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Transportation Impact Study

PROPOSED RETIREMENT HOME DEVELOPMENT

2380 Lakeshore Road West
Town of Oakville, Ontario

July 2018
Project No: NT-18-054

520 Industrial Parkway South, Suite 201
Aurora ON L4G 6W8

Phone: 905-503-2563
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nexTrans CONSULTING ENGINEERS

NextEng Consulting Group Inc.

July 11, 2018

Southbound Developments (Oakville) Inc.
75 Dufflaw Road, Suite 203
Toronto, ON M6A 2W4

Re: Transportation Impact Study
2380 Lakeshore Road West, Town of Oakville
Our Project No. NT-18-054

Nextrans Consulting Engineers (A Division of NextEng Consulting Group Inc.) is pleased to present the enclosed Transportation Study for the above noted site in support of a Site Plan Application.

The subject site is located at the southeast quadrant of Lakeshore Road West and Jones Street in the Town of Oakville. The subject site is currently occupied by a single-storey dwelling unit and a commercial building. Based on the preliminary site plan prepared by Michael Spaziani Architect Inc., dated January 2018 and revised on February 22, 2018, the development proposal is to construct a 4-storey retirement residence, with 411.0 m^2 of gross floor area ground floor commercial space, and an underground parking garage. Vehicular access is provided via a full movement driveway located on Lakeshore Road West.

The study concludes that the development proposal can adequately be accommodated by the existing transportation network with manageable traffic impact to the adjacent public roadways. 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.

Prepared by:

Madeleine Catz, EIT
Transportation Analyst

Reviewed by:

Richard Pernicky, CET, MITE
Principal

EXECUTIVE SUMMARY

NexTrans Consulting Engineers was retained by Southbound Developments (Oakville) Inc. (the 'Client') to undertake a Transportation Impact Study for a Site Plan Application in support of a proposed retirement development, in the Town of Oakville, Ontario. The subject property is located at the southeast quadrant of Lakeshore Road West and Jones Street.

Development Proposal

The development proposal is to redevelop the existing 2,641.91 m^2 site to include a 4-storey retirement residence, with 411.0 m^2 of gross floor area ground floor commercial space, and an underground parking garage. Vehicular access to the site is proposed via a full movement driveway located on Lakeshore Road West.

Traffic Analysis

The proposed development is anticipated to generate 62 two-way auto trips (34 inbound and 28 outbound) during the AM peak hours and 70 two-way auto trips (31 inbound and 39 outbound) during the PM peak hours.

The intersection capacity analysis results (based on the methodology and procedures outlined in the Highway Capacity Manual, HCM 2000, published by the Transportation Research Board) indicate that the study area intersections and proposed vehicular access are expected to operate with acceptable levels of service.

Access/Parking Review

It is recommended that appropriate signage consisting of a STOP sign (Ra-1) and STOP bar be provided on the Lakeshore Boulevard West egress driveway and regulatory signs at the internal pick up drop off area, as illustrated in **Figure 7-1**.

Based on the Town of Oakville Zoning By-law 2014-014, a total of 46 parking spaces will be required for the proposed retirement home development with 411 m^2 of retail space. The preliminary site plan provides for a total of 53 parking spaces, which results in a technical surplus of seven (7) parking spaces. On this basis, the future parking demand with the proposed redevelopment is completely satisfied with the proposed parking provision.

Vehicle Maneuverability Review

AutoTURN software was used to generate vehicular turning template to confirm and demonstrate the accessibility of a 12-metre long Garbage/Emergency Truck (HSU TAC-2017) through the proposed loading space and a passenger vehicle (P TAC-2017) and ambulance truck (LSU TAC-2017) can effectively maneuver through the proposed study and drop-off area.

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1.0 INTRODUCTION

NexTrans Consulting Engineers was retained by Southbound Developments (Oakville) Inc. (the 'Client') to undertake a Transportation Impact Study for a Site Plan Application in support of a proposed retirement development, in the Town of Oakville, Ontario. The subject property is located at the southeast quadrant of Lakeshore Road West and Jones Street.

The location of the proposed development is illustrated in **Figure 1-1**.

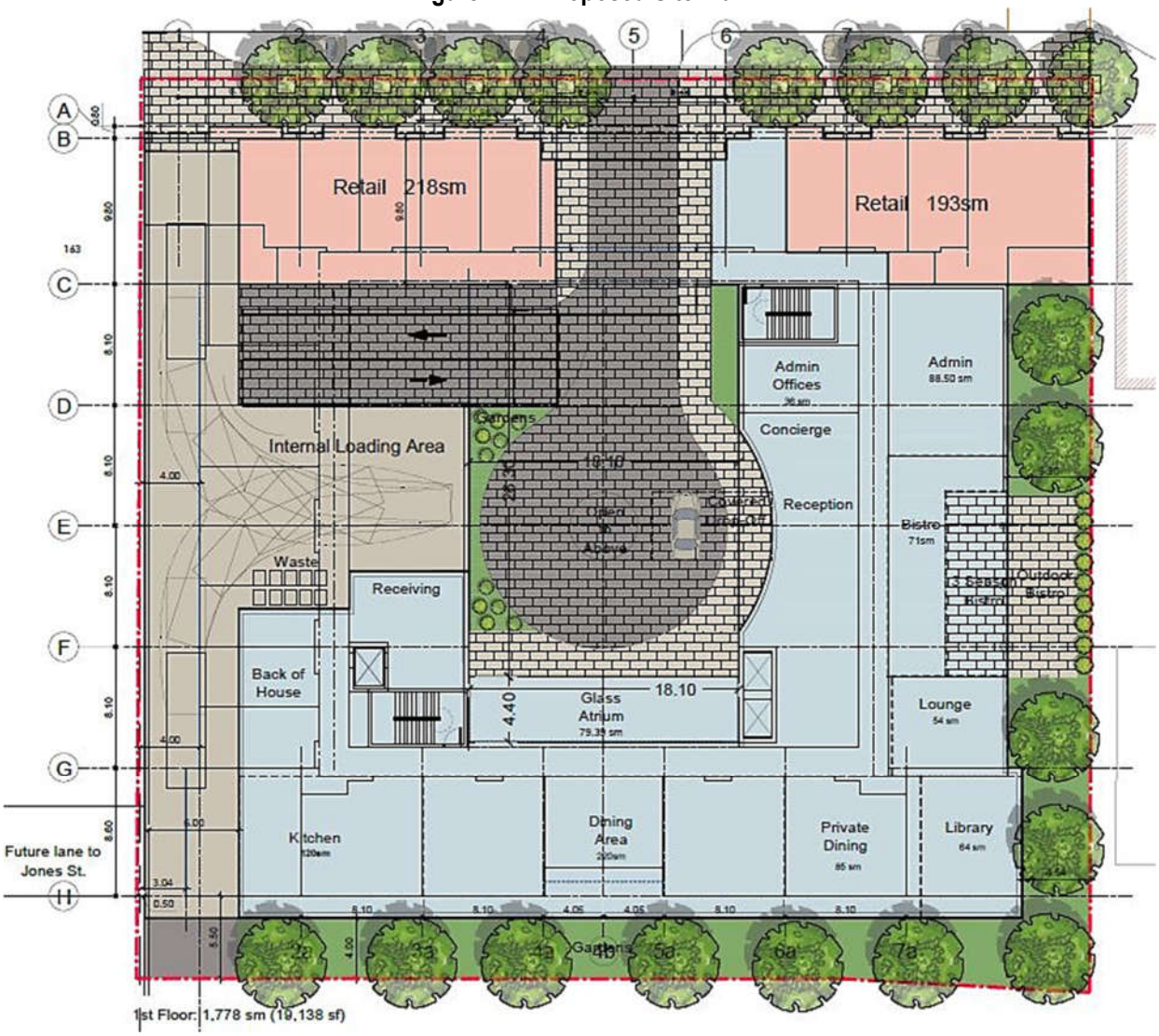
Figure 1-1 – Site Location

The subject property is currently occupied by a single-storey dwelling unit and a commercial building. Based on the preliminary site plan prepared by Michael Spaziani Architect Inc., dated January 2018 and revised on February 22, 2018, the development proposal is to redevelop the existing 2,641.91 m^2 site to include a 4-storey retirement residence, with 411.0 m^2 of gross floor area ground floor commercial space, and an underground parking garage. Vehicular access to the site is proposed via a full movement driveway located on Lakeshore Road West. The preliminary site plan is provided in **Figure 1-2**; **Appendix A** also provides a larger scale version of the proposed site plan.

The preliminary site plan provides for a total of 53 parking spaces.

Given the residential nature of the development proposal, the analysis will include the weekday morning and afternoon peak periods for traffic assessment purposes.

Figure 1-2 – Proposed Site Plan



2.0 EXISTING TRAFFIC CONDITIONS

2.1. Existing Road Network

The existing subject lands are located in the southeast quadrant of Lakeshore Road West and Jones Street in the Town of Oakville. The existing road network is described as follows:

Lakeshore Road West: is classified as an east-west major arterial road under the jurisdiction of the Town of Oakville. In the study area, it has an existing two-lane cross section with a two-way left turn lane in the centre and posted speed limit of 50 km/h. Lakeshore Road West is signalized at Jones Street and provides ancillary left turn lanes for both eastbound and westbound movements.

Jones Street: is classified as a north-south collector road under the jurisdiction of the Town of Oakville. In the study area, it has an existing two-lane cross section and posted speed limit of 50 km/h. Jones Street is signalized at Lakeshore Road West and provides an ancillary southbound left turn lane. Painted lines for on-street parking spaces are provided on both sides of the roadway south of Lakeshore Road West.

2.2. Existing Active Transportation Network

Sidewalks

The area surrounding the proposed development is serviced with dedicated sidewalks. Currently, sidewalks are available on both sides of Lakeshore Road West and Jones Street. Pedestrian connectivity is available from the major roads to the proposed site.

Bicycle Lanes

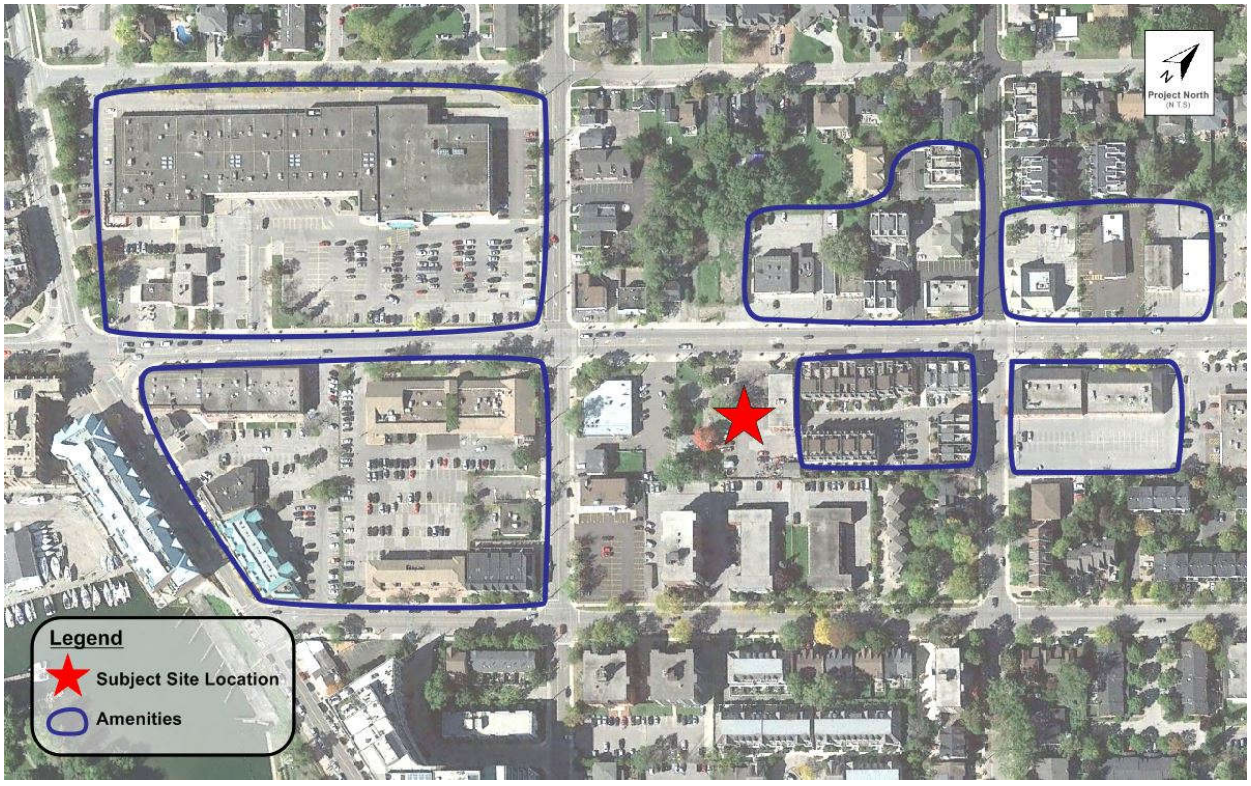
Bicycle lanes are provided on both sides of Lakeshore Road West and the development is proposing a bike locker room, which will satisfy cyclists needs. There are also a high density of amenities indicating many necessities are within walking distance.

