.7	0.0	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	2.0	5.7	5.7	5.7	5.7
Lead/Lag					Lead		Lag	Lag	Lag
Lead-Lag Optimize?					Yes		Yes	Yes	Yes
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None
Act Effct Green (s)	31.8	31.8	31.8	31.8	50.2	46.5	34.8	34.8	34.8
Actuated g/C Ratio	0.35	0.35	0.35	0.35	0.56	0.52	0.39	0.39	0.39
v/c Ratio	0.78	0.38	0.51	0.34	0.40	0.17	0.03	0.16	0.94
Control Delay	43.8	19.6	30.4	21.9	12.6	9.5	17.5	18.1	38.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.8	19.6	30.4	21.9	12.6	9.5	17.5	18.1	38.2
LOS	D	B	C	C	B	A	B	B	D
Approach Delay		27.7		24.1		10.7		32.2	
Approach LOS		C		C		B		C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 24.7	Intersection LOS: C
Intersection Capacity Utilization 114.5%	ICU Level of Service H
Analysis Period (min) 15	

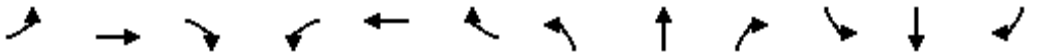
Splits and Phases: 9: Neyagawa Boulevard/James Snow Parkway & Louis st. Laurent Avenue



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	235	465	150	435	255	430	10	310	750
v/c Ratio	0.78	0.38	0.51	0.34	0.40	0.17	0.03	0.16	0.94
Control Delay	43.8	19.6	30.4	21.9	12.6	9.5	17.5	18.1	38.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.8	19.6	30.4	21.9	12.6	9.5	17.5	18.1	38.2
Queue Length 50th (m)	42.2	38.0	21.2	29.4	22.5	11.5	1.1	13.0	87.5
Queue Length 95th (m)	#77.2	49.0	40.4	41.2	37.4	17.5	4.5	19.2	#169.1
Internal Link Dist (m)		330.0		133.8		451.3		633.9	
Turn Bay Length (m)	200.0				95.0		165.0		
Base Capacity (vph)	315	1276	304	1322	639	2611	294	2021	807
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.36	0.49	0.33	0.40	0.16	0.03	0.15	0.93

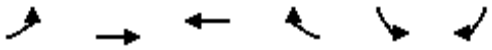
Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	400	65	150	410	25	255	350	80	10	310	750
Future Volume (vph)	235	400	65	150	410	25	255	350	80	10	310	750
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		2.0	5.7		5.7	5.7	5.7
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	1.00
Frt	1.00	0.98		1.00	0.99		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3427		1805	3579		1787	4961		1444	5136	1615
Flt Permitted	0.46	1.00		0.44	1.00		0.53	1.00		0.49	1.00	1.00
Satd. Flow (perm)	857	3427		829	3579		989	4961		749	5136	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	235	400	65	150	410	25	255	350	80	10	310	750
RTOR Reduction (vph)	0	15	0	0	5	0	0	39	0	0	0	174
Lane Group Flow (vph)	235	450	0	150	430	0	255	391	0	10	310	576
Heavy Vehicles (%)	2%	3%	4%	0%	0%	0%	1%	2%	0%	25%	1%	0%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	30.7	30.7		30.7	30.7		45.6	45.6		33.8	33.8	33.8
Effective Green, g (s)	31.7	31.7		31.7	31.7		46.6	46.6		34.8	34.8	34.8
Actuated g/C Ratio	0.35	0.35		0.35	0.35		0.52	0.52		0.39	0.39	0.39
Clearance Time (s)	7.0	7.0		7.0	7.0		3.0	6.7		6.7	6.7	6.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	301	1207		291	1260		598	2568		289	1985	624
v/s Ratio Prot		0.13			0.12		c0.05	0.08			0.06	
v/s Ratio Perm	c0.27			0.18			0.17			0.01		c0.36
v/c Ratio	0.78	0.37		0.52	0.34		0.43	0.15		0.03	0.16	0.92
Uniform Delay, d1	26.0	21.7		23.1	21.5		12.2	11.4		17.2	18.0	26.3
Progression Factor	0.94	0.90		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	17.7	0.9		6.4	0.7		0.5	0.0		0.0	0.0	19.5
Delay (s)	42.2	20.5		29.5	22.2		12.7	11.4		17.2	18.1	45.8
Level of Service	D	C		C	C		B	B		B	B	D
Approach Delay (s)		27.8			24.1			11.9			37.5	
Approach LOS		C			C			B			D	

Intersection Summary			
HCM 2000 Control Delay	26.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.7
Intersection Capacity Utilization	114.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	820	1210	30	0	10
Future Volume (Veh/h)	0	820	1210	30	0	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	820	1210	30	0	10
Pedestrians					8	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1248				1643	628
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1248				1643	628
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	98
cM capacity (veh/h)	561				92	428

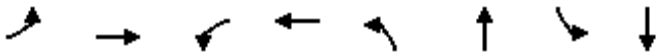
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	410	410	807	433	10
Volume Left	0	0	0	0	0
Volume Right	0	0	0	30	10
cSH	1700	1700	1700	1700	428
Volume to Capacity	0.24	0.24	0.47	0.25	0.02
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.6
Control Delay (s)	0.0	0.0	0.0	0.0	13.6
Lane LOS					B
Approach Delay (s)	0.0		0.0		13.6
Approach LOS					B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	44.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	135	605	320	1065	105	85	25	105
Future Volume (vph)	135	605	320	1065	105	85	25	105
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	65.0	65.0	65.0	65.0	25.0	25.0	25.0	25.0
Total Split (%)	72.2%	72.2%	72.2%	72.2%	27.8%	27.8%	27.8%	27.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	Max	Max
Act Effct Green (s)	51.6	51.6	51.6	51.6	31.4	31.4	31.4	31.4
Actuated g/C Ratio	0.57	0.57	0.57	0.57	0.35	0.35	0.35	0.35
v/c Ratio	0.67	0.32	0.82	0.53	0.30	0.25	0.06	0.33
Control Delay	24.1	5.5	31.6	15.7	29.3	19.7	26.2	21.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.1	5.5	31.6	15.7	29.3	19.7	26.2	21.1
LOS	C	A	C	B	C	B	C	C
Approach Delay		8.7		19.3		23.5		21.6
Approach LOS		A		B		C		C

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 16.9	Intersection LOS: B
Intersection Capacity Utilization 69.2%	ICU Level of Service C
Analysis Period (min) 15	

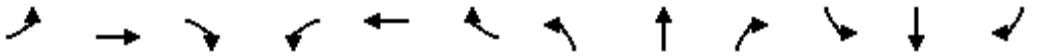
Splits and Phases: 16: Trudeau Drive/Louis st. Laurent Avenue



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	135	640	320	1100	105	160	25	210
v/c Ratio	0.67	0.32	0.82	0.53	0.30	0.25	0.06	0.33
Control Delay	24.1	5.5	31.6	15.7	29.3	19.7	26.2	21.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.1	5.5	31.6	15.7	29.3	19.7	26.2	21.1
Queue Length 50th (m)	6.0	13.1	45.8	74.6	14.9	15.5	3.2	22.0
Queue Length 95th (m)	14.4	11.4	m53.6	m76.0	32.7	34.8	10.2	45.7
Internal Link Dist (m)		294.1		330.0		157.1		345.5
Turn Bay Length (m)	84.0		50.0		30.0		30.0	
Base Capacity (vph)	239	2403	467	2454	351	633	403	634
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	0.56	0.27	0.69	0.45	0.30	0.25	0.06	0.33

Intersection Summary

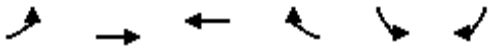
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	605	35	320	1065	35	105	85	75	25	105	105
Future Volume (vph)	135	605	35	320	1065	35	105	85	75	25	105	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.93		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1801	3510		1770	3589		1770	1732		1805	1723	
Flt Permitted	0.19	1.00		0.37	1.00		0.54	1.00		0.61	1.00	
Satd. Flow (perm)	352	3510		683	3589		1009	1732		1158	1723	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	135	605	35	320	1065	35	105	85	75	25	105	105
RTOR Reduction (vph)	0	6	0	0	3	0	0	30	0	0	35	0
Lane Group Flow (vph)	135	634	0	320	1097	0	105	130	0	25	175	0
Confl. Peds. (#/hr)	7					7						
Heavy Vehicles (%)	0%	2%	2%	2%	0%	0%	2%	2%	2%	0%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	50.6	50.6		50.6	50.6		30.4	30.4		30.4	30.4	
Effective Green, g (s)	51.6	51.6		51.6	51.6		31.4	31.4		31.4	31.4	
Actuated g/C Ratio	0.57	0.57		0.57	0.57		0.35	0.35		0.35	0.35	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	201	2012		391	2057		352	604		404	601	
v/s Ratio Prot		0.18			0.31			0.08			0.10	
v/s Ratio Perm	0.38			c0.47			c0.10			0.02		
v/c Ratio	0.67	0.31		0.82	0.53		0.30	0.22		0.06	0.29	
Uniform Delay, d1	13.3	10.0		15.4	11.8		21.3	20.6		19.5	21.2	
Progression Factor	0.70	0.56		1.29	1.33		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.1	0.1		9.7	0.2		2.2	0.8		0.3	1.2	
Delay (s)	17.3	5.7		29.5	15.9		23.5	21.4		19.8	22.5	
Level of Service	B	A		C	B		C	C		B	C	
Approach Delay (s)		7.7			18.9			22.2			22.2	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	780	980	180	0	100
Future Volume (Veh/h)	0	780	980	180	0	100
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	780	980	180	0	100
Pedestrians					6	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		149				
pX, platoon unblocked					0.87	
vC, conflicting volume	1166				1466	586
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1166				1240	586
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	78
cM capacity (veh/h)	603				148	456

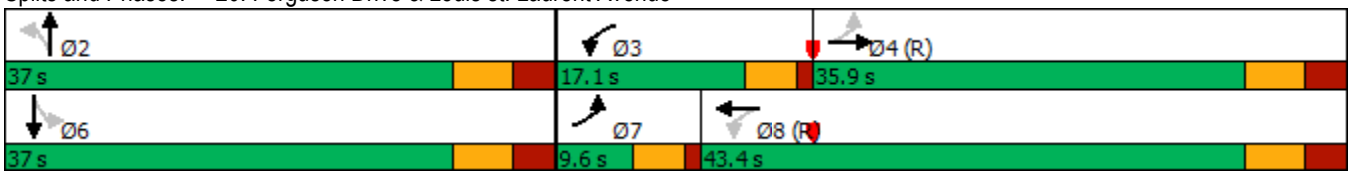
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	390	390	653	507	100
Volume Left	0	0	0	0	0
Volume Right	0	0	0	180	100
cSH	1700	1700	1700	1700	456
Volume to Capacity	0.23	0.23	0.38	0.30	0.22
Queue Length 95th (m)	0.0	0.0	0.0	0.0	6.6
Control Delay (s)	0.0	0.0	0.0	0.0	15.1
Lane LOS					C
Approach Delay (s)	0.0		0.0		15.1
Approach LOS					C

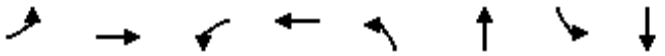
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	45.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	85	565	170	1070	105	45	35	85
Future Volume (vph)	85	565	170	1070	105	45	35	85
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	28.0	5.0	28.0	30.0	30.0	30.0	30.0
Minimum Split (s)	9.5	35.0	9.5	35.0	37.0	37.0	37.0	37.0
Total Split (s)	9.6	35.9	17.1	43.4	37.0	37.0	37.0	37.0
Total Split (%)	10.7%	39.9%	19.0%	48.2%	41.1%	41.1%	41.1%	41.1%
Yellow Time (s)	3.5	4.0	3.5	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	3.0	1.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.5	6.0	3.5	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Act Effct Green (s)	41.9	32.8	49.3	39.0	31.0	31.0	31.0	31.0
Actuated g/C Ratio	0.47	0.36	0.55	0.43	0.34	0.34	0.34	0.34
v/c Ratio	0.36	0.58	0.42	0.73	0.24	0.25	0.08	0.21
Control Delay	15.1	24.1	10.4	22.1	23.0	8.1	20.7	16.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.1	24.1	10.4	22.1	23.0	8.1	20.7	16.2
LOS	B	C	B	C	C	A	C	B
Approach Delay		23.1		20.6		13.9		17.1
Approach LOS		C		C		B		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 20.5	Intersection LOS: C
Intersection Capacity Utilization 104.7%	ICU Level of Service G
Analysis Period (min) 15	

