

Transportation Impact Study

PROPOSED RESIDENTIAL DEVELOPMENT

900 Lakeshore Road W
MISSISSAUGA, ONTARIO

February 2026
Project No: NT-23-188

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**Re: Transportation Impact Study
Proposed Residential Development
900 Lakeshore Road W, City of Mississauga
Our Project No. NT-23-188**

NexTrans Consulting Engineers (a Division of NextEng Consulting Group Inc.) is pleased to present the enclosed Transportation Impact Study Update for the above-noted site in support of an Official Plan Amendment and Zoning By-law Amendment Applications for a proposed residential development.

The subject property is located at 900 Lakeshore Road W, south of Lakeshore Road West and east of Whittier Crescent, in the City of Mississauga. The existing site is currently occupied by an existing one-storey residential house. The proposed redevelopment of the site consists of a 10-storey residential building with a total of 161 residential dwelling units. The proposed development will provide a minimum of 193 parking spaces and 122 bicycle parking spaces (inclusive of Class A and Class B). A full movement access to Lakeshore Road West to service the proposed development.

The Transportation Impact Study is consistent with the City and Region traffic impact study guidelines, concludes that the proposed development can adequately be accommodated by the existing transportation network, excellent existing Mississauga Transit Services, the future Lakeshore Bus Rapid Transit, as well as the Transportation Demand Management measures and incentives recommended in this report.

We trust the enclosed sufficiently addresses your needs. Should you have any questions, please do not hesitate to contact the undersigned.

Yours truly,

Nextrans Consulting Engineers

A Division of NextEng Consulting Group Inc.

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Final Report	February 18, 2026	For Final Submission

EXECUTIVE SUMMARY

NexTrans Consulting Engineers (A Division of NextEng Consulting Group Inc.) was retained by 1000570027 Ontario Inc. (the 'Client') to undertake a Transportation Impact Study Update in support of an Official Plan Amendment and Zoning By-law Amendment Applications application.

The subject property is located at 900 Lakeshore Road W, south of Lakeshore Road West and east of Whittier Crescent, in the City of Mississauga. The existing site is currently occupied by an existing one-storey residential house.

Proposed Development

The existing site is currently vacant. The proposed redevelopment of the site consists of a 10-storey residential building with 161 units, and the proposed access onto Lakeshore Road W.

Transportation Assessment Analysis

The proposed development is expected to generate:

- 60 total two-way trips (14 inbound and 46 outbound) and 63 total two-way trips (38 inbound and 25 outbound) during the AM and PM peak hours, respectively.
- 20 two-way non-auto trips (5 inbound and 15 outbound) and 12 two-way non-auto trips (7 inbound and 5 outbound) during the AM and PM peak hours, respectively; and
- 40 two-way auto trips (9 inbound and 31 outbound) and 51 two-way auto trips (31 inbound and 20 outbound) during the AM and PM peak hours, respectively

Auto Mode Assessment

The intersection capacity analysis indicates that under existing, future background and future total conditions, all the intersections considered in the Study are expected to operate at acceptable levels of service with existing road network conditions.

The proposed site accesses are expected to operate at acceptable levels of service with minimum delay or queue.

Active Transportation Mode Assessment

Walking Mode Assessment

The area is currently well-served by a sufficient network of sidewalks, with sidewalks available on both sides of Lakeshore Road, the east side of Lorne Park Road and the west side of Ibar Way. Sidewalks are reasonably maintained.

The proposed development is committed to constructing the sidewalks along Lakeshore Road W and along the frontage of the proposed development. The sidewalk will be constructed to the City standards.

Cycling Mode Assessment

Under the existing conditions, there are Multi-use Trails along Lakeshore Road, signed bike routes along Lorne Park Road and Ibar Way. There is Waterfront Rail in the area.

Our analysis and review indicate that the existing cycling network can be improved in the future as part of the City of Mississauga 2018 Cycling Master Plan and Lakeshore Connected Communities Transportation Master Plan recommendations. This will encourage existing and future residents to use these facilities instead of driving single-occupant vehicles. These infrastructure projects are beyond the scope of this Study and this project.

Transit Mode Assessment

The analysis indicates that the proposed development is expected to generate 23 two-way transit trips (5 inbound and 18 outbound) and 14 two-way transit trips (9 inbound and 5 outbound) during the AM and PM peak hours, respectively (highest). For the purposes of this assessment, it is assumed that all of these trips are transit-related, which is conservative.

The analysis indicates that the transit passenger demands generated by the proposed development can be accommodated by the existing and future transit services along this corridor. No additional improvements beyond what have been identified and planned by the City and Metrolinx are required to accommodate the proposed development.

Vehicle Parking Review

Based on the assessment noted above, the proposed development will require providing a total of 209 vehicle parking spaces, inclusive of residential and visitor. The proposed development will provide a total of 193 parking spaces, which presents a technical shortfall of 16 residential parking spaces, or 7.65% reduction.

Bicycle Parking Review

Based on the assessment of this Study Update, the proposed development requires a total of 105 bicycle parking spaces, including 9 short-term (Class B) spaces and 113 long-term spaces (Class A) for visitors and residents, respectively. The proposed development will meet this requirement by providing 122 bicycle parking spaces.

The proposed bicycle parking supply by the proposed development will support the vehicle parking reduction as this will encourage residents to take an active mode of transportation to work, school and discretionary trips instead of driving private vehicles.

Transportation Demand Management Measures and Incentives

The TDM measures and incentives related to the proposed development have been assessed and recommended in Section 11 of this report to support active transportation and transit, to meet the objectives and requirements of the City of Mississauga's sustainable transportation objectives.

Loading Requirement

Under the City's By-Law Zoning By-law 0225-2007, one loading space is required for the residential component. The minimum loading space dimensions are: 3.5 m width and 9.0 m Length. The proposed development will meet this requirement.

Study Conclusions and Recommendations

Based on the Study assessment, the following recommendations are provided:

- The proposed development has minimal or negligible impacts on the existing and future transportation network. The proposed development also represents good transportation planning and will support the future major transit investments by Metrolinx and the City of Mississauga.
- The proposed development implements the TDM measures and incentives identified in this report to support active transportation and transit and to reduce the number of single-occupant-vehicle trips to and from the proposed development.
- The proposed development implements the parking rates of 1 space/unit for residents and 0.2 spaces/unit for visitors, to support TDM and minimize the number of single-occupant-vehicle trips.
- The proposed development provides direct shared pedestrian and cycling connections to Lakeshore Road W, where appropriate. For example, the building entrances fronting onto these public roads provide convenient and direct pedestrian access.

- Recommended improvements:
 - Require all new developments to provide transportation demand management measures and incentives.
 - Require all new developments to reduce residential vehicle parking rates to reduce car ownership and single-occupant-vehicle trips to and from this area; and
 - Provide provisions for active transportation, such as meeting or exceeding the Zoning By-law for bicycle parking requirements

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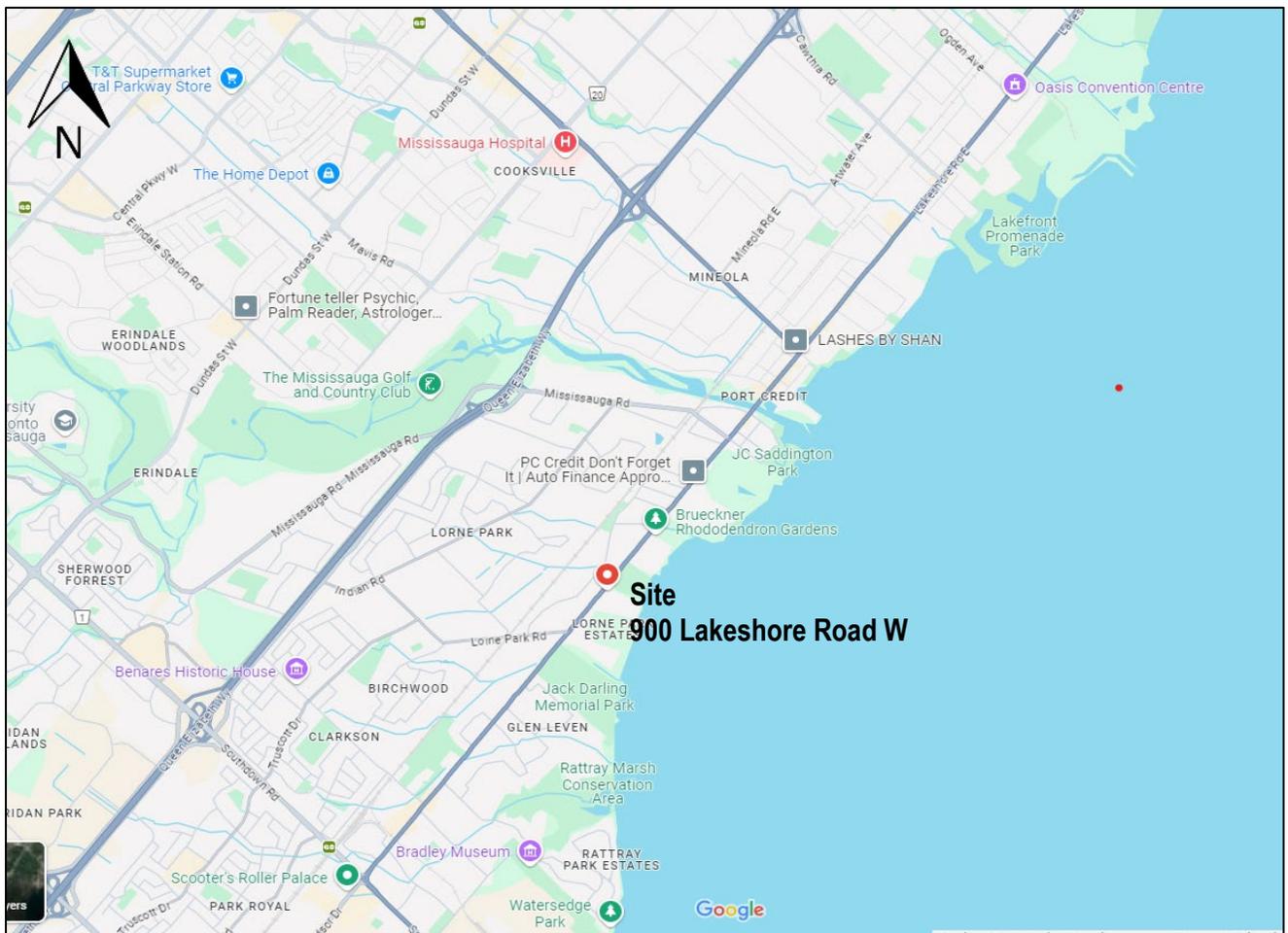
1.0 INTRODUCTION

NexTrans Consulting Engineers (A Division of NextEng Consulting Group Inc.) was retained by 1000570027 Ontario Inc. (the 'Client') to undertake a Transportation Impact Study Update in support of an Official Plan Amendment and Zoning By-law Amendment Applications application.

The subject property is located at 900 Lakeshore Road W, south of Lakeshore Road West and east of Whittier Crescent, in the City of Mississauga. The existing site is currently occupied by an existing one-storey residential house. The proposed redevelopment of the site consists of a 10-storey residential building with a total of 161 residential dwelling units. The location of the proposed development is illustrated in **Figure 1**.

The Study Update methodologies are consistent with the City's Traffic Impact Study (TIS) Guidelines, the Region's Guidelines for Using Synchro, as well as previous assessment conducted by NexTrans.

Figure 1 – Proposed Development Location



Source: Google Map

The proposed development will provide a minimum of 193 parking spaces and 122 bicycle parking spaces. **Figure 2** illustrates the proposed development site plan.

Currently, the subject site has one full moves access onto Lakeshore Road W. With the proposed redevelopment, the existing full moves access onto Lakeshore Road W will be retained.

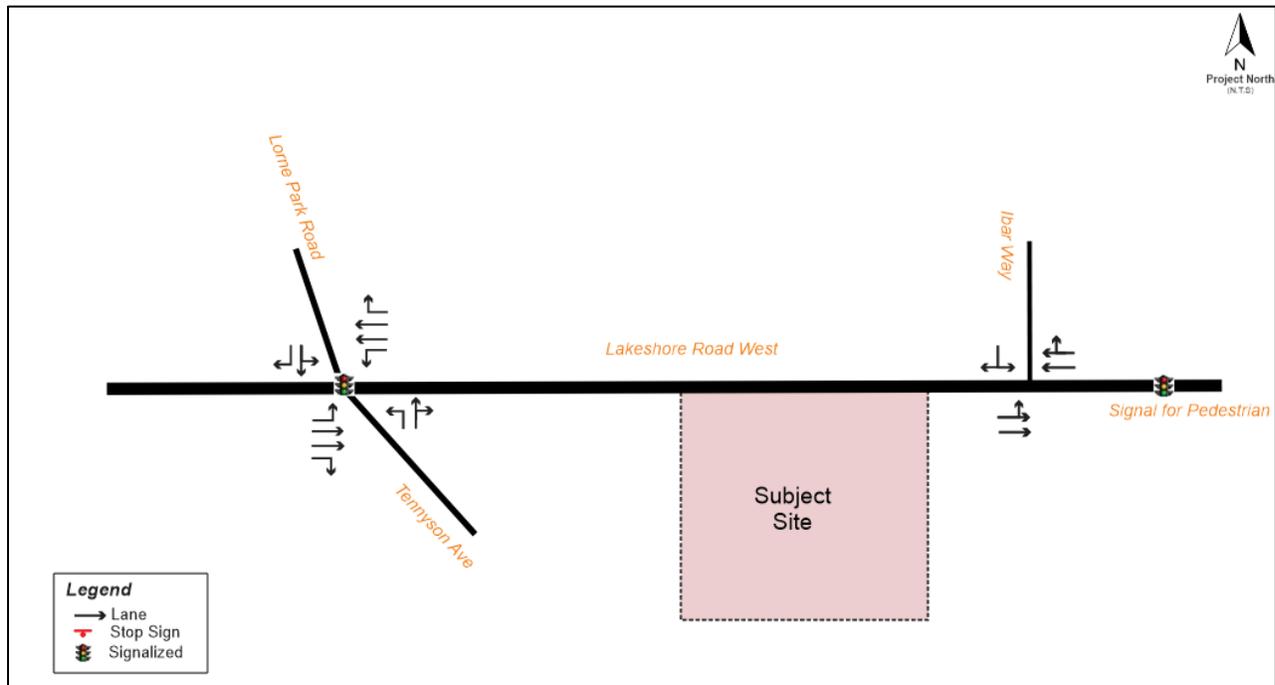
2.0 EXISTING TRAFFIC CONDITIONS

2.1. Existing Road Network

The existing road network, lane configuration and existing traffic control for the study area are shown in **Figure 3** (Existing Lane Configurations). The details area described below:

- **Lakeshore Road:** is an east-west major arterial under the City of Mississauga jurisdiction. It generally has a four-lane cross-section with turning lanes at the major intersections. It maintains a posted speed limit of 50 km/h near the subject site.
- **Ibar Way:** is a north-south local road under the City of Mississauga jurisdiction. It has two general purpose lanes with bicycle lanes on both sides of the road. It maintains a posted speed limit of 40 km/h near the subject site.
- **Tennyson Ave/Lorne Park Road:** is a north-south collector road under the City of Mississauga jurisdiction. It has two general purpose lanes and maintains a posted speed limit of 40 km/h.

Figure 3 – Existing Lane Configuration and Traffic Control



2.2. Existing Active Transportation Network Assessment

2.2.1. Walking Mode Assessment

The area is currently well-served by a sufficient network of sidewalks, with sidewalks available on both sides of Lakeshore Road, the east side of Lorne Park Road and the west side of Ibar Way. Sidewalks are reasonably maintained.

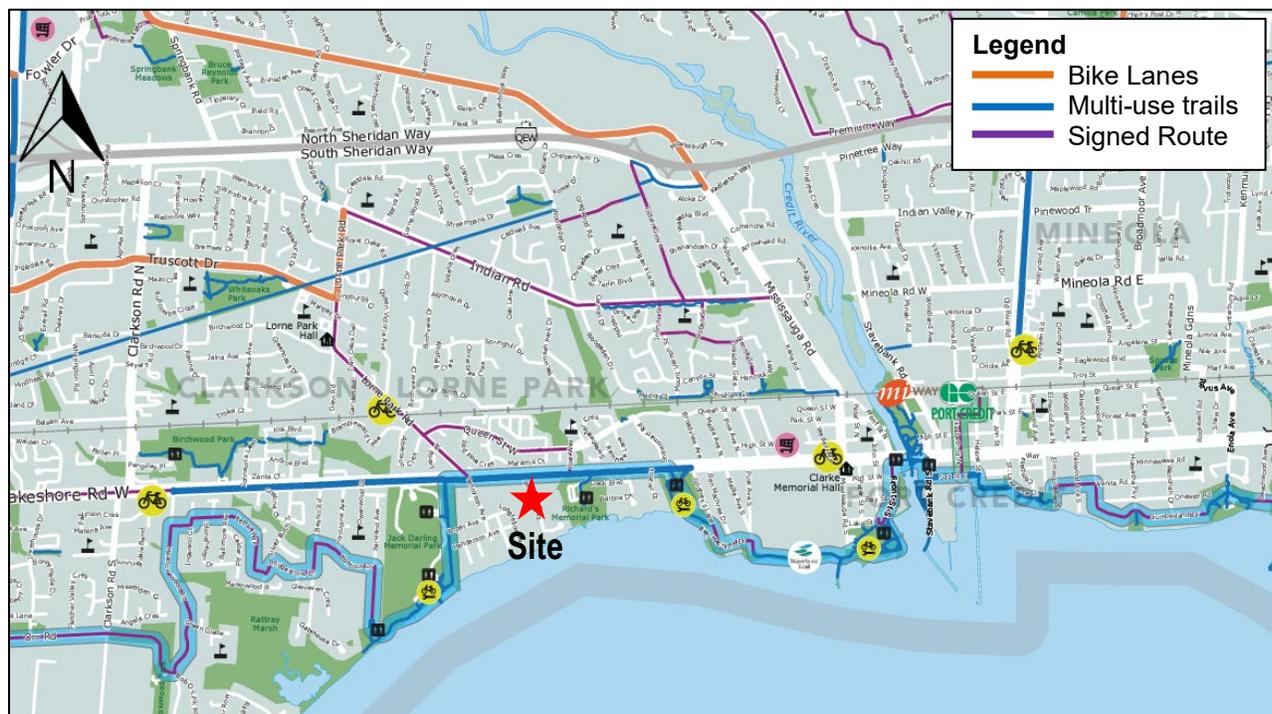
2.2.2. Cycling Mode Assessment

Under the existing conditions, there are Multi-use Trails along Lakeshore Road, Signed Bile Rotes along Lorne Park Road and Ibar Way. There is Waterfront Rail in the area.

The assessment and review indicate that the existing cycling network can be improved in the future as part of the City of Mississauga 2023 Cycling Master Plan and Lakeshore Connected Communities Transportation Master Plan recommendations. This will encourage existing and future residents to use these facilities instead of driving single-occupant vehicles.

Figure 4 illustrates the existing active transportation network in the study area.

Figure 4 – Existing Cycling Network in the Study Area



and 15-minute service along Lakeshore West GO Line, as well as the future BRT on Lakeshore Road E, there will be a significant increase in public ridership in the future.

2.4. Existing Traffic Volumes

As part of the previous assessment, the traffic turning movement counts were conducted at the following intersections:

- Lakeshore Road W and Lorne Park (signalized)
- Lakeshore Road W and Ibar Way (unsignalized)

The turning movement counts were conducted during the morning (7:00 a.m. to 9:00 a.m.) and afternoon (4:00 p.m. to 6:00 p.m.) peak periods for all area intersections.

Turning movement counts are summarized in **Appendix A**, using the methodology noted above. The existing volumes are illustrated in **Figure 6**.

2.5. Existing Traffic Assessment

The existing volumes in **Figure 6** were analyzed using Synchro Version 11 software. It should be noted that the printouts for unsignalized intersections are based on HCM 2000 outputs and the results for signalized intersections are based on Synchro Lanes, Volumes and Timings so that queues and more detailed information are provided. The detailed results are provided in **Appendix B** and summarized in **Table 1**. The analysis reflects the existing signal timing plans provided by the City of Mississauga.

Based on the intersection capacity analysis, under the existing traffic conditions, all the intersections considered in this Study are currently operating at acceptable levels of service, no improvements are required at this time.