2.3. Active Transportation Mode and Assessment

Existing Amenities

The review of the area surrounding the proposed development indicates numerous retail, food, and service establishments, many of which can be easily reached by pedestrian traffic and non-auto options. Bronte Village Mall is approximately 200 metres away (about a 3-minute walk) from the subject site. **Figure 2-1** illustrates the location of existing retail, food and service establishments from the proposed development. Amenities include a Bronte Physiotherapy and Wellness Centre, Denninger's Foods of the World, Bronte Village Eyecare etc.

Figure 2-1 – Existing Amenities



2.4. Existing Traffic Volumes

Existing traffic volumes at the study area intersection of Lakeshore Road West and Jones Street was undertaken by Spectrum Traffic on behalf of NexTrans Consulting Engineers on Thursday May 17, 2018, during the morning (7:00 a.m. to 10:00 a.m.) and afternoon (4:00 p.m. to 7:00 p.m.) peak. Detailed traffic data sheets are provided in **Appendix B**.

2.5. Existing Traffic Assessment

The existing volumes are illustrated in **Figure 2-2**, and were analyzed using Synchro 10 software. The methodology of the software follows the procedures described and outlined in the Highway Capacity Manual, HCM 2000, published by the Transportation Research Board. The detailed results are provided in **Appendix C** and summarized in **Table 2.1**.

Figure 2-2 – Existing Traffic Volumes

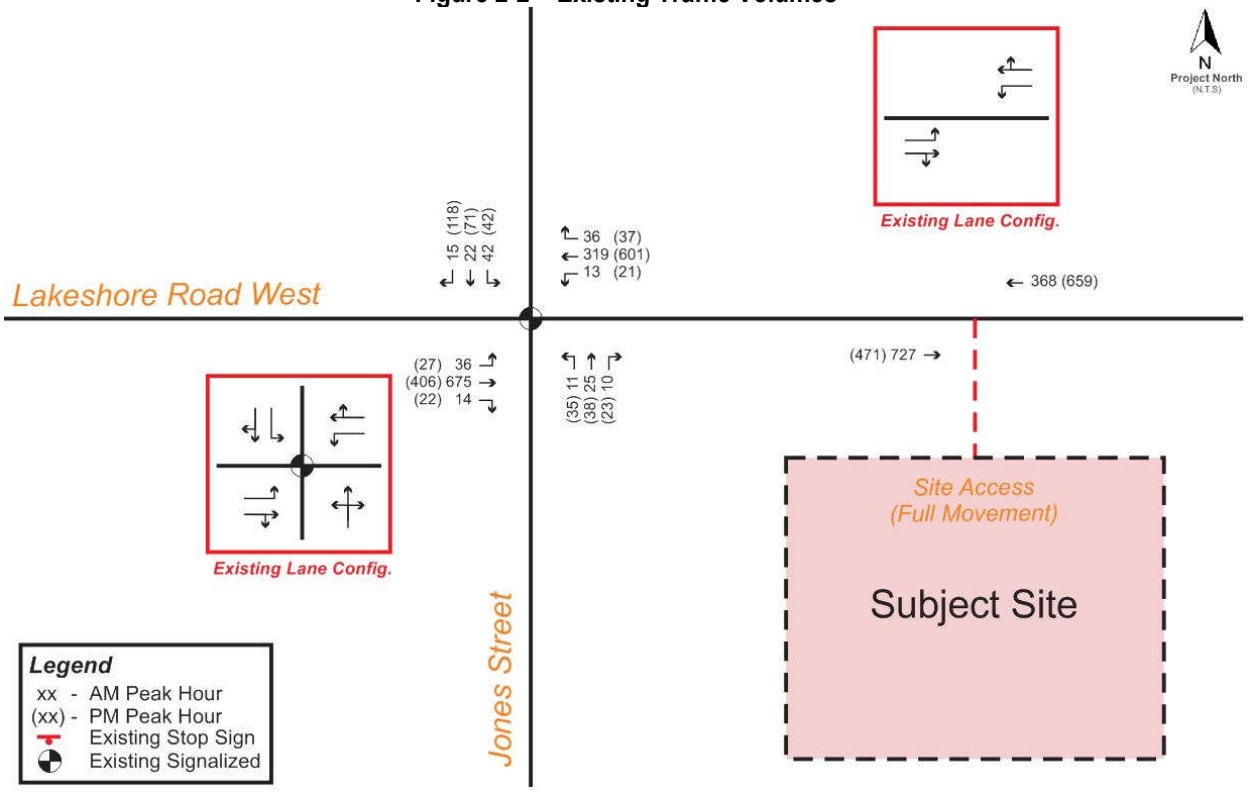


Table 2.1 – Existing Traffic Assessments

Intersection	Movement	Weekday AM Peak Hour			Weekday PM Peak Hour		
		LOS (v/c)	Delay (s)	Queue (95th m)	LOS (v/c)	Delay (s)	Queue (95th m)
Lakeshore Road West & Jones Street *(Signalized)*	**OVERALL**	**C (0.56)**	**26.8**	**–**	**B (0.56)**	**19.1**	**–**
	EBL	B (0.16)	11.9	7.2	B (0.20)	14.1	7.7
	EBTR	D (0.94)	37.1	164.7	B (0.56)	16.4	71.8
	WBL	B (0.30)	18.6	3.5	B (0.10)	11.3	5.4
	WBTR	B (0.48)	15.0	56.6	C (0.80)	24.1	136.3
	NBLTR	B (0.10)	13.9	10.0	B (0.21)	15.0	15.9
	SBL	B (0.12)	14.1	9.4	B (0.11)	14.0	9.9
	SBTR	B (0.06)	13.5	7.5	B (0.26)	15.5	17.3

As summarized in **Table 2.1**, under existing conditions the study area intersections are operating at acceptable levels of service with no critical movements identified.

It shall be noted that the existing lane configuration at the proposed site access and Lakeshore Road West, has a two-way left-turn lane in the center to satisfy vehicles with destinations to establishments located adjacent to Lakeshore Road West.

3.0 FUTURE BACKGROUND CONDITIONS

For the purposes of this assessment a five-year horizon (2023) is selected to analyze the future background traffic volumes.

3.1. Background Development

A review of the active developments within the study area was conducted based on the information extracted from the Town of Oakville's Development Applications Map. The following applications are under review:

- 83 East Street and 2266 Lakeshore Road West – A proposed 20-storey apartment building containing 144 dwelling units with retail and service commercial uses at grade.
- 2286, 2296, and 2298 Sovereign Street – A proposed 20 unit townhouse development with a common element condominium.
- Bronte Village Mall (Eastern and Western) – Proposed mixed-use redevelopment of Bronte Village Mall.

The future site traffic forecasted at the above locations are considered in our own future background analysis as well as, an applied growth rate of 2% which is considered a conservative approach to account for any further developments in the area.

The future (2023) background traffic volumes are provided in **Figure 3-1. Table 3.1** summarizes the level of service at the given intersections under future background traffic conditions. Detailed output analysis can be found in **Appendix D**.

Figure 3-1 – Future (2023) Background Traffic Volumes

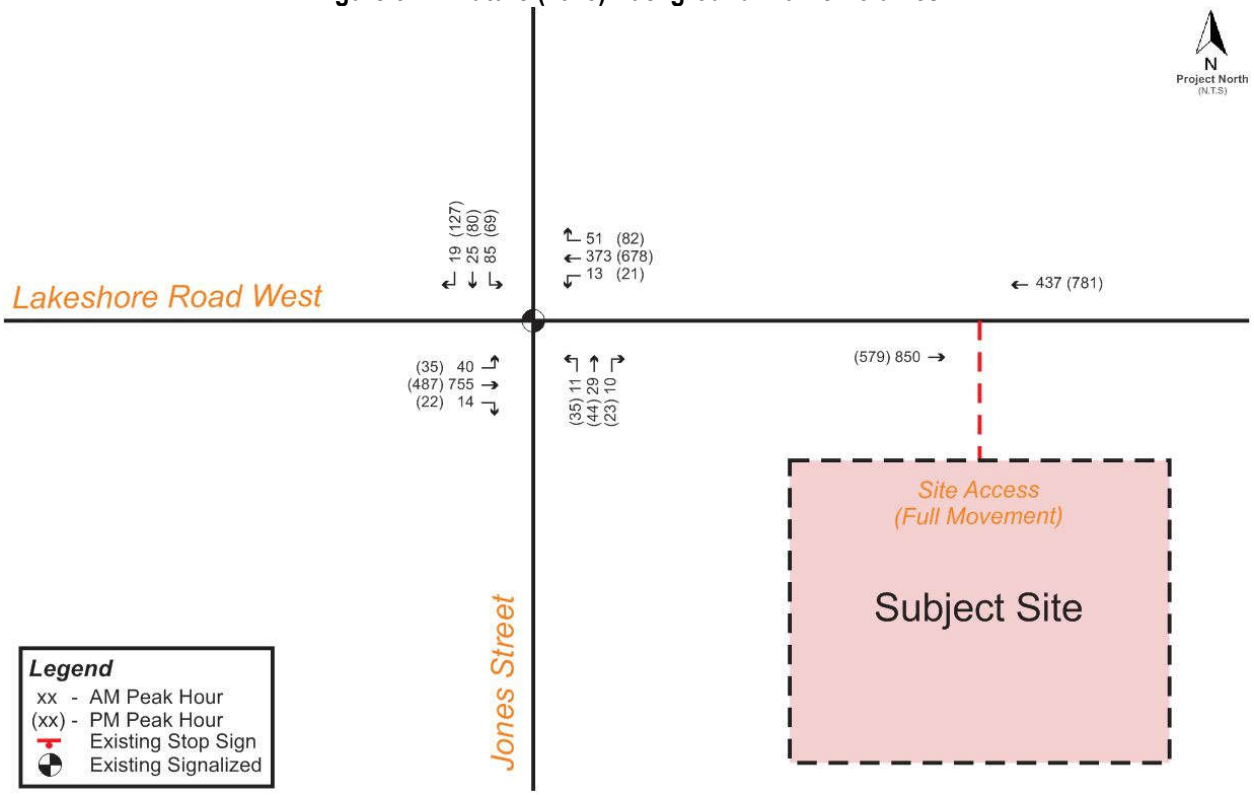


Table 3.1 – Future (2023) Background Traffic Assessments

Intersection	Movement	Weekday AM Peak Hour			Weekday PM Peak Hour		
		LOS (v/c)	Delay (s)	Queue (95th m)	LOS (v/c)	Delay (s)	Queue (95th m)
Lakeshore Road West & Jones Street *(Signalized)*	**OVERALL**	**C (0.63)**	**28.3**	**–**	**C (0.67)**	**28.0**	**–**
	EBL	B (0.21)	12.8	8.0	C (0.39)	22.3	12.1
	EBTR	D (0.96)	41.0	181.1	B (0.67)	18.8	90.7
	WBL	B (0.29)	18.5	3.5	B (0.12)	11.9	5.5
	WBTR	B (0.57)	16.7	70.7	D (0.97)	42.7	181.3
	NBLTR	B (0.10)	13.9	10.7	B (0.22)	15.2	17.0
	SBL	B (0.24)	15.5	16.5	B (0.17)	14.8	14.6
	SBTR	B (0.07)	13.6	8.2	B (0.31)	16.1	21.1

As summarized in **Table 3.1**, it is shown that during future background traffic conditions the subject study area intersection continues to operate at acceptable levels of service with no changes to expected operations.

4.0 SITE TRAFFIC

The development proposal is to construct the 2,641.91 m^2 site to provide a 4-storey retirement residence and 411.0 m^2 of gross floor area for commercial use. Trip rates and site generated trips were derived from the information contained in the *Trip Generation Manual, 10th Edition* published by the Institute of Transportation Engineers (ITE) for "Assisted Living" (LUC 254).

Since the proposed retail space is comparatively small to the retail spaces or does not fit the description of those surveyed in the *Trip Generation Manual, 10th Edition* published by ITE, the *First Principles'* method was used in determining the expected trip generation. It was assumed that all ten (10) retail parking spaces provided would be occupied every half an hour, typical shopping time per person, during the AM and PM peak hour periods. The trip generation summary is shown in **Table 4.1**.