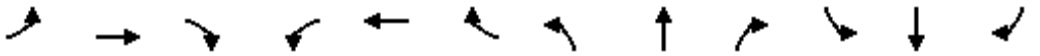
Splits and Phases: 20: Ferguson Drive & Louis st. Laurent Avenue





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	85	735	170	1135	105	165	35	135
v/c Ratio	0.36	0.58	0.42	0.73	0.24	0.25	0.08	0.21
Control Delay	15.1	24.1	10.4	22.1	23.0	8.1	20.7	16.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.1	24.1	10.4	22.1	23.0	8.1	20.7	16.2
Queue Length 50th (m)	6.8	52.1	8.2	103.2	13.5	5.5	4.3	12.4
Queue Length 95th (m)	13.8	74.5	16.4	126.8	26.5	19.3	11.0	25.7
Internal Link Dist (m)		385.0		300.4		136.9		272.5
Turn Bay Length (m)	65.0		48.0		30.0		35.0	
Base Capacity (vph)	233	1272	452	1564	438	654	425	638
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	0.36	0.58	0.38	0.73	0.24	0.25	0.08	0.21

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	565	170	170	1070	65	105	45	120	35	85	50
Future Volume (vph)	85	565	170	170	1070	65	105	45	120	35	85	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	0.89		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	3412		1805	3572		1802	1671		1797	1785	
Flt Permitted	0.14	1.00		0.24	1.00		0.67	1.00		0.65	1.00	
Satd. Flow (perm)	263	3412		451	3572		1272	1671		1235	1785	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	85	565	170	170	1070	65	105	45	120	35	85	50
RTOR Reduction (vph)	0	30	0	0	5	0	0	79	0	0	24	0
Lane Group Flow (vph)	85	705	0	170	1130	0	105	86	0	35	111	0
Confl. Peds. (#/hr)	9		3	3		9	2		6	6		2
Heavy Vehicles (%)	1%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	36.2	31.8		46.0	37.1		30.0	30.0		30.0	30.0	
Effective Green, g (s)	38.2	32.8		47.0	38.1		31.0	31.0		31.0	31.0	
Actuated g/C Ratio	0.42	0.36		0.52	0.42		0.34	0.34		0.34	0.34	
Clearance Time (s)	4.5	7.0		4.5	7.0		7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	203	1243		396	1512		438	575		425	614	
v/s Ratio Prot	0.03	0.21		c0.05	c0.32			0.05			0.06	
v/s Ratio Perm	0.15			0.17			c0.08			0.03		
v/c Ratio	0.42	0.57		0.43	0.75		0.24	0.15		0.08	0.18	
Uniform Delay, d1	17.1	22.9		12.6	21.9		21.1	20.4		19.9	20.6	
Progression Factor	1.00	1.00		0.72	0.87		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.4	1.9		0.7	3.2		0.3	0.1		0.1	0.1	
Delay (s)	18.5	24.8		9.8	22.3		21.4	20.5		20.0	20.8	
Level of Service	B	C		A	C		C	C		B	C	
Approach Delay (s)		24.1			20.7			20.8			20.6	
Approach LOS		C			C			C			C	

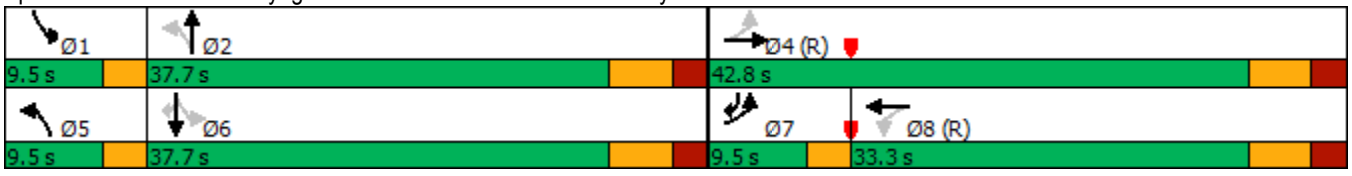
Intersection Summary			
HCM 2000 Control Delay	21.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	104.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	440	795	100	220	50	255	35	445	315
Future Volume (vph)	440	795	100	220	50	255	35	445	315
Turn Type	pm+pt	NA	Perm	NA	pm+pt	NA	pm+pt	NA	pm+ov
Protected Phases	7	4		8	5	2	1	6	7
Permitted Phases	4		8		2		6		6
Detector Phase	7	4	8	8	5	2	1	6	7
Switch Phase									
Minimum Initial (s)	5.0	26.0	26.0	26.0	5.0	31.0	5.0	31.0	5.0
Minimum Split (s)	9.5	33.2	33.2	33.2	9.5	37.7	9.5	37.7	9.5
Total Split (s)	9.5	42.8	33.3	33.3	9.5	37.7	9.5	37.7	9.5
Total Split (%)	10.6%	47.6%	37.0%	37.0%	10.6%	41.9%	10.6%	41.9%	10.6%
Yellow Time (s)	3.0	4.2	4.2	4.2	3.0	4.2	3.0	4.2	3.0
All-Red Time (s)	0.0	2.5	2.5	2.5	0.0	2.5	0.0	2.5	0.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	2.0	5.7	5.7	5.7	2.0	5.7	2.0	5.7	2.0
Lead/Lag	Lead		Lag	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	C-Min	None	None	None	None	None
Act Effct Green (s)	44.6	40.9	27.9	27.9	40.2	32.0	40.2	32.0	48.7
Actuated g/C Ratio	0.50	0.45	0.31	0.31	0.45	0.36	0.45	0.36	0.54
v/c Ratio	0.73	0.63	0.65	0.20	0.11	0.26	0.07	0.25	0.32
Control Delay	37.5	35.8	49.2	23.3	12.7	13.5	12.3	21.0	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.5	35.8	49.2	23.3	12.7	13.5	12.3	21.0	2.4
LOS	D	D	D	C	B	B	B	C	A
Approach Delay		36.3		31.3		13.4		13.3	
Approach LOS		D		C		B		B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green, Master Intersection	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 26.3	Intersection LOS: C
Intersection Capacity Utilization 97.8%	ICU Level of Service F
Analysis Period (min) 15	

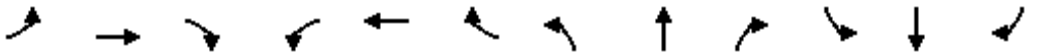
Splits and Phases: 9: Neyagawa Boulevard/James Snow Parkway & Louis st. Laurent Avenue



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	440	1000	100	225	50	395	35	445	315
v/c Ratio	0.73	0.63	0.65	0.20	0.11	0.26	0.07	0.25	0.32
Control Delay	37.5	35.8	49.2	23.3	12.7	13.5	12.3	21.0	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.5	35.8	49.2	23.3	12.7	13.5	12.3	21.0	2.4
Queue Length 50th (m)	73.6	93.3	15.7	15.6	4.5	11.5	3.1	20.6	0.0
Queue Length 95th (m)	m#104.7	114.4	#40.9	24.7	10.3	18.9	7.9	28.7	12.8
Internal Link Dist (m)		330.0		133.8		451.3		633.9	
Turn Bay Length (m)	200.0				95.0		165.0		
Base Capacity (vph)	606	1596	156	1123	475	1535	487	1756	984
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.63	0.64	0.20	0.11	0.26	0.07	0.25	0.32

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



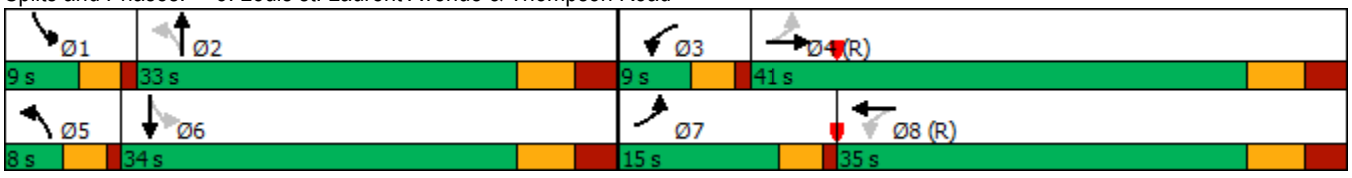
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	440	795	205	100	220	5	50	255	140	35	445	315
Future Volume (vph)	440	795	205	100	220	5	50	255	140	35	445	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0	5.7		5.7	5.7		2.0	5.7		2.0	5.7	2.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	1.00
Frt	1.00	0.97		1.00	1.00		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	3464		1805	3598		1770	4061		1752	4940	1553
Flt Permitted	0.57	1.00		0.26	1.00		0.48	1.00		0.51	1.00	1.00
Satd. Flow (perm)	1049	3464		502	3598		901	4061		941	4940	1553
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	440	795	205	100	220	5	50	255	140	35	445	315
RTOR Reduction (vph)	0	24	0	0	2	0	0	90	0	0	0	165
Lane Group Flow (vph)	440	976	0	100	223	0	50	305	0	35	445	151
Heavy Vehicles (%)	3%	1%	1%	0%	0%	0%	2%	5%	50%	3%	5%	4%
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	7	4			8		5	2		1	6	7
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	38.7	38.7		25.7	25.7		34.9	31.0		34.9	31.0	41.0
Effective Green, g (s)	39.7	39.7		26.7	26.7		36.9	32.0		36.9	32.0	43.0
Actuated g/C Ratio	0.44	0.44		0.30	0.30		0.41	0.36		0.41	0.36	0.48
Clearance Time (s)	3.0	6.7		6.7	6.7		3.0	6.7		3.0	6.7	3.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	548	1528		148	1067		416	1443		429	1756	741
v/s Ratio Prot	c0.10	c0.28			0.06		c0.01	0.08		0.00	c0.09	0.02
v/s Ratio Perm	0.26			0.20			0.04			0.03		0.07
v/c Ratio	0.80	0.64		0.68	0.21		0.12	0.21		0.08	0.25	0.20
Uniform Delay, d1	20.0	19.6		27.8	23.7		16.1	20.2		16.0	20.5	13.6
Progression Factor	1.72	1.82		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	5.8	1.4		22.0	0.4		0.1	0.1		0.1	0.1	0.1
Delay (s)	40.2	37.0		49.9	24.2		16.3	20.3		16.1	20.6	13.7
Level of Service	D	D		D	C		B	C		B	C	B
Approach Delay (s)		38.0			32.1			19.8			17.7	
Approach LOS		D			C			B			B	

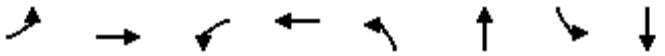
Intersection Summary			
HCM 2000 Control Delay	29.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	97.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	195	495	120	650	95	330	130	190
Future Volume (vph)	195	495	120	650	95	330	130	190
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	28.0	4.0	28.0	4.0	26.0	4.0	26.0
Minimum Split (s)	8.0	35.0	8.0	35.0	8.0	33.0	8.0	33.0
Total Split (s)	15.0	41.0	9.0	35.0	8.0	33.0	9.0	34.0
Total Split (%)	16.3%	44.6%	9.8%	38.0%	8.7%	35.9%	9.8%	37.0%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	3.0	1.0	3.0	1.0	3.0	1.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	Min	None	Min
Act Effct Green (s)	46.9	35.0	38.9	29.9	35.0	27.0	37.4	29.6
Actuated g/C Ratio	0.51	0.38	0.42	0.32	0.38	0.29	0.41	0.32
v/c Ratio	0.58	0.41	0.30	0.71	0.23	0.42	0.34	0.29
Control Delay	19.6	21.5	14.5	30.7	17.9	25.0	19.4	14.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.6	21.5	14.5	30.7	17.9	25.0	19.4	14.6
LOS	B	C	B	C	B	C	B	B
Approach Delay		21.0		28.5		23.7		16.0
Approach LOS		C		C		C		B