Figure 6 – Existing Traffic Volumes

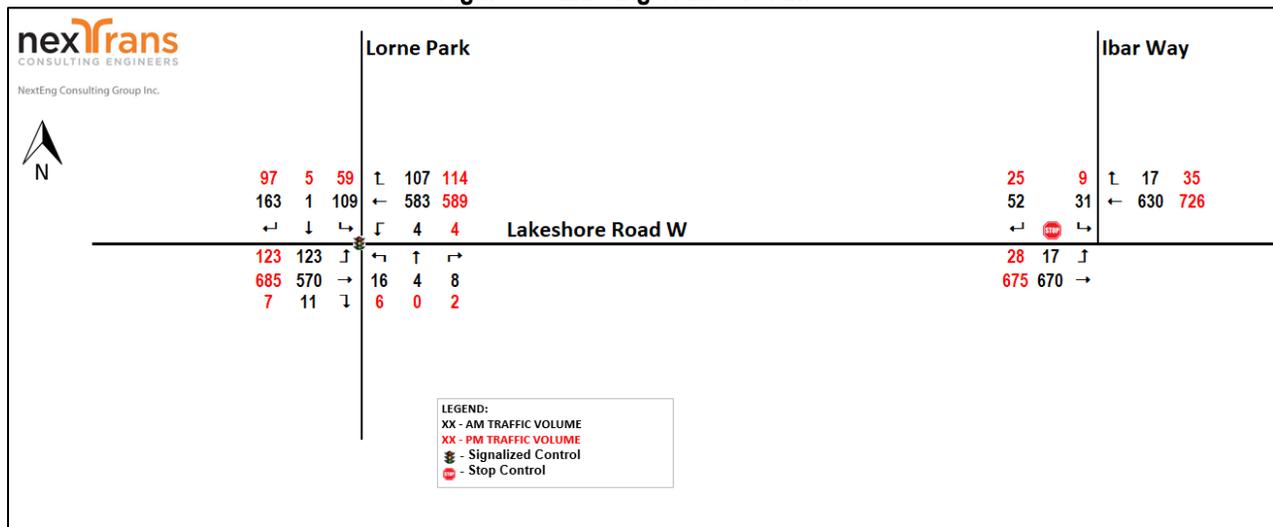


Table 1 – Existing Levels of Service

Intersection	Key Movement	Weekday AM Peak Hour			Weekday PM Peak Hour		
		LOS (v/c)	Delay (s)	Queue 95 th (m)	LOS (v/c)	Delay (s)	Queue 95 th (m)
Lakeshore Rd W/ Lorne Park (signalized)	Overall	B	0.36	10.0	A	7.9	7.9
	EB – L	A	0.29	7.6	A	6.9	6.9
	EB – T	A	0.29	6.4	A	6.1	6.1
	EB – R	A	0.01	5.1	A	4.6	4.6

	WB – L	A	0.01	5.1	1.4	A	4.7	4.7	1.4
	WB – T	A	0.29	6.5	29.4	A	5.9	5.9	28.5
	WB - R	A	0.07	5.4	6.1	A	5.0	5.0	6.0
	NB – L	C	0.10	22.9	6.2	C	23.8	23.8	3.6
	NB - TR	C	0.02	22.5	4.2	C	23.6	23.6	0.0
	SB – LT	C	0.67	33.6	26.1	C	26.8	26.8	16.6
	SB – R	C	0.11	22.9	13.7	C	23.9	23.9	10.8
Lakeshore Rd W/ Ibar Way (unsignalized)	EB – LT	A	0.02	0.8	0.5	A	0.04	1.4	0.9
	SB – LR	C	0.25	18.5	0.8	C	0.11	16.7	2.9

3.0 TRANSPORTATION PLANNING CONTEXT IN THE AREA

3.1. Land Use Context

A comprehensive review of the area indicates that there are wide range of land uses and facilities available, which includes: grocery stores, pharmacy, banks and restaurants as well as existing and future high-rise condominium buildings to the east of the proposed development.

As the development proposal includes a 10-storey building with a total of 161 residential dwelling units, therefore, the proposed development will have similar transportation characteristics as the existing area.

3.2. Transportation Planning Context

The analysis and review of the area indicate that the area is currently servicing by excellent existing land use, transportation network and transit network. This will accommodate other modes of transportation such as walking, cycling and public transit. Future residents living in the proposed development will have other ways to travel around, with less dependent on private automobile and therefore will not require many parking spaces.

3.3. Lakeshore Connected Communities Transportation Master Plan

The proposed development is located within the Lakeshore Connecting Communities Transportation Master Plan Study. Based on the information obtained from the project website (<http://www.mississauga.ca/portal/residents/lakeshore-connecting-communities#lcc-main>), the purpose of the Transportation Master Plan Study is to conduct a review how to best connect the communities of Clarkson, Port Credit and Lakeview while preserving and enhancing the unique character and sense of place of each community.

The study builds on recent planning studies to develop a design for the Lakeshore Road corridor from building face to building face that supports all modes of transportation, connects people to places, and moves goods to market. The study will also evaluate rapid transit alternatives east of Hurontario Street as well as extending rapid transit into the Port Credit area.

The City Council has endorsed the Lakeshore Connecting Communities Transportation Master Plan Study. Lakeshore Connecting Communities Transportation Master Plan will set out a long-term vision for transit and corridor improvements along Lakeshore Road from 2020 to 2041 that will support waterfront development.

The project will now move to its next steps, which is completing the Class Environmental Assessment process for the Lakeshore Corridor. This will involve further developing, evaluating and consulting on a number of different road designs for Lakeshore Road. NexTrans will review the final study and materials available on the website and address the questions or concerns related to this project from the proposed development perspective, where appropriate.

3.4. Metrolinx GO Expansion Project – Lakeshore West

As indicated, the proposed development is located approximately 3 km to Hurontario Street future LRT and Port Credit Go Station on the Lakeshore West GO Line. It is NexTrans' understanding that, currently, the Lakeshore West GO Line provides two-way, all-day service seven days a week, from Toronto Union Station to Aldershot Station in Burlington. It provides rush-hour service from Hamilton to Toronto in the morning and back from Toronto to Hamilton in the afternoon. Regular weekday GO Train service for commuters in Niagara Falls and St. Catharines started in January 2019.

Since August 31, 2019, weekend service between Toronto and Niagara started running all year round. In the future, with the Lakeshore West GO expansion along with the electrification of the existing GO Line, it will provide 15-minute service or better all-day and two-way service between Toronto and Burlington, alongside new hourly service to and from Hamilton seven days a week.

3.5. Hurontario LRT (Expected Completion in Fall 2024)

It is NexTrans' understanding that Metrolinx is partnered with the City of Mississauga and the City of Brampton to build the new 18-km Hurontario LRT (19 stations) that services Mississauga and Brampton with better and more convenient way of travel. Based on the project website information (<http://www.metrolinx.com/en/greaterregion/projects/hurontario-lrt.aspx>) Metrolinx and Infrastructure Ontario (IO) have officially announced the winning bidder for the Hurontario Light Rail Transit project. Mobilinx, the winning team, will design, build, finance, operate and maintain the new transit project for a 30-year term.

Metrolinx has announced the naming the Hurontario light-rail-transit (LRT) project as the Hazel McCallion Line, to commemorate the former Mississauga mayor. The project will continue to be referred to as the Hurontario LRT project while construction is underway but will adopt the name once the line opens. Once in service, the 18-kilometre Hazel McCallion Line will bring a new, environmentally friendly and reliable method of transportation to a rapidly growing region. The new transit system will feature 19 stations, travel through two urban growth centres and connect to major transit systems including GO Transit (Milton and Lakeshore West lines), the Mississauga Transitway, Brampton Transit, ZUM and MiWay. The Hazel McCallion Line will operate in its own dedicated lane ensuring a smooth, reliable and convenient ride along the region's busiest street.

As Mississauga and Brampton expands with new residents, businesses and amenities, sustainable and reliable transit becomes vital. The Hazel McCallion Line will operate with clean, electrically powered light rail vehicles, producing near zero emissions. The future LRT line not just get cars off the road, but it's a more sustainable, environmentally conscious way to travel within the City of Mississauga. The future residents in the proposed development can connect with the future Hurontario LRT by taking a few minutes walk to the Dundas Station or Cooksville Station.

Therefore, this project will further encourage existing and future residents to take more convenient and sustainable mode of transportation in transit, instead of driving single-occupant-vehicles.

4.0 FUTURE BACKGROUND CONDITIONS

4.1. Analysis Horizon

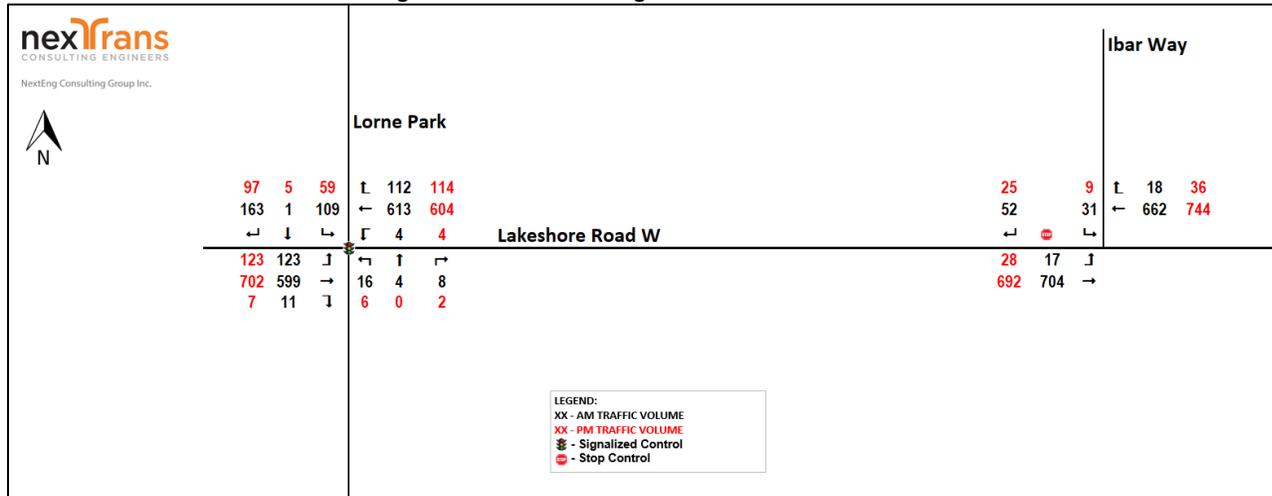
For the purposes of this assessment, 2029 horizon has been carried out for the study analysis as five-year horizon to be consistent with City of Mississauga Guidelines.

4.2. Future Background Corridor Growth

NexTrans has received the growth rates from the City of Mississauga that will be applied to Lakeshore Road W, detailed email is included in Appendix C. The city indicates that 1% growth per annum (compounded) will be applied to the eastbound and westbound direction during the AM peak hour and 0.5% growth per annum (compounded) for the eastbound and westbound direction during the PM peak hour for Lakeshore Road W. It is important to note that the growth rate already capture the background traffic volumes in the area, therefore, no background traffic will be added.

Figure 7 illustrates the 2029 future background traffic volumes.

Figure 7 – Future Background Traffic Volumes



4.3. Future Background Traffic Assessment

The estimated 2029 future background traffic volumes illustrated in Figure 7 were analyzed using Synchro Version 11 software. The detailed calculations are provided in Appendix D and summarized in Table 2.

Table 2 – 2029 Future Background Levels of Service

Intersection	Key Movement	Weekday AM Peak Hour			Weekday PM Peak Hour		
		LOS (v/c)	Delay (s)	Queue 95 th (m)	LOS (v/c)	Delay (s)	Queue 95 th (m)
Lakeshore Rd W/ Lorne Park (signalized) with EB exclusive left turn signal	Overall	B	0.37	10.0	A	0.35	7.9
	EB – L	A	0.29	7.8	A	0.28	7.0
	EB – T	A	0.30	6.5	A	0.34	6.2
	EB - R	A	0.01	5.1	A	0.00	4.6
	WB – L	A	0.01	5.1	A	0.10	4.7
	WB – T	A	0.31	6.6	A	0.29	5.9
	WB - R	A	0.07	5.4	A	0.07	5.0
	NB – L	C	0.10	22.9	C	0.05	23.8
	NB - TR	C	0.02	22.5	C	0.00	23.6
SB – LT	C	0.67	33.6	C	0.45	26.8	
SB – R	C	0.16	23.2	C	0.06	23.9	
Lakeshore Rd W/ Ibar Way (unsignalized)	EB – LT	A	0.02	0.8	A	0.04	1.4
	SB – LR	C	0.27	19.7	C	0.11	17.2

Based on the intersection capacity analysis, under the 2029 future background traffic conditions, the intersection of Lakeshore Road West and Lorne Park is expected to generate at acceptable of service. The unsignalized intersection is also expected to generate at acceptable level of service. No physical improvement is required.

5.0 SITE TRAFFIC

5.1. Proposed Development

As indicated, the existing site is currently vacant. The proposed redevelopment of the site consists of a 10-storey residential building with 161 dwelling units.

To be consistent with the previous assessment, the 2016 Transportation Tomorrow Survey (TTS), the *Trip Generation Manual, 11th Edition* published by the Institute of Transportation Engineers (ITE) and information was reviewed to estimate the modal split, trip distribution and trip generation for the proposed development.

5.2. Modes of Travel Assessment in the Area

Table 3 summarizes the travel mode split information based on the review of the 2016 Transportation Tomorrow Survey data for Traffic Zones 3641,3646. The 2016 TTS data extraction is included in **Appendix E**.

Table 3 – Modal Split based on 2016 TTS Data for Traffic Zones

Time	Trips Made by Traffic Zones				
	Auto Driver	Auto Passenger	Transit	Cycle	Walk
AM Peak Period (6:00Am – 9:00AM)	67%	15%	13%	1%	4%
PM Peak Period (3:00PM – 6:00PM)	81%	12%	2%	2%	3%

Based on the information above, the non-auto mode of transportation (transit + walking + carpooling) accounts for approximately 33% during the morning peak period and 19% during the afternoon peak period. The transit modal split is approximately 13% during the morning peak period and 2% during the afternoon peak period.

5.3. Site Trip Generation

The current development proposal consists of a total of 161 residential dwelling units. The trip generation forecasts were undertaken using the information contained in the *Trip Generation Manual, 11th Edition* published by the Institute of Transportation Engineers (ITE). For the purposes of this assessment, the ITE Land Use Codes (LUC) 221 “Multifamily Housing Mid-Rise General Urban/Suburban” fitted curve equations have been utilized for the proposed development. The site trip generation is summarized in **Table 4**.

Table 4 – Site Trip Generation (11th Edition)

ITE Land Use	Magnitude (units/GFA)	Parameters	Morning Peak Hour			Afternoon Peak Hour				
			In	Out	Total	In	Out	Total		
Multifamily Housing (Mid-rise) LUC 221 General Urban/Suburban	161	Trip Rates AM - T = 0.44(X) - 11.61 PM - T = 0.39(X) +0.34	14	46	60	38	25	63		
		Mode	AM	PM						
		Non-Auto	33%	19%	5	15	20	7	5	12
		Auto	67%	81%	9	31	40	31	20	51

Based on the analysis noted above, the proposed development is expected to generate:

- 60 total two-way trips (14 inbound and 46 outbound) and 63 total two-way trips (38 inbound and 25 outbound) during the AM and PM peak hours, respectively.
- 20 two-way non-auto trips (5 inbound and 15 outbound) and 12 two-way non-auto trips (7 inbound and 5 outbound) during the AM and PM peak hours, respectively; and
- 40 two-way auto trips (9 inbound and 31 outbound) and 51 two-way auto trips (31 inbound and 20 outbound) during the AM and PM peak hours, respectively

5.4. Site Trip Distribution and Assignment

The 2016 Transportation Tomorrow Survey (TTS) data was reviewed for Traffic Zones 3641 and 3646 in order to estimate the general trip distribution for the proposed development. **Table 5** summarizes the planning district/traffic zones distribution based on the 2016 TTS data, with **Table 6** summarizing the site trip assignment based on the 2016 TTS data detailed breakdown for the City of Mississauga Wards and existing transportation network in the area for the residential component of proposed development.

Table 5 – Site Trip Distribution

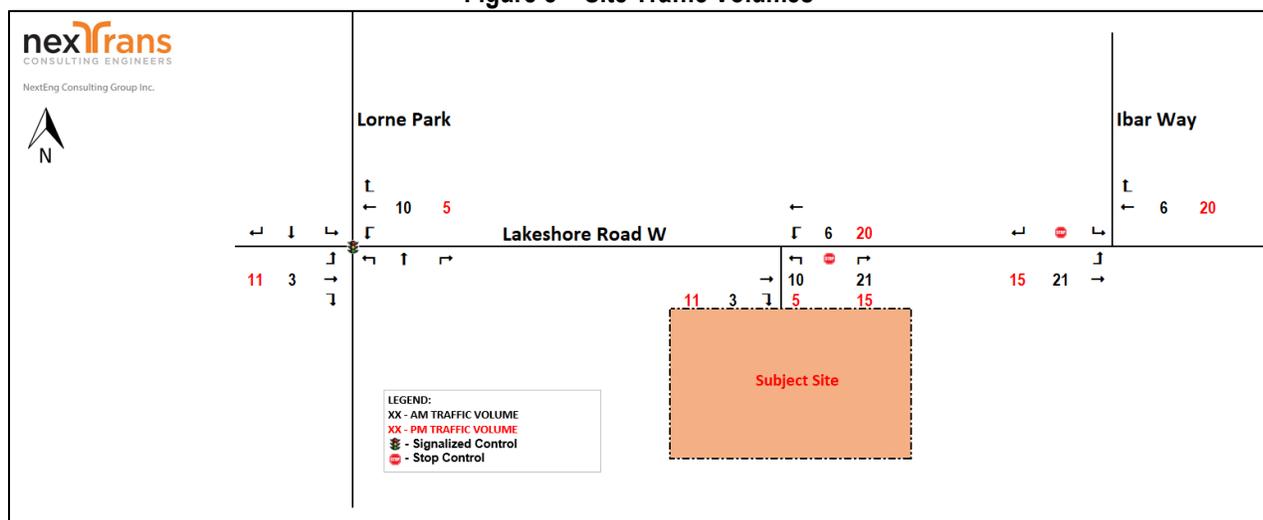
Mode	Mississauga	Toronto	Brampton	Oakville and West	York Region and North	Total
Auto	61%	21%	9%	5%	4%	100%

Table 6 – Site Trip Distribution

General Direction (To/From)	Inbound	Outbound
East (Lakeshore Road, QEW,)	65%	65%
West (Lakeshore Road, QEW)	35%	35%
Total	100%	100%

Figure 8 illustrates the proposed development's generated traffic volumes. It should be noted that the auto site trip distribution and assignment have been taken into consideration, the 2016 TTS information, existing intersection operations and capacity constraints.

Figure 8 – Site Traffic Volumes



6.0 FUTURE TOTAL TRAFFIC CONDITIONS

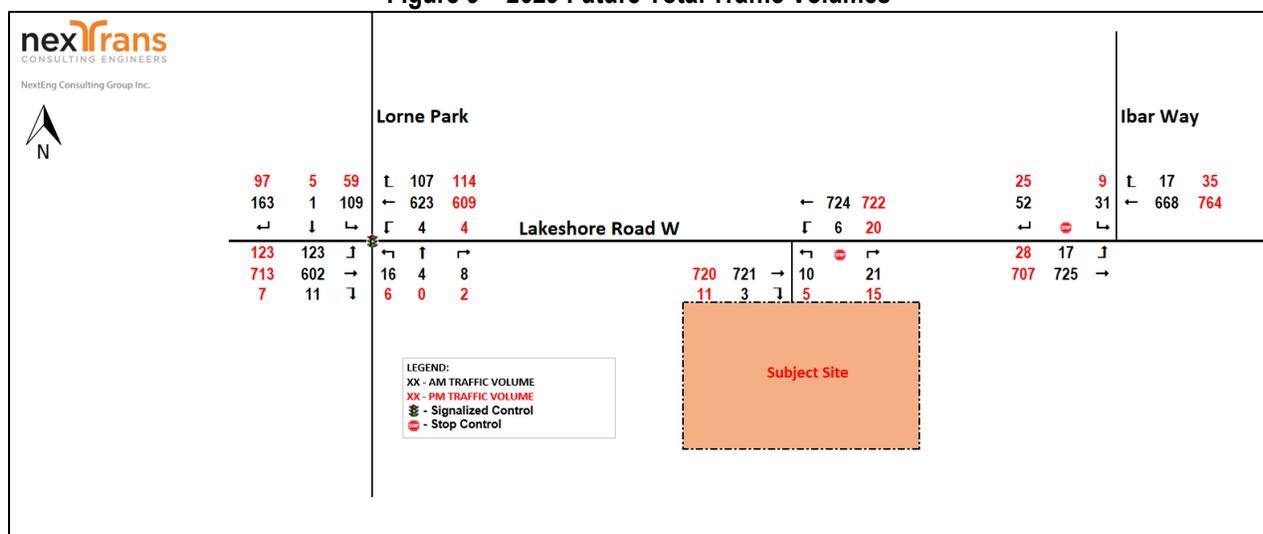
6.1. Future Total Traffic Assessment for Auto Mode

The estimated 2029 future total traffic volumes (future background traffic volumes plus site-generated traffic volumes) are illustrated in **Figure 9** and were analyzed using Synchro Version 11 software. The detailed calculations are provided in **Appendix F** and summarized in **Table 7**.

Table 7 – 2029 Future Total Levels of Service

Intersection	Key Movement	Weekday AM Peak Hour			Weekday PM Peak Hour				
		LOS (v/c)	Delay (s)	Queue 95 th (m)	LOS (v/c)	Delay (s)	Queue 95 th (m)		
Lakeshore Rd W/ Lorne Park (signalized) with EB exclusive left turn signal	Overall	A	0.37	10.0	A	0.36	7.9		
	EB – L	A	0.30	7.8	19.0	A	0.28	7.0	18.1
	EB – T	A	0.30	6.5	30.5	A	0.34	6.2	35.4
	EB - R	A	0.01	5.1	0.0	A	0.00	4.6	0.0
	WB – L	A	0.01	5.1	1.4	A	0.01	4.7	1.4
	WB – T	A	0.31	6.6	31.6	A	0.29	5.9	29.5
	WB - R	A	0.07	5.4	6.1	A	0.07	5.0	6.0
	NB – L	C	0.10	22.9	6.2	C	0.05	23.8	3.6
	NB - TR	C	0.02	22.5	4.2	C	0.00	23.6	0.0
	SB – LT	C	0.67	33.6	26.1	C	0.45	26.8	16.6
SB – R	C	0.18	23.3	15.7	C	0.06	23.9	10.8	
Lakeshore Rd W/ Ibar Way (unsignalized)	EB – LT	A	0.02	0.8	0.5	A	0.04	1.4	1.0
	SB – LR	C	0.28	20.1	8.8	C	0.11	17.6	3.1
Lakeshore Rd W/ Site Access (unsignalized)	WB – LT	A	0.01	0.3	0.2	A	0.03	1.0	0.7
	NB - LR	C	0.10	16.7	2.6	B	0.05	15.0	1.4

Figure 9 – 2029 Future Total Traffic Volumes



Based on the intersection capacity analysis, under the 2029 future total traffic conditions with the future BRT, the following observations are provided:

- The proposed development has negligible impacts on all intersections considered in the study area.
- The proposed site accesses are expected to operate at acceptable levels of service with minimum queues or delays.
- All the study intersections considered in this Study are expected to operate at acceptable levels of service.