Table 4.1 – Site Traffic Trip Generation (Based on ITE)

ITE Land Use	Parameter	Morning Peak Hour			Afternoon Peak Hour		
		In	Out	Total	In	Out	Total
Assisted Living (LUC 254) 107 units	Gross New Trips	14	8	22	11	19	30
	Gross Trip Rate	0.12	0.07	0.19	0.10	0.16	0.26
Retail (First Principles' Method)	Gross New Trips	20	20	40	20	20	40
	Gross Trip Rate	2.00	2.00	4.00	2.00	2.00	4.00
Total	**Total New Auto Trips**	**34**	**28**	**62**	**31**	**39**	**70**

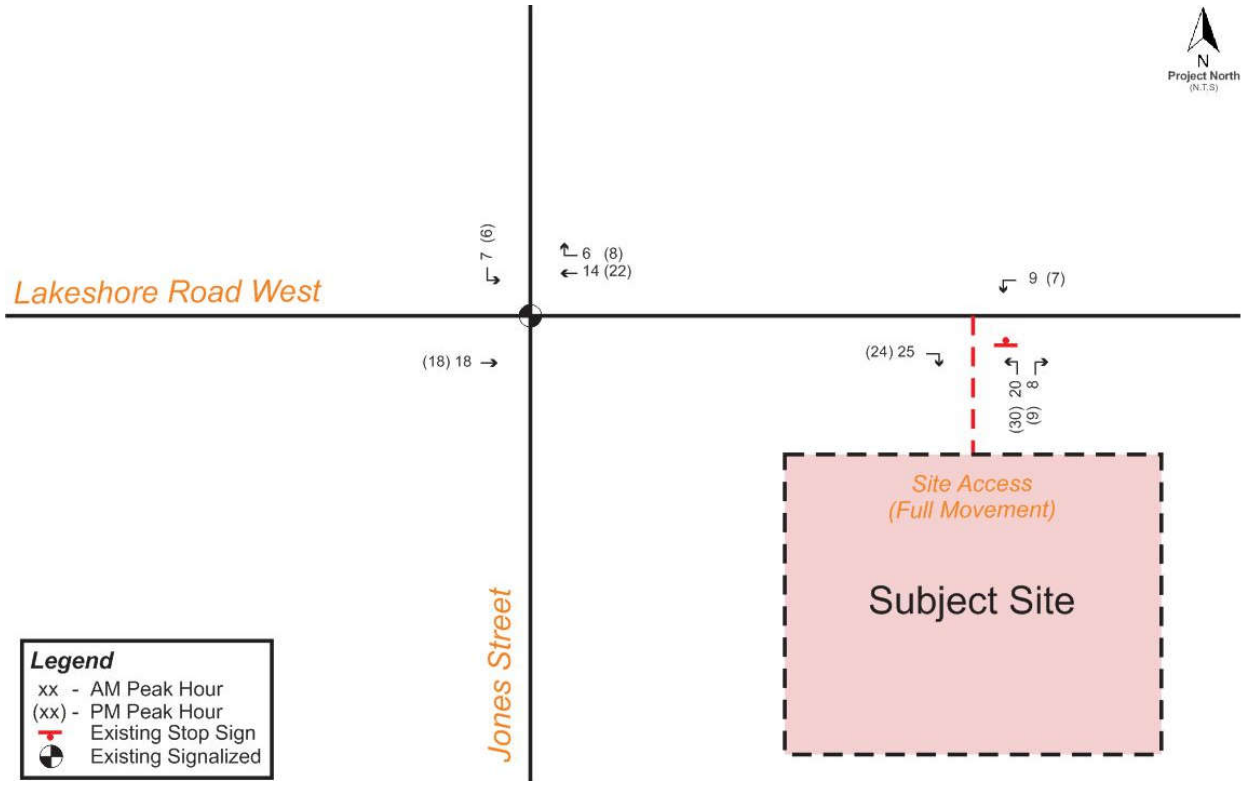
The proposed development is anticipated to generate 62 two-way auto trips (34 inbound and 28 outbound) during the AM peak hours and 70 two-way auto trips (31 inbound and 39 outbound) during the PM peak hours.

The assumptions for the trip distribution rates are based on the information extracted from the 2016 Transportation Tomorrow Survey (TTS), see **Appendix E**, existing traffic patterns and routes that drivers would likely take to access the subject site, and engineering judgement based on ease of site access. As a result, site trip distribution is summarized for the inbound and outbound site traffic movements during the morning and afternoon peak hours in **Table 4.2** with the trip assignment illustrated in **Figure 4-1**.

Table 4.2 – Site Traffic Trip Distribution

Direction	Via	AM Peak Hour		PM Peak Hour	
		Inbound	Outbound	Inbound	Outbound
North	Jones Street	21%	21%	20%	20%
East	Lakeshore Road West	52%	52%	23%	23%
West	Lakeshore Road West	27%	27%	57%	57%
Total		**100%**	**100%**	**100%**	**100%**

Figure 4-1 – Site Generated Traffic Volumes



5.0 FUTURE TOTAL TRAFFIC CONDITIONS

The forecasted 2023 future total traffic volumes (future background traffic volumes plus site generated traffic volumes) are illustrated in **Figure 5-1**, and were analyzed using Synchro 10 software. The detailed calculations are provided in **Appendix F** and summarized in **Table 5.1**.

Figure 5-1 – Future Total Traffic Volumes

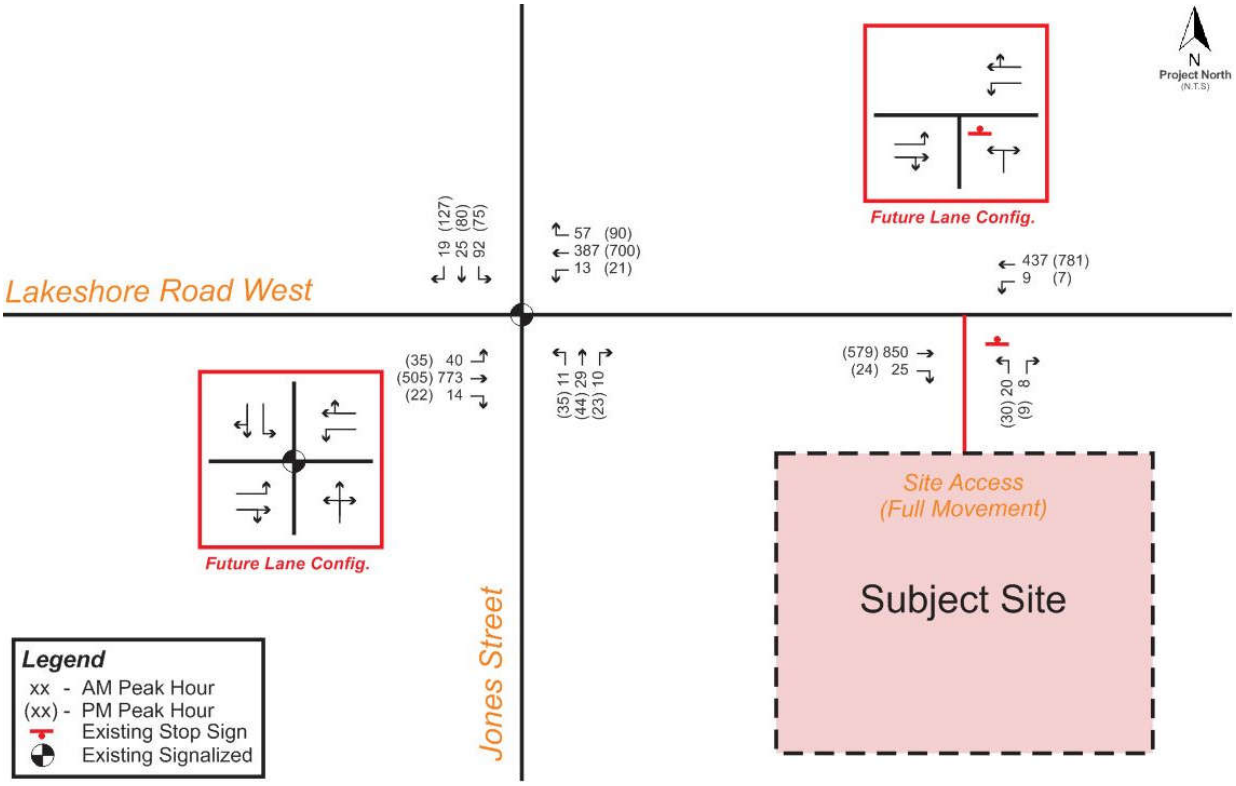


Table 5.1 – Future Total Traffic Assessments

Intersection	Movement	Weekday AM Peak Hour			Weekday PM Peak Hour		
		LOS (v/c)	Delay (s)	Queue (95th m)	LOS (v/c)	Delay (s)	Queue (95th m)
Lakeshore Road West & Jones Street *(Signalized)*	**OVERALL**	**C (0.65)**	**30.8**	**–**	**C (0.69)**	**31.2**	**–**
	EBL	B (0.23)	13.1	8.1	C (0.39)	22.3	12.1
	EBTR	D (0.98)	45.8	187.1	B (0.69)	19.5	95.3
	WBL	B (0.29)	18.5	3.5	B (0.13)	12.1	5.6
	WBTR	B (0.60)	17.3	75.4	D (1.00)	49.7	189.4
	NBLTR	B (0.10)	13.9	10.7	B (0.22)	15.2	17.0
	SBL	B (0.26)	15.7	17.6	B (0.19)	15.0	15.8
	SBTR	B (0.07)	13.6	8.2	B (0.32)	16.2	21.8
Lakeshore Road West & Site Access *(Unsignalized)*	EBL	B (0.02)	11.3	0.4	A (0.01)	9.1	0.2
	NBLR	C (0.10)	18.0	2.7	C (0.12)	16.4	3.2

Under future total traffic conditions, the study area intersections and proposed accesses are expected to operate at acceptable levels of service during both peak study time periods.

6.0 PARKING ASSESSMENT

The Town-wide Zoning By-law No. 2014-014 has been adopted by the Town of Oakville Council and it was consolidated on February 12, 2018. Based on the information contained in the Zoning By-law, the subject site is located in a mixed-use zone categorized as 'Zone MU1 – Main Street 1'. The technical parking requirement for the proposed development is detailed in **Table 6.1**.

Table 6.1 – Vehicle Parking Requirements (ZBL 2014-014)

Use	GFA/Units	Minimum Parking Rate	Parking Requirement	Parking Provided	Difference
Retirement Home	107 units	0.33 per unit	36	43	+ 7
Retail	411 m^2	1 space per 40 m^2	10	10	0
Total			**46**	**53**	**+ 7**

Based on the Town of Oakville Zoning By-law 2014-014, a total of 46 parking spaces will be required for the proposed retirement home development with 411 m^2 of convenience store GFA. The preliminary site plan provides for a total of 53 parking spaces, which results in a technical surplus of seven (7) parking spaces.

6.1. Bicycle Parking

According to the Town of Oakville Zoning By-law 2014-014, the applicable bicycle parking rates for the development are summarized below in **Table 6.2**.

Table 6.2 – Bicycle Parking Requirements (ZBL 2014-014)

Land Use	Units	Rates	Spaces Required
Long Term Care Facility	107	0.25 per dwelling unit	27

The proposed 4-storey retirement home will require 27 bicycle parking spaces. According to the site plan, the proposed development provides for 27 bicycle parking spaces therefore meeting the zoning by-law requirement.

7.0 SITE PLAN REVIEW

7.1. Site Access

According to the site plan provided, access to the site is provided through a full movement driveway located on the north end of the site via Lakeshore Road West. In accordance with Ontario Traffic Manual (OTM) Book 5, we recommend appropriate signage consisting of a STOP sign (Ra-1) and STOP bar be provided on the Lakeshore Boulevard West egress driveway and regulatory signs at the internal pick up drop off area, as illustrated in **Figure 7-1**.

7.2. Loading Requirement and Assessment

AutoTURN software was used to generate a vehicular turning template to confirm and demonstrate the accessibility of the proposed loading space and drop-off area. As illustrated in **Figure 7-2**, the AutoTURN analysis demonstrates that a 12-metre long Garbage/Emergency Truck (HSU TAC-2017) can effectively maneuver in from the west passageway through to the internal loading area. **Figure 7-3** and **Figure 7-4** demonstrate that a passenger car (P TAC-2017) and an ambulance truck (LSU TAC-2017), respectively, can maneuver through the site and around the drop-off area.

8.0 TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) refers to variety of strategies to reduce congestion, minimize the number of single-occupant vehicles, encourage non-auto modes of travel, and reduce vehicle dependency to create a sustainable transportation system.

Pedestrian sidewalks are provided on both sides of the roadways, and sidewalk connectivity is provided throughout the proposed municipal road to ensure a complete sidewalk network. Pedestrian connectivity throughout the study area is illustrated in **Figure 8-1**.