Intersection Summary	
Cycle Length: 92	
Actuated Cycle Length: 92	
Offset: 22.5 (24%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 23.3	Intersection LOS: C
Intersection Capacity Utilization 79.7%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: Louis st. Laurent Avenue & Thompson Road





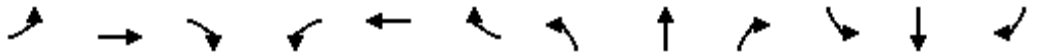
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	195	545	120	780	95	425	130	325
v/c Ratio	0.58	0.41	0.30	0.71	0.23	0.42	0.34	0.29
Control Delay	19.6	21.5	14.5	30.7	17.9	25.0	19.4	14.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.6	21.5	14.5	30.7	17.9	25.0	19.4	14.6
Queue Length 50th (m)	19.1	37.5	11.2	65.3	10.5	29.9	14.7	13.6
Queue Length 95th (m)	32.0	51.9	20.8	87.2	20.4	43.8	26.5	24.6
Internal Link Dist (m)		163.9		124.6		375.0		677.0
Turn Bay Length (m)	70.0		70.0		70.0		100.0	
Base Capacity (vph)	354	1329	403	1104	418	1017	381	1118
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	0.55	0.41	0.30	0.71	0.23	0.42	0.34	0.29

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	195	495	50	120	650	130	95	330	95	130	190	135
Future Volume (vph)	195	495	50	120	650	130	95	330	95	130	190	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.0		3.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.98		1.00	0.99		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.98	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.97		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1747	3474		1729	3341		1729	3370		1775	3192	
Flt Permitted	0.18	1.00		0.45	1.00		0.56	1.00		0.42	1.00	
Satd. Flow (perm)	337	3474		816	3341		1010	3370		785	3192	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	195	495	50	120	650	130	95	330	95	130	190	135
RTOR Reduction (vph)	0	8	0	0	18	0	0	29	0	0	92	0
Lane Group Flow (vph)	195	537	0	120	762	0	95	396	0	130	233	0
Confl. Peds. (#/hr)	97		21	21		97	64		33	33		64
Heavy Vehicles (%)	3%	2%	4%	4%	3%	6%	2%	2%	4%	1%	3%	2%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	42.2	33.2		33.1	28.1		30.0	26.8		33.6	28.6	
Effective Green, g (s)	43.2	34.2		35.1	29.1		32.0	27.8		35.6	29.6	
Actuated g/C Ratio	0.47	0.37		0.38	0.32		0.35	0.30		0.39	0.32	
Clearance Time (s)	4.0	7.0		4.0	7.0		4.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	328	1291		370	1056		384	1018		368	1026	
v/s Ratio Prot	c0.07	0.15		0.02	c0.23		0.01	c0.12		c0.02	0.07	
v/s Ratio Perm	0.21			0.10			0.07			0.11		
v/c Ratio	0.59	0.42		0.32	0.72		0.25	0.39		0.35	0.23	
Uniform Delay, d1	16.4	21.5		18.9	27.9		20.7	25.4		18.8	22.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.9	1.0		0.5	4.3		0.3	0.2		0.6	0.1	
Delay (s)	19.3	22.5		19.4	32.1		21.0	25.6		19.4	22.9	
Level of Service	B	C		B	C		C	C		B	C	
Approach Delay (s)		21.6			30.4			24.8			21.9	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	25.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	92.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	615	70	0	780	25	0	0	145	0	0	85
Future Volume (Veh/h)	0	615	70	0	780	25	0	0	145	0	0	85
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	615	70	0	780	25	0	0	145	0	0	85
Pedestrians		132			19			38			47	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		11			2			3			4	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		324			318							
pX, platoon unblocked	0.89			1.00			0.89	0.89	1.00	0.89	0.89	0.89
vC, conflicting volume	852			723			1295	1540	400	1311	1562	582
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	586			722			1081	1357	398	1099	1382	282
tC, single (s)	4.2			4.2			7.7	7.1	7.1	8.1	6.5	7.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.3	3.4	3.8	4.0	3.4
p0 queue free %	100			100			100	100	74	100	100	84
cM capacity (veh/h)	836			835			100	96	552	80	120	535

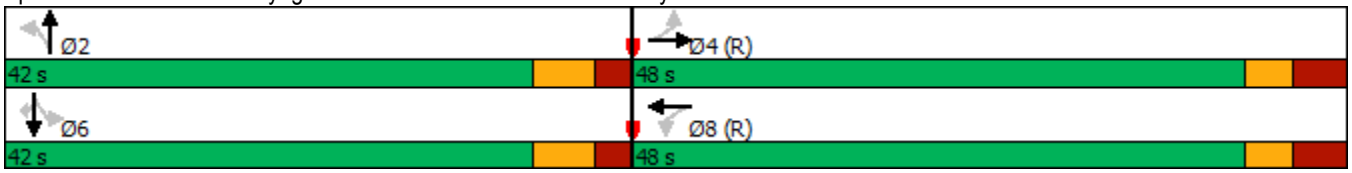
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	410	275	520	285	145	85
Volume Left	0	0	0	0	0	0
Volume Right	0	70	0	25	145	85
cSH	1700	1700	1700	1700	552	535
Volume to Capacity	0.24	0.16	0.31	0.17	0.26	0.16
Queue Length 95th (m)	0.0	0.0	0.0	0.0	8.4	4.5
Control Delay (s)	0.0	0.0	0.0	0.0	13.8	13.0
Lane LOS					B	B
Approach Delay (s)	0.0		0.0		13.8	13.0
Approach LOS					B	B

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	42.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	245	305	105	285	120	235	10	240	430
Future Volume (vph)	245	305	105	285	120	235	10	240	430
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases		4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	26.0	26.0	26.0	26.0	31.0	31.0	31.0	31.0	31.0
Minimum Split (s)	33.0	33.0	33.0	33.0	37.7	37.7	37.7	37.7	37.7
Total Split (s)	48.0	48.0	48.0	48.0	42.0	42.0	42.0	42.0	42.0
Total Split (%)	53.3%	53.3%	53.3%	53.3%	46.7%	46.7%	46.7%	46.7%	46.7%
Yellow Time (s)	3.3	3.3	3.3	3.3	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	3.7	3.7	3.7	3.7	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	5.7	5.7	5.7	5.7	5.7
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None
Act Effct Green (s)	46.3	46.3	46.3	46.3	32.0	32.0	32.0	32.0	32.0
Actuated g/C Ratio	0.51	0.51	0.51	0.51	0.36	0.36	0.36	0.36	0.36
v/c Ratio	0.47	0.22	0.21	0.17	0.30	0.17	0.03	0.14	0.51
Control Delay	16.7	7.7	13.2	11.5	23.7	16.6	19.3	20.0	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.7	7.7	13.2	11.5	23.7	16.6	19.3	20.0	4.6
LOS	B	A	B	B	C	B	B	B	A
Approach Delay		11.1		11.9		18.7		10.2	
Approach LOS		B		B		B		B	

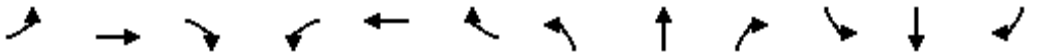
Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.51	
Intersection Signal Delay: 12.4	Intersection LOS: B
Intersection Capacity Utilization 114.5%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 9: Neyagawa Boulevard/James Snow Parkway & Louis st. Laurent Avenue



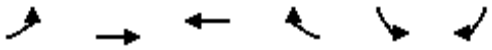
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	245	395	105	305	120	285	10	240	430
v/c Ratio	0.47	0.22	0.21	0.17	0.30	0.17	0.03	0.14	0.51
Control Delay	16.7	7.7	13.2	11.5	23.7	16.6	19.3	20.0	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.7	7.7	13.2	11.5	23.7	16.6	19.3	20.0	4.6
Queue Length 50th (m)	43.5	17.5	9.9	14.1	15.6	10.4	1.2	10.6	0.0
Queue Length 95th (m)	66.5	27.5	19.8	21.4	30.1	16.7	4.7	16.5	19.3
Internal Link Dist (m)		330.0		133.8		451.3		633.9	
Turn Bay Length (m)	200.0				95.0		165.0		
Base Capacity (vph)	526	1769	507	1810	447	1926	404	1955	895
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.22	0.21	0.17	0.27	0.15	0.02	0.12	0.48

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	245	305	90	105	285	20	120	235	50	10	240	430
Future Volume (vph)	245	305	90	105	285	20	120	235	50	10	240	430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	5.7
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	1.00
Frt	1.00	0.97		1.00	0.99		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1719	3385		1805	3509		1770	4702		1671	4848	1583
Flt Permitted	0.57	1.00		0.52	1.00		0.60	1.00		0.57	1.00	1.00
Satd. Flow (perm)	1024	3385		986	3509		1111	4702		1003	4848	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	245	305	90	105	285	20	120	235	50	10	240	430
RTOR Reduction (vph)	0	28	0	0	5	0	0	32	0	0	0	277
Lane Group Flow (vph)	245	367	0	105	300	0	120	253	0	10	240	153
Heavy Vehicles (%)	5%	3%	3%	0%	2%	0%	2%	9%	0%	8%	7%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	45.3	45.3		45.3	45.3		31.0	31.0		31.0	31.0	31.0
Effective Green, g (s)	46.3	46.3		46.3	46.3		32.0	32.0		32.0	32.0	32.0
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.36	0.36		0.36	0.36	0.36
Clearance Time (s)	7.0	7.0		7.0	7.0		6.7	6.7		6.7	6.7	6.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	526	1741		507	1805		395	1671		356	1723	562
v/s Ratio Prot		0.11			0.09			0.05			0.05	
v/s Ratio Perm	c0.24			0.11			c0.11			0.01		0.10
v/c Ratio	0.47	0.21		0.21	0.17		0.30	0.15		0.03	0.14	0.27
Uniform Delay, d1	14.0	11.9		11.9	11.6		21.0	19.8		18.9	19.7	20.7
Progression Factor	0.94	0.72		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.9	0.3		0.9	0.2		0.4	0.0		0.0	0.0	0.3
Delay (s)	16.1	8.8		12.8	11.8		21.4	19.8		18.9	19.7	21.0
Level of Service	B	A		B	B		C	B		B	B	C
Approach Delay (s)		11.6			12.1			20.3			20.5	
Approach LOS		B			B			C			C	

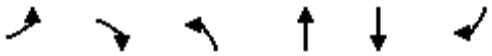
Intersection Summary			
HCM 2000 Control Delay	16.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	114.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	715	975	20	0	15
Future Volume (Veh/h)	0	715	975	20	0	15
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	715	975	20	0	15
Pedestrians					87	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					7	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1082				1430	584
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1082				1430	584
tC, single (s)	4.1				6.8	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	100				100	96
cM capacity (veh/h)	605				119	412

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	358	358	650	345	15
Volume Left	0	0	0	0	0
Volume Right	0	0	0	20	15
cSH	1700	1700	1700	1700	412
Volume to Capacity	0.21	0.21	0.38	0.20	0.04
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.9
Control Delay (s)	0.0	0.0	0.0	0.0	14.1
Lane LOS					B
Approach Delay (s)	0.0		0.0		14.1
Approach LOS					B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	37.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	65	10	10	410	410	70
Future Volume (Veh/h)	65	10	10	410	410	70
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	71	11	11	446	446	76
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)					256	
pX, platoon unblocked	0.99	0.99	0.99			
vC, conflicting volume	952	484	522			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	949	479	517			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	75	98	99			
cM capacity (veh/h)	284	584	1043			