Nextrans has completed a signal warrant analysis for the unsignalized intersections, which concluded that traffic signals are not warranted at this time. A detailed analysis is included in **Appendix G**.

6.2. Active Transportation Assessment

6.2.1. Walking Mode Assessment

The area is currently well-served by a sufficient network of sidewalks, with sidewalks available on both sides of Lakeshore Road, the east side of Lorne Park Road and the west side of Ibar Way. Sidewalks are reasonably maintained.

The proposed development is committed to constructing the sidewalks along Lakeshore Road W and along the frontage of the proposed development. The sidewalk will be constructed per the City standards.

6.2.2. Cycling Mode Assessment

Under the existing conditions, there are Multi-use Trails along Lakeshore Road, Signed Bile Rotes along Lorne Park Road and Ibar Way. There is Waterfront Rail in the area.

Our analysis and review indicate that the existing cycling network can be improved in the future as part of the City of Mississauga 2018 Cycling Master Plan and Lakeshore Connected Communities Transportation Master Plan recommendations. This will encourage existing and future residents to use these facilities instead of driving single-occupant vehicles. These infrastructure projects are beyond the scope of this Study and this project.

6.2.3. Transit Mode Assessment

As indicated, the proposed development is expected to generate 20 two-way transit trips (5 inbound and 15 outbound) and 12 two-way transit trips (7 inbound and 5 outbound) during the AM and PM peak hours, respectively. For the purposes of this assessment, it is assumed that all of these trips are transit-related, which is conservative.

The proposed development is located about 200m to MiWay Bus Route 23.

Table 8 summarizes the transit trip assignments based on the transit trip generation and distribution estimated from the 2016 Transportation Tomorrow Survey data and MiWay service in the area.

Table 8 – Site Transit Trip Assignment

Transit Route	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Total Transit Trips	5	15	20	7	5	12
MiWay Route 23 eastbound	3	12	15	4	3	7
MiWay Route 23 westbound	2	3	5	3	2	5

NexTrans has reviewed the existing transit schedules for the MiWay Route 23 service routes during the weekday morning and afternoon peak hours. **Table 9** summarizes the existing MiWay Route 23 service frequency. It should be noted that the number of transit vehicles per hour was calculated using 60 minutes divided by the vehicle headway based on the latest schedules available on the Mississauga Transit website.

Table 9 – Transit Service Frequency

Transit Route	Weekday AM Peak Hour		Weekday PM Peak Hour	
	Headway	No. transit veh/hr	Headway	No. transit veh/hr
MiWay Route 23	~ 10 mins	6	~ 10 mins	6
MiWay Route 23	~ 10 mins	6	~ 10 mins	6

Table 10 summarizes the future transit passenger demand from the proposed development for each transit vehicle during the morning and afternoon peak hours. The number of passengers per transit vehicle was calculated by using the total peak hour passenger demand generated by the proposed development, divided by the number of transit vehicles per hour.

Table 10 – Future Transit Passenger Demand from the Proposed Development

Transit Route	Weekday AM Peak Hour		Weekday PM Peak Hour	
	Inbound (pass/veh)	Outbound (pass/veh)	Inbound (pass/veh)	Outbound (pass/veh)
MiWay Route 23 Eastbound	0.5	2	1	0.5
MiWay Route 23 Westbound	0.3	0.5	0.5	0.3

The analysis indicates that the transit passenger demands generated by the proposed development can be accommodated by the existing and future transit services along this corridor.

Worst case scenario, some passengers could be bunched together during the peak 15 minutes, instead of spreading during the entire peak hour. Even if this is the case, our estimates indicate that the transit demand can be accommodated without the need for any additional improvements beyond what have been identified and planned by the City and Metrolinx.

7.0 SITE PLAN REVIEW

7.1. Loading Requirement

As indicated, the proposed redevelopment of the site consists of a 10-storey mixed-use building with a total of 161 residential dwelling units. The City of Mississauga Zoning By-law 0225-2007 was reviewed to determine the loading requirement for the proposed development. **Table 11** summarizes the loading requirement based on the current Zoning By-law.

Table 11 – City of Mississauga Zoning By-law Loading Requirements

Land Use	Magnitude	Loading Rates	Spaces Required
Residential	161 units	Minimum of 30 dwelling units	1 space

Under the City’s By-Law Zoning By-law 0225-2007, one loading space is required for the residential component. The minimum loading space dimensions are: 3.5 m width and 9.0 m Length.

7.2. Waste Management Plan

NexTrans has reviewed the existing garbage pick-up schedule for the area, as well as the Waste Management Plan for Official Plan Amendment/Rezoning Applications guidelines from the Region of Peel website (www.peel.ca).

Figure 10 summarizes the current waste pick-up schedule for the area. Based on the current solid waste pick-up schedule, garbage and recycling pick-up occur on alternate Mondays of the week. Organic waste will be picked up every Thursday of the week.

Figure 10 – Waste Collection Schedule

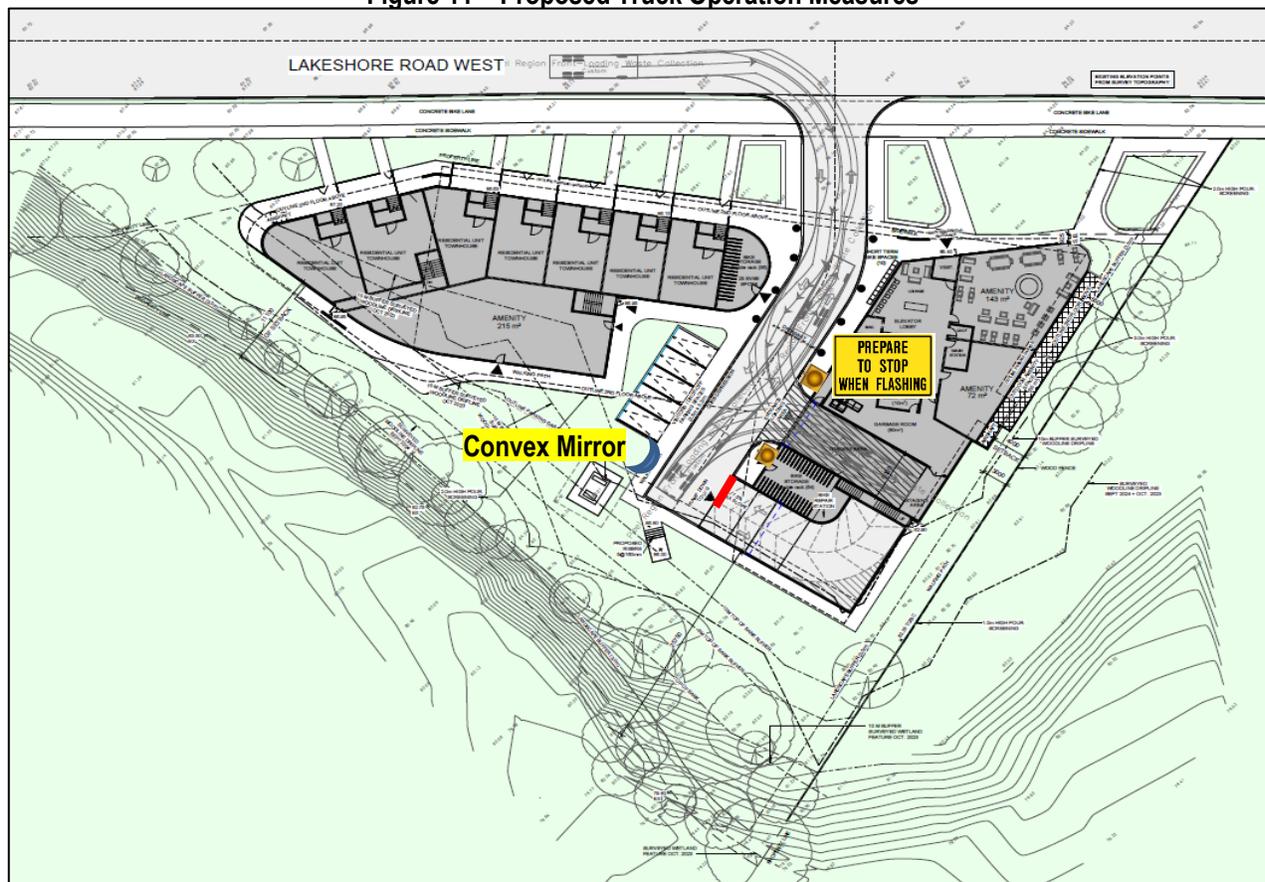
Sun	Mon	Tue	Wed	Thu	Fri	Sat
26	27 ● Garbage ● Organics	28	29	30	1 ● Canada Day	2
3	4 ● Recycling ● Organics ● Yard Waste	5	6	7	8	9
10	11 ● Garbage ● Organics	12	13	14	15	16
17	18 ● Recycling ● Organics ● Yard Waste	19	20	21	22	23
24	25 ● Garbage ● Organics	26	27	28	29	30
31 ● Civic Holiday	1	2 ● Recycling ● Organics ● Yard Waste	3	4	5	6

7.3. Loading Operation

NexTrans suggests the following measures to address some of the City’s concerns related to the truck operation around the loading area:

1. Flashing beacons and truck in operation signage: the flashing beacons and truck in operation signage will be placed at two strategic locations, one to the west of the loading area and one at the bottom of the ramp before vehicle exit. This beacon will be audible to warn pedestrians that trucks are in operation. Both beacons will be activated when the truck is backing into the ramp, for example, it can be activated with the loop detectors. **Figure 11** illustrates the flashing beacon and truck in operation signage locations.
2. Convex mirrors: convex mirrors will be placed on the opposite side of the loading area so that the truck drivers can see oncoming traffic or pedestrians. The convex mirror is illustrated in **Figure 11**.
3. Sufficient warning signs: warning signs such as “PREPARE TO STOP WHEN LIGHT FLASHES”. The locations of the signs are illustrated in **Figure 11**.
4. Assistance of building management on the garbage pick-up day: since building management will assist in organizing the garbage bins, they can also assist the drivers while the truck is maneuvering into the driveway.

Figure 11 – Proposed Truck Operation Measures



7.4. Site Access Review

7.5. TAC 2017 Guidelines

The Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads 2017 Edition describes spacing considerations for driveways on opposite sides of a roadway. **Section 8.9.8** states that “*The minimum spacing between driveways is measured between the end and start of the curb returns on the adjacent driveways, shown as dimension (E) on Figure 8.9.2. A 1.0 m minimum spacing is recommended between adjacent low-volume driveways for residential properties, along local and collector roadways, while a 3.0 m minimum is the suggested dimension for both commercial and industrial land uses. If there is a need to provide parallel parking between driveways along the roadway, a spacing of 6.0 to 7.5 m is suitable. If the spacing provided is in the range of 3.0 to 5.0 m, the space may appear inviting to a driver wishing to park, but if used, it severely hampers the operation of the driveways by reducing sight lines and interfering with the turning paths of the vehicles.*”

The proposed access to Ibar Way has a spacing of approximately 100m, and to Whittier Cres has a spacing of approximately 200m; as such, based on the TAC guidelines, the proposed access meets the requirement.

Pedestrian Safety

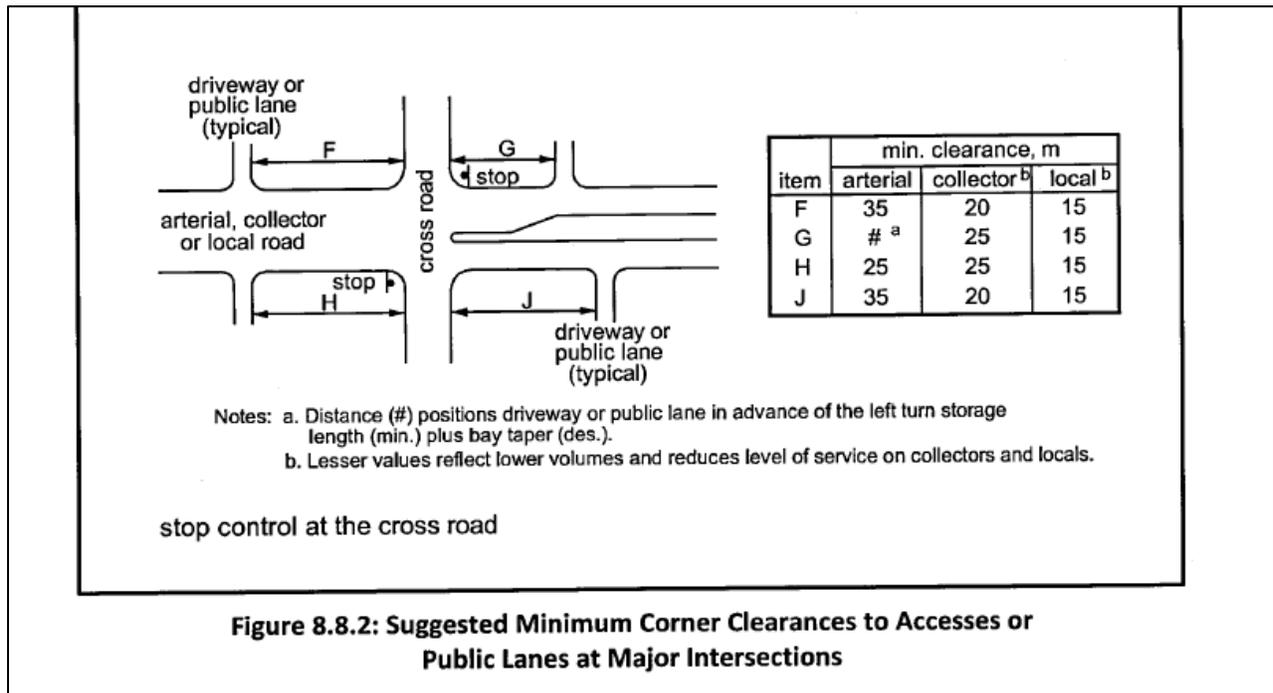
According to Section 6.4.4 Corner Radii, it states that “*In general, a smaller corner radius provides more pedestrian queuing space, facilitates a shorter crossing distance, enables straight and direct connections between sidewalk, curb ramp, and crosswalk, and increases the visibility of pedestrians. A small corner radius may also encourage slower motor vehicle turning speeds. Figure 6.4.5 illustrates the effect of corner radius on pedestrian crossing distance and directness. As the corner radius increases, the pedestrian crossing distance increases or directness is reduced to minimize crossing distance; changes in the directness of crossing can impact visibility and likelihood of pedestrian crossing within the*

marked crosswalk.” Based on the latest site plan, the sidewalk will be continuous across the proposed access to provide safety for pedestrians from turning vehicles.

Corner Clearances at Minor Intersections

According to Section 8.8.2 Suggested Minimum Corner Clearance Dimensions, it states that “Figure 8.8.2 provides suggested corner clearance dimensions for various clarifications of roads at an operating speed of 50 km/h.

The lower half of Figure 8.8.2 presents suggested minimum corner clearance dimensions adjacent to an intersection with stop control, rather than signals, at the crossroad. Dimensions F and H apply to an undivided roadway, G and J to a divided road. Dimensions F and J are based on right-turning vehicles at the intersection being able to perceive and react to a conflict at the first access. Dimension H is based on providing space for three passenger vehicles to be queued at the stop control without blocking the driveway. Dimension G is based on the same philosophy as dimension B in the upper half of the figure.



The proposed driveway has a corner clearance distance of 100m to the Ibar Way and 200m to Whittier Crescent. It is our opinion that the proposed access location is safe and meets the TAC standard. NexTrans only recommends that the crossing sidewalk be painted as striping, and the stop sign be installed at the access to provide the most convenience and safety for pedestrians.

7.6. Sight Distance Analysis

7.6.1. Left Turn from Stop

For sight distance assessment, a design speed of 60 km/hr under stop control was utilized. Sight distance requirements were considered for passenger vehicles approaching and departing the stopped position at the proposed site access onto Lakeshore Road West.

According to the Geometric Design Guide for Canadian Roads by the Transportation Association of Canada (TAC 2017), the required stopping distance for a left turn from stop sight distance- case B1 is illustrated in **Table 9.9.4** of the TAC 2017.

Table 9.9.4: Design Intersection Sight Distance – Case B1, Left Turn From Stop

Design Speed (km/h)	Stopping Sight Distance (m)	Intersection Sight Distance for Passenger Cars	
		Calculated (m)	Design (m)
20	20	41.7	45
30	35	62.6	65
40	50	83.4	85
50	65	104.3	105
60	85	125.1	130
70	105	146.0	150
80	130	166.8	170
90	160	187.7	190
100	185	208.5	210
110	220	229.4	230
120	250	250.2	255
130	285	271.1	275

Table 12 – Left Turn Stopping Sight Distance Assessment for the proposed access

Lakeshore Rd W and Site Access	Stopping Sight Distance		
	Required	Achieved	Difference
East approach	105 m	200m	95m
West approach	105 m	200m	95m

As summarized in **Table 12**, the required stopping sight distance for the left turn from the stop is 105 m. In comparing the difference between the required and the achieved stopping distances, the north and southbound approaches meet the requirement, respectively. **As such, it is our opinion that there are adequate stopping distances from the north and south approaches for the proposed driveways onto Lakeshore Road West.**

7.6.2. Right Turn from Stop

According to the Geometric Design Guide for Canadian Roads by the Transportation Association of Canada (TAC 2017), the required stopping distance for a right turn from stop sight distance- case B2 is illustrated in **Table 9.9.6** of the TAC 2017.

Table 9.9.6: Design Intersection Sight Distance – Case B2, Right Turn from Stop, and Case B3, Crossing Maneuver

Design Speed (km/h)	Stopping Sight Distance (m)	Intersection Sight Distance for Passenger Cars	
		Calculated (m)	Design (m)
20	20	36.1	40
30	35	54.2	55
40	50	72.3	75
50	65	90.4	95
60	85	108.4	110
70	105	126.5	130
80	130	144.6	145
90	160	162.6	165
100	185	180.7	185
110	220	198.8	200
120	250	216.8	220
130	285	234.9	235

Table 13 – Right Turn Stopping Sight Distance Assessment for the proposed access

Lakeshore Rd W and Site Access	Stopping Sight Distance		
	Required	Achieved	Difference
North approach	110 m	200m	90m
South approach	110 m	200m	90m

As summarized in **Table 13**, the required stopping sight distance for the right turn from the stop is 110 m. In comparing the difference between the required and the achieved stopping distances, the north and southbound approaches meet the requirement, respectively. **As such, it is our opinion that there are adequate stopping distances from the north and south approaches for the proposed driveways onto Lakeshore Road West.**

8.0 PARKING ASSESSMENT

8.1. Vehicle Parking Requirement

NexTrans has reviewed the City of Mississauga Zoning Bylaw for the vehicle parking requirement. The zoning bylaw requires the residential parking rate of 1.10 spaces/dwelling unit for residential parking and 0.20 spaces/dwelling unit for visitor parking.

Table 14 summarizes the required parking for the proposed development based on the rates noted above.

Table 14 – Vehicle Parking Requirements for the Proposed Development

Unit Type	No. of Units	Parking Rates	Parking Requirement	Parking Provided
Residential	161 units	1.10 space/unit	177	161
Visitor	161 units	0.20 spaces/unit for visitor	32	32
Total			209 spaces	193 spaces

Based on the assessment noted above, the proposed development will require providing a total of 209 vehicle parking spaces, inclusive of residential and visitor. The proposed development will provide a total of 193 parking spaces, which presents a technical shortfall of 16 residential parking spaces, or 7.65% reduction.

8.1.1. Why A Reduced Vehicle Parking Provision for New Development Is Important

Reducing vehicle parking supply and implementing appropriate parking demand management strategies represent one of the most effective and impactful Transportation Demand Management (TDM) measures, as:

- Limited parking availability encourages residents to reduce car ownership and dependence on private vehicles.
- It promotes the use of sustainable transportation modes such as walking, cycling, and public transit available in the surrounding area.
- It helps to maximize transit ridership and supports the efficient utilization of major transit infrastructure investments.
- Additionally, it should be recognized that members of Generation Z are increasingly less inclined to purchase vehicles due to high capital and operating costs and are more likely to rely on cost-effective alternatives such as public transit, ridesharing, or on-demand mobility services.

8.1.2. Support Alternative Modes of Transportation

Public Transit is an important mode of transportation for both short and longer distance trips to and from the proposed development. Based on Nextrans' review of the overall transportation network in the area, it is evident that the transportation network will be significantly transformed in the future with the following improvements:

- Hurontario Light-Rail-Transit (LRT);
- Lakeshore Bus-Rapid-Transit (BRT);
- Comprehensive active transportation network by the City and the Region; and
- Comprehensive Transportation Demand Management plan

As indicated in previous sections of this Study, the proposed development is located about 200m from the Hurontario LRT and only a few minutes' bike ride or transit ride to the Port Credit Station; as such, there are many efficient, quick, convenient and sustainable ways to travel instead of owning and driving private vehicles. With the recent gas price increases and capital cost of owning a vehicle (new vehicle shortage due to supply chain problem), more residents will choose to use more convenient and effective modes of transportation, such as public transit, walking and cycling.

8.1.3. Recommended Vehicle Parking Requirement for The Proposed Development

Given the reasons noted above, this area will be transformed into a major transportation mobility hub for all modes of transportation, including excellent transit and active transportation. These modes of transportation are sustainable and cheaper than owning a private vehicle. These modes of transportation will also help reduce congestion and pollution in the area.

The following are recommended parking rates (**Table 15**) for the proposed development, based on the parking justification provided in subsequent sections of this Study.

Table 15 – Recommended Vehicle Parking Rates for the Proposed Development

Unit Type	No. of Units	Parking Rates	Parking Requirement (Spaces)
Residential	161 units	1 space/unit	161 spaces
Visitor	161 units	0.20 spaces/unit	32 spaces
Total		1.20 spaces/unit	193 spaces

Based on the recommended vehicle parking rates, the proposed development will provide a total of 193 parking spaces for both residential and visitor components.