8.1. Transit and Active Transportation Mode Assessment

The proposed development is situated in a transit supportive neighbourhood with bus stops located approximately 2-minutes to the subject site within comfortable walking distance. The route services are illustrated in **Appendix G**. The route services in the immediate area are described below:

- **3 Third Line:** The 3 Third Line bus route operates approximately every 15 minutes as far north to the Oakville Hospital and as far south to Lakeshore Road West and Third Line. It also connects riders to the Bronte GO Station. This route operates in a one-way direction and starts and ends at the South Oakville Centre. The 3 Third Line bus route provides service 7 days a week. Weekend service operates approximately every 30 minutes. Accessible service is provided on the route.

- **14/14A Lakeshore West**: The 14/14A Lakeshore West bus route operates approximately every 15 minutes westbound to Applyby GO Station and eastbound to Oakville GO Station. Route 14 operates via Great Lakes Boulevard and 14A via Burloak Drive. The 14/14A Lakeshore West bus route provides service 7 days a week. Weekend service operates approximately every 30 minutes. Accessible service is provided on the route.

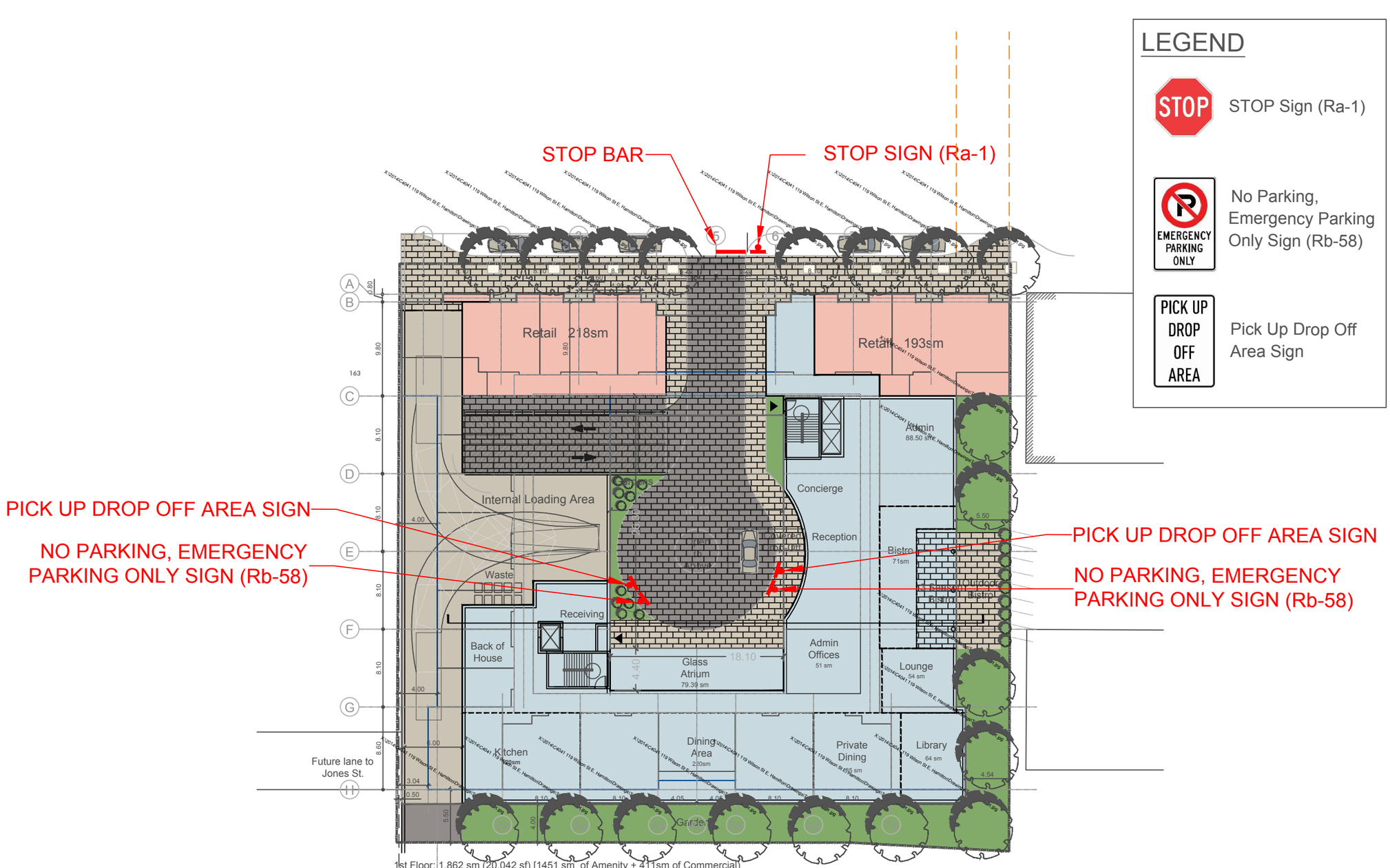
Based on the study prepared by the Ministry of Transportation Ontario titled: 'Transit Supportive Guidelines', dated January 2012, transit users are generally willing to walk 400 meters to a local stop or 800 meters to a rapid transit station. The Lakeshore Road West and Jones Street bus stop is approximately 55 meters from the proposed subject site.

Oakville Transit provides a door-to-door transportation service, Care-A-Van, to allow individuals with disabilities who are unable to use conventional transit to use transit. Care-A-Van services can be used to connect riders anywhere within the municipal boundary, with advance bookings.

9.0 CONCLUSION

The findings and conclusions of our analysis are as follows:

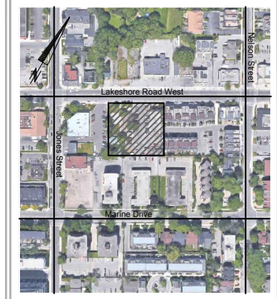
- The development proposal is to redevelop the existing 2,641.91 m^2 site to include a 4-storey retirement residence, with 411.0 m^2 of gross floor area ground floor commercial space, and an underground parking garage. Vehicular access to the site is proposed via a full movement driveway located on Lakeshore Road West.
- The proposed development is anticipated to generate 62 two-way auto trips (34 inbound and 28 outbound) during the AM peak hours and 70 two-way auto trips (31 inbound and 39 outbound) during the PM peak hours.
- The intersection capacity analysis results (based on the methodology and procedures outlined in the Highway Capacity Manual, HCM 2000, published by the Transportation Research Board) indicate that the study intersection and access are expected to continue to operate with excellent levels of service.
- To ensure safe traffic operation in the area, it is recommended that a STOP sign (Ra-1) and STOP bar be provided on the Lakeshore Boulevard West egress driveway and regulatory signs at the internal pick up drop off area, as illustrated in **Figure 7-1**.
- Based on the Town of Oakville Zoning By-law 2014-014, a total of 46 parking spaces will be required for the proposed retirement home development with 411 m^2 of convenience store GFA. The preliminary site plan provides for a total of 53 parking spaces, which results in a technical surplus of seven (7) parking spaces. On this basis, the future parking demand with the proposed redevelopment is completely satisfied with the proposed parking provision.
- A 12-metre long Garbage/Emergency Truck (HSU TAC-2017) can maneuver through the proposed loading space and a passenger vehicle (P TAC-2017) and ambulance truck (LSU TAC-2017) can effectively maneuver through the proposed study and drop-off area.



LEGEND

- STOP Sign (Ra-1)
- No Parking, Emergency Parking Only Sign (Rb-58)
- Pick Up Drop Off Area Sign

KEY PLAN



BENCHMARK

REVISONS

NO	REVISION	DATE	BY

STAMP

CIVIL CONSULTANT:
nextrans CONSULTING ENGINEERS
520 Industrial Parkway South, Suite 201
Aurora, Ontario L4G 6W8
Tel: 905-503-2563
Web: www.nextrans.ca

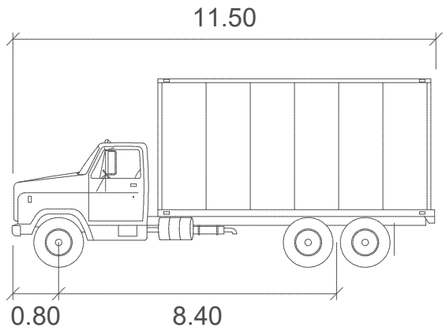
PROJECT NAME:

Retirement Development
2380 Lakeshore Road West
(Town of Oakville)

DRAWING TITLE:

Signage and Pavement Markings Plan

DESIGN BY: M.C	DATE: July 4, 2018
CHECKED BY: R.P.	PROJECT NO. NT-18-054
DRAWN BY: M.C	
SCALE: NTS	DRAWING NO. Figure 7-1



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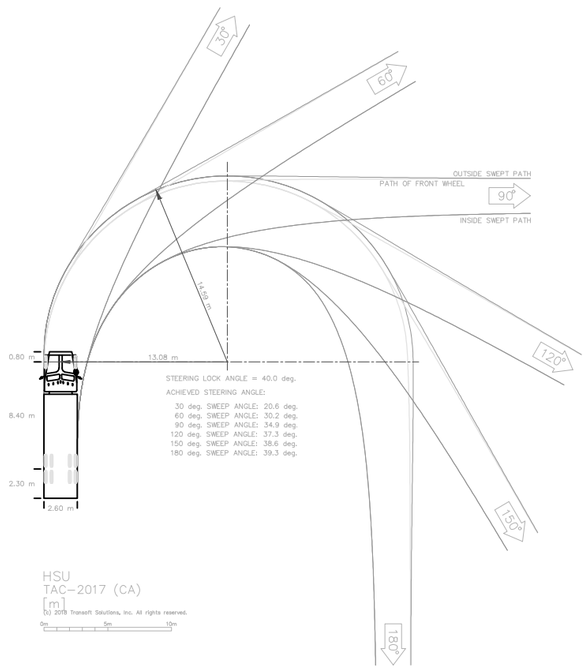
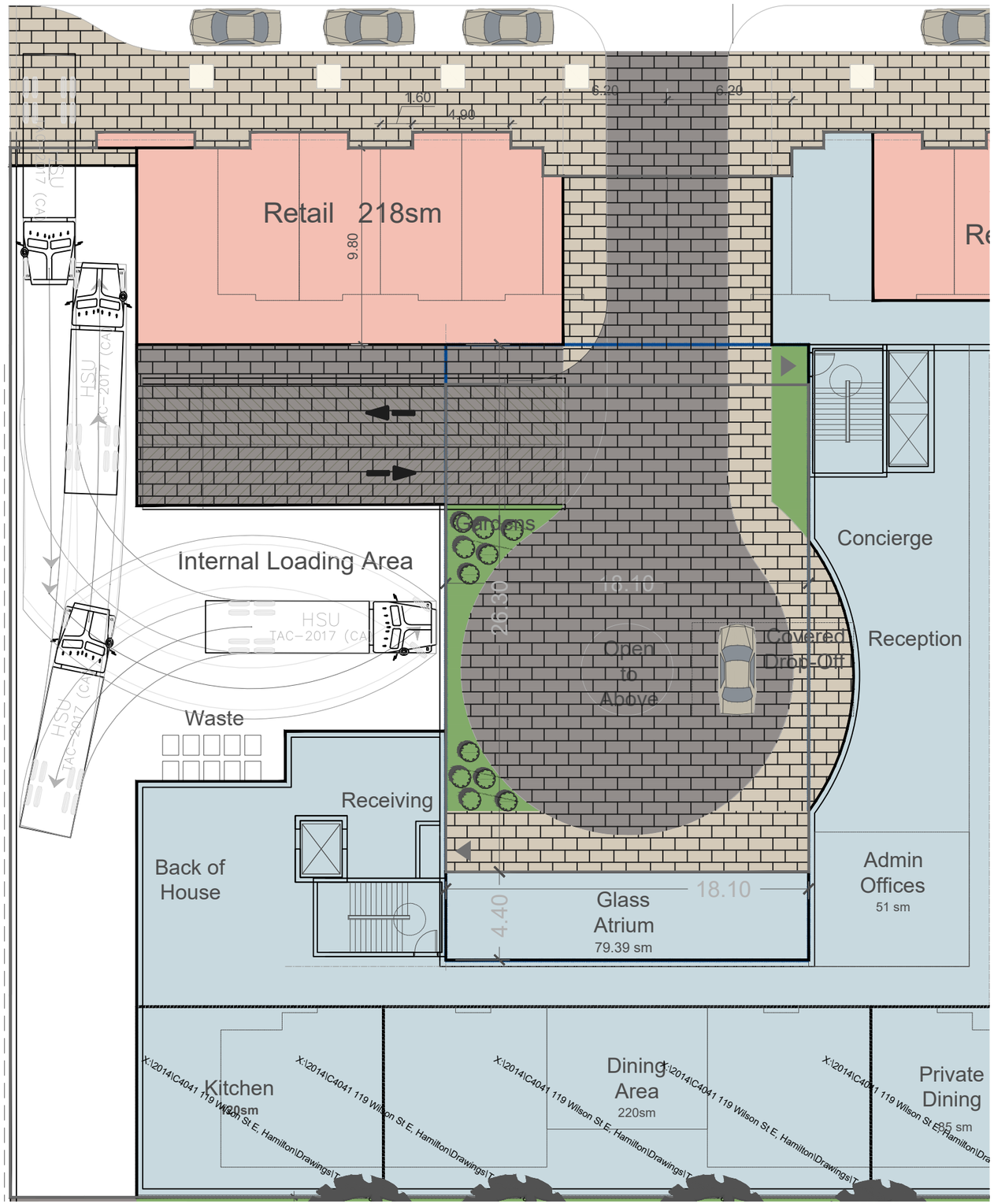