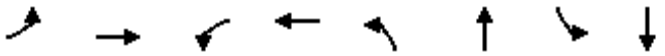
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	82	457	522
Volume Left	71	11	0
Volume Right	11	0	76
cSH	305	1043	1700
Volume to Capacity	0.27	0.01	0.31
Queue Length 95th (m)	8.5	0.3	0.0
Control Delay (s)	21.1	0.3	0.0
Lane LOS	C	A	
Approach Delay (s)	21.1	0.3	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	40.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	175	570	175	610	90	65	20	85
Future Volume (vph)	175	570	175	610	90	65	20	85
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	60.0	60.0	60.0	60.0	30.0	30.0	30.0	30.0
Total Split (%)	66.7%	66.7%	66.7%	66.7%	33.3%	33.3%	33.3%	33.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	Max	Max
Act Effct Green (s)	33.3	33.3	33.3	33.3	49.7	49.7	49.7	49.7
Actuated g/C Ratio	0.37	0.37	0.37	0.37	0.55	0.55	0.55	0.55
v/c Ratio	0.91	0.46	0.80	0.48	0.14	0.12	0.03	0.20
Control Delay	60.6	16.1	46.5	21.3	14.9	9.7	14.9	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.6	16.1	46.5	21.3	14.9	9.7	14.9	9.9
LOS	E	B	D	C	B	A	B	A
Approach Delay		26.2		26.8		12.0		10.4
Approach LOS		C		C		B		B

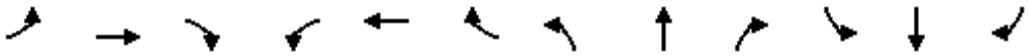
Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 23.3	Intersection LOS: C
Intersection Capacity Utilization 60.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 16: Trudeau Drive & Louis st. Laurent Avenue



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	175	595	175	630	90	115	20	185
v/c Ratio	0.91	0.46	0.80	0.48	0.14	0.12	0.03	0.20
Control Delay	60.6	16.1	46.5	21.3	14.9	9.7	14.9	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.6	16.1	46.5	21.3	14.9	9.7	14.9	9.9
Queue Length 50th (m)	16.8	27.3	28.1	46.5	7.4	5.6	1.5	9.6
Queue Length 95th (m)	51.7	24.0	34.0	39.8	22.7	20.1	7.2	30.6
Internal Link Dist (m)		294.1		330.0		138.2		345.5
Turn Bay Length (m)	84.0		50.0		30.0		30.0	
Base Capacity (vph)	327	2171	372	2206	644	982	712	922
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	0.54	0.27	0.47	0.29	0.14	0.12	0.03	0.20

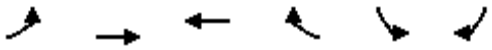
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	570	25	175	610	20	90	65	50	20	85	100
Future Volume (vph)	175	570	25	175	610	20	90	65	50	20	85	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	0.98	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.93		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1673	3452		1770	3511		1770	1741		1793	1616	
Flt Permitted	0.30	1.00		0.32	1.00		0.63	1.00		0.68	1.00	
Satd. Flow (perm)	524	3452		594	3511		1167	1741		1289	1616	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	175	570	25	175	610	20	90	65	50	20	85	100
RTOR Reduction (vph)	0	6	0	0	4	0	0	20	0	0	30	0
Lane Group Flow (vph)	175	589	0	175	626	0	90	95	0	20	155	0
Confl. Peds. (#/hr)	23					23				5		12
Heavy Vehicles (%)	6%	4%	2%	2%	2%	5%	2%	2%	2%	0%	2%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	32.3	32.3		32.3	32.3		48.7	48.7		48.7	48.7	
Effective Green, g (s)	33.3	33.3		33.3	33.3		49.7	49.7		49.7	49.7	
Actuated g/C Ratio	0.37	0.37		0.37	0.37		0.55	0.55		0.55	0.55	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	193	1277		219	1299		644	961		711	892	
v/s Ratio Prot		0.17			0.18			0.05			c0.10	
v/s Ratio Perm	c0.33			0.29			0.08			0.02		
v/c Ratio	0.91	0.46		0.80	0.48		0.14	0.10		0.03	0.17	
Uniform Delay, d1	26.9	21.5		25.4	21.7		9.8	9.5		9.2	10.0	
Progression Factor	0.68	0.75		0.96	0.99		1.00	1.00		1.00	1.00	
Incremental Delay, d2	37.9	0.3		17.4	0.3		0.5	0.2		0.1	0.4	
Delay (s)	56.3	16.4		41.7	21.7		10.2	9.8		9.2	10.4	
Level of Service	E	B		D	C		B	A		A	B	
Approach Delay (s)		25.4			26.0			10.0			10.3	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	22.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	670	820	105	0	70
Future Volume (Veh/h)	0	670	820	105	0	70
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	670	820	105	0	70
Pedestrians		1			54	
Lane Width (m)		3.6			3.6	
Walking Speed (m/s)		1.2			1.2	
Percent Blockage		0			5	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		149				
pX, platoon unblocked					0.91	
vC, conflicting volume	979				1262	518
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	979				1086	518
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	85
cM capacity (veh/h)	681				186	482

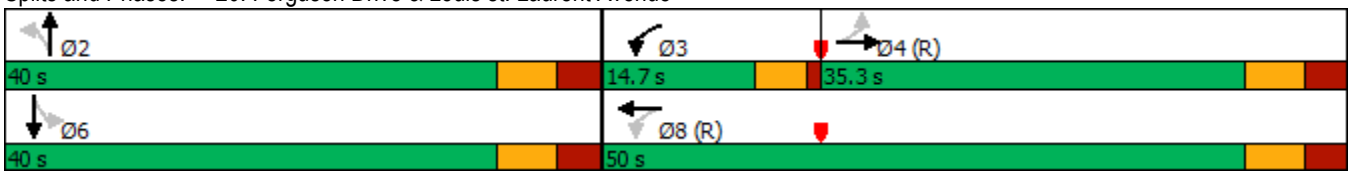
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	335	335	547	378	70
Volume Left	0	0	0	0	0
Volume Right	0	0	0	105	70
cSH	1700	1700	1700	1700	482
Volume to Capacity	0.20	0.20	0.32	0.22	0.15
Queue Length 95th (m)	0.0	0.0	0.0	0.0	4.0
Control Delay (s)	0.0	0.0	0.0	0.0	13.7
Lane LOS					B
Approach Delay (s)	0.0		0.0		13.7
Approach LOS					B

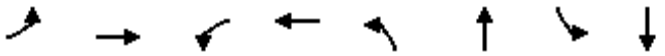
Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	37.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	80	460	190	650	250	95	25	110
Future Volume (vph)	80	460	190	650	250	95	25	110
Turn Type	Perm	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases		4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	28.0	28.0	5.0	28.0	30.0	30.0	30.0	30.0
Minimum Split (s)	35.0	35.0	9.5	35.0	37.0	37.0	37.0	37.0
Total Split (s)	35.3	35.3	14.7	50.0	40.0	40.0	40.0	40.0
Total Split (%)	39.2%	39.2%	16.3%	55.6%	44.4%	44.4%	44.4%	44.4%
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	1.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0	3.5	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes					
Recall Mode	C-Min	C-Min	None	C-Min	None	None	None	None
Act Effct Green (s)	31.6	31.6	48.6	46.1	31.9	31.9	31.9	31.9
Actuated g/C Ratio	0.35	0.35	0.54	0.51	0.35	0.35	0.35	0.35
v/c Ratio	0.33	0.57	0.51	0.39	0.70	0.42	0.09	0.34
Control Delay	27.5	23.7	11.3	8.0	36.8	15.5	19.9	16.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.5	23.7	11.3	8.0	36.8	15.5	19.9	16.9
LOS	C	C	B	A	D	B	B	B
Approach Delay		24.1		8.7		26.7		17.3
Approach LOS		C		A		C		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 18.1	Intersection LOS: B
Intersection Capacity Utilization 116.7%	ICU Level of Service H
Analysis Period (min) 15	

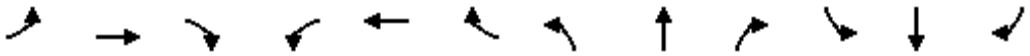
Splits and Phases: 20: Ferguson Drive & Louis st. Laurent Avenue





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	80	645	190	685	250	225	25	200
v/c Ratio	0.33	0.57	0.51	0.39	0.70	0.42	0.09	0.34
Control Delay	27.5	23.7	11.3	8.0	36.8	15.5	19.9	16.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.5	23.7	11.3	8.0	36.8	15.5	19.9	16.9
Queue Length 50th (m)	10.5	43.7	5.0	10.2	39.2	18.0	3.0	19.1
Queue Length 95th (m)	24.5	64.2	19.2	41.5	65.9	36.4	8.4	35.0
Internal Link Dist (m)		385.0		300.4		231.6		272.5
Turn Bay Length (m)	65.0		48.0		30.0		35.0	
Base Capacity (vph)	241	1138	385	1767	380	568	299	630
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	0.33	0.57	0.49	0.39	0.66	0.40	0.08	0.32

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	460	185	190	650	35	250	95	130	25	110	90
Future Volume (vph)	80	460	185	190	650	35	250	95	130	25	110	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		3.5	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.93		1.00	0.99		1.00	0.82		1.00	0.96	
Flpb, ped/bikes	0.93	1.00		0.98	1.00		0.93	1.00		0.79	1.00	
Frt	1.00	0.96		1.00	0.99		1.00	0.91		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1671	3108		1569	3446		1575	1362		1315	1583	
Flt Permitted	0.39	1.00		0.28	1.00		0.61	1.00		0.57	1.00	
Satd. Flow (perm)	688	3108		460	3446		1007	1362		794	1583	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	80	460	185	190	650	35	250	95	130	25	110	90
RTOR Reduction (vph)	0	46	0	0	4	0	0	57	0	0	34	0
Lane Group Flow (vph)	80	599	0	190	681	0	250	168	0	25	166	0
Confl. Peds. (#/hr)	120		141	141		120	99		351	351		99
Heavy Vehicles (%)	0%	4%	2%	13%	3%	0%	7%	7%	3%	8%	11%	2%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	30.6	30.6		45.1	45.1		30.9	30.9		30.9	30.9	
Effective Green, g (s)	31.6	31.6		46.1	46.1		31.9	31.9		31.9	31.9	
Actuated g/C Ratio	0.35	0.35		0.51	0.51		0.35	0.35		0.35	0.35	
Clearance Time (s)	7.0	7.0		4.5	7.0		7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	241	1091		371	1765		356	482		281	561	
v/s Ratio Prot		0.19		c0.06	0.20			0.12			0.10	
v/s Ratio Perm	0.12			c0.20			c0.25			0.03		
v/c Ratio	0.33	0.55		0.51	0.39		0.70	0.35		0.09	0.30	
Uniform Delay, d1	21.4	23.5		13.1	13.3		25.0	21.4		19.4	20.9	
Progression Factor	1.00	1.00		0.58	0.54		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.7	2.0		1.2	0.6		6.2	0.4		0.1	0.3	
Delay (s)	25.1	25.5		8.8	7.9		31.1	21.8		19.5	21.2	
Level of Service	C	C		A	A		C	C		B	C	
Approach Delay (s)		25.4			8.1			26.7			21.0	
Approach LOS		C			A			C			C	

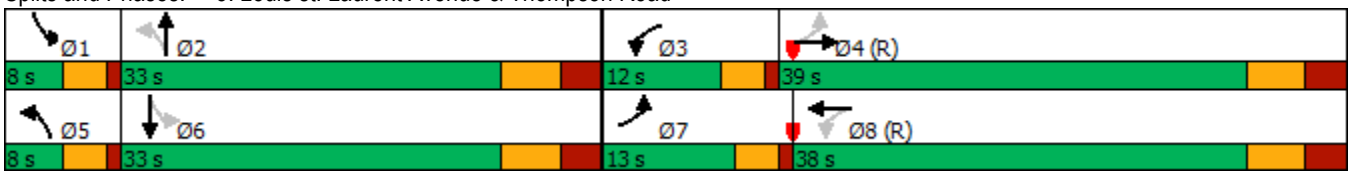
Intersection Summary			
HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	116.7%	ICU Level of Service	H
Analysis Period (min)	15		