9.0 BICYCLE PARKING ASSESSMENT

Table 16 summarizes the City of Mississauga Zoning By-law bicycle parking requirement (Table 3.1.6.5.1) for the proposed development to support TDM and active transportation.

Table 16 – Bicycle Parking Space Requirements

Land Use	No. of Unit / GFA	Class B (Short-Term)		Class A (Long-Term)		Total
		Rates	Spaces	Rates	Spaces	
Residential	161 units	0.05 spaces/unit	8	0.60 spaces/unit	97	105

Based on the assessment above, the proposed development requires a total of 105 bicycle parking spaces, including 8 short-term (Class B) spaces and 97 long-term spaces (Class A) for visitors and residents, respectively. The proposed development will meet this requirement by providing 122 bicycle parking spaces.

The proposed bicycle parking supply by the proposed development will support the vehicle parking reduction as this will encourage residents to take an active mode of transportation to work, school and discretionary trips instead of driving private vehicles.

10.0 COMMUNITY IMPACT

In response to community concerns regarding traffic operations, intersection performance, and parking impacts associated with the proposed development, a comprehensive traffic analysis has been undertaken in accordance with the City’s approved Terms of Reference and relevant guidelines. The purpose of this analysis is to ensure that the study accurately reflects existing and future traffic conditions and that the proposed development can be accommodated without adversely affecting the surrounding transportation network.

The traffic data collection was conducted during the regular school months (September to June), consistent with the City’s requirement to capture the most conservative and representative traffic conditions. The City does not accept traffic counts taken during the summer period, as volumes during that time are typically lower and would not accurately represent normal operating conditions.

With respect to the intersection at Ibar Way, the proposed development is not anticipated to generate any traffic turning movements (right or left) at this location. The intersection capacity analysis confirms that all movements are expected to operate at acceptable levels of service (LOS A to C), noting that LOS F is considered unacceptable by City standards.

Overall, the traffic analysis applied a conservative approach, indicating that the proposed development will not generate any significant impacts on the surrounding road network. A traffic signal is not warranted at the proposed site access based on the warrant analysis; therefore, signal installation is not recommended.

Regarding parking supply, the proposed reduction in vehicle parking spaces is consistent with the City’s Transportation Demand Management (TDM) objectives and helps minimize vehicular traffic generation. The reduced parking is complemented by several TDM measures designed to promote sustainable travel options, including transit pass programs, car-share availability, and improved pedestrian connectivity. These initiatives collectively support the City’s broader goals of encouraging active and transit-oriented transportation modes while reducing dependency on private vehicles.

11.0 TRANSPORTATION DEMAND MANAGEMENT

The following TDM measures and programs will be provided by the proposed development to support the recommended vehicle parking rates:

- Transit incentive.
- Meet or exceed Zoning By-law bicycle parking requirements.
- Provide a bicycle repair station.
- Provide carshare spaces (one for each building).
- Provide EV parking spaces.
- Information package, community website or information screens in the lobby areas with transit schedule.
- Provide well-lit and direct pedestrian and cycling connections along the frontage of the site along Lakeshore Road; and
- Internal site design and circulation to accommodate pedestrians and cyclists. These TDM measures are explained in more detail below.

11.1. Transit Incentives

The proposed development is committed to providing pre-loaded PRESTO Cards for the residents who will not require a vehicle parking space. The pre-loaded amount is equivalent to about one month transit pass, or approximately \$150 per card. The card can be distributed at the time of purchase, as the card will not expire.

With the recent implementation of one-fare integration between transit agencies, residents can use their pre-loaded PRESTO Cards on Mississauga Transit or GO Transit.

11.2. Bicycle Parking Provision

The proposed development will provide bicycle parking to meet the Zoning By-law requirement. These bicycle parking spaces will support the vehicle parking reduction as this will encourage residents to take an active mode of transportation to work, school and discretionary trips instead of driving private vehicles.

11.3. Bicycle Repair Station

To support the bicycle parking provision noted above, the proposed development will provide two bicycle repair stations, one in each building. The bicycle repair stations will be provided inside the bicycle parking area, at a convenient location where the residents can easily access. The potential locations will be illustrated in the proposed site plan.

11.4. Electric Vehicle Parking Spaces

As the world is shifting from internal combustion engines to electric vehicles to combat climate change, the proposed development will accommodate this paradigm shift by providing the required EV charging parking spaces as per the applicable City of Mississauga Zoning By-law. In addition to car EV charging parking spaces, micromobility transportation technology is also important. On this basis, the proposed development will provide some of the bicycle parking spaces with EV charging capability.

11.5. Information Package and Technologies

The proposed development will provide an information package in the form of a letter or electronic letter that will include all of the following information:

- Mississauga Transit Schedule
- GO Transit Schedule
- Community Maps
- Cycling Maps
- Potential dedicated website for the project or smartphone apps (third party)

In addition, the proposed development will consider providing several screens in the lobbies that display traffic conditions, transit schedule and inclement weather conditions so that the residents can prepare and choose their modes of transportation as appropriate.

11.6. Active Transportation

The proposed development is committed to provide well-lit and direct pedestrian and cycling connections along the frontage of the site along Lakeshore Road.

11.7. Site Design

The interior of the site will be designed in such a manner to accommodate pedestrians and cyclists, such as:

- Direct pedestrian and cycling connections to Lakeshore Road.
- Provide main entrances that conducive to walking and cycling; and
- Potential style centre court designs to accommodate all modes of transportation in one space

The detailed design will be provided at the subsequent stage of the proposed development, that include the above provisions to the satisfaction of the City.

The following TDM incentives are recommended for the proposed residential development, based on NexTrans' review of the City of Mississauga Cycling Master Plan, Moving Mississauga Report and the Region of Peel TDM Strategy:

- Given that parking management is the best TDM measure, the proposed development should implement the approved parking rates or further reduce the vehicle parking supply to support TDM and minimize the number of single-occupant-vehicle trips, where appropriate.
- Consider providing a total of 122 bicycle parking spaces, inclusive of short-term (Class B) and long-term (Class A) spaces on-site at secured and convenient locations, where appropriate.
- Provide direct shared pedestrian/bicycle connections from the proposed development to Lakeshore Road W, where appropriate. For example, the building entrances fronting onto these public roads provide convenient and direct pedestrian access; and
- Provide an information package for new residents. The information package includes GO Train schedules (Long Branch GO Train Stations), Mississauga MiWay bus route schedules, community and cycling maps, where appropriate. The Information Package can be distributed through a letter or email at the time of purchase.

12.0 CONCLUSIONS / FINDINGS

12.1. Study Conclusions

The findings and conclusions of the analysis are as follows:

- The proposed development is expected to generate:
 - 60 total two-way trips (14 inbound and 46 outbound) and 63 total two-way trips (38 inbound and 25 outbound) during the AM and PM peak hours, respectively.
 - 20 two-way non-auto trips (5 inbound and 15 outbound) and 12 two-way non-auto trips (7 inbound and 5 outbound) during the AM and PM peak hours, respectively; and
 - 40 two-way auto trips (9 inbound and 31 outbound) and 51 two-way auto trips (31 inbound and 20 outbound) during the AM and PM peak hours, respectively
- The intersection capacity analysis indicates that under existing, future background and future total conditions, all the intersections considered in the Study are expected to operate at acceptable levels of service with the existing signal timing plan.
- The proposed site accesses are expected to operate at acceptable levels of service with minimum delay or queue.
- The analysis indicates that the transit passenger demands generated by the proposed development can be accommodated by the existing and future transit services along this corridor. No additional improvements beyond what have been identified and planned by the City and Metrolinx are required to accommodate the proposed development.
- Based on the assessment noted above, the proposed development will require providing a total of 209 vehicle parking spaces, inclusive of residential and visitor. The proposed development will provide a total of 193 parking spaces, which presents a technical shortfall of 16 residential parking spaces, or 7.65% reduction.
- Based on the assessment of this Study Update, the proposed development requires a total of 105 bicycle parking spaces, including 8 short-term (Class B) spaces and 97 long-term spaces (Class A) for visitors and residents, respectively. The proposed development will meet this requirement by providing 122 bicycle parking spaces.

The proposed bicycle parking supply by the proposed development will support the vehicle parking reduction as this will encourage residents to take an active mode of transportation to work, school and discretionary trips instead of driving private vehicles.

- Under the City's By-Law Zoning By-law 0225-2007, one loading space is required for the residential component. The minimum loading space dimensions are: 3.5 m width and 9.0 m Length. The proposed development will meet this requirement.

12.2. Study Recommendations

Based on the Study assessment, the following recommendations are provided:

- The city approves the proposed development as the proposed development has minimal or negligible impacts on the existing and future transportation network. The proposed development also represents good transportation planning and will support the future major transit investments by Metrolinx and the City of Mississauga.

- The proposed development implements the TDM measures and incentives identified in this report to support active transportation and transit and to reduce the number of single-occupant-vehicle trips to and from the proposed development.
- The proposed development implements the approved parking rates of 1 space/unit for residents and 0.2 spaces/unit for visitors, to support TDM and minimize the number of single-occupant-vehicle trips.
- The proposed development provides direct shared pedestrian and cycling connections to Lakeshore Road W, where appropriate. For example, the building entrances fronting onto these public roads provide convenient and direct pedestrian access.
- Recommended improvements:
 - Require all new developments to provide transportation demand management measures and incentives.
 - Require all new developments to reduce residential vehicle parking rates to reduce car ownership and single-occupant-vehicle trips to and from this area; and
 - Provide provisions for active transportation, such as meeting or exceeding the Zoning By-law for bicycle parking requirements

BENCHMARK

REVISIONS

NO.	REVISION	DATE	BY

STAMP



nextrans
CONSULTING ENGINEERS

Suite 201, 520 Industrial Parkway South
Aurora ON L4G 6W8
Tel: 905-503-2563
Web: www.nextrans.ca

PROJECT NAME:

Residential Development
900 Lakeshore Rd
City of Mississauga

DRAWING TITLE:

AutoTURN Analysis
Garbage Truck

DESIGN BY:	DATE: February 18, 2026
CHECKED BY: R.P.	PROJECT NO. NT-23-188
DRAWN BY:	
SCALE: NTS	DRAWING NO. Figure 10



BENCHMARK

REVISIONS

NO.	REVISION	DATE	BY

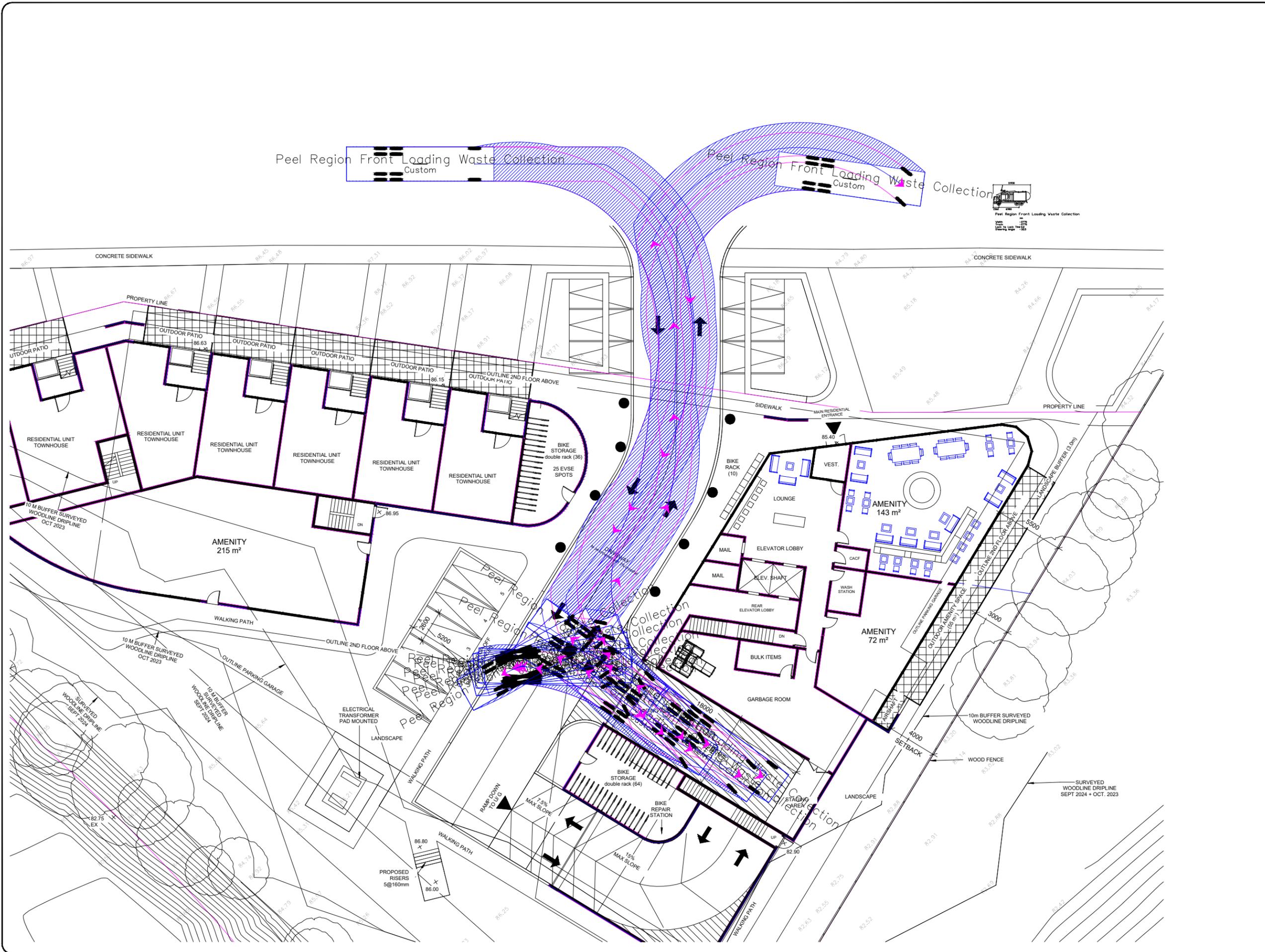
STAMP



PROJECT NAME:
Residential Development
900 Lakeshore Rd
City of Mississauga

DRAWING TITLE:
AutoTURN Analysis
Garbage Truck

DESIGN BY:	DATE: February 18, 2026
CHECKED BY: R.P.	PROJECT NO. NT-23-188
DRAWN BY:	
SCALE: NTS	DRAWING NO. Figure 10

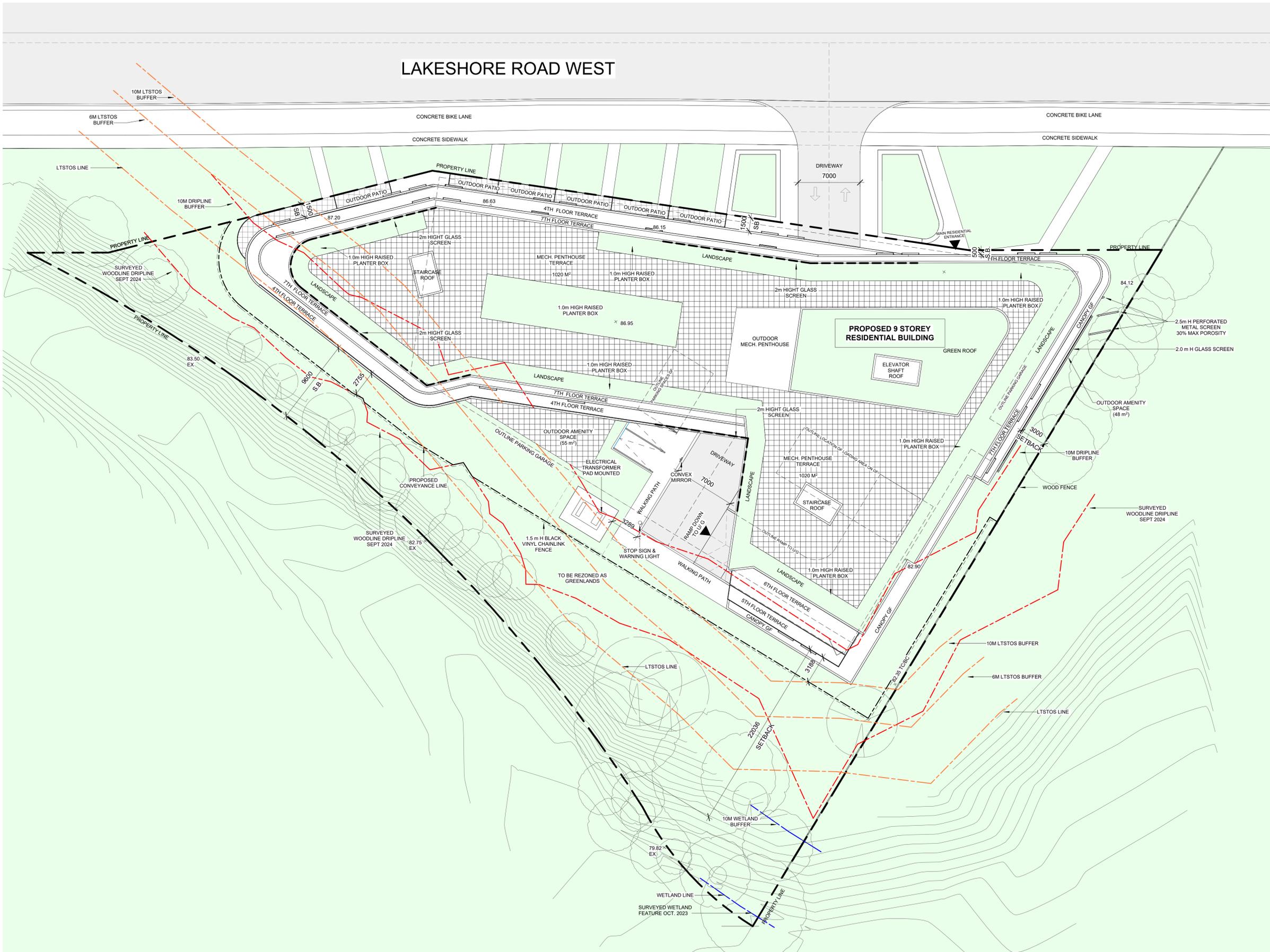


900 LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON
APPL. NUMBER: OZ / OP2 25-8 W2

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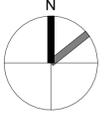
No.	Description	Date
1	Issued for MUDAP	29.01.2024
2	Issued for OPA/ZBA	26.11.2024
3	Issued for OZ/OPA 25-8 W2	04.09.2025



CONTEXT KEY PLAN



PROJECT NORTH



STAMP

CLIENT



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PROJECT NO:	23016
SCALE:	1 : 200
DATE:	09.01.2024
DRAWN BY:	FC
DRAWING TITLE	

SITE PLAN

DRAWING NO

A002

900 LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON
APPL. NUMBER: OZ / OP2 25-8 W2

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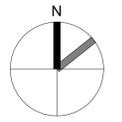
No.	Description	Date
1	Issued for MUDAP	29.01.2024
2	Issued for OPA/ZBA	26.11.2024
3	Issued for OZ/OPA 25-8 W2	04.09.2025
	Issued for Coordination	03.02.2026



CONTEXT KEY PLAN



PROJECT NORTH



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PROJECT NO:	23016
SCALE:	1 : 200
DATE:	09.01.2024
DRAWN BY:	FC
DRAWING TITLE	

SITE PLAN (GF)

DRAWING NO

A003

900 LAKESHORE

900 LAKESHORE ROAD WEST
MISSISSAUGA, ON
APPL. NUMBER: OZ / OP2 25-8 W2

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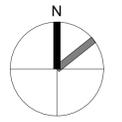
No.	Description	Date
1	Issued for MUDAP	29.01.2024
2	Issued for OPA/ZBA	26.11.2024
3	Issued for OZ/OPA 25-8 W2	04.09.2025
	Issued for Coordination	03.02.2026



CONTEXT KEY PLAN



PROJECT NORTH



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PROJECT NO:	23016
SCALE:	1 : 200
DATE:	09.01.2024
DRAWN BY:	FC
DRAWING TITLE	

SITE PLAN (GF)

DRAWING NO

A003

Appendix A – Existing Traffic Data



Turning Movement Count (2 . LAKESHORE RD W & IBAR WAY)

Start Time	Southbound IBAR WAY					Westbound LAKESHORE RD W					Eastbound LAKESHORE RD W					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	6	5	0	4	11	2	80	0	1	82	81	0	0	0	81	174	
07:15:00	7	8	0	0	15	3	77	0	2	80	78	0	0	0	78	173	
07:30:00	10	9	0	0	19	3	102	0	0	105	117	3	0	0	120	244	
07:45:00	11	11	0	0	22	3	109	0	0	112	144	2	0	0	146	280	871
08:00:00	12	9	0	0	21	1	140	0	0	141	166	4	0	0	170	332	1029
08:15:00	12	11	1	0	24	2	125	0	1	127	194	3	1	0	198	349	1205
08:30:00	17	7	0	0	24	10	175	0	0	185	168	5	0	0	173	382	1343
08:45:00	11	3	0	1	14	4	190	0	0	194	142	4	0	0	146	354	1417
09:00:00	4	9	0	0	13	5	139	0	0	144	130	6	0	0	136	293	1378
09:15:00	8	7	0	0	15	1	138	0	0	139	99	2	0	1	101	255	1284
09:30:00	5	6	0	4	11	5	118	0	0	123	125	1	0	0	126	260	1162
09:45:00	6	7	0	0	13	2	106	0	1	108	113	4	0	0	117	238	1046
BREAK																	
16:00:00	6	3	0	0	9	13	186	0	0	199	160	2	0	0	162	370	
16:15:00	6	1	0	0	7	12	188	0	0	200	158	4	0	0	162	369	
16:30:00	7	2	0	1	9	2	167	0	0	169	185	7	0	0	192	370	
16:45:00	6	3	0	0	9	8	185	0	0	193	172	15	0	0	187	389	1498
17:00:00	6	6	0	0	12	10	170	0	0	180	159	5	0	0	164	356	1484
17:15:00	9	5	0	0	14	7	151	0	0	158	186	7	0	0	193	365	1480
17:30:00	6	3	0	0	9	10	133	1	0	144	170	6	0	0	176	329	1439
17:45:00	2	4	0	0	6	5	144	0	0	149	126	8	0	0	134	289	1339
18:00:00	8	6	0	0	14	3	120	0	0	123	117	5	0	0	122	259	1242
18:15:00	3	5	0	0	8	6	109	0	0	115	129	4	0	0	133	256	1133
18:30:00	4	4	0	0	8	6	108	0	0	114	109	4	0	0	113	235	1039
18:45:00	6	1	0	0	7	8	110	0	0	118	93	5	0	0	98	223	973
Grand Total	178	135	1	10	314	131	3270	1	5	3402	3321	106	1	1	3428	7144	-
Approach%	56.7%	43%	0.3%	-	-	3.9%	96.1%	0%	-	-	96.9%	3.1%	0%	-	-	-	-
Totals %	2.5%	1.9%	0%	4.4%	4.4%	1.8%	45.8%	0%	47.6%	47.6%	46.5%	1.5%	0%	48%	48%	-	-
Heavy	9	2	0	-	-	4	86	0	-	-	103	8	0	-	-	-	-
Heavy %	5.1%	1.5%	0%	-	-	3.1%	2.6%	0%	-	-	3.1%	7.5%	0%	-	-	-	-
Bicycles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycle %	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Peak Hour: 08:00 AM - 09:00 AM Weather: Broken Clouds (-3.63 °C)