KEY PLAN

BENCHMARK

REVISONS

NO	REVISION	DATE	BY

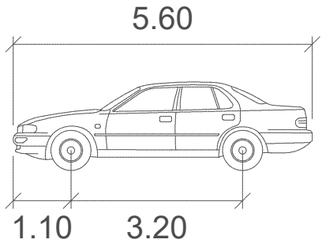
STAMP

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

PROJECT NAME:
RETIREMENT RESIDENCE
2380 Lakeshore Rd W
(TOWN OF OAKVILLE)

DRAWING TITLE:
AutoTURN Analysis
(HSU TAC–2017)

DESIGN BY: A.S.	DATE: May 31, 2018
CHECKED BY: R.P.	PROJECT NO. NT-18-054
DRAWN BY: A.S.	DRAWING NO. Figure 7-2
SCALE: NTS	



P

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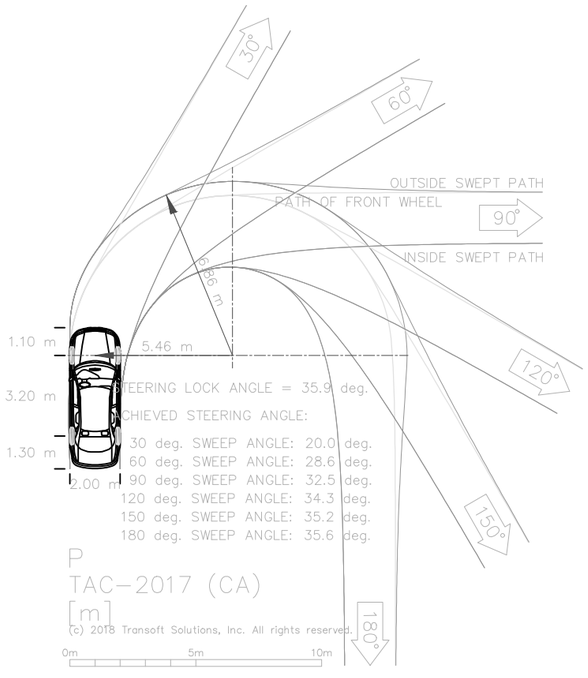
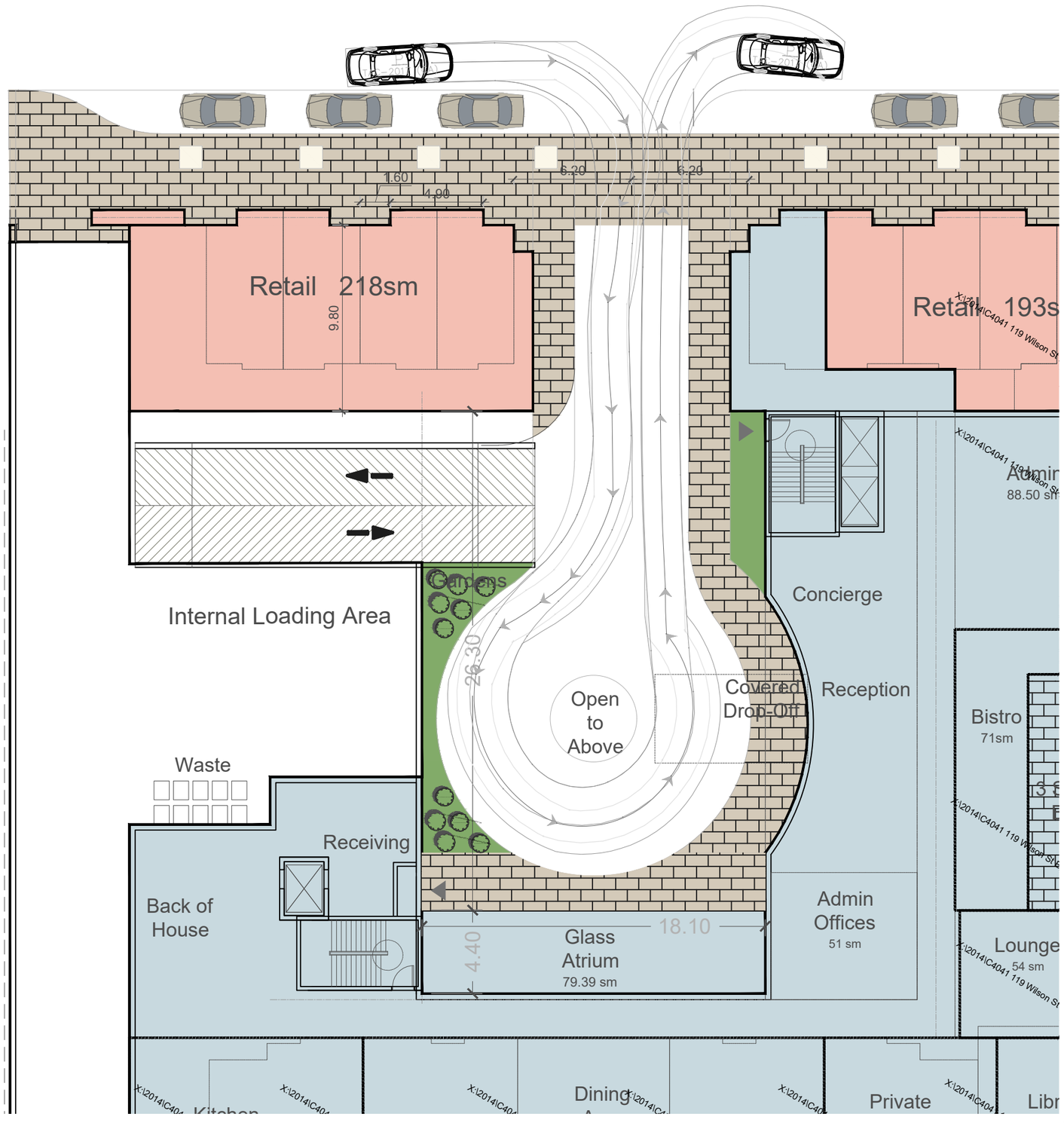
Width	: 2.00
Track	: 2.00
Lock to Lock Time	: 6.0
Steering Angle	: 35.9





KEY PLAN

BENCHMARK

REVISONS

NO	REVISION	DATE	BY

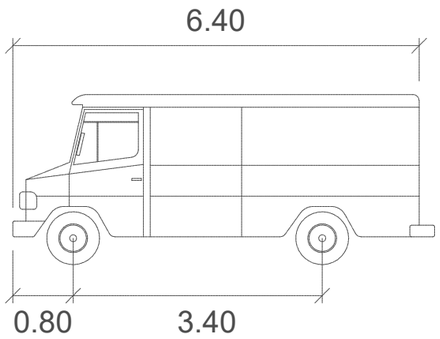
STAMP

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

PROJECT NAME:
RETIREMENT RESIDENCE
2380 Lakeshore Rd W
(TOWN OF OAKVILLE)

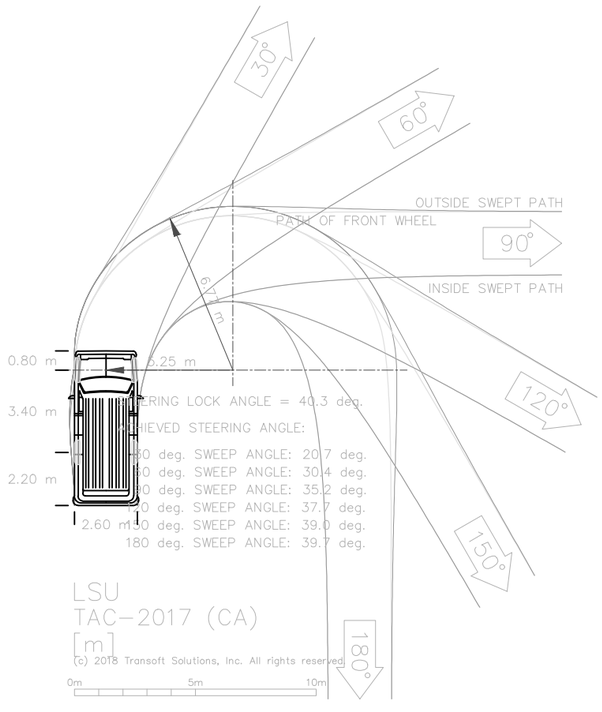
DRAWING TITLE:
AutoTURN Analysis
(P TAC-2017)

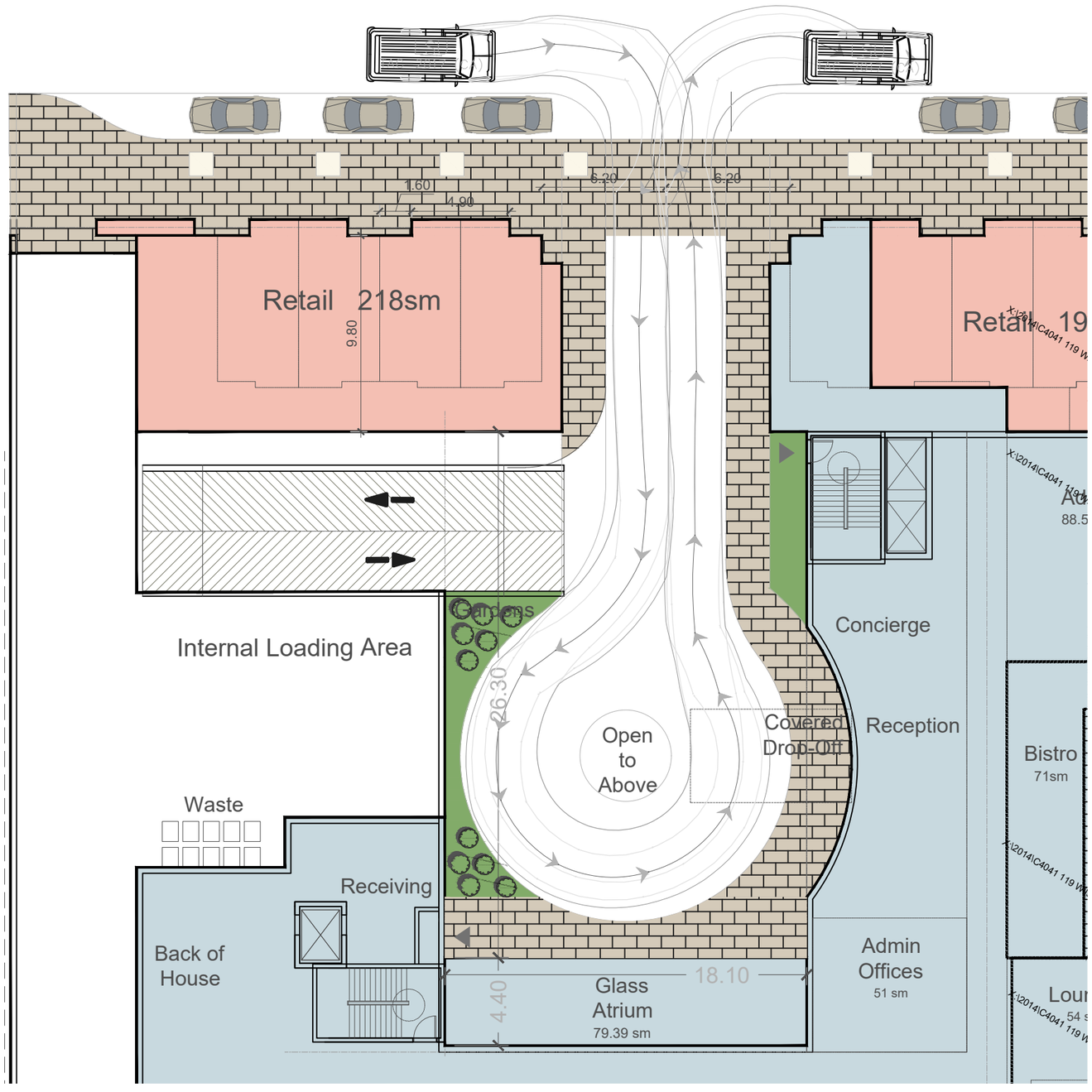
DESIGN BY: A.S.	DATE: May 31, 2018
CHECKED BY: R.P.	PROJECT NO. NT-18-054
DRAWN BY: A.S.	DRAWING NO. Figure 7-3
SCALE: NTS	