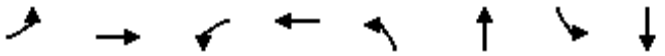
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	215	610	160	860	135	410	155	240
Future Volume (vph)	215	610	160	860	135	410	155	240
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+pt	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	28.0	4.0	28.0	4.0	26.0	4.0	26.0
Minimum Split (s)	8.0	35.0	8.0	35.0	8.0	33.0	8.0	33.0
Total Split (s)	13.0	39.0	12.0	38.0	8.0	33.0	8.0	33.0
Total Split (%)	14.1%	42.4%	13.0%	41.3%	8.7%	35.9%	8.7%	35.9%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	1.0	3.0	1.0	3.0	1.0	3.0	1.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	Min	None	Min
Act Effct Green (s)	44.8	31.9	42.6	30.8	36.2	27.0	36.3	27.1
Actuated g/C Ratio	0.49	0.35	0.46	0.33	0.39	0.29	0.39	0.29
v/c Ratio	0.76	0.54	0.42	0.79	0.34	0.47	0.43	0.38
Control Delay	34.7	25.6	15.6	33.0	19.9	26.9	22.0	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.7	25.6	15.6	33.0	19.9	26.9	22.0	15.5
LOS	C	C	B	C	B	C	C	B
Approach Delay		27.8		30.5		25.4		17.2
Approach LOS		C		C		C		B

Intersection Summary	
Cycle Length: 92	
Actuated Cycle Length: 92	
Offset: 22.5 (24%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 26.4	Intersection LOS: C
Intersection Capacity Utilization 85.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 3: Louis st. Laurent Avenue & Thompson Road

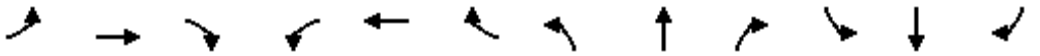




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	215	665	160	950	135	495	155	420
v/c Ratio	0.76	0.54	0.42	0.79	0.34	0.47	0.43	0.38
Control Delay	34.7	25.6	15.6	33.0	19.9	26.9	22.0	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.7	25.6	15.6	33.0	19.9	26.9	22.0	15.5
Queue Length 50th (m)	20.9	50.3	15.0	81.2	15.4	37.4	17.9	17.8
Queue Length 95th (m)	#53.6	67.2	25.8	104.7	28.1	52.7	31.7	30.7
Internal Link Dist (m)		163.9		124.6		375.0		677.0
Turn Bay Length (m)	70.0		70.0		70.0		100.0	
Base Capacity (vph)	285	1262	388	1242	400	1047	359	1105
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	0.75	0.53	0.41	0.76	0.34	0.47	0.43	0.38

Intersection Summary

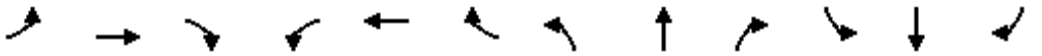
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	215	610	55	160	860	90	135	410	85	155	240	180
Future Volume (vph)	215	610	55	160	860	90	135	410	85	155	240	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.0		3.0	6.0		3.0	6.0		3.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.97		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3497		1805	3548		1805	3503		1802	3326	
Flt Permitted	0.13	1.00		0.30	1.00		0.45	1.00		0.38	1.00	
Satd. Flow (perm)	238	3497		576	3548		856	3503		725	3326	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	215	610	55	160	860	90	135	410	85	155	240	180
RTOR Reduction (vph)	0	7	0	0	9	0	0	19	0	0	127	0
Lane Group Flow (vph)	215	658	0	160	941	0	135	476	0	155	293	0
Confl. Peds. (#/hr)	19		1	1		19	1		10	10		1
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	39.8	30.9		37.6	29.8		31.2	26.0		31.4	26.1	
Effective Green, g (s)	41.8	31.9		39.6	30.8		33.2	27.0		33.4	27.1	
Actuated g/C Ratio	0.45	0.35		0.43	0.33		0.36	0.29		0.36	0.29	
Clearance Time (s)	4.0	7.0		4.0	7.0		4.0	7.0		4.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	276	1212		365	1187		372	1028		336	979	
v/s Ratio Prot	c0.08	0.19		0.04	0.27		0.02	c0.14		c0.03	0.09	
v/s Ratio Perm	c0.27			0.15			0.11			0.14		
v/c Ratio	0.78	0.54		0.44	0.79		0.36	0.46		0.46	0.30	
Uniform Delay, d1	18.6	24.2		16.8	27.7		20.4	26.6		20.6	25.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	13.0	1.7		0.8	5.5		0.6	0.3		1.0	0.2	
Delay (s)	31.5	25.9		17.6	33.2		21.0	26.9		21.6	25.3	
Level of Service	C	C		B	C		C	C		C	C	
Approach Delay (s)		27.3			31.0			25.6			24.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	92.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	85.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	640	120	0	1305	45	0	0	190	0	0	100
Future Volume (Veh/h)	0	640	120	0	1305	45	0	0	190	0	0	100
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	640	120	0	1305	45	0	0	190	0	0	100
Pedestrians		4									2	
Lane Width (m)		3.6									3.6	
Walking Speed (m/s)		1.2									1.2	
Percent Blockage		0									0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		324			318							
pX, platoon unblocked	0.80			0.92			0.84	0.84	0.92	0.84	0.84	0.80
vC, conflicting volume	1352			760			1456	2052	380	1840	2090	681
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	934			570			735	1446	157	1192	1491	93
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	76	100	100	87
cM capacity (veh/h)	590			934			225	111	799	92	104	756

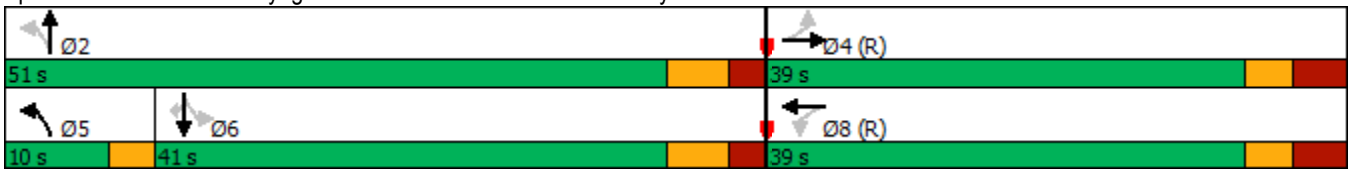
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	427	333	870	480	190	100
Volume Left	0	0	0	0	0	0
Volume Right	0	120	0	45	190	100
cSH	1700	1700	1700	1700	799	756
Volume to Capacity	0.25	0.20	0.51	0.28	0.24	0.13
Queue Length 95th (m)	0.0	0.0	0.0	0.0	7.4	3.6
Control Delay (s)	0.0	0.0	0.0	0.0	10.9	10.5
Lane LOS					B	B
Approach Delay (s)	0.0		0.0		10.9	10.5
Approach LOS					B	B

Intersection Summary				
Average Delay	1.3			
Intersection Capacity Utilization	51.6%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	250	445	150	460	255	350	10	310	785
Future Volume (vph)	250	445	150	460	255	350	10	310	785
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	NA	Perm
Protected Phases		4		8	5	2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	5	2	6	6	6
Switch Phase									
Minimum Initial (s)	26.0	26.0	26.0	26.0	5.0	31.0	31.0	31.0	31.0
Minimum Split (s)	33.0	33.0	33.0	33.0	9.5	37.7	37.7	37.7	37.7
Total Split (s)	39.0	39.0	39.0	39.0	10.0	51.0	41.0	41.0	41.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	11.1%	56.7%	45.6%	45.6%	45.6%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.0	4.2	4.2	4.2	4.2
All-Red Time (s)	3.7	3.7	3.7	3.7	0.0	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	2.0	5.7	5.7	5.7	5.7
Lead/Lag					Lead		Lag	Lag	Lag
Lead-Lag Optimize?					Yes		Yes	Yes	Yes
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None	None
Act Effct Green (s)	31.5	31.5	31.5	31.5	50.5	46.8	36.0	36.0	36.0
Actuated g/C Ratio	0.35	0.35	0.35	0.35	0.56	0.52	0.40	0.40	0.40
v/c Ratio	0.92	0.42	0.56	0.39	0.40	0.16	0.03	0.15	0.99
Control Delay	64.3	20.1	32.7	22.4	12.7	9.6	17.5	17.7	49.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.3	20.1	32.7	22.4	12.7	9.6	17.5	17.7	49.7
LOS	E	C	C	C	B	A	B	B	D
Approach Delay		34.6		24.8		10.8		40.4	
Approach LOS		C		C		B		D	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.99	
Intersection Signal Delay: 29.5	Intersection LOS: C
Intersection Capacity Utilization 114.5%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 9: Neyagawa Boulevard/James Snow Parkway & Louis st. Laurent Avenue

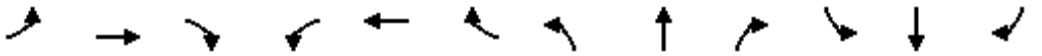


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	250	510	150	485	255	430	10	310	785
v/c Ratio	0.92	0.42	0.56	0.39	0.40	0.16	0.03	0.15	0.99
Control Delay	64.3	20.1	32.7	22.4	12.7	9.6	17.5	17.7	49.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.3	20.1	32.7	22.4	12.7	9.6	17.5	17.7	49.7
Queue Length 50th (m)	45.3	39.3	21.2	33.0	23.2	11.8	1.1	13.0	~107.2
Queue Length 95th (m)	#89.5	54.8	41.9	46.2	37.4	17.5	4.5	19.2	#191.7
Internal Link Dist (m)		330.0		133.8		451.3		633.9	
Turn Bay Length (m)	200.0				95.0		165.0		
Base Capacity (vph)	286	1271	279	1317	633	2616	299	2053	794
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.40	0.54	0.37	0.40	0.16	0.03	0.15	0.99

Intersection Summary

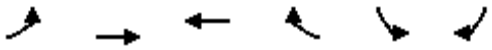
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	445	65	150	460	25	255	350	80	10	310	785
Future Volume (vph)	250	445	65	150	460	25	255	350	80	10	310	785
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		2.0	5.7		5.7	5.7	5.7
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	1.00
Frt	1.00	0.98		1.00	0.99		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3434		1805	3582		1787	4961		1444	5136	1615
Flt Permitted	0.42	1.00		0.40	1.00		0.53	1.00		0.49	1.00	1.00
Satd. Flow (perm)	783	3434		763	3582		991	4961		749	5136	1615
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	250	445	65	150	460	25	255	350	80	10	310	785
RTOR Reduction (vph)	0	13	0	0	5	0	0	38	0	0	0	149
Lane Group Flow (vph)	250	497	0	150	480	0	255	392	0	10	310	636
Heavy Vehicles (%)	2%	3%	4%	0%	0%	0%	1%	2%	0%	25%	1%	0%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	30.5	30.5		30.5	30.5		45.8	45.8		35.0	35.0	35.0
Effective Green, g (s)	31.5	31.5		31.5	31.5		46.8	46.8		36.0	36.0	36.0
Actuated g/C Ratio	0.35	0.35		0.35	0.35		0.52	0.52		0.40	0.40	0.40
Clearance Time (s)	7.0	7.0		7.0	7.0		3.0	6.7		6.7	6.7	6.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	274	1201		267	1253		593	2579		299	2054	646
v/s Ratio Prot		0.14			0.13		c0.04	0.08			0.06	
v/s Ratio Perm	c0.32			0.20			0.18			0.01		c0.39
v/c Ratio	0.91	0.41		0.56	0.38		0.43	0.15		0.03	0.15	0.98
Uniform Delay, d1	27.9	22.2		23.7	22.0		12.1	11.3		16.4	17.2	26.7
Progression Factor	0.94	0.90		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	35.2	1.0		8.3	0.9		0.5	0.0		0.0	0.0	31.3
Delay (s)	61.5	21.0		32.0	22.9		12.6	11.3		16.5	17.3	58.1
Level of Service	E	C		C	C		B	B		B	B	E
Approach Delay (s)		34.3			25.0			11.8			46.2	
Approach LOS		C			C			B			D	