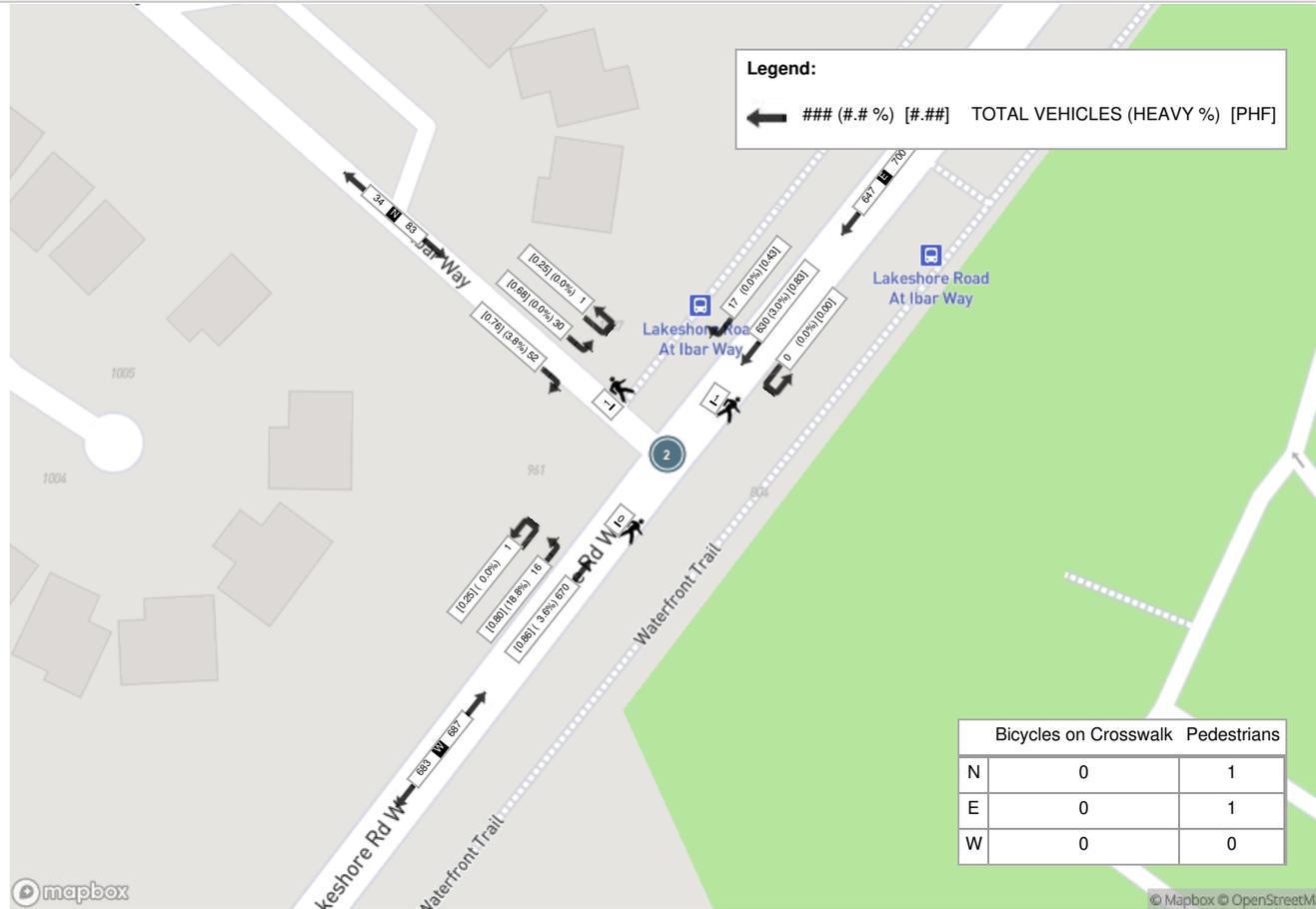
Start Time	Southbound IBAR WAY					Westbound LAKESHORE RD W					Eastbound LAKESHORE RD W					Int. Total (15 min)
	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	
08:00:00	12	9	0	0	21	1	140	0	0	141	166	4	0	0	170	332
08:15:00	12	11	1	0	24	2	125	0	1	127	194	3	1	0	198	349
08:30:00	17	7	0	0	24	10	175	0	0	185	168	5	0	0	173	382
08:45:00	11	3	0	1	14	4	190	0	0	194	142	4	0	0	146	354
Grand Total	52	30	1	1	83	17	630	0	1	647	670	16	1	0	687	1417
Approach%	62.7%	36.1%	1.2%	-	-	2.6%	97.4%	0%	-	-	97.5%	2.3%	0.1%	-	-	-
Totals %	3.7%	2.1%	0.1%	5.9%	1.2%	44.5%	0%	45.7%	47.3%	1.1%	0.1%	48.5%	-	-	-	-
PHF	0.76	0.68	0.25	0.86	0.43	0.83	0	0.83	0.86	0.8	0.25	0.87	-	-	-	-
Heavy	2	0	0	2	0	19	0	19	24	3	0	27	-	-	-	-
Heavy %	3.8%	0%	0%	2.4%	0%	3%	0%	2.9%	3.6%	18.8%	0%	3.9%	-	-	-	-
Lights	50	30	1	81	17	611	0	628	646	13	1	660	-	-	-	-
Lights %	96.2%	100%	100%	97.6%	100%	97%	0%	97.1%	96.4%	81.3%	100%	96.1%	-	-	-	-
Single-Unit Trucks	0	0	0	0	0	10	0	10	11	0	0	11	-	-	-	-
Single-Unit Trucks %	0%	0%	0%	0%	0%	1.6%	0%	1.5%	1.6%	0%	0%	1.6%	-	-	-	-
Buses	2	0	0	2	0	8	0	8	11	3	0	14	-	-	-	-
Buses %	3.8%	0%	0%	2.4%	0%	1.3%	0%	1.2%	1.6%	18.8%	0%	2%	-	-	-	-
Articulated Trucks	0	0	0	0	0	1	0	1	2	0	0	2	-	-	-	-
Articulated Trucks %	0%	0%	0%	0%	0%	0.2%	0%	0.2%	0.3%	0%	0%	0.3%	-	-	-	-
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-
Bicycles on Road %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	-	-
Pedestrians	-	-	-	1	-	-	-	1	-	-	-	0	-	-	-	-
Pedestrians%	-	-	-	50%	-	-	-	50%	-	-	-	0%	-	-	-	-
Bicycles on Crosswalk	-	-	-	0	-	-	-	0	-	-	-	0	-	-	-	-
Bicycles on Crosswalk%	-	-	-	0%	-	-	-	0%	-	-	-	0%	-	-	-	-



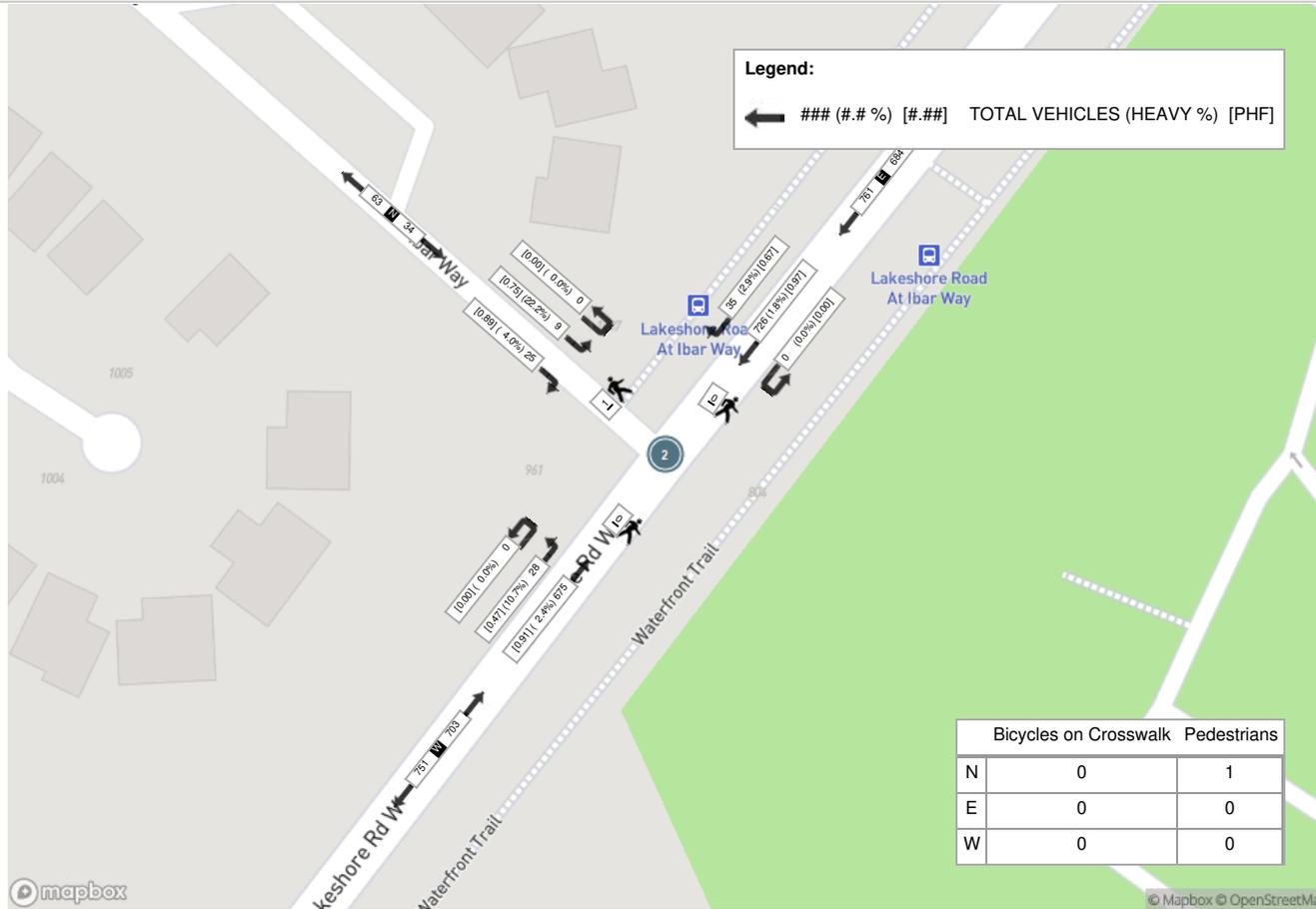
Peak Hour: 04:00 PM - 05:00 PM Weather:

Start Time	Southbound IBAR WAY					Westbound LAKESHORE RD W					Eastbound LAKESHORE RD W					Int. Total (15 min)
	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	
16:00:00	6	3	0	0	9	13	186	0	0	199	160	2	0	0	162	370
16:15:00	6	1	0	0	7	12	188	0	0	200	158	4	0	0	162	369
16:30:00	7	2	0	1	9	2	167	0	0	169	185	7	0	0	192	370
16:45:00	6	3	0	0	9	8	185	0	0	193	172	15	0	0	187	389
Grand Total	25	9	0	1	34	35	726	0	0	761	675	28	0	0	703	1498
Approach%	73.5%	26.5%	0%	-	-	4.6%	95.4%	0%	-	-	96%	4%	0%	-	-	-
Totals %	1.7%	0.6%	0%	2.3%	2.3%	48.5%	0%	50.8%	45.1%	1.9%	0%	46.9%	-	-	-	-
PHF	0.89	0.75	0	0.94	0.67	0.97	0	0.95	0.91	0.47	0	0.92	-	-	-	-
Heavy	1	2	0	3	1	13	0	14	16	3	0	19	-	-	-	-
Heavy %	4%	22.2%	0%	8.8%	2.9%	1.8%	0%	1.8%	2.4%	10.7%	0%	2.7%	-	-	-	-
Lights	24	7	0	31	34	713	0	747	659	25	0	684	-	-	-	-
Lights %	96%	77.8%	0%	91.2%	97.1%	98.2%	0%	98.2%	97.6%	89.3%	0%	97.3%	-	-	-	-
Single-Unit Trucks	0	1	0	1	1	7	0	8	7	0	0	7	-	-	-	-
Single-Unit Trucks %	0%	11.1%	0%	2.9%	2.9%	1%	0%	1.1%	1%	0%	0%	1%	-	-	-	-
Buses	1	1	0	2	0	6	0	6	8	3	0	11	-	-	-	-
Buses %	4%	11.1%	0%	5.9%	0%	0.8%	0%	0.8%	1.2%	10.7%	0%	1.6%	-	-	-	-
Articulated Trucks	0	0	0	0	0	0	0	0	1	0	0	1	-	-	-	-
Articulated Trucks %	0%	0%	0%	0%	0%	0%	0%	0%	0.1%	0%	0%	0.1%	-	-	-	-
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-
Bicycles on Road %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	-	-
Pedestrians	-	-	-	1	-	-	-	0	-	-	-	0	-	-	-	-
Pedestrians%	-	-	-	100%	-	-	-	0%	-	-	-	0%	-	-	-	-
Bicycles on Crosswalk	-	-	-	0	-	-	-	0	-	-	-	0	-	-	-	-
Bicycles on Crosswalk%	-	-	-	0%	-	-	-	0%	-	-	-	0%	-	-	-	-

Peak Hour: 08:00 AM - 09:00 AM Weather: Broken Clouds (-3.63 °C)



Peak Hour: 04:00 PM - 05:00 PM Weather:





Turning Movement Count (1 . LAKESHORE RD W & LORNE PARK RD / TENNYSON AVE)

Start Time	Southbound LORNE PARK RD						Westbound LAKESHORE RD W						Northbound TENNYSON AVE						Eastbound LAKESHORE RD W						Int. Total (15 min)	Int. Total (1 hr)	
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total			
07:00:00	9	0	7	0	1	16	5	63	0	0	0	68	0	0	1	0	0	1	0	76	10	0	1	86	171		
07:15:00	17	0	3	0	0	20	9	96	0	0	0	105	1	0	2	0	0	3	1	74	4	0	0	79	207		
07:30:00	17	0	5	0	2	22	5	103	1	0	0	109	2	1	1	0	0	4	1	111	12	0	2	124	259		
07:45:00	22	0	21	0	0	43	10	104	0	0	0	114	0	1	1	0	2	2	0	126	12	0	1	138	297	934	
08:00:00	40	0	25	0	0	65	29	129	1	0	0	159	3	2	4	0	0	9	4	139	35	0	1	178	411	1174	
08:15:00	57	1	50	0	2	108	18	104	1	0	0	123	3	1	1	0	0	5	3	146	41	0	3	190	426	1393	
08:30:00	31	0	22	0	1	53	29	177	0	0	1	206	1	0	5	0	1	6	3	148	28	0	4	179	444	1578	
08:45:00	35	0	12	0	1	47	31	173	2	0	0	206	1	1	6	0	0	8	1	137	19	0	0	157	418	1699	
09:00:00	24	1	12	0	0	37	15	135	0	0	1	150	1	0	1	0	5	2	1	119	16	0	2	136	325	1613	
09:15:00	19	1	12	0	0	32	21	125	1	0	0	147	0	0	0	0	0	0	2	86	22	0	1	110	289	1476	
09:30:00	14	0	16	0	1	30	17	106	0	0	0	123	0	0	2	0	0	2	1	112	14	0	1	127	282	1314	
09:45:00	31	0	14	0	0	45	16	87	1	0	2	104	1	1	0	0	2	2	1	102	28	0	2	131	282	1178	
BREAK																											
16:00:00	33	0	21	0	1	54	21	173	2	0	0	196	1	0	2	0	0	3	2	137	33	0	2	172	425		
16:15:00	23	0	22	0	1	45	25	159	0	0	0	184	0	0	1	1	0	2	1	144	29	0	3	174	405		
16:30:00	15	0	15	0	1	30	27	157	0	0	0	184	0	0	1	0	0	1	3	177	30	0	1	210	425		
16:45:00	32	1	14	0	1	47	29	150	1	0	0	180	1	0	2	0	1	3	1	177	25	0	1	203	433	1688	
17:00:00	21	0	14	0	1	35	35	153	1	0	0	189	0	0	1	0	0	1	2	151	30	0	1	183	408	1671	
17:15:00	29	4	16	0	1	49	23	129	2	0	0	154	1	0	2	0	1	3	1	180	38	1	1	220	426	1692	
17:30:00	20	0	20	0	0	40	22	127	1	0	0	150	0	1	0	0	0	1	1	154	39	0	0	194	385	1652	
17:45:00	22	0	15	0	1	37	23	115	0	0	1	138	2	0	2	0	0	4	1	115	38	0	2	154	333	1552	
18:00:00	21	0	12	0	0	33	16	115	1	0	0	132	1	0	0	0	1	1	1	107	35	0	3	143	309	1453	
18:15:00	21	1	18	0	2	40	16	95	2	0	1	113	3	0	3	0	1	6	0	112	21	0	0	133	292	1319	
18:30:00	17	1	15	0	3	33	6	108	2	0	0	116	2	1	2	0	0	5	4	97	24	0	4	125	279	1213	
18:45:00	26	1	8	0	0	35	20	95	1	0	0	116	0	0	1	0	0	1	1	89	23	0	0	113	265	1145	
Grand Total	596	11	389	0	20	996	468	2978	20	0	6	3466	24	9	41	1	14	75	36	3016	606	1	36	3659	8196	-	
Approach%	59.8%	1.1%	39.1%	0%	-	-	13.5%	85.9%	0.6%	0%	-	-	32%	12%	54.7%	1.3%	-	-	1%	82.4%	16.6%	0%	-	-	-	-	
Totals %	7.3%	0.1%	4.7%	0%	-	12.2%	5.7%	36.3%	0.2%	0%	-	42.3%	0.3%	0.1%	0.5%	0%	-	0.9%	0.4%	36.8%	7.4%	0%	-	44.6%	-	-	
Heavy	22	0	14	0	-	-	12	81	0	0	-	-	0	0	0	0	-	-	2	98	14	0	-	-	-	-	
Heavy %	3.7%	0%	3.6%	0%	-	-	2.6%	2.7%	0%	0%	-	-	0%	0%	0%	0%	-	-	5.6%	3.2%	2.3%	0%	-	-	-	-	
Bicycles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycle %	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Peak Hour: 08:00 AM - 09:00 AM Weather: Broken Clouds (-3.63 °C)