LSU

	meters
Width	: 2.60
Track	: 2.60
Lock to Lock Time	: 6.0
Steering Angle	: 40.3





KEY PLAN

BENCHMARK

REVISONS

NO	REVISION	DATE	BY

STAMP

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

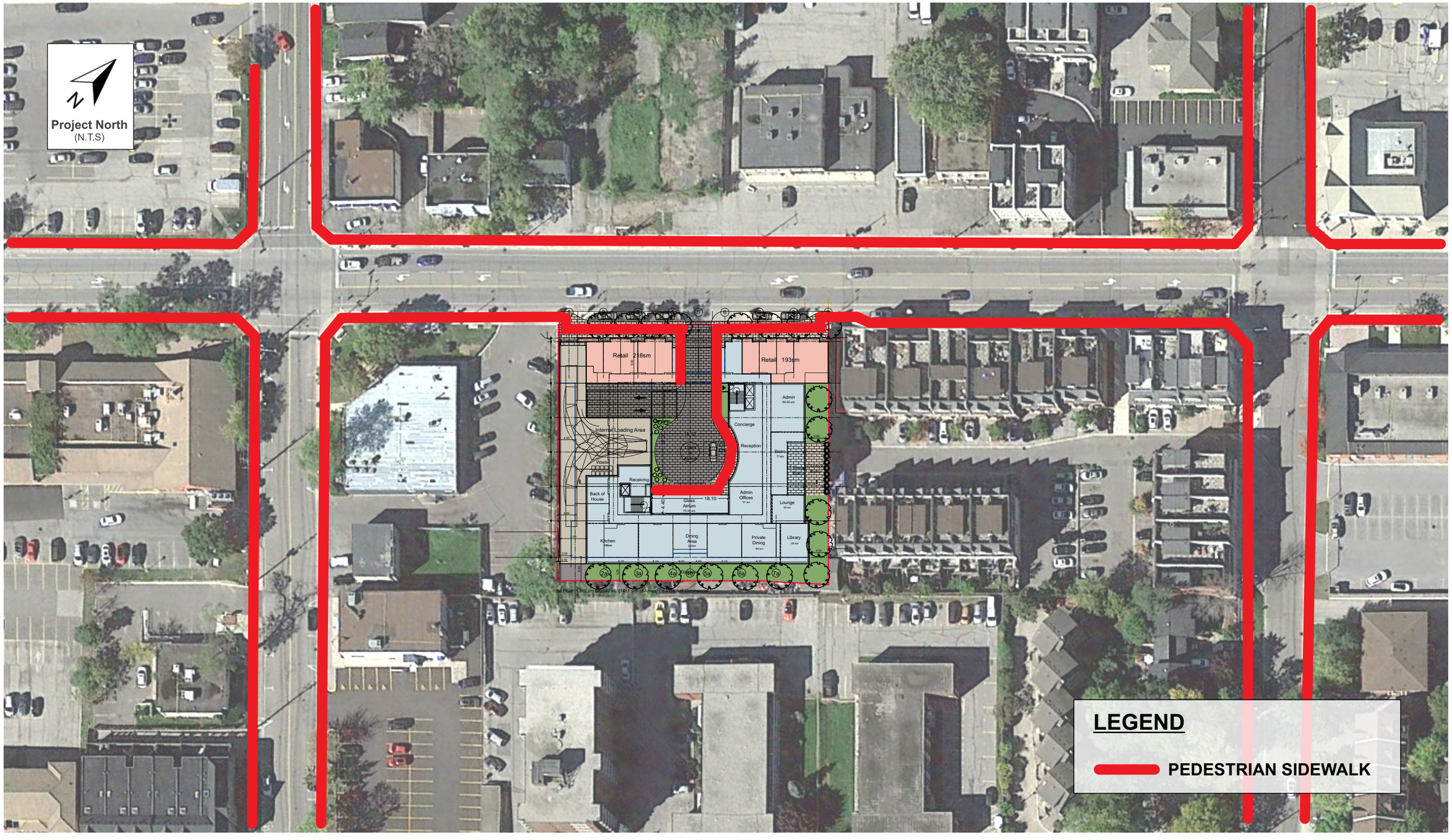
PROJECT NAME:
RETIREMENT RESIDENCE
2380 Lakeshore Rd W
(TOWN OF OAKVILLE)

DRAWING TITLE:
AutoTURN Analysis
(LSU TAC-2017)

DESIGN BY: A.S.	DATE: May 31, 2018
CHECKED BY: R.P.	PROJECT NO. NT-18-054
DRAWN BY: A.S.	
SCALE: NTS	DRAWING NO. Figure 7-4

nextrans
CONSULTING ENGINEERS
520 Industrial Parkway South, Suite 101
Aurora, Ontario L4G 6W8
Tel: 905-503-2563
Web: www.nextrans.ca

Figure 8-1 - Pedestrian Connectivity



Appendix A - Proposed Site Plan

SITE STATISTICS

PROJECT
New Mixed Use Seniors Residence
4 Storey Residential with Ground Floor Commercial

APPLICANT:
GSAI - Glen Schnarr & Associates Inc.
700 - 10 Kingsbridge Garden Circle
Mississauga, ON L5R 3K6
TEL. .905-568-8888 x 268 FAX: 905-568-8894 E: davidc@gsai.ca

PRIME CONSULTANT:
Michael Spaziani Architect Inc.
6 Helene St. North
Mississauga, ON, L5G 3B2
TEL. 905 891 0691 FAX: 905 891 0514 jdebrum@msai.ca

DEVELOPER
Succession Development Corporation

Toronto, ON,

TOWN OF OAKVILLE FILE NO:

EXISTING ZONING:	MU1 - Mixed Use
MUNICIPAL ADDRESS:	2380 Lakeshore Road West
LEGAL DESCRIPTION:	Lot 27, Registered Plan M-8, Designated as Pin 24761-0041(LT), Lot 28, Registered Plan M-8, Designated as Pin 24761-0042(LT), Lot 29, Registered Plan M-8, Designated as Pin 24761-0043(LT), Lot 30, Registered Plan M-8, Designated as Pin 24761-0044(LT),
SITE AREA:	3,850.50sm (0.38 HA, 0.95 Acres)

BUILDING SETBACKS:	REQUIRED	PROVIDED
Front	Min: 0.0 m / Max: 3.0 m	3.0 m
Int. Side Yard (East)	0.0 m	0.0 m / 5.5 m
Int. Side Yard (East)	0.0 m	0.0 m / 3.0 m
Rear Yard (abutting Res)	3.0 m	3.0 m / 5.5 m

ZONING INFO	REQUIRED	PROVIDED
Number of Storeys	Min 2 Storeys / Max 4 Storey	4 Storey
Min. 1st Storey Height	4.5 m	5.2 m
Building Height:	7.5 m Min / 15.0 m Max	15.0 m
Landscape Buffer	3.0 m at Rear Yard	3.0 m at Rear Yard
Residential Uses	Max 15% of Street Wall Prohibited within first 9m of Street Wall	

PARKING REQUIRED
0.33 spaces / Dwelling unit = 0.33 x 107 = 36
1.00 / 40 sm of Non Residential = 1.00 x (411/40) =10
Total = 46 Spaces

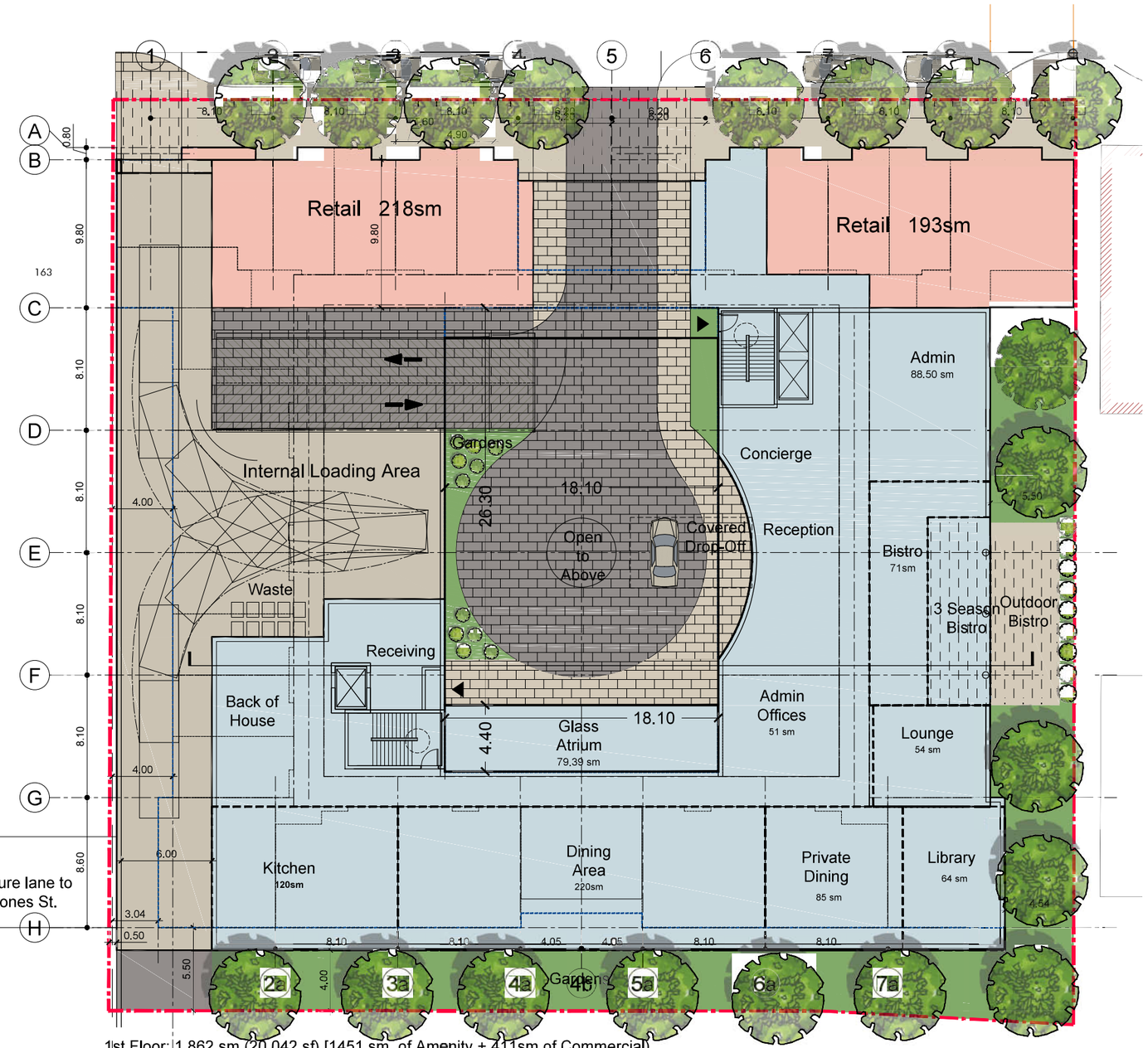
PARKING PROVIDED: 53 spaces provided underground

BIKE PARKING REQUIRED: 0.25 SPACES x 107 Units = 27 spaces required

Building Statistics

Unit Mix	1st	2nd	3rd	4th	Total
Studio	-	30	30	17	77
1 bedroom / den	-	6	4	12	22
2 Bedroom	-	0	2	6	8
Total Dwelling Units		36	36	35	107
Gross Floor Area (SM)					
Residential	1496.08	2274.08	2341.15	2341.15	8,452.46 sm
Non-Residential	411.38	-	-	-	411.38 sm
Total GFA (SM)					8,863.84 sm

PAVED AREA:	518.58 sm - 13.46 %
LANDSCAPED AREA:	941.73 sm - 24.45 %
TOTAL BUILDING COVERAGE:	2,641.91 sm - 68.61 %



Usable GFA: 1496sm
Service Area: 512sm
Retail Area: 411sm

Unit Breakdown:	1st	2nd	3rd	4th	Sub-Total	Total
Studio	-	30	30	17	77	
1 bedroom + den	-	6	4	12	22	
2 Bedroom	-	0	2	6	8	
Total Unit Count		36	36	35		107

MSAi
MICHAEL SPAZIANI ARCHITECT INC
6 Helene Street N, Suite 100
Port Credit, Mississauga ON L5G 3B2
T 905 891 0691 F 905 891 0514

NO:	REVISIONS:	ISSUED:
1	Issued for Pre-Consult	Feb. 22, '18
2		
3		

CLIENT:
Succession Development Corporation
Oakville, Ontario

PROJECT:
Proposed Retirement Residence
2380 Lakeshore Road West
Oakville, On

SHEET TITLE:
Proposed Site Plan

PROJECT NO.
C7009

SCALE:

DATE:
Jan. 2018

DRAWN:

SHEET NO:
SP1

CHECKED:
msai

FILE NO.
C7009

Appendix B – Existing Traffic Data

NexTrans
4261-A14 Highway 7 East
Suite 489
Markham ON, CANADA, L3R 9W6

Turning Movement Count (1 . LAKESHORE RD W & JONES ST)

Start Time	N Approach JONES ST						E Approach LAKESHORE RD W						S Approach JONES ST						W Approach LAKESHORE RD W						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
07:00:00	1	0	5	0	1	6	5	37	0	0	3	42	0	1	3	1	1	5	2	122	2	0	0	126	179	
07:15:00	1	2	3	0	3	6	6	40	3	0	1	49	3	6	0	0	2	9	1	143	4	0	0	148	212	
07:30:00	2	1	7	0	0	10	4	33	1	0	0	38	1	2	2	0	1	5	0	172	5	0	3	177	230	
07:45:00	7	6	6	0	5	19	9	45	1	0	1	55	2	2	4	0	1	8	2	192	9	0	2	203	285	906
08:00:00	1	6	11	0	5	18	10	76	2	0	8	88	0	8	5	0	4	13	2	194	15	0	4	211	330	1057
08:15:00	3	7	8	0	1	18	11	76	3	0	3	90	4	6	1	0	3	11	1	155	7	0	1	163	282	1127
08:30:00	7	3	8	0	3	18	7	87	0	0	3	94	1	5	2	0	4	8	6	175	5	0	5	186	306	1203
08:45:00	4	6	15	0	2	25	8	80	8	0	6	96	5	6	3	0	3	14	5	151	9	0	4	165	300	1218
09:00:00	1	3	13	0	4	17	8	75	4	0	3	87	6	4	1	0	3	11	2	128	7	0	6	137	252	1140
09:15:00	5	5	8	0	2	18	8	82	3	0	0	93	4	4	4	0	3	12	1	120	4	0	1	125	248	1106
09:30:00	6	9	8	0	6	23	13	72	4	0	2	89	5	3	4	0	3	12	3	121	5	0	6	129	253	1053
09:45:00	9	13	9	0	6	31	9	84	5	0	3	98	11	4	4	0	5	19	9	102	6	0	4	117	265	1018
BREAK																										
16:00:00	13	12	9	0	3	34	11	155	4	0	4	170	9	10	6	0	6	25	6	97	6	0	11	109	338	
16:15:00	19	16	7	0	4	42	6	168	9	0	7	183	8	6	15	0	6	29	6	101	2	0	13	109	363	
16:30:00	26	19	11	0	9	56	3	139	4	0	7	146	5	9	9	0	14	23	4	106	6	0	13	116	341	
16:45:00	15	16	12	0	3	43	10	159	9	0	8	178	7	9	4	0	8	20	5	88	5	0	17	98	339	1381
17:00:00	26	14	9	0	1	49	9	159	5	0	3	173	7	13	13	0	2	33	3	92	7	0	10	102	357	1400
17:15:00	39	15	10	0	6	64	7	150	4	0	6	161	6	7	7	0	1	20	7	106	6	0	9	119	364	1401
17:30:00	34	18	13	0	2	65	11	144	5	0	10	160	5	13	4	0	9	22	5	96	8	0	12	109	356	1416
17:45:00	19	24	10	0	7	53	10	148	7	0	3	165	5	5	11	0	4	21	7	112	6	0	6	125	364	1441
18:00:00	11	9	13	0	6	33	11	143	5	0	3	159	12	10	7	0	7	29	8	95	6	0	9	109	330	1414
18:15:00	5	8	6	0	4	19	9	116	3	0	6	128	11	15	8	0	7	34	9	69	7	0	8	85	266	1316
18:30:00	9	9	12	0	2	30	8	130	0	0	1	138	6	8	6	0	4	20	6	74	4	0	11	84	272	1232
18:45:00	8	8	9	0	3	25	7	112	3	0	10	122	8	7	5	0	10	20	6	72	4	0	5	82	249	1117
Grand Total	271	229	222	0	88	722	200	2510	92	0	101	2802	131	163	128	1	111	423	106	2883	145	0	160	3134	**7081**	-
Approach%	37.5%	31.7%	30.7%	0%		-	7.1%	89.6%	3.3%	0%		-	31%	38.5%	30.3%	0.2%		-	3.4%	92%	4.6%	0%		-	-	-
Totals %	3.8%	3.2%	3.1%	0%		10.2%	2.8%	35.4%	1.3%	0%		39.6%	1.9%	2.3%	1.8%	0%		6%	1.5%	40.7%	2%	0%		44.3%	-	-
Heavy	3	4	6	0		-	6	75	3	0		-	1	4	6	1		-	2	96	5	0		-	-	-
Heavy %	1.1%	1.7%	2.7%	0%		-	3%	3%	3.3%	0%		-	0.8%	2.5%	4.7%	100%		-	1.9%	3.3%	3.4%	0%		-	-	-
Bicycles	0	2	1	0		-	2	29	0	0		-	1	0	0	0		-	0	14	1	0		-	-	-
Bicycle %	0%	0.9%	0.5%	0%		-	1%	1.2%	0%	0%		-	0.8%	0%	0%	0%		-	0%	0.5%	0.7%	0%		-	-	-

Peak Hour: 08:00 AM - 09:00 AM Weather: Partly Cloudy (13.3 °C)

Start Time	N Approach JONES ST						E Approach LAKESHORE RD W						S Approach JONES ST						W Approach LAKESHORE RD W						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
08:00:00	1	6	11	0	5	18	10	76	2	0	8	88	0	8	5	0	4	13	2	194	15	0	4	211	330
08:15:00	3	7	8	0	1	18	11	76	3	0	3	90	4	6	1	0	3	11	1	155	7	0	1	163	282
08:30:00	7	3	8	0	3	18	7	87	0	0	3	94	1	5	2	0	4	8	6	175	5	0	5	186	306
08:45:00	4	6	15	0	2	25	8	80	8	0	6	96	5	6	3	0	3	14	5	151	9	0	4	165	300
Grand Total	15	22	42	0	11	79	36	319	13	0	20	368	10	25	11	0	14	46	14	675	36	0	14	725	**1218**
Approach%	19%	27.8%	53.2%	0%		-	9.8%	86.7%	3.5%	0%		-	21.7%	54.3%	23.9%	0%		-	1.9%	93.1%	5%	0%		-	**-**
Totals %	1.2%	1.8%	3.4%	0%		6.5%	3%	26.2%	1.1%	0%		30.2%	0.8%	2.1%	0.9%	0%		3.8%	1.1%	55.4%	3%	0%		59.5%	**-**
PHF	0.54	0.79	0.7	0		0.79	0.82	0.92	0.41	0		0.96	0.5	0.78	0.55	0		0.82	0.58	0.87	0.6	0		0.86	**-**
Heavy	1	0	0	0		1	1	19	0	0		20	0	2	1	0		3	1	17	1	0		19	**-**
Heavy %	6.7%	0%	0%	0%		1.3%	2.8%	6%	0%	0%		5.4%	0%	8%	9.1%	0%		6.5%	7.1%	2.5%	2.8%	0%		2.6%	**-**
Lights	14	22	42	0		78	35	300	13	0		348	10	23	10	0		43	13	658	35	0		706	**-**
Lights %	93.3%	100%	100%	0%		98.7%	97.2%	94%	100%	0%		94.6%	100%	92%	90.9%	0%		93.5%	92.9%	97.5%	97.2%	0%		97.4%	**-**
Single-Unit Trucks	0	0	0	0		0	0	8	0	0		8	0	2	0	0		2	1	6	0	0		7	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	2.5%	0%	0%		2.2%	0%	8%	0%	0%		4.3%	7.1%	0.9%	0%	0%		1%	**-**
Buses	1	0	0	0		1	0	11	0	0		11	0	0	1	0		1	0	11	1	0		12	**-**
Buses %	6.7%	0%	0%	0%		1.3%	0%	3.4%	0%	0%		3%	0%	0%	9.1%	0%		2.2%	0%	1.6%	2.8%	0%		1.7%	**-**
Articulated Trucks	0	0	0	0		0	1	0	0	0		1	0	0	0	0		0	0	0	0	0		0	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	2.8%	0%	0%	0%		0.3%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	11	-	-	-	-	-	20	-	-	-	-	-	14	-	-	-	-	-	14	-	**-**
Pedestrians%	-	-	-	-	18.6%		-	-	-	-	33.9%		-	-	-	-	23.7%		-	-	-	-	23.7%		**-**
Bicycles on Crosswalk	0	0	0	0	1	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	1	-	**-**
Bicycles on Crosswalk%	-	-	-	-	1.7%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	1.7%		**-**
Bicycles on Road	0	1	1	0	0	-	0	2	0	0	0	-	0	0	0	0	0	-	0	2	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

NexTrans
4261-A14 Highway 7 East
Suite 489
Markham ON, CANADA, L3R 9W6

Peak Hour: 05:00 PM - 06:00 PM Weather: Partly Cloudy (25.3 °C)

Start Time	N Approach JONES ST						E Approach LAKESHORE RD W						S Approach JONES ST						W Approach LAKESHORE RD W						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
17:00:00	26	14	9	0	1	49	9	159	5	0	3	173	7	13	13	0	2	33	3	92	7	0	10	102	357
17:15:00	39	15	10	0	6	64	7	150	4	0	6	161	6	7	7	0	1	20	7	106	6	0	9	119	364
17:30:00	34	18	13	0	2	65	11	144	5	0	10	160	5	13	4	0	9	22	5	96	8	0	12	109	356
17:45:00	19	24	10	0	7	53	10	148	7	0	3	165	5	5	11	0	4	21	7	112	6	0	6	125	364
Grand Total	118	71	42	0	16	231	37	601	21	0	22	659	23	38	35	0	16	96	22	406	27	0	37	455	**1441**
Approach%	51.1%	30.7%	18.2%	0%		-	5.6%	91.2%	3.2%	0%		-	24%	39.6%	36.5%	0%		-	4.8%	89.2%	5.9%	0%		-	**-**
Totals %	8.2%	4.9%	2.9%	0%		16%	2.6%	41.7%	1.5%	0%		45.7%	1.6%	2.6%	2.4%	0%		6.7%	1.5%	28.2%	1.9%	0%		31.6%	**-**
PHF	0.76	0.74	0.81	0		0.89	0.84	0.94	0.75	0		0.95	0.82	0.73	0.67	0		0.73	0.79	0.91	0.84	0		0.91	**-**
Heavy	0	1	2	0		3	0	11	2	0		13	0	0	0	0		0	0	13	0	0		13	**-**
Heavy %	0%	1.4%	4.8%	0%		1.3%	0%	1.8%	9.5%	0%		2%	0%	0%	0%	0%		0%	0%	3.2%	0%	0%		2.9%	**-**
Lights	118	70	40	0		228	37	590	19	0		646	23	38	35	0		96	22	393	27	0		442	**-**
Lights %	100%	98.6%	95.2%	0%		98.7%	100%	98.2%	90.5%	0%		98%	100%	100%	100%	0%		100%	100%	96.8%	100%	0%		97.1%	**-**
Single-Unit Trucks	0	0	2	0		2	0	5	2	0		7	0	0	0	0		0	0	5	0	0		5	**-**
Single-Unit Trucks %	0%	0%	4.8%	0%		0.9%	0%	0.8%	9.5%	0%		1.1%	0%	0%	0%	0%		0%	0%	1.2%	0%	0%		1.1%	**-**
Buses	0	1	0	0		1	0	5	0	0		5	0	0	0	0		0	0	8	0	0		8	**-**
Buses %	0%	1.4%	0%	0%		0.4%	0%	0.8%	0%	0%		0.8%	0%	0%	0%	0%		0%	0%	2%	0%	0%		1.8%	**-**
Articulated Trucks	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	0	0	0	0		0	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.2%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	16	-	-	-	-	-	22	-	-	-	-	-	16	-	-	-	-	-	37	-	**-**
Pedestrians%	-	-	-	-	17.6%		-	-	-	-	24.2%		-	-	-	-	17.6%		-	-	-	-	40.7%		**-**
Bicycles on Crosswalk	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0	0	-	1	4	0	0	0	-	1	0	0	0	0	-	0	4	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 08:00 AM - 09:00 AM Weather: Partly Cloudy (13.3 °C)

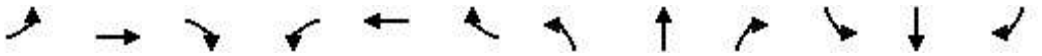
Peak Hour: 05:00 PM - 06:00 PM Weather: Partly Cloudy (25.3 °C)