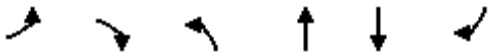
Intersection Summary			
HCM 2000 Control Delay	31.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.7
Intersection Capacity Utilization	114.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	850	1240	35	0	10
Future Volume (Veh/h)	0	850	1240	35	0	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	850	1240	35	0	10
Pedestrians					8	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1283				1690	646
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1283				1690	646
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	98
cM capacity (veh/h)	544				85	417

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	425	425	827	448	10
Volume Left	0	0	0	0	0
Volume Right	0	0	0	35	10
cSH	1700	1700	1700	1700	417
Volume to Capacity	0.25	0.25	0.49	0.26	0.02
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.6
Control Delay (s)	0.0	0.0	0.0	0.0	13.9
Lane LOS					B
Approach Delay (s)	0.0		0.0		13.9
Approach LOS					B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	45.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	100	10	20	270	425	145
Future Volume (Veh/h)	100	10	20	270	425	145
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	109	11	22	293	462	158
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)					267	
pX, platoon unblocked	0.93	0.93	0.93			
vC, conflicting volume	878	541	620			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	830	467	552			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	65	98	98			
cM capacity (veh/h)	308	553	945			

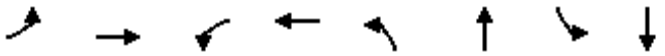
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	120	315	620
Volume Left	109	22	0
Volume Right	11	0	158
cSH	321	945	1700
Volume to Capacity	0.37	0.02	0.36
Queue Length 95th (m)	13.4	0.6	0.0
Control Delay (s)	22.7	0.9	0.0
Lane LOS	C	A	
Approach Delay (s)	22.7	0.9	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	135	665	320	1150	105	85	25	105
Future Volume (vph)	135	665	320	1150	105	85	25	105
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	65.0	65.0	65.0	65.0	25.0	25.0	25.0	25.0
Total Split (%)	72.2%	72.2%	72.2%	72.2%	27.8%	27.8%	27.8%	27.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	Max	Max
Act Effct Green (s)	53.5	53.5	53.5	53.5	29.5	29.5	29.5	29.5
Actuated g/C Ratio	0.59	0.59	0.59	0.59	0.33	0.33	0.33	0.33
v/c Ratio	0.71	0.33	0.84	0.55	0.33	0.27	0.07	0.35
Control Delay	28.3	5.1	33.4	14.7	30.8	20.4	26.8	22.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.3	5.1	33.4	14.7	30.8	20.4	26.8	22.0
LOS	C	A	C	B	C	C	C	C
Approach Delay		8.8		18.7		24.5		22.5
Approach LOS		A		B		C		C

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 16.6	Intersection LOS: B
Intersection Capacity Utilization 71.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 16: Trudeau Drive & Louis st. Laurent Avenue

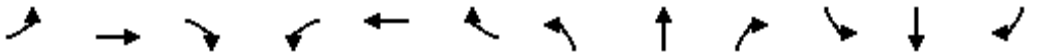


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	135	700	320	1185	105	160	25	210
v/c Ratio	0.71	0.33	0.84	0.55	0.33	0.27	0.07	0.35
Control Delay	28.3	5.1	33.4	14.7	30.8	20.4	26.8	22.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.3	5.1	33.4	14.7	30.8	20.4	26.8	22.0
Queue Length 50th (m)	4.5	10.3	43.9	77.1	15.9	16.5	3.4	23.4
Queue Length 95th (m)	m#19.8	15.1	m54.2	m81.3	32.9	34.8	10.2	45.7
Internal Link Dist (m)		294.1		330.0		157.1		345.5
Turn Bay Length (m)	84.0		50.0		30.0		30.0	
Base Capacity (vph)	217	2403	436	2457	323	597	374	599
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	0.62	0.29	0.73	0.48	0.33	0.27	0.07	0.35

Intersection Summary

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

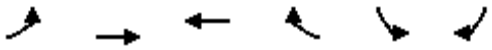
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	665	35	320	1150	35	105	85	75	25	105	105
Future Volume (vph)	135	665	35	320	1150	35	105	85	75	25	105	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.93		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1802	3513		1770	3590		1770	1732		1805	1723	
Flt Permitted	0.17	1.00		0.34	1.00		0.53	1.00		0.60	1.00	
Satd. Flow (perm)	318	3513		639	3590		989	1732		1144	1723	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	135	665	35	320	1150	35	105	85	75	25	105	105
RTOR Reduction (vph)	0	5	0	0	3	0	0	31	0	0	36	0
Lane Group Flow (vph)	135	695	0	320	1182	0	105	129	0	25	174	0
Confl. Peds. (#/hr)	7					7						
Heavy Vehicles (%)	0%	2%	2%	2%	0%	0%	2%	2%	2%	0%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	52.5	52.5		52.5	52.5		28.5	28.5		28.5	28.5	
Effective Green, g (s)	53.5	53.5		53.5	53.5		29.5	29.5		29.5	29.5	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.33	0.33		0.33	0.33	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	189	2088		379	2134		324	567		374	564	
v/s Ratio Prot		0.20			0.33			0.07			0.10	
v/s Ratio Perm	0.42			c0.50			c0.11			0.02		
v/c Ratio	0.71	0.33		0.84	0.55		0.32	0.23		0.07	0.31	
Uniform Delay, d1	12.9	9.2		14.9	11.0		22.8	22.0		20.8	22.6	
Progression Factor	0.67	0.54		1.29	1.32		1.00	1.00		1.00	1.00	
Incremental Delay, d2	11.3	0.1		11.6	0.2		2.6	0.9		0.3	1.4	
Delay (s)	19.9	5.1		30.7	14.8		25.4	22.9		21.1	24.0	
Level of Service	B	A		C	B		C	C		C	C	
Approach Delay (s)		7.5			18.2			23.9			23.7	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	805	1010	180	0	100
Future Volume (Veh/h)	0	805	1010	180	0	100
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	805	1010	180	0	100
Pedestrians					6	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		149				
pX, platoon unblocked					0.87	
vC, conflicting volume	1196				1508	601
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1196				1277	601
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	78
cM capacity (veh/h)	588				139	446

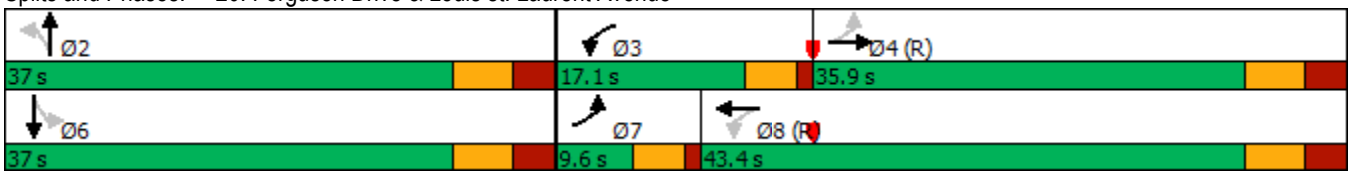
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	402	402	673	517	100
Volume Left	0	0	0	0	0
Volume Right	0	0	0	180	100
cSH	1700	1700	1700	1700	446
Volume to Capacity	0.24	0.24	0.40	0.30	0.22
Queue Length 95th (m)	0.0	0.0	0.0	0.0	6.8
Control Delay (s)	0.0	0.0	0.0	0.0	15.4
Lane LOS					C
Approach Delay (s)	0.0		0.0		15.4
Approach LOS					C

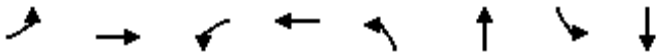
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	85	565	260	1070	140	50	35	110
Future Volume (vph)	85	565	260	1070	140	50	35	110
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	28.0	5.0	28.0	30.0	30.0	30.0	30.0
Minimum Split (s)	9.5	35.0	9.5	35.0	37.0	37.0	37.0	37.0
Total Split (s)	9.6	35.9	17.1	43.4	37.0	37.0	37.0	37.0
Total Split (%)	10.7%	39.9%	19.0%	48.2%	41.1%	41.1%	41.1%	41.1%
Yellow Time (s)	3.5	4.0	3.5	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	3.0	1.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.5	6.0	3.5	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Act Effct Green (s)	40.2	31.1	49.5	39.0	31.0	31.0	31.0	31.0
Actuated g/C Ratio	0.45	0.35	0.55	0.43	0.34	0.34	0.34	0.34
v/c Ratio	0.36	0.63	0.63	0.73	0.33	0.33	0.10	0.25
Control Delay	15.2	25.7	14.8	21.9	24.5	7.3	21.0	18.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.2	25.7	14.8	21.9	24.5	7.3	21.0	18.6
LOS	B	C	B	C	C	A	C	B
Approach Delay		24.6		20.6		13.8		19.0
Approach LOS		C		C		B		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 20.8	Intersection LOS: C
Intersection Capacity Utilization 106.1%	ICU Level of Service G
Analysis Period (min) 15	

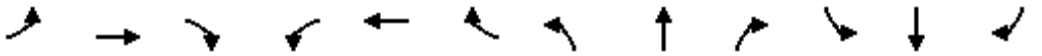
Splits and Phases: 20: Ferguson Drive & Louis st. Laurent Avenue





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	85	765	260	1135	140	230	35	160
v/c Ratio	0.36	0.63	0.63	0.73	0.33	0.33	0.10	0.25
Control Delay	15.2	25.7	14.8	21.9	24.5	7.3	21.0	18.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.2	25.7	14.8	21.9	24.5	7.3	21.0	18.6
Queue Length 50th (m)	6.8	56.8	14.1	104.1	18.6	6.1	4.3	16.8
Queue Length 95th (m)	13.8	77.5	26.8	127.6	34.5	22.2	11.2	32.0
Internal Link Dist (m)		385.0		300.4		242.9		272.5
Turn Bay Length (m)	65.0		48.0		30.0		35.0	
Base Capacity (vph)	234	1213	431	1564	428	688	367	639
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	0.36	0.63	0.60	0.73	0.33	0.33	0.10	0.25

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	565	200	260	1070	65	140	50	180	35	110	50
Future Volume (vph)	85	565	200	260	1070	65	140	50	180	35	110	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.99		1.00	0.88		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	3396		1805	3572		1802	1654		1798	1803	
Flt Permitted	0.15	1.00		0.21	1.00		0.66	1.00		0.56	1.00	
Satd. Flow (perm)	278	3396		400	3572		1244	1654		1065	1803	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	85	565	200	260	1070	65	140	50	180	35	110	50
RTOR Reduction (vph)	0	39	0	0	5	0	0	118	0	0	18	0
Lane Group Flow (vph)	85	726	0	260	1130	0	140	112	0	35	142	0
Confl. Peds. (#/hr)	9		3	3		9	2		6	6		2
Heavy Vehicles (%)	1%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	34.5	30.1		46.0	37.1		30.0	30.0		30.0	30.0	
Effective Green, g (s)	36.5	31.1		47.0	38.1		31.0	31.0		31.0	31.0	
Actuated g/C Ratio	0.41	0.35		0.52	0.42		0.34	0.34		0.34	0.34	
Clearance Time (s)	4.5	7.0		4.5	7.0		7.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	203	1173		402	1512		428	569		366	621	
v/s Ratio Prot	0.03	0.21		c0.09	c0.32			0.07			0.08	
v/s Ratio Perm	0.14			0.25			c0.11			0.03		
v/c Ratio	0.42	0.62		0.65	0.75		0.33	0.20		0.10	0.23	
Uniform Delay, d1	17.8	24.5		13.9	21.9		21.8	20.7		20.0	21.0	
Progression Factor	1.00	1.00		0.76	0.87		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.4	2.5		3.3	3.2		0.4	0.2		0.1	0.2	
Delay (s)	19.2	27.0		13.8	22.1		22.2	20.9		20.1	21.2	
Level of Service	B	C		B	C		C	C		C	C	
Approach Delay (s)		26.2			20.6			21.4			21.0	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	22.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	106.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