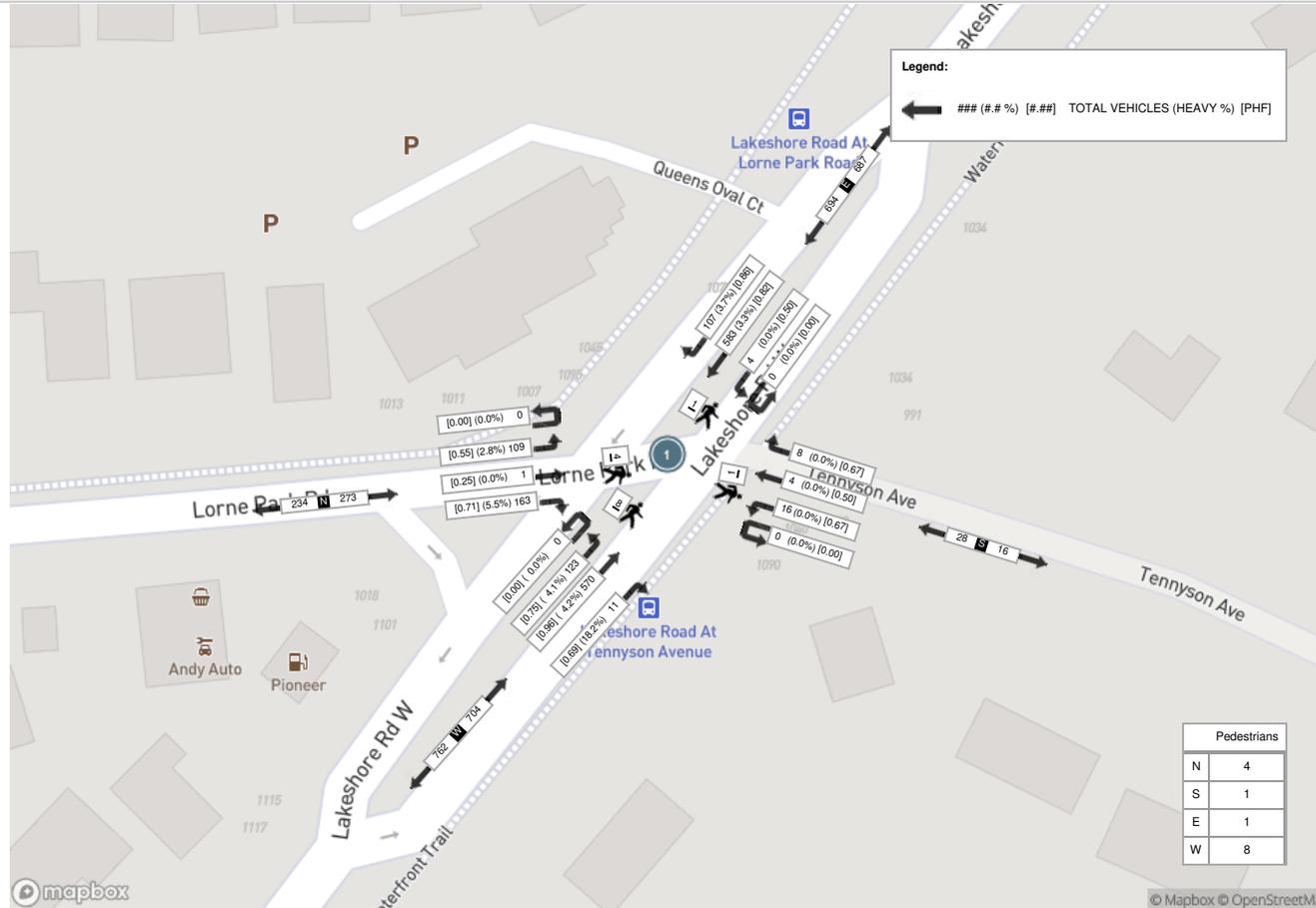
Start Time	Southbound LORNE PARK RD						Westbound LAKESHORE RD W						Northbound TENNYSON AVE						Eastbound LAKESHORE RD W						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
08:00:00	40	0	25	0	0	65	29	129	1	0	0	159	3	2	4	0	0	9	4	139	35	0	1	178	411
08:15:00	57	1	50	0	2	108	18	104	1	0	0	123	3	1	1	0	0	5	3	146	41	0	3	190	426
08:30:00	31	0	22	0	1	53	29	177	0	0	1	206	1	0	5	0	1	6	3	148	28	0	4	179	444
08:45:00	35	0	12	0	1	47	31	173	2	0	0	206	1	1	6	0	0	8	1	137	19	0	0	157	418
Grand Total	163	1	109	0	4	273	107	583	4	0	1	694	8	4	16	0	1	28	11	570	123	0	8	704	1699
Approach%	59.7%	0.4%	39.9%	0%		-	15.4%	84%	0.6%	0%		-	28.6%	14.3%	57.1%	0%		-	1.6%	81%	17.5%	0%		-	-
Totals %	9.6%	0.1%	6.4%	0%		16.1%	6.3%	34.3%	0.2%	0%		40.8%	0.5%	0.2%	0.9%	0%		1.6%	0.6%	33.5%	7.2%	0%		41.4%	-
PHF	0.71	0.25	0.55	0		0.63	0.86	0.82	0.5	0		0.84	0.67	0.5	0.67	0		0.78	0.69	0.96	0.75	0		0.93	-
Heavy	9	0	3	0		12	4	19	0	0		23	0	0	0	0		0	2	24	5	0		31	-
Heavy %	5.5%	0%	2.8%	0%		4.4%	3.7%	3.3%	0%	0%		3.3%	0%	0%	0%	0%		0%	18.2%	4.2%	4.1%	0%		4.4%	-
Lights	154	1	106	0		261	101	564	4	0		669	8	4	16	0		28	9	546	118	0		673	-
Lights %	94.5%	100%	97.2%	0%		95.6%	94.4%	96.7%	100%	0%		96.4%	100%	100%	100%	0%		100%	81.8%	95.8%	95.9%	0%		95.6%	-
Single-Unit Trucks	5	0	2	0		7	2	8	0	0		10	0	0	0	0		0	2	9	0	0		11	-
Single-Unit Trucks %	3.1%	0%	1.8%	0%		2.6%	1.9%	1.4%	0%	0%		1.4%	0%	0%	0%	0%		0%	18.2%	1.6%	0%	0%		1.6%	-
Buses	4	0	1	0		5	2	10	0	0		12	0	0	0	0		0	0	13	5	0		18	-
Buses %	2.5%	0%	0.9%	0%		1.8%	1.9%	1.7%	0%	0%		1.7%	0%	0%	0%	0%		0%	0%	2.3%	4.1%	0%		2.6%	-
Articulated Trucks	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	0	2	0	0		2	-
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.3%	-
Bicycles on Road	0	0	0	0		0	2	0	0	0		2	0	0	0	0		0	0	0	0	0		0	-
Bicycles on Road %	0%	0%	0%	0%		0%	1.9%	0%	0%	0%		0.3%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	-	4	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	8	-	-
Pedestrians%	-	-	-	-	28.6%	-	-	-	-	7.1%	-	-	-	-	7.1%	-	-	-	-	-	-	-	57.1%	-	-



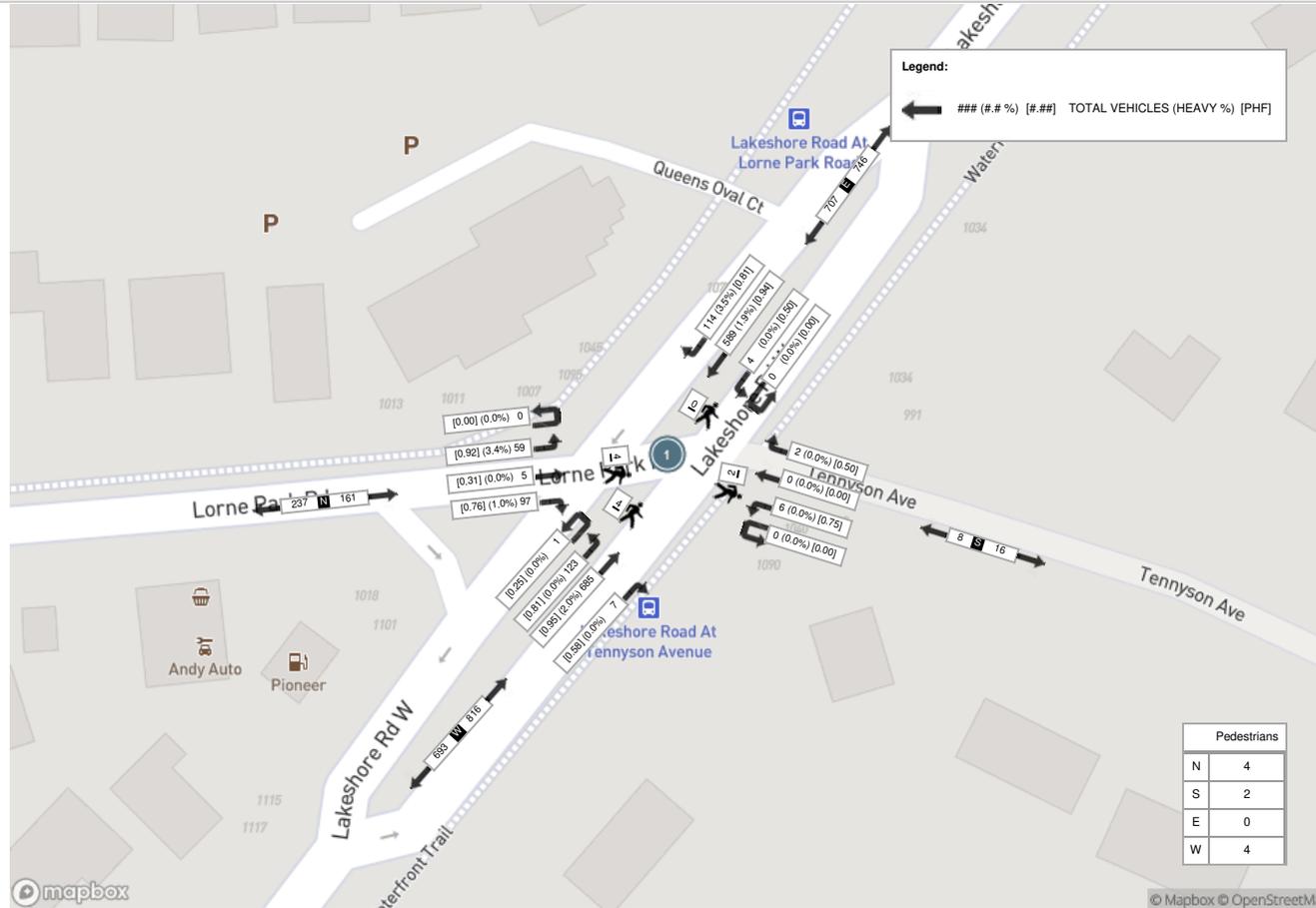
Peak Hour: 04:30 PM - 05:30 PM Weather:

Start Time	Southbound LORNE PARK RD						Westbound LAKESHORE RD W						Northbound TENNYSON AVE						Eastbound LAKESHORE RD W						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:30:00	15	0	15	0	1	30	27	157	0	0	0	184	0	0	1	0	0	1	3	177	30	0	1	210	425
16:45:00	32	1	14	0	1	47	29	150	1	0	0	180	1	0	2	0	1	3	1	177	25	0	1	203	433
17:00:00	21	0	14	0	1	35	35	153	1	0	0	189	0	0	1	0	0	1	2	151	30	0	1	183	408
17:15:00	29	4	16	0	1	49	23	129	2	0	0	154	1	0	2	0	1	3	1	180	38	1	1	220	426
Grand Total	97	5	59	0	4	161	114	589	4	0	0	707	2	0	6	0	2	8	7	685	123	1	4	816	1692
Approach%	60.2%	3.1%	36.6%	0%	-	-	16.1%	83.3%	0.6%	0%	-	-	25%	0%	75%	0%	-	0.9%	83.9%	15.1%	0.1%	-	-	-	-
Totals %	5.7%	0.3%	3.5%	0%	9.5%	6.7%	34.8%	0.2%	0%	41.8%	0.1%	0%	0.4%	0%	0.5%	0.4%	40.5%	7.3%	0.1%	48.2%	-	-	-	-	-
PHF	0.76	0.31	0.92	0	0.82	0.81	0.94	0.5	0	0.94	0.5	0	0.75	0	0.67	0.58	0.95	0.81	0.25	0.93	-	-	-	-	-
Heavy	1	0	2	0	3	4	11	0	0	15	0	0	0	0	0	0	0	0	14	0	0	0	0	14	-
Heavy %	1%	0%	3.4%	0%	1.9%	3.5%	1.9%	0%	0%	2.1%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	1.7%	-
Lights	96	5	57	0	158	110	578	4	0	692	2	0	6	0	8	7	671	123	1	802	-	-	-	-	-
Lights %	99%	100%	96.6%	0%	98.1%	96.5%	98.1%	100%	0%	97.9%	100%	0%	100%	0%	100%	100%	98%	100%	100%	98.3%	-	-	-	-	-
Single-Unit Trucks	1	0	0	0	1	1	6	0	0	7	0	0	0	0	0	0	9	0	0	9	-	-	-	-	-
Single-Unit Trucks %	1%	0%	0%	0%	0.6%	0.9%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1.3%	0%	0%	1.1%	-	-	-	-	-
Buses	0	0	2	0	2	3	5	0	0	8	0	0	0	0	0	0	3	0	0	3	-	-	-	-	-
Buses %	0%	0%	3.4%	0%	1.2%	2.6%	0.8%	0%	0%	1.1%	0%	0%	0%	0%	0%	0%	0.4%	0%	0%	0.4%	-	-	-	-	-
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	-	-	-	-	-
Articulated Trucks %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.3%	0%	0%	0.2%	-	-	-	-	-
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%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	-	-	-
Pedestrians	-	-	-	-	4	-	-	-	-	0	-	-	-	-	2	-	-	-	-	4	-	-	-	-	-
Pedestrians%	-	-	-	-	40%	-	-	-	-	0%	-	-	-	-	20%	-	-	-	-	40%	-	-	-	-	-

Peak Hour: 08:00 AM - 09:00 AM Weather: Broken Clouds (-3.63 °C)



Peak Hour: 04:30 PM - 05:30 PM Weather:



Phase - Parameter 1-16	Units	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Phase Description*	String								
Walk	Sec	0	10	0	10	0	0	0	0
Ped Clear	Sec	0	17	0	22	0	0	0	0
Min Green	Sec	0	8	0	8	0	0	0	0
Passage	Sec	0.0	4.0	0.0	4.0	0.0	0.0	0.0	0.0
Maximum 1	Sec	0	33	0	20	0	0	0	0
Maximum 2	Sec	0	33	0	20	0	0	0	0
Yellow Change	Sec	3.0	3.5	3.0	3.5	3.0	4.0	3.0	4.0
Red Clearance	Sec	0.0	4.0	0.0	4.0	0.0	0.0	0.0	0.0
Red Revert	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before Reduction	Sec	0	0	0	0	0	0	0	0
Cars Before Reduction	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	other	redClear	other	phaseNotOn	other	other	other	other
[P2] Options	Bit		0:Enabled Phase 3:Non-Actuated 1 7:Max Vehicle Recall 8:Ped. Recall 13:Actuated Rest In Walk		0:Enabled Phase 5:Non Lock Detector Memory				
[P2] Ring	Ring	0	1	0	1	0	0	0	0
[P2] Concurrency	Phase (,)	()	()	()	()	()	()	()	()

Coordination - Pattern 1-32	Units	1	2	3	4	5	6	7	8
Cycle Time	Sec	70	65	70	0	0	0	0	0
Offset	Sec	50	22	11	0	0	0	0	0
Split	Split	1	2	3	0	0	0	0	0
Sequence	Sequence	1	1	1	0	0	0	0	0
Phase Parameter Table*	Number	1	1	1	1	1	1	1	1
Coord Phase Reference Point*	Enum	green							
Coord Mode*	Enum	singlePermissive							

Coordination - Splits	Units	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Split 1 - Mode	Enum	none	none	none	none	none	none	none	none
Split 1 - Time	Sec	0	50	0	20	0	0	0	0
Split 1 - Coord	Enum	False	True	False	False	False	False	False	False
Split 1 - Coord Phase Options*	Bit		0: Reference Point						
Split 2 - Mode	Enum	none	none	none	none	none	none	none	none
Split 2 - Time	Sec	0	42	0	23	0	0	0	0
Split 2 - Coord	Enum	False	True	False	False	False	False	False	False
Split 2 - Coord Phase Options*	Bit		0: Reference Point						
Split 3 - Mode	Enum	none	none	none	none	none	none	none	none
Split 3 - Time	Sec	0	50	0	20	0	0	0	0
Split 3 - Coord	Enum	False	True	False	False	False	False	False	False
Split 3 - Coord Phase Options*	Bit		0: Reference Point						

Time Base - Schedule 1-16	Units	1	2	3	4	5	6	7	8
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J-----	-F-----	--M-----	---M-----	----J----
Day of Week	Bit	-MTWTF-	S-----	-----S	---W---	-M-----	----F-	-M-----	-M-----
Day of Month	Bit	1234567890123456789012345678901	1234567890123456789012345678901	1234567890123456789012345678901	1-----	-----9-----	-----	-----0-----	-----1-----
Day Plan	Number	1	3	2	3	3	3	3	3

Time Base - Schedule 1-16	Units	9	10	11	12	13	14	15	16
Month	Bit	-----A---	-----S---	-----O---	-----D	-----D	-----D	-----S---	-----
Day of Week	Bit	-M-----	-M-----	-M-----	---W---	---T--	--T---	-M-----	SMTWFS
Day of Month	Bit	---5-----	-----2-----	-----4-----	-----	-----5-----	-----6-----	-----4-----	-----
Day Plan	Number	3	3	3	3	3	3	3	0

Time Base - Day Plans	Units	Evt 1	Evt 2	Evt 3	Evt 4	Evt 5	Evt 6
Plan 1 Hour	Hour	0	6	9	15	19	3
Plan 1 Minute	Min	0	0	30	0	30	0
Plan 1 Action	Number	8	1	2	3	2	7
Plan 2 Hour	Hour	0	7	3	0	0	0
Plan 2 Minute	Min	0	0	0	0	0	0
Plan 2 Action	Number	8	2	7	0	0	0
Plan 3 Hour	Hour	0	8	23	3	0	0
Plan 3 Minute	Min	0	0	0	0	0	0
Plan 3 Action	Number	8	2	8	7	0	0

Time Base - Action 1-32	Units	1	2	3	4	5	6	7	8
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 6	Free	Free
Aux. Functions	Bit								
Spec. Functions	Bit								

Time Base - Action 1-32	Units	9	10
Pattern	Enum	Pattern 9	Pattern 10
Aux. Functions	Bit		
Spec. Functions	Bit		

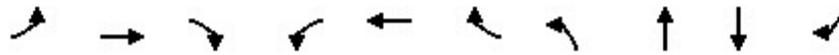
Location	Lakeshore Road W @ Lorne Park Road / Tennyson Avenue	
Phase 2	EW	
Phase 4	NS	

Appendix B – Existing Traffic Level of Service Calculations

Queues

3: tennyson ave/lorne park rd & lakeshore road w

10-16-2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	134	620	12	4	634	116	17	13	119	177
Act Effct Green (s)	35.9	35.9	35.9	35.9	35.9	35.9	9.1	9.1	9.1	9.1
Actuated g/C Ratio	0.63	0.63	0.63	0.63	0.63	0.63	0.16	0.16	0.16	0.16
v/c Ratio	0.26	0.26	0.01	0.01	0.27	0.11	0.08	0.05	0.53	0.43
Control Delay	9.5	7.2	0.0	6.8	7.2	2.1	20.9	14.2	31.2	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.5	7.2	0.0	6.8	7.2	2.1	20.9	14.2	31.2	7.7
LOS	A	A	A	A	A	A	C	B	C	A
Approach Delay		7.5			6.4			18.0	17.1	
Approach LOS		A			A			B	B	
Queue Length 50th (m)	7.1	17.3	0.0	0.2	17.8	0.0	1.6	0.4	12.2	0.0
Queue Length 95th (m)	18.6	28.7	0.0	1.4	29.4	6.1	6.2	4.2	26.1	13.7
Internal Link Dist (m)		351.9			597.0			420.6	362.2	
Turn Bay Length (m)	45.0		25.0	25.0		25.0				
Base Capacity (vph)	508	2348	1085	515	2348	1093	269	361	284	477
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.26	0.01	0.01	0.27	0.11	0.06	0.04	0.42	0.37

Intersection Summary

Cycle Length: 53

Actuated Cycle Length: 57

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 8.8

Intersection LOS: A

Intersection Capacity Utilization 55.7%

ICU Level of Service B

Analysis Period (min) 15

HCM Signalized Intersection Capacity Analysis
 3: tennyson ave/lorne park rd & lakeshore road w

10-16-2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	123	570	11	4	583	107	16	4	8	109	1	163
Future Volume (vph)	123	570	11	4	583	107	16	4	8	109	1	163
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5			8.5	8.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00			1.00	1.00
Fr _t	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.90			1.00	0.85
Fl _t Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	1863	3725	1667	1863	3725	1667	1863	1757			1868	1667
Fl _t Permitted	0.41	1.00	1.00	0.42	1.00	1.00	0.68	1.00			0.72	1.00
Satd. Flow (perm)	806	3725	1667	817	3725	1667	1334	1757			1410	1667
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)	134	620	12	4	634	116	17	4	9	118	1	177
RTOR Reduction (vph)	0	0	5	0	0	48	0	8	0	0	0	155
Lane Group Flow (vph)	134	620	7	4	634	68	17	5	0	0	119	22
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		2			6			4				8
Permitted Phases	2		2	6		6	4			8		8
Actuated Green, G (s)	35.2	35.2	35.2	35.2	35.2	35.2	8.4	8.4			8.4	8.4
Effective Green, g (s)	34.2	34.2	34.2	34.2	34.2	34.2	7.4	7.4			7.4	7.4
Actuated g/C Ratio	0.58	0.58	0.58	0.58	0.58	0.58	0.13	0.13			0.13	0.13
Clearance Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5			7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	470	2173	972	476	2173	972	168	221			178	210
v/s Ratio Prot		0.17			c0.17			0.00				
v/s Ratio Perm	0.17		0.00	0.00		0.04	0.01				c0.08	0.01
v/c Ratio	0.29	0.29	0.01	0.01	0.29	0.07	0.10	0.02			0.67	0.11
Uniform Delay, d ₁	6.1	6.1	5.1	5.1	6.1	5.3	22.7	22.4			24.4	22.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d ₂	1.5	0.3	0.0	0.0	0.3	0.1	0.3	0.0			9.1	0.2
Delay (s)	7.6	6.4	5.1	5.1	6.5	5.4	22.9	22.5			33.6	22.9
Level of Service	A	A	A	A	A	A	C	C			C	C
Approach Delay (s)		6.6			6.3			22.7			27.2	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM 2000 Control Delay			10.0			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.36									
Actuated Cycle Length (s)			58.6			Sum of lost time (s)			17.0			
Intersection Capacity Utilization			55.7%			ICU Level of Service			B			
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
 6: lakeshore road w/lakeshore rd w & lbar Way

10-16-2025

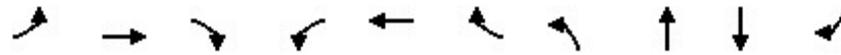


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↕		↕↕	
Traffic Volume (veh/h)	17	670	630	17	31	52
Future Volume (Veh/h)	17	670	630	17	31	52
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	18	728	685	18	34	57
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	703				1094	352
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	703				1094	352
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				83	91
cM capacity (veh/h)	890				204	645
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	
Volume Total	261	485	457	246	91	
Volume Left	18	0	0	0	34	
Volume Right	0	0	0	18	57	
cSH	890	1700	1700	1700	357	
Volume to Capacity	0.02	0.29	0.27	0.14	0.25	
Queue Length 95th (m)	0.5	0.0	0.0	0.0	8.0	
Control Delay (s)	0.8	0.0	0.0	0.0	18.5	
Lane LOS	A				C	
Approach Delay (s)	0.3		0.0		18.5	
Approach LOS					C	
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			42.2%	ICU Level of Service	A	
Analysis Period (min)			15			