LANE SUMMARY

Site: 101 [Louis st. Laurent / Kennedy Circle - Existing - AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: RoadName															
Lane 1[d]	95	1.2	95	1.2	674	0.141	100	11.3	LOS B	0.9	6.1	Full	500	0.0	0.0
Approach	95	1.2	95	1.2		0.141		11.3	LOS B	0.9	6.1				
East: RoadName															
Lane 1[d]	611	4.1	611	4.1	1600	0.382	100	4.5	LOS A	3.2	23.2	Full	225	0.0	0.0
Lane 2	89	6.8	89	6.8	1061	0.084	22[6]	4.4	LOS A	0.5	3.7	Full	225	0.0	0.0
Approach	700	4.5	700	4.5		0.382		4.5	LOS A	3.2	23.2				
North: RoadName															
Lane 1[d]	121	0.0	121	0.0	834	0.145	100	10.2	LOS B	0.9	6.5	Full	650	0.0	0.0
Approach	121	0.0	121	0.0		0.145		10.2	LOS B	0.9	6.5				
West: RoadName															
Lane 1[d]	696	3.7	696	3.7	1577	0.441	100	4.8	LOS A	3.8	27.2	Full	250	0.0	0.0
Lane 2	99	3.6	99	3.6	1062	0.093	21[6]	4.6	LOS A	0.5	3.8	Full	250	0.0	0.0
Approach	795	3.7	795	3.7		0.441		4.8	LOS A	3.8	27.2				
All Vehicles	1711	3.6	1711	3.6		0.441		5.4	LOS A	3.8	27.2				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: RoadName

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	32	5	58	95	1.2	674	0.141	100	NA	NA
Approach	32	5	58	95	1.2		0.141			

East: RoadName

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	37	574	-	611	4.1	1600	0.382	100	NA	NA

Lane 2	-	47	42	89	6.8	1061	0.084	22[6]	NA	NA
Approach	37	621	42	700	4.5		0.382			
North: RoadName										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	53	16	53	121	0.0	834	0.145	100	NA	NA
Approach	53	16	53	121	0.0		0.145			
West: RoadName										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	47	648	-	696	3.7	1577	0.441	100	NA	NA
Lane 2	-	89	11	99	3.6	1062	0.093	21[6]	NA	NA
Approach	47	737	11	795	3.7		0.441			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	1711	3.6	0.441

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.												

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: RoadName				
Lane 1	0.0	0.0	0.0	0.0
East: RoadName				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: RoadName				
Lane 1	0.0	0.0	0.0	0.0
West: RoadName				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

LANE SUMMARY

Site: 101 [Louis st. Laurent / Kennedy Circle - Existing - PM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: RoadName															
Lane 1[d]	105	0.0	105	0.0	886	0.119	100	9.6	LOS A	0.7	4.6	Full	500	0.0	0.0
Approach	105	0.0	105	0.0		0.119		9.6	LOS A	0.7	4.6				
East: RoadName															
Lane 1[d]	771	0.0	771	0.0	1556	0.495	100	4.9	LOS A	4.6	32.4	Full	225	0.0	0.0
Lane 2	113	1.0	113	1.0	1035	0.109	22[6]	4.7	LOS A	0.7	4.7	Full	225	0.0	0.0
Approach	884	0.1	884	0.1		0.495		4.9	LOS A	4.6	32.4				
North: RoadName															
Lane 1[d]	100	1.1	100	1.1	683	0.146	100	11.3	LOS B	1.0	7.1	Full	650	0.0	0.0
Approach	100	1.1	100	1.1		0.146		11.3	LOS B	1.0	7.1				
West: RoadName															
Lane 1[d]	470	0.0	470	0.0	1602	0.293	100	5.0	LOS A	2.1	14.7	Full	250	0.0	0.0
Lane 2	67	0.2	67	0.2	1085	0.062	21[6]	4.5	LOS A	0.3	2.4	Full	250	0.0	0.0
Approach	537	0.0	537	0.0		0.293		4.9	LOS A	2.1	14.7				
All Vehicles	1626	0.1	1626	0.1		0.495		5.6	LOS A	4.6	32.4				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: RoadName

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	58	16	32	105	0.0	886	0.119	100	NA	NA
Approach	58	16	32	105	0.0		0.119			

East: RoadName

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	53	718	-	771	0.0	1556	0.495	100	NA	NA

Lane 2	-	55	58	113	1.0	1035	0.109	22[6]	NA	NA
Approach	53	774	58	884	0.1		0.495			
North: RoadName										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	26	26	47	100	1.1	683	0.146	100	NA	NA
Approach	26	26	47	100	1.1		0.146			
West: RoadName										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	63	406	-	470	0.0	1602	0.293	100	NA	NA
Lane 2	-	57	11	67	0.2	1085	0.062	21[6]	NA	NA
Approach	63	463	11	537	0.0		0.293			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	1626	0.1	0.495

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.											

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: RoadName				
Lane 1	0.0	0.0	0.0	0.0
East: RoadName				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: RoadName				
Lane 1	0.0	0.0	0.0	0.0
West: RoadName				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

LANE SUMMARY

Site: 101 [Louis st. Laurent / Kennedy Circle - Existing - MID (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: RoadName															
Lane 1[d]	95	3.3	95	3.3	899	0.105	100	9.4	LOS A	0.6	4.1	Full	500	0.0	0.0
Approach	95	3.3	95	3.3		0.105		9.4	LOS A	0.6	4.1				
East: RoadName															
Lane 1[d]	680	3.8	680	3.8	1560	0.436	100	4.8	LOS A	3.8	27.7	Full	225	0.0	0.0
Lane 2	99	6.4	99	6.4	1033	0.096	22[6]	4.6	LOS A	0.6	4.2	Full	225	0.0	0.0
Approach	779	4.2	779	4.2		0.436		4.8	LOS A	3.8	27.7				
North: RoadName															
Lane 1[d]	79	4.7	79	4.7	729	0.108	100	11.4	LOS B	0.7	5.1	Full	650	0.0	0.0
Approach	79	4.7	79	4.7		0.108		11.4	LOS B	0.7	5.1				
West: RoadName															
Lane 1[d]	410	0.0	410	0.0	1596	0.257	100	4.9	LOS A	1.8	12.3	Full	250	0.0	0.0
Lane 2	59	0.3	59	0.3	1083	0.054	21[6]	4.5	LOS A	0.3	2.1	Full	250	0.0	0.0
Approach	468	0.0	468	0.0		0.257		4.8	LOS A	1.8	12.3				
All Vehicles	1421	2.8	1421	2.8		0.436		5.5	LOS A	3.8	27.7				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: RoadName

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	53	11	32	95	3.3	899	0.105	100	NA	NA
Approach	53	11	32	95	3.3		0.105			

East: RoadName

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	53	627	-	680	3.8	1560	0.436	100	NA	NA

Lane 2	-	52	47	99	6.4	1033	0.096	22[6]	NA	NA
Approach	53	679	47	779	4.2		0.436			
North: RoadName										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	37	16	26	79	4.7	729	0.108	100	NA	NA
Approach	37	16	26	79	4.7		0.108			
West: RoadName										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	47	362	-	410	0.0	1596	0.257	100	NA	NA
Lane 2	-	54	5	59	0.3	1083	0.054	21[6]	NA	NA
Approach	47	416	5	468	0.0		0.257			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	1421	2.8	0.436

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.												

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: RoadName				
Lane 1	0.0	0.0	0.0	0.0
East: RoadName				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: RoadName				
Lane 1	0.0	0.0	0.0	0.0
West: RoadName				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

LANE SUMMARY

Site: 101 [Louis st. Laurent / Kennedy Circle - Future Background - AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: RoadName															
Lane 1[d]	321	1.1	321	1.1	463	0.693	100	31.2	LOS C	8.2	57.9	Full	500	0.0	0.0
Approach	321	1.1	321	1.1		0.693		31.2	LOS C	8.2	57.9				
East: RoadName															
Lane 1[d]	850	4.3	850	4.3	1421	0.598	100	6.1	LOS A	6.7	48.5	Full	225	0.0	0.0
Lane 2	124	6.3	124	6.3	939	0.132	22[6]	5.2	LOS A	0.9	6.3	Full	225	0.0	0.0
Approach	974	4.6	974	4.6		0.598		5.9	LOS A	6.7	48.5				
North: RoadName															
Lane 1[d]	126	0.0	126	0.0	530	0.238	100	15.4	LOS B	1.8	12.7	Full	650	0.0	0.0
Approach	126	0.0	126	0.0		0.238		15.4	LOS B	1.8	12.7				
West: RoadName															
Lane 1[d]	935	3.8	935	3.8	1423	0.657	100	5.8	LOS A	6.9	49.7	Full	250	0.0	0.0
Lane 2	133	2.7	133	2.7	959	0.139	21[6]	5.4	LOS A	0.8	5.7	Full	250	0.0	0.0
Approach	1068	3.7	1068	3.7		0.657		5.8	LOS A	6.9	49.7				
All Vehicles	2489	3.5	2489	3.5		0.693		9.6	LOS A	8.2	57.9				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: RoadName

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	121	21	179	321	1.1	463	0.693	100	NA	NA
Approach	121	21	179	321	1.1		0.693			

East: RoadName

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	147	703	-	850	4.3	1421	0.598	100	NA	NA

Lane 2	-	76	47	124	6.3	939	0.132	22[6]	NA	NA
Approach	147	779	47	974	4.6		0.598			
North: RoadName										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	53	21	53	126	0.0	530	0.238	100	NA	NA
Approach	53	21	53	126	0.0		0.238			
West: RoadName										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	42	893	-	935	3.8	1423	0.657	100	NA	NA
Lane 2	-	91	42	133	2.7	959	0.139	21[6]	NA	NA
Approach	42	984	42	1068	3.7		0.657			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	2489	3.5	0.693

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.												

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: RoadName				
Lane 1	0.0	0.0	0.0	0.0
East: RoadName				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: RoadName				
Lane 1	0.0	0.0	0.0	0.0
West: RoadName				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

LANE SUMMARY

Site: 101 [Louis st. Laurent / Kennedy Circle - Future Background - PM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: RoadName															
Lane 1[d]	226	0.0	226	0.0	659	0.343	100	12.3	LOS B	2.4	16.5	Full	500	0.0	0.0
Approach	226	0.0	226	0.0		0.343		12.3	LOS B	2.4	16.5				
East: RoadName															
Lane 1[d]	1121	0.0	1121	0.0	1464	0.765	100	6.6	LOS A	10.6	74.2	Full	225	0.0	0.0
Lane 2	163	0.7	163	0.7	969	0.169	22[6]	5.3	LOS A	1.1	7.7	Full	225	0.0	0.0
Approach	1284	0.1	1284	0.1		0.765		6.4	LOS A	10.6	74.2				
North: RoadName															
Lane 1[d]	121	1.4	121	1.4	315	0.385	100	25.9	LOS C	3.3	23.2	Full	650	0.0	0.0
Approach	121	1.4	121	1.4		0.385		25.9	LOS C	3.3	23.2				
West: RoadName															
Lane 1[d]	728	0.0	728	0.0	1408	0.517	100	5.8	LOS A	4.7	32.6	Full	250	0.0	0.0
Lane 2	103	0.5	103	0.5	944	0.109	21[6]	5.5	LOS A	0.6	4.4	Full	250	0.0	0.0
Approach	832	0.1	832	0.1		0.517		5.7	LOS A	4.7	32.6				
All Vehicles	2463	0.1	2463	0.1		0.765		7.7	LOS A	10.6	74.2				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: RoadName

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	105	26	95	226	0.0	659	0.343	100	NA	NA
Approach	105	26	95	226	0.0		0.343			

East: RoadName

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	179	942	-	1121	0.0	1464	0.765	100	NA	NA

Lane 2	-	106	58	163	0.7	969	0.169	22[6]	NA	NA
Approach	179	1047	58	1284	0.1		0.765			
North: RoadName										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	42	32	47	121	1.4	315	0.385	100	NA	NA
Approach	42	32	47	121	1.4		0.385			
West: RoadName										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	63	665	-	728	0.0	1408	0.517	100	NA	NA
Lane 2	-	56	47	103	0.5	944	0.109	21[6]	NA	NA
Approach	63	721	47	832	0.1		0.517			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	2463	0.1	0.765

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.											