Queues

3: tennyson ave/lorne park rd & lakeshore road w

10-16-2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	134	745	8	4	640	124	7	2	69	105
Act Effct Green (s)	37.6	37.6	37.6	37.6	37.6	37.6	8.0	8.0	8.0	8.0
Actuated g/C Ratio	0.65	0.65	0.65	0.65	0.65	0.65	0.14	0.14	0.14	0.14
v/c Ratio	0.26	0.31	0.01	0.01	0.26	0.11	0.04	0.01	0.34	0.33
Control Delay	8.6	6.7	0.0	6.2	6.5	1.9	20.8	0.0	27.0	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.6	6.7	0.0	6.2	6.5	1.9	20.8	0.0	27.0	8.6
LOS	A	A	A	A	A	A	C	A	C	A
Approach Delay		6.9			5.7			16.2	15.9	
Approach LOS		A			A			B	B	
Queue Length 50th (m)	6.5	19.6	0.0	0.2	16.2	0.0	0.7	0.0	6.8	0.0
Queue Length 95th (m)	17.9	33.8	0.0	1.4	28.5	6.0	3.6	0.0	16.6	10.8
Internal Link Dist (m)		351.9			597.0			420.6	362.2	
Turn Bay Length (m)	45.0		25.0	25.0		25.0				
Base Capacity (vph)	523	2432	1121	472	2432	1131	279	438	291	418
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.31	0.01	0.01	0.26	0.11	0.03	0.00	0.24	0.25

Intersection Summary

Cycle Length: 53

Actuated Cycle Length: 57.5

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.34

Intersection Signal Delay: 7.3

Intersection LOS: A

Intersection Capacity Utilization 55.9%

ICU Level of Service B

Analysis Period (min) 15

HCM Signalized Intersection Capacity Analysis
 3: tennyson ave/lorne park rd & lakeshore road w

10-16-2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	123	685	7	4	589	114	6	0	2	59	5	97
Future Volume (vph)	123	685	7	4	589	114	6	0	2	59	5	97
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5			8.5	8.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.85			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.96	1.00
Satd. Flow (prot)	1863	3725	1667	1863	3725	1667	1863	1667			1874	1667
Flt Permitted	0.41	1.00	1.00	0.37	1.00	1.00	0.71	1.00			0.74	1.00
Satd. Flow (perm)	802	3725	1667	723	3725	1667	1396	1667			1452	1667
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)	134	745	8	4	640	124	7	0	2	64	5	105
RTOR Reduction (vph)	0	0	3	0	0	49	0	2	0	0	0	94
Lane Group Flow (vph)	134	745	5	4	640	75	7	0	0	0	69	11
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		2			6			4				8
Permitted Phases	2		2	6		6	4			8		8
Actuated Green, G (s)	36.8	36.8	36.8	36.8	36.8	36.8	7.3	7.3			7.3	7.3
Effective Green, g (s)	35.8	35.8	35.8	35.8	35.8	35.8	6.3	6.3			6.3	6.3
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.61	0.61	0.11	0.11			0.11	0.11
Clearance Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5			7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	485	2256	1009	437	2256	1009	148	177			154	177
v/s Ratio Prot		c0.20			0.17			0.00				
v/s Ratio Perm	0.17		0.00	0.01		0.05	0.01				c0.05	0.01
v/c Ratio	0.28	0.33	0.00	0.01	0.28	0.07	0.05	0.00			0.45	0.06
Uniform Delay, d1	5.5	5.7	4.6	4.6	5.5	4.8	23.7	23.6			24.8	23.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	1.4	0.4	0.0	0.0	0.3	0.1	0.1	0.0			2.1	0.2
Delay (s)	6.9	6.1	4.6	4.7	5.9	5.0	23.8	23.6			26.8	23.9
Level of Service	A	A	A	A	A	A	C	C			C	C
Approach Delay (s)		6.2			5.7			23.8			25.1	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM 2000 Control Delay			7.9			HCM 2000 Level of Service			A			
HCM 2000 Volume to Capacity ratio			0.35									
Actuated Cycle Length (s)			59.1	Sum of lost time (s)			17.0					
Intersection Capacity Utilization			55.9%	ICU Level of Service			B					
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
6: lakeshore road w/lakeshore rd w & lbar Way

10-16-2025



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↕		↕↕	
Traffic Volume (veh/h)	28	675	726	35	9	25
Future Volume (Veh/h)	28	675	726	35	9	25
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)	30	734	789	38	10	27
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	827				1235	414
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	827				1235	414
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				94	95
cM capacity (veh/h)	800				162	588
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	
Volume Total	275	489	526	301	37	
Volume Left	30	0	0	0	10	
Volume Right	0	0	0	38	27	
cSH	800	1700	1700	1700	344	
Volume to Capacity	0.04	0.29	0.31	0.18	0.11	
Queue Length 95th (m)	0.9	0.0	0.0	0.0	2.9	
Control Delay (s)	1.4	0.0	0.0	0.0	16.7	
Lane LOS	A				C	
Approach Delay (s)	0.5		0.0		16.7	
Approach LOS					C	
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			48.9%		ICU Level of Service	A
Analysis Period (min)			15			

Appendix C – Background Developments

Appendix B

Pre-Study Consultation Checklist

Description	Information	Section Reference
Development Information		
Development Description (land use, size, and number of phases of development)	<ul style="list-style-type: none"> • A 11-storey residential building includes 189 residential units. 	2.3.6
Transportation Impact Assessment		
Step 1 – Screening		
Type of Application (attach a drawing)	<input type="checkbox"/> Official Plan Amendment <input type="checkbox"/> Zoning Amendment <input type="checkbox"/> Site Plan Control Application <input type="checkbox"/> Plan of Subdivision <input type="checkbox"/> Other _____	2.3.5
Screening Criteria	<input type="checkbox"/> Trip Generation Trigger Satisfied <input type="checkbox"/> Location Trigger Satisfied <input type="checkbox"/> Operational/Safety Trigger Satisfied	2.2.1
Type of Study	<input type="checkbox"/> Transportation Impact Study <input type="checkbox"/> Access Review <input type="checkbox"/> No Additional Study Required	2.2.1
Step 2 – Scoping		
Study Area (intersections to be analyzed) Note: The Transportation Consultant is responsible to identify any further intersections impacted as the study progresses.	<ul style="list-style-type: none"> • Lakeshore Rd W and Ibar Way • Lakeshore Rd W and Tennyson Ave/Lorne Park Rd • • • • 	2.3.8
Horizon Years	<input type="checkbox"/> 5 years from date of TIS <input type="checkbox"/> Interim years _____ <input type="checkbox"/> Other _____	2.3.9
Analysis Periods	<input checked="" type="checkbox"/> AM weekday peak hour of adjacent roadway <input checked="" type="checkbox"/> PM weekday peak hour of adjacent roadway <input type="checkbox"/> Saturday peak hour of adjacent roadway <input type="checkbox"/> AM weekday peak hour of development	2.3.10

Description	Information	Section Reference
	<input type="checkbox"/> PM weekday peak hour of development <input type="checkbox"/> Saturday peak hour of development <input type="checkbox"/> Other _____	
Input Parameters and Assumptions (potential deviations)	<ul style="list-style-type: none"> • Use existing PHF • PHF should be 0.92 as per TIS Guideline • STP obtained from city • • 	2.3.13
Existing Transportation Conditions	<input type="checkbox"/> City data sources <input type="checkbox"/> New data collection <input type="checkbox"/> Other _____	2.3.14
Planned Network Improvements (with timing)	<ul style="list-style-type: none"> • Lakeshore Connecting Communities Transportation Master Plan • • 	2.3.16
Other Planned Developments (per City's Website)	<ul style="list-style-type: none"> • 1139 Lorne Park Road • 55 Coveside Dr • 115-145 High Street West • 1035 Southdown Road • 2077-2105 Royal Windsor Dr • 980 Southdown Road 	2.3.17
Identification of Mitigation Improvement Measures	<input type="checkbox"/> Neighbourhood Traffic Management Plan <input type="checkbox"/> Other _____	2.3.23
Safety Analysis (any special issues)	<ul style="list-style-type: none"> • • • • 	2.3.25
Site Access and Circulation (design vehicles)	<input type="checkbox"/> Passenger Car (P) <input type="checkbox"/> Light Single Unit Truck (LSU) <input type="checkbox"/> Medium Single Unit Truck (MSU) <input type="checkbox"/> Heavy Single Unit Truck (HSU) <input type="checkbox"/> Pumper Fire Truck <input type="checkbox"/> WB-20 Tractor Semi-Trailer Truck <input type="checkbox"/> Other Peel Waste Collection Vehicle	2.3.26
Impacts During Construction (any special issues)	<ul style="list-style-type: none"> • • • • 	2.3.27
Step 3 – Forecasting		
Growth Rate	<input type="checkbox"/> Obtained from City <input type="checkbox"/> Historical traffic counts <input type="checkbox"/> Travel demand forecasts <input type="checkbox"/> Proposed Growth Rate: _____	2.3.15

Description	Information	Section Reference
Site Trip Generation	<input type="checkbox"/> ITE Trip Generation Manual <input type="checkbox"/> "First Principles" <input type="checkbox"/> Observed rates for similar developments in area <input type="checkbox"/> Other _____	2.3.19
Trip Reductions	<input type="checkbox"/> Internal capture reductions for mixed-use developments <input type="checkbox"/> Pass-by reductions <input type="checkbox"/> Other _____	2.3.19
Trip Distribution	<input type="checkbox"/> Local traffic patterns <input type="checkbox"/> TTS <input type="checkbox"/> Travel demand model <input type="checkbox"/> Population and employment distribution <input type="checkbox"/> Market analysis of catchment area <input type="checkbox"/> Other _____	2.3.20
Trip Assignment	<input type="checkbox"/> Local traffic patterns <input type="checkbox"/> Shortest distance <input type="checkbox"/> Site layout, access design and logical routing <input type="checkbox"/> Existing turning movements <input type="checkbox"/> Other _____	2.3.21
Transportation Demand Management Plan		
Format	<input type="checkbox"/> Within a TIA Report <input type="checkbox"/> Standalone	3.2.1
Type of Transportation Demand Management Plan	<input type="checkbox"/> TDM Statement <input type="checkbox"/> TDM Scheme	3.2.2
Pedestrian Circulation Plan		
Format	<input type="checkbox"/> Within a TIA Report <input type="checkbox"/> Standalone	4.2.1
Additional Comments		
<ul style="list-style-type: none"> • Community Impacts: Any transportation related impacts on the existing community and comments from the public through the planning approval process shall be addressed in the report. • Access Review: Ensure that the site access(es) conforms to all TAC standards (e.g. corner clearances, clear throat lengths, veh & ped sight line distance for ingress/egress, proximity/alignment to other driveways/roads, etc.); Provide confirmation and technical justification of whether the site access location(s) and design(s) are safe for all roadway users and why. • Traffic Control Warrants: (e.g. all-way stop, traffic control signals) are to be provided, where applicable, for all three scenarios (existing, future background, future total) • Detailed Recommendations: regarding on-site/off-site roadway improvements, site access, site circulation, and TDM measures shall be made. 		

Sam Nguyen

From: Tyler Xuereb <Tyler.Xuereb@mississauga.ca>
Sent: March 6, 2024 9:11 AM
To: Sam Nguyen
Subject: RE: Term of Reference for 900 Lakeshore Road West

Good Morning Sam,

Using the City's travel demand model and supporting traffic count data, the transportation planning section has determined the projected growth along Lakeshore Road. Below are the recommended growth rates, which are compounded annually from existing to 2029.

	Compounded Annual Growth from Existing to 2029	
	EB	WB
AM Peak	1.0%	1.0%
PM Peak	0.5%	0.5%

Regards,



Tyler Xuereb
Transportation Planning Analyst
T 905-615-3200 ext.4783
Tyler.xuereb@mississauga.ca

[City of Mississauga](#) | Transportation and Works Department,
Infrastructure Planning and Engineering Services Division

Please consider the environment before printing.

From: Sam Nguyen <sam@nextrans.ca>
Sent: Monday, February 26, 2024 9:50 AM
To: Tyler Xuereb <Tyler.Xuereb@mississauga.ca>
Subject: [EXTERNAL] RE: Term of Reference for 900 Lakeshore Road West

[CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.]

Thank you. I appreciate it.

From: Tyler Xuereb <Tyler.Xuereb@mississauga.ca>
Sent: Monday, February 26, 2024 9:49 AM
To: Sam Nguyen <sam@nextrans.ca>
Subject: RE: Term of Reference for 900 Lakeshore Road West

Thanks Sam!

I will get the rates to you as soon as I can.

Regards,



Tyler Xuereb
Transportation Planning Analyst
T 905-615-3200 ext.4783
Tyler.xuereb@mississauga.ca

[City of Mississauga](#) | Transportation and Works Department,
Infrastructure Planning and Engineering Services Division

Please consider the environment before printing.

From: Sam Nguyen <sam@nextrans.ca>
Sent: Monday, February 26, 2024 9:37 AM
To: Tyler Xuereb <Tyler.Xuereb@mississauga.ca>
Subject: [EXTERNAL] RE: Term of Reference for 900 Lakeshore Road West

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Hi Tyler,

The horizon year is 2029. And the list of the background developments are following:

- 1139 Lorne Park Road
- 55 Coveside Dr
- 115-145 High Street West
- 1035 Southdown Road

Thanks

Sam

From: Tyler Xuereb <Tyler.Xuereb@mississauga.ca>
Sent: Monday, February 26, 2024 7:09 AM
To: Sam Nguyen <sam@nextrans.ca>
Subject: RE: Term of Reference for 900 Lakeshore Road West

Good Morning Sam,

Can you please provide me with the horizon year for your study as well as any background developments you are including in your analysis.

Thanks,



Tyler Xuereb

Transportation Planning Analyst
T 905-615-3200 ext.4783
Tyler.xuereb@mississauga.ca

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Infrastructure Planning and Engineering Services Division

Please consider the environment before printing.

From: Sam Nguyen <sam@nextrans.ca>
Sent: Friday, February 23, 2024 9:16 AM
To: Tyler Xuereb <Tyler.Xuereb@mississauga.ca>
Subject: [EXTERNAL] FW: Term of Reference for 900 Lakeshore Road West

[CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.]

Hi Tyler,

I need your help with the grow rate for Lakeshore Road West.

Thanks

Sam

From: Bo Yu <BoYang.Yu@mississauga.ca>
Sent: Thursday, February 22, 2024 5:21 PM
To: Sam Nguyen <sam@nextrans.ca>
Cc: Trans Projects <Trans.Projects@mississauga.ca>
Subject: RE: Term of Reference for 900 Lakeshore Road West

Good afternoon Sam,

Please find attached stamped and approved ToR for the proposed development, which encompasses City comments. Other items to note:

- Certification Form - The Transportation Consultant must complete, sign, and seal (if appropriate) the attached Certification Form from the City's TIS Guidelines (2022) and submit the document with the application/report to ensure compliance with qualification requirements. The TIS Guidelines can be found at <https://www.mississauga.ca/wp-content/uploads/2023/03/CMississauga-TIS-Guidelines-Version-5.1-Dec-2022.pdf>. It must be ensured that the report conforms to the City's TIS Guidelines.
- Growth Rates/Traffic Data - Please contact Tyler Xuereb from the City's Transportation Planning Section (tyler.xuereb@mississauga.ca, Ext. 4783) to confirm growth rates and/or obtain traffic data for the study area roadways.
- Signal Timing Plans - Signal timing plans for signalized intersections under the City's jurisdiction can be obtained from Jim Kartsomanis (Jim.Kartsomanis@mississauga.ca, Ext. 3964).

Please do not hesitate to contact me if you have any questions.

Regards,



Bo Yang Yu, C.Tech
Traffic Planning Technologist
T 905-615-3200 ext. 4784
boyang.yu@mississauga.ca

[City of Mississauga](#) | Transportation & Works Department
Infrastructure Planning & Engineering Services Division

Please consider the environment before printing

From: Sam Nguyen <sam@nextrans.ca>
Sent: Thursday, February 22, 2024 3:07 PM
To: Bo Yu <BoYang.Yu@mississauga.ca>
Cc: Trans Projects <Trans.Projects@mississauga.ca>
Subject: [EXTERNAL] RE: Term of Reference for 900 Lakeshore Road West
Importance: High

[CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.]

Hi Bo,

I am following up with the TOR, can you please review and provide comment? I need to start on this project asap.

Thanks

Sam

From: Michael Turco <Michael.Turco@mississauga.ca> **On Behalf Of** Trans Projects
Sent: Monday, February 12, 2024 3:34 PM
To: Sam Nguyen <sam@nextrans.ca>
Cc: Bo Yu <BoYang.Yu@mississauga.ca>
Subject: RE: Term of Reference for 900 Lakeshore Road West

Hi Sam,

Thank you providing a TIS Terms of Reference. Bo Yu (cc'd) from our team will review and provide comments.

Regards,



Michael Turco, C.E.T., CPT, MITE

Traffic Planning Coordinator
T 905-615-3200 ext. 3597
michael.turco@mississauga.ca

[City of Mississauga](#) | Transportation & Works Department
300 City Centre Drive | Mississauga ON | L5B 3C1

Please consider the environment before printing.

From: Sam Nguyen <sam@nextrans.ca>
Sent: Monday, February 12, 2024 12:54 PM
To: Michael Turco <Michael.Turco@mississauga.ca>
Subject: Term of Reference for 900 Lakeshore Road West

Good afternoon Michael,

Please find attached the term of reference for the proposed development located at 900 Lakeshore Road West.
Can you please provide comment at the earliest convenience?

Thanks

Sam (Trang) Nguyen
Transportation Analyst

o: 905-503-2563 ext. 207
e: sam@nextrans.ca
w: www.nextrans.ca

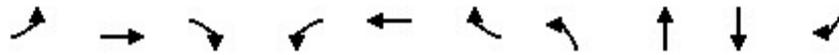
NexTrans Consulting Engineers
A Division of NextEng Consulting Group Inc.
520 Industrial Parkway South, Suite 201
Aurora ON L4G 6W8

Appendix D – Future Background Traffic Level of Service Calculations

Queues

3: tennyson ave/lorne park rd & lakeshore road w

10-16-2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	134	651	12	4	666	116	17	13	119	177
Act Effct Green (s)	35.9	35.9	35.9	35.9	35.9	35.9	9.1	9.1	9.1	9.1
Actuated g/C Ratio	0.63	0.63	0.63	0.63	0.63	0.63	0.16	0.16	0.16	0.16
v/c Ratio	0.27	0.28	0.01	0.01	0.28	0.11	0.08	0.05	0.53	0.44
Control Delay	9.7	7.2	0.0	6.8	7.3	2.1	20.9	14.2	31.2	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.7	7.2	0.0	6.8	7.3	2.1	20.9	14.2	31.2	8.9
LOS	A	A	A	A	A	A	C	B	C	A
Approach Delay		7.5			6.5			18.0	17.9	
Approach LOS		A			A			B	B	
Queue Length 50th (m)	7.2	18.4	0.0	0.2	19.0	0.0	1.6	0.4	12.2	1.2
Queue Length 95th (m)	18.8	30.3	0.0	1.4	31.0	6.1	6.2	4.2	26.1	15.2
Internal Link Dist (m)		351.9			597.0			420.6	362.2	
Turn Bay Length (m)	45.0		25.0	25.0		25.0				
Base Capacity (vph)	493	2348	1085	499	2348	1093	269	361	284	467
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.28	0.01	0.01	0.28	0.11	0.06	0.04	0.42	0.38

Intersection Summary

Cycle Length: 53

Actuated Cycle Length: 57

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 8.9

Intersection LOS: A

Intersection Capacity Utilization 56.5%

ICU Level of Service B

Analysis Period (min) 15

HCM Signalized Intersection Capacity Analysis
 3: tennyson ave/lorne park rd & lakeshore road w

10-16-2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	123	599	11	4	613	107	16	4	8	109	1	163
Future Volume (vph)	123	599	11	4	613	107	16	4	8	109	1	163
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5			8.5	8.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00			1.00	1.00
Fr _t	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.90			1.00	0.85
Fl _t Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	1863	3725	1667	1863	3725	1667	1863	1757			1868	1667
Fl _t Permitted	0.40	1.00	1.00	0.40	1.00	1.00	0.68	1.00			0.72	1.00
Satd. Flow (perm)	781	3725	1667	793	3725	1667	1334	1757			1410	1667
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)	134	651	12	4	666	116	17	4	9	118	1	177
RTOR Reduction (vph)	0	0	5	0	0	48	0	8	0	0	0	143
Lane Group Flow (vph)	134	651	7	4	666	68	17	5	0	0	119	34
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		2			6			4				8
Permitted Phases	2		2	6		6	4			8		8
Actuated Green, G (s)	35.2	35.2	35.2	35.2	35.2	35.2	8.4	8.4			8.4	8.4
Effective Green, g (s)	34.2	34.2	34.2	34.2	34.2	34.2	7.4	7.4			7.4	7.4
Actuated g/C Ratio	0.58	0.58	0.58	0.58	0.58	0.58	0.13	0.13			0.13	0.13
Clearance Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5			7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	455	2173	972	462	2173	972	168	221			178	210
v/s Ratio Prot		0.17			c0.18			0.00				
v/s Ratio Perm	0.17		0.00	0.01		0.04	0.01				c0.08	0.02
v/c Ratio	0.29	0.30	0.01	0.01	0.31	0.07	0.10	0.02			0.67	0.16
Uniform Delay, d ₁	6.1	6.2	5.1	5.1	6.2	5.3	22.7	22.4			24.4	22.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d ₂	1.6	0.4	0.0	0.0	0.4	0.1	0.3	0.0			9.1	0.4
Delay (s)	7.8	6.5	5.1	5.1	6.6	5.4	22.9	22.5			33.6	23.2
Level of Service	A	A	A	A	A	A	C	C			C	C
Approach Delay (s)		6.7			6.4			22.7			27.4	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM 2000 Control Delay			10.0			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.37									
Actuated Cycle Length (s)			58.6			Sum of lost time (s)			17.0			
Intersection Capacity Utilization			56.5%			ICU Level of Service			B			
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
 6: lakeshore road w/lakeshore rd w & lbar Way