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: RoadName				
Lane 1	0.0	0.0	0.0	0.0
East: RoadName				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: RoadName				
Lane 1	0.0	0.0	0.0	0.0
West: RoadName				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

LANE SUMMARY

Site: 101 [Louis st. Laurent / Kennedy Circle - Future Background - MID (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: RoadName															
Lane 1[d]	179	4.4	179	4.4	732	0.245	100	11.0	LOS B	1.5	11.1	Full	500	0.0	0.0
Approach	179	4.4	179	4.4		0.245		11.0	LOS B	1.5	11.1				
East: RoadName															
Lane 1[d]	887	3.7	887	3.7	1500	0.591	100	5.7	LOS A	6.4	46.5	Full	225	0.0	0.0
Lane 2	129	5.8	129	5.8	990	0.130	22[6]	4.9	LOS A	0.8	6.0	Full	225	0.0	0.0
Approach	1016	4.0	1016	4.0		0.591		5.6	LOS A	6.4	46.5				
North: RoadName															
Lane 1[d]	95	5.0	95	5.0	516	0.184	100	16.0	LOS B	1.3	9.7	Full	650	0.0	0.0
Approach	95	5.0	95	5.0		0.184		16.0	LOS B	1.3	9.7				
West: RoadName															
Lane 1[d]	604	0.0	604	0.0	1466	0.412	100	5.3	LOS A	3.2	22.6	Full	250	0.0	0.0
Lane 2	86	1.1	86	1.1	982	0.087	21[6]	5.2	LOS A	0.5	3.4	Full	250	0.0	0.0
Approach	689	0.1	689	0.1		0.412		5.3	LOS A	3.2	22.6				
All Vehicles	1979	2.7	1979	2.7		0.591		6.5	LOS A	6.4	46.5				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: RoadName

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	84	16	79	179	4.4	732	0.245	100	NA	NA
Approach	84	16	79	179	4.4		0.245			

East: RoadName

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	142	745	-	887	3.7	1500	0.591	100	NA	NA

Lane 2	-	82	47	129	5.8	990	0.130	22[6]	NA	NA
Approach	142	826	47	1016	4.0		0.591			
North: RoadName										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	47	21	26	95	5.0	516	0.184	100	NA	NA
Approach	47	21	26	95	5.0		0.184			
West: RoadName										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	47	556	-	604	0.0	1466	0.412	100	NA	NA
Lane 2	-	54	32	86	1.1	982	0.087	21[6]	NA	NA
Approach	47	611	32	689	0.1		0.412			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	1979	2.7	0.591

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.												

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: RoadName				
Lane 1	0.0	0.0	0.0	0.0
East: RoadName				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: RoadName				
Lane 1	0.0	0.0	0.0	0.0
West: RoadName				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

LANE SUMMARY

Site: 101 [Louis st. Laurent / Kennedy Circle - Future Total - AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: RoadName															
Lane 1[d]	321	1.1	321	1.1	455	0.706	100	32.8	LOS C	8.5	60.3	Full	500	0.0	0.0
Approach	321	1.1	321	1.1		0.706		32.8	LOS C	8.5	60.3				
East: RoadName															
Lane 1[d]	891	4.3	891	4.3	1422	0.627	100	6.1	LOS A	7.3	52.8	Full	225	0.0	0.0
Lane 2	130	6.2	130	6.2	940	0.138	22[6]	5.2	LOS A	0.9	6.7	Full	225	0.0	0.0
Approach	1021	4.6	1021	4.6		0.627		6.0	LOS A	7.3	52.8				
North: RoadName															
Lane 1[d]	126	0.0	126	0.0	492	0.257	100	16.5	LOS B	2.0	13.9	Full	650	0.0	0.0
Approach	126	0.0	126	0.0		0.257		16.5	LOS B	2.0	13.9				
West: RoadName															
Lane 1[d]	944	3.8	944	3.8	1422	0.664	100	5.8	LOS A	7.0	50.9	Full	250	0.0	0.0
Lane 2	135	2.8	135	2.8	959	0.141	21[6]	5.4	LOS A	0.8	5.8	Full	250	0.0	0.0
Approach	1079	3.7	1079	3.7		0.664		5.8	LOS A	7.0	50.9				
All Vehicles	2547	3.5	2547	3.5		0.706		9.8	LOS A	8.5	60.3				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: RoadName

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	121	21	179	321	1.1	455	0.706	100	NA	NA
Approach	121	21	179	321	1.1		0.706			

East: RoadName

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	147	744	-	891	4.3	1422	0.627	100	NA	NA

Lane 2	-	82	47	130	6.2	940	0.138	22[6]	NA	NA
Approach	147	826	47	1021	4.6		0.627			
North: RoadName										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	53	21	53	126	0.0	492	0.257	100	NA	NA
Approach	53	21	53	126	0.0		0.257			
West: RoadName										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	42	902	-	944	3.8	1422	0.664	100	NA	NA
Lane 2	-	93	42	135	2.8	959	0.141	21[6]	NA	NA
Approach	42	995	42	1079	3.7		0.664			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	2547	3.5	0.706

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.												

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: RoadName				
Lane 1	0.0	0.0	0.0	0.0
East: RoadName				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: RoadName				
Lane 1	0.0	0.0	0.0	0.0
West: RoadName				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

LANE SUMMARY

Site: 101 [Louis st. Laurent / Kennedy Circle - Future Total - PM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: RoadName															
Lane 1[d]	226	0.0	226	0.0	635	0.356	100	12.8	LOS B	2.5	17.4	Full	500	0.0	0.0
Approach	226	0.0	226	0.0		0.356		12.8	LOS B	2.5	17.4				
East: RoadName															
Lane 1[d]	1148	0.0	1148	0.0	1464	0.784	100	6.9	LOS A	11.7	82.1	Full	225	0.0	0.0
Lane 2	167	0.7	167	0.7	968	0.173	22[6]	5.3	LOS A	1.1	8.0	Full	225	0.0	0.0
Approach	1316	0.1	1316	0.1		0.784		6.7	LOS A	11.7	82.1				
North: RoadName															
Lane 1[d]	126	1.5	126	1.5	290	0.436	100	32.0	LOS C	4.0	28.1	Full	650	0.0	0.0
Approach	126	1.5	126	1.5		0.436		32.0	LOS C	4.0	28.1				
West: RoadName															
Lane 1[d]	751	0.0	751	0.0	1402	0.536	100	5.8	LOS A	4.9	34.4	Full	250	0.0	0.0
Lane 2	107	0.4	107	0.4	940	0.113	21[6]	5.5	LOS A	0.7	4.6	Full	250	0.0	0.0
Approach	858	0.1	858	0.1		0.536		5.8	LOS A	4.9	34.4				
All Vehicles	2526	0.1	2526	0.1		0.784		8.2	LOS A	11.7	82.1				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: RoadName

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	105	26	95	226	0.0	635	0.356	100	NA	NA
Approach	105	26	95	226	0.0		0.356			

East: RoadName

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	179	969	-	1148	0.0	1464	0.784	100	NA	NA

Lane 2	-	110	58	167	0.7	968	0.173	22[6]	NA	NA
Approach	179	1079	58	1316	0.1		0.784			
North: RoadName										
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	47	32	47	126	1.5	290	0.436	100	NA	NA
Approach	47	32	47	126	1.5		0.436			
West: RoadName										
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	63	688	-	751	0.0	1402	0.536	100	NA	NA
Lane 2	-	59	47	107	0.4	940	0.113	21[6]	NA	NA
Approach	63	747	47	858	0.1		0.536			

	Total	%HV	Deg.Satn (v/c)
All Vehicles	2526	0.1	0.784

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.												

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: RoadName				
Lane 1	0.0	0.0	0.0	0.0
East: RoadName				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: RoadName				
Lane 1	0.0	0.0	0.0	0.0
West: RoadName				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

LANE SUMMARY

Site: 101 [Louis st. Laurent / Kennedy Circle - Future Total - MID (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh	Dist] m	Lane Config	Lane Length m	Cap. Adj. %	Prob. Block. %
South: RoadName															
Lane 1[d]	179	4.4	179	4.4	717	0.250	100	11.2	LOS B	1.6	11.4	Full	500	0.0	0.0
Approach	179	4.4	179	4.4		0.250		11.2	LOS B	1.6	11.4				
East: RoadName															
Lane 1[d]	910	3.7	910	3.7	1500	0.606	100	5.7	LOS A	6.8	48.8	Full	225	0.0	0.0
Lane 2	132	5.8	132	5.8	990	0.134	22[6]	4.9	LOS A	0.8	6.2	Full	225	0.0	0.0
Approach	1042	4.0	1042	4.0		0.606		5.6	LOS A	6.8	48.8				
North: RoadName															
Lane 1[d]	100	5.3	100	5.3	494	0.202	100	16.9	LOS B	1.5	10.9	Full	650	0.0	0.0
Approach	100	5.3	100	5.3		0.202		16.9	LOS B	1.5	10.9				
West: RoadName															
Lane 1[d]	618	0.0	618	0.0	1460	0.423	100	5.4	LOS A	3.3	23.4	Full	250	0.0	0.0
Lane 2	88	1.1	88	1.1	978	0.090	21[6]	5.2	LOS A	0.5	3.5	Full	250	0.0	0.0
Approach	705	0.1	705	0.1		0.423		5.4	LOS A	3.3	23.4				
All Vehicles	2026	2.7	2026	2.7		0.606		6.6	LOS A	6.8	48.8				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Lane LOS values are based on average delay per lane.
Intersection and Approach LOS values are based on average delay for all lanes.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects
d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: RoadName

Mov. From S To Exit:	L2 W	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	84	16	79	179	4.4	717	0.250	100	NA	NA
Approach	84	16	79	179	4.4		0.250			

East: RoadName

Mov. From E To Exit:	L2 S	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	142	768	-	910	3.7	1500	0.606	100	NA	NA

Lane 2	-	85	47	132	5.8	990	0.134	22[6]	NA	NA	
Approach	142	853	47	1042	4.0		0.606				
North: RoadName											
Mov. From N To Exit:	L2 E	T1 S	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	53	21	26	100	5.3	494	0.202	100	NA	NA	
Approach	53	21	26	100	5.3		0.202				
West: RoadName											
Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	47	570	-	618	0.0	1460	0.423	100	NA	NA	
Lane 2	-	56	32	88	1.1	978	0.090	21[6]	NA	NA	
Approach	47	626	32	705	0.1		0.423				

	Total	%HV	Deg.Satn (v/c)
All Vehicles	2026	2.7	0.606

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

6 Lane under-utilisation due to downstream effects

Merge Analysis

	Exit Lane Number	Short Lane Length m	Percent Opng in Lane %	Opposing Flow Rate veh/h	Critical Gap pcu/h	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
There are no Exit Short Lanes for Merge Analysis at this Site.											

Variable Demand Analysis

	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: RoadName				
Lane 1	0.0	0.0	0.0	0.0
East: RoadName				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
North: RoadName				
Lane 1	0.0	0.0	0.0	0.0
West: RoadName				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0