10-16-2025

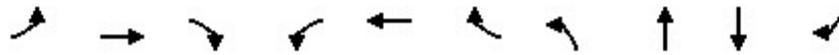


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↕		↕↕	
Traffic Volume (veh/h)	17	704	662	17	31	52
Future Volume (Veh/h)	17	704	662	17	31	52
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	18	765	720	18	34	57
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	738				1148	369
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	738				1148	369
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				82	91
cM capacity (veh/h)	864				188	628
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	
Volume Total	273	510	480	258	91	
Volume Left	18	0	0	0	34	
Volume Right	0	0	0	18	57	
cSH	864	1700	1700	1700	335	
Volume to Capacity	0.02	0.30	0.28	0.15	0.27	
Queue Length 95th (m)	0.5	0.0	0.0	0.0	8.6	
Control Delay (s)	0.8	0.0	0.0	0.0	19.7	
Lane LOS	A				C	
Approach Delay (s)	0.3		0.0		19.7	
Approach LOS					C	
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization			43.1%	ICU Level of Service	A	
Analysis Period (min)			15			

Queues

3: tennyson ave/lorne park rd & lakeshore road w

10-16-2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	134	763	8	4	657	124	7	2	69	105
Act Effct Green (s)	37.6	37.6	37.6	37.6	37.6	37.6	8.0	8.0	8.0	8.0
Actuated g/C Ratio	0.65	0.65	0.65	0.65	0.65	0.65	0.14	0.14	0.14	0.14
v/c Ratio	0.26	0.31	0.01	0.01	0.27	0.11	0.04	0.01	0.34	0.33
Control Delay	8.7	6.8	0.0	6.2	6.5	1.9	20.8	0.0	27.0	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.7	6.8	0.0	6.2	6.5	1.9	20.8	0.0	27.0	8.6
LOS	A	A	A	A	A	A	C	A	C	A
Approach Delay		7.0			5.8			16.2	15.9	
Approach LOS		A			A			B	B	
Queue Length 50th (m)	6.5	20.2	0.0	0.2	16.7	0.0	0.7	0.0	6.8	0.0
Queue Length 95th (m)	18.0	34.6	0.0	1.4	29.4	6.0	3.6	0.0	16.6	10.8
Internal Link Dist (m)		351.9			597.0			420.6	362.2	
Turn Bay Length (m)	45.0		25.0	25.0		25.0				
Base Capacity (vph)	514	2432	1121	463	2432	1131	279	432	291	418
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.31	0.01	0.01	0.27	0.11	0.03	0.00	0.24	0.25

Intersection Summary

Cycle Length: 53

Actuated Cycle Length: 57.5

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.34

Intersection Signal Delay: 7.3

Intersection LOS: A

Intersection Capacity Utilization 56.4%

ICU Level of Service B

Analysis Period (min) 15

HCM Signalized Intersection Capacity Analysis
 3: tennyson ave/lorne park rd & lakeshore road w

10-16-2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	123	702	7	4	604	114	6	0	2	59	5	97
Future Volume (vph)	123	702	7	4	604	114	6	0	2	59	5	97
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5			8.5	8.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.85			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.96	1.00
Satd. Flow (prot)	1863	3725	1667	1863	3725	1667	1863	1667			1874	1667
Flt Permitted	0.40	1.00	1.00	0.36	1.00	1.00	0.71	1.00			0.74	1.00
Satd. Flow (perm)	788	3725	1667	710	3725	1667	1396	1667			1452	1667
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)	134	763	8	4	657	124	7	0	2	64	5	105
RTOR Reduction (vph)	0	0	3	0	0	49	0	2	0	0	0	94
Lane Group Flow (vph)	134	763	5	4	657	75	7	0	0	0	69	11
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8				4
Permitted Phases	2		2	6		6	8			4		4
Actuated Green, G (s)	36.8	36.8	36.8	36.8	36.8	36.8	7.3	7.3			7.3	7.3
Effective Green, g (s)	35.8	35.8	35.8	35.8	35.8	35.8	6.3	6.3			6.3	6.3
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.61	0.61	0.11	0.11			0.11	0.11
Clearance Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5			7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	477	2256	1009	430	2256	1009	148	177			154	177
v/s Ratio Prot		c0.20			0.18			0.00				
v/s Ratio Perm	0.17		0.00	0.01		0.05	0.01				c0.05	0.01
v/c Ratio	0.28	0.34	0.00	0.01	0.29	0.07	0.05	0.00			0.45	0.06
Uniform Delay, d1	5.5	5.8	4.6	4.6	5.6	4.8	23.7	23.6			24.8	23.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	1.5	0.4	0.0	0.0	0.3	0.1	0.1	0.0			2.1	0.2
Delay (s)	7.0	6.2	4.6	4.7	5.9	5.0	23.8	23.6			26.8	23.9
Level of Service	A	A	A	A	A	A	C	C			C	C
Approach Delay (s)		6.3			5.7			23.8			25.1	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM 2000 Control Delay	7.9		HCM 2000 Level of Service				A					
HCM 2000 Volume to Capacity ratio	0.35											
Actuated Cycle Length (s)	59.1		Sum of lost time (s)				17.0					
Intersection Capacity Utilization	56.4%		ICU Level of Service				B					
Analysis Period (min)	15											

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
 6: lakeshore road w/lakeshore rd w & lbar Way

10-16-2025



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↕		↘↘	
Traffic Volume (veh/h)	28	692	744	36	9	25
Future Volume (Veh/h)	28	692	744	36	9	25
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)	30	752	809	39	10	27
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	848				1264	424
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	848				1264	424
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				94	95
cM capacity (veh/h)	785				155	579
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	
Volume Total	281	501	539	309	37	
Volume Left	30	0	0	0	10	
Volume Right	0	0	0	39	27	
cSH	785	1700	1700	1700	333	
Volume to Capacity	0.04	0.29	0.32	0.18	0.11	
Queue Length 95th (m)	1.0	0.0	0.0	0.0	3.0	
Control Delay (s)	1.4	0.0	0.0	0.0	17.2	
Lane LOS	A				C	
Approach Delay (s)	0.5		0.0		17.2	
Approach LOS					C	
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			49.3%		ICU Level of Service	A
Analysis Period (min)			15			

Appendix E – 2016 TTS Data Analysis

Thu Sep 19 2024 13:08:25 GMT-0400 (Eastern Daylight Time) - Run Time: 2450ms

Cross Tabulation Query Form - Trip - 2016

Row: 2006 GTA zone of origin - gta06_orig
 Column: Primary travel mode of trip - mode_prime

Filters:
 2006 GTA z 3646
 and
 Primary trav c d g j m p t u w
 and
 Start time of trip - start_time In 600-900

Trip 2016

Table:

	Transit exc Cycle	Auto drive	GO rail onl	Joint GO rr	Auto passe	Walk	
3641	124	57	1809	256	121	280	130
3646	127	0	2546	200	21	685	131
	251	57	4355	456	142	965	261
	4%	1%	67%	7%	2%	15%	4%

Fri Sep 20 2024 09:54:03 GMT-0400 (Eastern Daylight Time) - Run Time: 2413ms

Cross Tabulation Query Form - Trip - 2016

Row: 2006 GTA zone of origin - gta06_orig
 Column: Primary travel mode of trip - mode_prime

Filters:
 2006 GTA z 3646
 and
 Primary trav c d g j m p t u w
 and
 Start time of trip - start_time In 1500-1800

Trip 2016

Table:

	Transit exc Cycle	Auto drive	GO rail onl	Auto passe	Walk	
3641	52	29	1903	7	201	0
3646	0	57	916	0	206	115
	52	86	2819	7	407	115
	1%	2%	81%	0%	12%	3%

Fri Sep 20 2024 10:32:04 GMT-0400 (Eastern Daylight Time) - Run Time: 2472ms

Cross Tabulation Query Form - Trip - 2016

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

Filters:
 2006 GTA z 3646
 and
 Primary trav M
 and
 Start time of trip - start_time In 600-900

Trip 2016

Table:

	PD 1 of	Toi PD 2 of	Toi PD 3 of	Toi PD 5 of	Toi PD 7 of	Toi PD 8 of	Toi PD 9 of	Toi PD 10 of	Ti PD 11 of	Ti PD 12 of	Ti PD 13 of	Ti PD 16 of	Ti Markham	Vaughan	Brampton	Mississaug	Halton Hill	Milton	Oakville	Clearview	Wasaga Be	External
3641	45	8	16	66	61	78	0	44	31	46	0	0	0	42	126	1147	0	21	63	0	0	14
3646	72	5	0	0	0	111	54	116	0	0	47	121	13	73	260	1504	20	21	93	13	22	0
	117	13	16	66	61	189	54	160	31	46	47	121	13	115	386	2651	20	42	156	13	22	14
	3%	0%	0%	2%	1%	4%	1%	4%	1%	1%	1%	3%	0%	3%	9%	61%	0%	1%	4%	0%	1%	0%
				mississaug	61%	east	65%															
				toronto	21%	west	35%															
				brampton	9%		100%															
				oakville an	5%																	
				york regio	4%																	
					100%																	

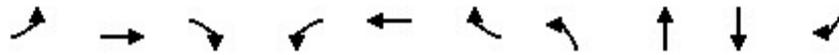
ITE Land Use	Magnitude (units/GFA)	Parameters	Morning Peak Hour			Afternoon Peak Hour				
			In	Out	Total	In	Out	Total		
Multifamily Housing (Mid-rise) LUC 221 General Urban/Suburban	188	Trip Rates 0.44(X) - 11.61 AM - T = 0.39(X) + 0.34	16	55	71	45	29	74		
		Mode								
		Non-Auto	33%	19%	5	18	23	9	5	14
		Auto	67%	81%	11	37	48	36	23	60

Appendix F – Future Total Traffic Level of Service Calculations

Queues

3: tennyson ave/lorne park rd & lakeshore road w

10-16-2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	134	654	12	4	677	116	17	13	119	177
Act Effct Green (s)	35.9	35.9	35.9	35.9	35.9	35.9	9.1	9.1	9.1	9.1
Actuated g/C Ratio	0.63	0.63	0.63	0.63	0.63	0.63	0.16	0.16	0.16	0.16
v/c Ratio	0.28	0.28	0.01	0.01	0.29	0.11	0.08	0.05	0.53	0.44
Control Delay	9.8	7.2	0.0	6.8	7.3	2.1	20.9	14.2	31.2	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.8	7.2	0.0	6.8	7.3	2.1	20.9	14.2	31.2	9.4
LOS	A	A	A	A	A	A	C	B	C	A
Approach Delay		7.6			6.5			18.0	18.1	
Approach LOS		A			A			B	B	
Queue Length 50th (m)	7.2	18.5	0.0	0.2	19.3	0.0	1.6	0.4	12.2	1.7
Queue Length 95th (m)	19.0	30.5	0.0	1.4	31.6	6.1	6.2	4.2	26.1	15.7
Internal Link Dist (m)		351.9			353.0			420.6	362.2	
Turn Bay Length (m)	45.0		25.0	25.0		25.0				
Base Capacity (vph)	487	2348	1085	498	2348	1093	269	361	284	463
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.28	0.01	0.01	0.29	0.11	0.06	0.04	0.42	0.38

Intersection Summary

Cycle Length: 53

Actuated Cycle Length: 57

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 8.9

Intersection LOS: A

Intersection Capacity Utilization 56.7%

ICU Level of Service B

Analysis Period (min) 15

HCM Signalized Intersection Capacity Analysis
 3: tennyson ave/lorne park rd & lakeshore road w

10-16-2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	123	602	11	4	623	107	16	4	8	109	1	163
Future Volume (vph)	123	602	11	4	623	107	16	4	8	109	1	163
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5			8.5	8.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00			1.00	1.00
Fr _t	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.90			1.00	0.85
Fl _t Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.95	1.00
Satd. Flow (prot)	1863	3725	1667	1863	3725	1667	1863	1757			1868	1667
Fl _t Permitted	0.39	1.00	1.00	0.40	1.00	1.00	0.68	1.00			0.72	1.00
Satd. Flow (perm)	773	3725	1667	791	3725	1667	1334	1757			1410	1667
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)	134	654	12	4	677	116	17	4	9	118	1	177
RTOR Reduction (vph)	0	0	5	0	0	48	0	8	0	0	0	139
Lane Group Flow (vph)	134	654	7	4	677	68	17	5	0	0	119	38
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		2			6			4				8
Permitted Phases	2		2	6		6	4			8		8
Actuated Green, G (s)	35.2	35.2	35.2	35.2	35.2	35.2	8.4	8.4			8.4	8.4
Effective Green, g (s)	34.2	34.2	34.2	34.2	34.2	34.2	7.4	7.4			7.4	7.4
Actuated g/C Ratio	0.58	0.58	0.58	0.58	0.58	0.58	0.13	0.13			0.13	0.13
Clearance Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5			7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	451	2173	972	461	2173	972	168	221			178	210
v/s Ratio Prot		0.18			c0.18			0.00				
v/s Ratio Perm	0.17		0.00	0.01		0.04	0.01				c0.08	0.02
v/c Ratio	0.30	0.30	0.01	0.01	0.31	0.07	0.10	0.02			0.67	0.18
Uniform Delay, d ₁	6.1	6.2	5.1	5.1	6.2	5.3	22.7	22.4			24.4	22.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d ₂	1.7	0.4	0.0	0.0	0.4	0.1	0.3	0.0			9.1	0.4
Delay (s)	7.8	6.5	5.1	5.1	6.6	5.4	22.9	22.5			33.6	23.3
Level of Service	A	A	A	A	A	A	C	C			C	C
Approach Delay (s)		6.7			6.4			22.7			27.4	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM 2000 Control Delay			10.0			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.37									
Actuated Cycle Length (s)			58.6			Sum of lost time (s)			17.0			
Intersection Capacity Utilization			56.7%			ICU Level of Service			B			
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
 6: lakeshore road w/lakeshore rd w & lbar Way

10-16-2025



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↘	
Traffic Volume (veh/h)	17	725	668	17	31	52
Future Volume (Veh/h)	17	725	668	17	31	52
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)	18	788	726	18	34	57
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	744				1165	372
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	744				1165	372
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				81	91
cM capacity (veh/h)	859				183	625
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	
Volume Total	281	525	484	260	91	
Volume Left	18	0	0	0	34	
Volume Right	0	0	0	18	57	
cSH	859	1700	1700	1700	329	
Volume to Capacity	0.02	0.31	0.28	0.15	0.28	
Queue Length 95th (m)	0.5	0.0	0.0	0.0	8.8	
Control Delay (s)	0.8	0.0	0.0	0.0	20.1	
Lane LOS	A				C	
Approach Delay (s)	0.3		0.0		20.1	
Approach LOS					C	
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization			43.6%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

8: proposed access & lakeshore road w

10-16-2025

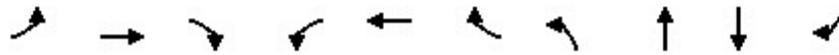


Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Volume (veh/h)	721	3	6	724	10	21
Future Volume (Veh/h)	721	3	6	724	10	21
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	784	3	7	787	11	23
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	377					
pX, platoon unblocked						
vC, conflicting volume			787		1193	394
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			787		1193	394
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		94	96
cM capacity (veh/h)			828		178	606
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	523	264	269	525	34	
Volume Left	0	0	7	0	11	
Volume Right	0	3	0	0	23	
cSH	1700	1700	828	1700	341	
Volume to Capacity	0.31	0.16	0.01	0.31	0.10	
Queue Length 95th (m)	0.0	0.0	0.2	0.0	2.6	
Control Delay (s)	0.0	0.0	0.3	0.0	16.7	
Lane LOS	A			C		
Approach Delay (s)	0.0		0.1		16.7	
Approach LOS						C
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			34.7%	ICU Level of Service	A	
Analysis Period (min)	15					

Queues

3: tennyson ave/lorne park rd & lakeshore road w

10-16-2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	134	775	8	4	662	124	7	2	69	105
Act Effct Green (s)	37.6	37.6	37.6	37.6	37.6	37.6	8.0	8.0	8.0	8.0
Actuated g/C Ratio	0.65	0.65	0.65	0.65	0.65	0.65	0.14	0.14	0.14	0.14
v/c Ratio	0.26	0.32	0.01	0.01	0.27	0.11	0.04	0.01	0.34	0.33
Control Delay	8.8	6.8	0.0	6.2	6.5	1.9	20.8	0.0	27.0	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.8	6.8	0.0	6.2	6.5	1.9	20.8	0.0	27.0	8.6
LOS	A	A	A	A	A	A	C	A	C	A
Approach Delay		7.0			5.8			16.2	15.9	
Approach LOS		A			A			B	B	
Queue Length 50th (m)	6.5	20.6	0.0	0.2	16.9	0.0	0.7	0.0	6.8	0.0
Queue Length 95th (m)	18.1	35.4	0.0	1.4	29.5	6.0	3.6	0.0	16.6	10.8
Internal Link Dist (m)		351.9			317.0			420.6	362.2	
Turn Bay Length (m)	45.0		25.0	25.0		25.0				
Base Capacity (vph)	512	2432	1121	458	2432	1131	279	429	291	418
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.32	0.01	0.01	0.27	0.11	0.03	0.00	0.24	0.25

Intersection Summary

Cycle Length: 53

Actuated Cycle Length: 57.5

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.34

Intersection Signal Delay: 7.4

Intersection LOS: A

Intersection Capacity Utilization 56.7%

ICU Level of Service B

Analysis Period (min) 15

HCM Signalized Intersection Capacity Analysis
 3: tennyson ave/lorne park rd & lakeshore road w

10-16-2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	123	713	7	4	609	114	6	0	2	59	5	97
Future Volume (vph)	123	713	7	4	609	114	6	0	2	59	5	97
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5			8.5	8.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00			1.00	1.00
Fr _t	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.85			1.00	0.85
Fl _t Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.96	1.00
Satd. Flow (prot)	1863	3725	1667	1863	3725	1667	1863	1667			1874	1667
Fl _t Permitted	0.40	1.00	1.00	0.36	1.00	1.00	0.71	1.00			0.74	1.00
Satd. Flow (perm)	785	3725	1667	702	3725	1667	1396	1667			1452	1667
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)	134	775	8	4	662	124	7	0	2	64	5	105
RTOR Reduction (vph)	0	0	3	0	0	49	0	2	0	0	0	94
Lane Group Flow (vph)	134	775	5	4	662	75	7	0	0	0	69	11
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8				4
Permitted Phases	2		2	6		6	8			4		4
Actuated Green, G (s)	36.8	36.8	36.8	36.8	36.8	36.8	7.3	7.3			7.3	7.3
Effective Green, g (s)	35.8	35.8	35.8	35.8	35.8	35.8	6.3	6.3			6.3	6.3
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.61	0.61	0.11	0.11			0.11	0.11
Clearance Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5			7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	475	2256	1009	425	2256	1009	148	177			154	177
v/s Ratio Prot		c0.21			0.18			0.00				
v/s Ratio Perm	0.17		0.00	0.01		0.05	0.01				c0.05	0.01
v/c Ratio	0.28	0.34	0.00	0.01	0.29	0.07	0.05	0.00			0.45	0.06
Uniform Delay, d ₁	5.5	5.8	4.6	4.6	5.6	4.8	23.7	23.6			24.8	23.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d ₂	1.5	0.4	0.0	0.0	0.3	0.1	0.1	0.0			2.1	0.2
Delay (s)	7.0	6.2	4.6	4.7	5.9	5.0	23.8	23.6			26.8	23.9
Level of Service	A	A	A	A	A	A	C	C			C	C
Approach Delay (s)		6.3			5.8			23.8			25.1	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM 2000 Control Delay	7.9		HCM 2000 Level of Service				A					
HCM 2000 Volume to Capacity ratio	0.36											
Actuated Cycle Length (s)	59.1				Sum of lost time (s)				17.0			
Intersection Capacity Utilization	56.7%				ICU Level of Service				B			
Analysis Period (min)	15											

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
 6: lakeshore road w/lakeshore rd w & lbar Way

10-16-2025



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↕		↘↘	
Traffic Volume (veh/h)	28	707	764	36	9	25
Future Volume (Veh/h)	28	707	764	36	9	25
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)	30	768	830	39	10	27
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	869				1294	434
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	869				1294	434
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				93	95
cM capacity (veh/h)	771				148	570
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	
Volume Total	286	512	553	316	37	
Volume Left	30	0	0	0	10	
Volume Right	0	0	0	39	27	
cSH	771	1700	1700	1700	322	
Volume to Capacity	0.04	0.30	0.33	0.19	0.11	
Queue Length 95th (m)	1.0	0.0	0.0	0.0	3.1	
Control Delay (s)	1.4	0.0	0.0	0.0	17.6	
Lane LOS	A				C	
Approach Delay (s)	0.5		0.0		17.6	
Approach LOS					C	
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			49.7%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 8: Proposed access & lakeshore road w

10-16-2025

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	720	11	20	722	5	15
Future Volume (Veh/h)	720	11	20	722	5	15
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)	783	12	22	785	5	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	341					
pX, platoon unblocked			0.99		0.99	0.99
vC, conflicting volume			795		1226	398
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			766		1202	363
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		97	97
cM capacity (veh/h)			832		170	625
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	522	273	284	523	21	
Volume Left	0	0	22	0	5	
Volume Right	0	12	0	0	16	
cSH	1700	1700	832	1700	382	
Volume to Capacity	0.31	0.16	0.03	0.31	0.05	
Queue Length 95th (m)	0.0	0.0	0.7	0.0	1.4	
Control Delay (s)	0.0	0.0	1.0	0.0	15.0	
Lane LOS			A		B	
Approach Delay (s)	0.0		0.4		15.0	
Approach LOS					B	
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			44.3%		ICU Level of Service	A
Analysis Period (min)			15			