Appendix C – Existing Traffic Level of Service Calculations

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	60	800	32	391	72	60	56
v/c Ratio	0.16	0.94	0.30	0.48	0.12	0.12	0.08
Control Delay	12.4	39.5	20.8	15.1	11.2	14.5	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.4	39.5	20.8	15.1	11.2	14.5	8.7
Queue Length 50th (m)	4.6	98.7	2.6	34.1	4.4	5.1	2.3
Queue Length 95th (m)	7.2	#164.7	3.5	56.6	10.0	9.4	7.5
Internal Link Dist (m)		112.4		203.3	100.7		51.2
Turn Bay Length (m)							
Base Capacity (vph)	375	851	108	816	626	511	663
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.94	0.30	0.48	0.12	0.12	0.08

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	675	14	13	319	36	11	25	10	42	22	15
Future Volume (vph)	36	675	14	13	319	36	11	25	10	42	22	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3			5.3		5.3	5.3	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00		0.98	1.00	
Frt	1.00	1.00		1.00	0.98			0.96		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)	1738	1849		1799	1761			1672		1763	1666	
Flt Permitted	0.45	1.00		0.12	1.00			0.94		0.71	1.00	
Satd. Flow (perm)	816	1849		237	1761			1585		1318	1666	
Peak-hour factor, PHF	0.60	0.87	0.58	0.41	0.92	0.82	0.55	0.78	0.50	0.70	0.79	0.54
Adj. Flow (vph)	60	776	24	32	347	44	20	32	20	60	28	28
RTOR Reduction (vph)	0	2	0	0	6	0	0	12	0	0	17	0
Lane Group Flow (vph)	60	798	0	32	385	0	0	60	0	60	39	0
Confl. Peds. (#/hr)	11		14	14		11	14		20	20		14
Heavy Vehicles (%)	3%	2%	7%	0%	6%	3%	9%	8%	0%	0%	0%	7%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	32.0	32.0		32.0	32.0			27.0		27.0	27.0	
Effective Green, g (s)	32.0	32.0		32.0	32.0			27.0		27.0	27.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.39		0.39	0.39	
Clearance Time (s)	5.3	5.3		5.3	5.3			5.3		5.3	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	375	850		108	809			614		511	646	
v/s Ratio Prot		c0.43			0.22						0.02	
v/s Ratio Perm	0.07			0.14				0.04		c0.05		
v/c Ratio	0.16	0.94		0.30	0.48			0.10		0.12	0.06	
Uniform Delay, d1	11.0	17.9		11.8	13.0			13.5		13.7	13.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.9	19.2		6.9	2.0			0.3		0.5	0.2	
Delay (s)	11.9	37.1		18.6	15.0			13.9		14.1	13.5	
Level of Service	B	D		B	B			B		B	B	
Approach Delay (s)		35.3			15.3			13.9			13.8	
Approach LOS		D			B			B			B	

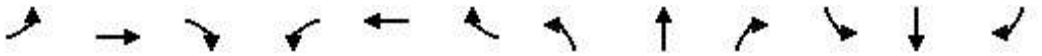
Intersection Summary			
HCM 2000 Control Delay	26.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	69.6	Sum of lost time (s)	10.6
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	32	474	28	683	132	52	251
v/c Ratio	0.20	0.56	0.10	0.80	0.23	0.11	0.35
Control Delay	15.3	16.7	11.9	25.2	13.0	14.4	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.3	16.7	11.9	25.2	13.0	14.4	8.5
Queue Length 50th (m)	2.5	44.3	2.1	75.4	9.6	4.4	10.1
Queue Length 95th (m)	7.7	71.8	5.4	#136.3	15.9	9.9	17.3
Internal Link Dist (m)		112.4		203.3	100.7		51.2
Turn Bay Length (m)							
Base Capacity (vph)	157	843	288	850	584	493	721
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.56	0.10	0.80	0.23	0.11	0.35

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	406	22	21	601	37	35	38	23	42	71	118
Future Volume (vph)	27	406	22	21	601	37	35	38	23	42	71	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3			5.3		5.3	5.3	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99		1.00	0.96	
Flpb, ped/bikes	0.99	1.00		0.99	1.00			0.99		0.98	1.00	
Frt	1.00	0.99		1.00	0.99			0.97		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1795	1827		1625	1842			1769		1679	1647	
Flt Permitted	0.18	1.00		0.37	1.00			0.82		0.72	1.00	
Satd. Flow (perm)	342	1827		627	1842			1472		1270	1647	
Peak-hour factor, PHF	0.84	0.91	0.79	0.75	0.94	0.84	0.67	0.73	0.82	0.81	0.74	0.76
Adj. Flow (vph)	32	446	28	28	639	44	52	52	28	52	96	155
RTOR Reduction (vph)	0	3	0	0	4	0	0	14	0	0	83	0
Lane Group Flow (vph)	32	471	0	28	679	0	0	118	0	52	168	0
Confl. Peds. (#/hr)	16		16	16		16	37		22	22		37
Heavy Vehicles (%)	0%	3%	0%	10%	2%	0%	0%	0%	0%	5%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	32.0	32.0		32.0	32.0			27.0		27.0	27.0	
Effective Green, g (s)	32.0	32.0		32.0	32.0			27.0		27.0	27.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.39		0.39	0.39	
Clearance Time (s)	5.3	5.3		5.3	5.3			5.3		5.3	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	157	840		288	846			571		492	638	
v/s Ratio Prot		0.26			c0.37						c0.10	
v/s Ratio Perm	0.09			0.04				0.08		0.04		
v/c Ratio	0.20	0.56		0.10	0.80			0.21		0.11	0.26	
Uniform Delay, d1	11.2	13.7		10.6	16.1			14.2		13.6	14.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	2.9	2.7		0.7	8.0			0.8		0.4	1.0	
Delay (s)	14.1	16.4		11.3	24.1			15.0		14.0	15.5	
Level of Service	B	B		B	C			B		B	B	
Approach Delay (s)		16.2			23.5			15.0			15.3	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	69.6	Sum of lost time (s)	10.6
Intersection Capacity Utilization	78.9%	ICU Level of Service	D
Analysis Period (min)	15		

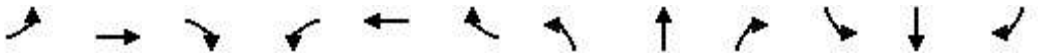
c Critical Lane Group

Appendix D – Future Background Traffic Level of Service Calculations

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	67	819	32	467	77	121	67
v/c Ratio	0.21	0.96	0.29	0.57	0.12	0.24	0.10
Control Delay	13.6	43.4	20.6	16.8	11.4	16.0	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.6	43.4	20.6	16.8	11.4	16.0	8.4
Queue Length 50th (m)	5.2	102.7	2.6	42.9	4.8	10.9	2.7
Queue Length 95th (m)	8.0	#181.1	3.5	70.7	10.7	16.5	8.2
Internal Link Dist (m)		112.4		203.3	100.7		51.2
Turn Bay Length (m)							
Base Capacity (vph)	314	852	109	815	629	508	664
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.96	0.29	0.57	0.12	0.24	0.10

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	755	14	13	373	51	11	29	10	85	25	19
Future Volume (vph)	40	755	14	13	373	51	11	29	10	85	25	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3			5.3		5.3	5.3	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00		0.98	1.00	
Frt	1.00	1.00		1.00	0.98			0.96		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)	1741	1850		1805	1755			1677		1763	1656	
Flt Permitted	0.37	1.00		0.12	1.00			0.94		0.71	1.00	
Satd. Flow (perm)	684	1850		238	1755			1592		1312	1656	
Peak-hour factor, PHF	0.60	0.95	0.58	0.41	0.92	0.82	0.55	0.78	0.50	0.70	0.79	0.54
Adj. Flow (vph)	67	795	24	32	405	62	20	37	20	121	32	35
RTOR Reduction (vph)	0	2	0	0	8	0	0	12	0	0	21	0
Lane Group Flow (vph)	67	817	0	32	459	0	0	65	0	121	46	0
Confl. Peds. (#/hr)	11		14	14		11	14		20	20		14
Heavy Vehicles (%)	3%	2%	7%	0%	6%	3%	9%	8%	0%	0%	0%	7%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	32.0	32.0		32.0	32.0			27.0		27.0	27.0	
Effective Green, g (s)	32.0	32.0		32.0	32.0			27.0		27.0	27.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.39		0.39	0.39	
Clearance Time (s)	5.3	5.3		5.3	5.3			5.3		5.3	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	314	850		109	806			617		508	642	
v/s Ratio Prot		c0.44			0.26						0.03	
v/s Ratio Perm	0.10			0.13				0.04		c0.09		
v/c Ratio	0.21	0.96		0.29	0.57			0.10		0.24	0.07	
Uniform Delay, d1	11.3	18.2		11.7	13.8			13.6		14.4	13.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	1.5	22.8		6.7	2.9			0.3		1.1	0.2	
Delay (s)	12.8	41.0		18.5	16.7			13.9		15.5	13.6	
Level of Service	B	D		B	B			B		B	B	
Approach Delay (s)		38.9			16.8			13.9			14.8	
Approach LOS		D			B			B			B	

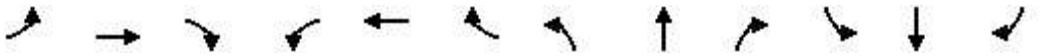
Intersection Summary			
HCM 2000 Control Delay	28.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	69.6	Sum of lost time (s)	10.6
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	42	563	28	819	140	85	275
v/c Ratio	0.39	0.67	0.12	0.97	0.24	0.17	0.38
Control Delay	25.1	19.3	12.6	45.0	13.5	15.3	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.1	19.3	12.6	45.0	13.5	15.3	9.9
Queue Length 50th (m)	3.6	56.6	2.1	102.6	10.5	7.4	13.4
Queue Length 95th (m)	12.1	90.7	5.5	#181.3	17.0	14.6	21.1
Internal Link Dist (m)		112.4		203.3	100.7		51.2
Turn Bay Length (m)							
Base Capacity (vph)	109	844	225	845	586	486	716
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.67	0.12	0.97	0.24	0.17	0.38

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	487	22	21	678	82	35	44	23	69	80	127
Future Volume (vph)	35	487	22	21	678	82	35	44	23	69	80	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3			5.3		5.3	5.3	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99			0.99		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		0.99	1.00			0.99		0.98	1.00	
Frt	1.00	0.99		1.00	0.98			0.97		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1805	1830		1628	1824			1777		1680	1650	
Flt Permitted	0.12	1.00		0.29	1.00			0.82		0.71	1.00	
Satd. Flow (perm)	238	1830		490	1824			1478		1255	1650	
Peak-hour factor, PHF	0.84	0.91	0.79	0.75	0.94	0.84	0.67	0.73	0.82	0.81	0.74	0.76
Adj. Flow (vph)	42	535	28	28	721	98	52	60	28	85	108	167
RTOR Reduction (vph)	0	3	0	0	7	0	0	13	0	0	77	0
Lane Group Flow (vph)	42	560	0	28	812	0	0	127	0	85	198	0
Confl. Peds. (#/hr)	16		16	16		16	37		22	22		37
Heavy Vehicles (%)	0%	3%	0%	10%	2%	0%	0%	0%	0%	5%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	32.0	32.0		32.0	32.0			27.0		27.0	27.0	
Effective Green, g (s)	32.0	32.0		32.0	32.0			27.0		27.0	27.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.39		0.39	0.39	
Clearance Time (s)	5.3	5.3		5.3	5.3			5.3		5.3	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	109	841		225	838			573		486	640	
v/s Ratio Prot		0.31			c0.45						c0.12	
v/s Ratio Perm	0.18			0.06				0.09		0.07		
v/c Ratio	0.39	0.67		0.12	0.97			0.22		0.17	0.31	
Uniform Delay, d1	12.3	14.6		10.8	18.3			14.3		14.0	14.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	10.0	4.2		1.1	24.4			0.9		0.8	1.3	
Delay (s)	22.3	18.8		11.9	42.7			15.2		14.8	16.1	
Level of Service	C	B		B	D			B		B	B	
Approach Delay (s)		19.0			41.7			15.2			15.8	
Approach LOS		B			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	28.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	69.6	Sum of lost time (s)	10.6
Intersection Capacity Utilization	85.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Appendix E – TTS Data

TTS AM

Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Column15
Mon May 14 2018 14:30:29 GMT-0400 (Eastern Daylight Time) - Run Tir														
Cross Tabulation Query Form - Trip - 2016 v1.1														
Row: 2006 GTA zone of origin - gta06_orig														
Column: Planning district of destination - pd_dest														
Filters:														
(2006 GTA zone of origin - gta06_orig In 4005														
and														
Start time of trip - start_time In 700-959														
and														
Primary travel mode of trip - mode_prime In D	M	T)												
Trip 2016														
Table:														
	PD 1 of Toronto	PD 8 of Toronto	PD 13 of Toronto	Richmond Hill	Mississauga	Halton Hills	Milton	Oakville	Burlington	Stoney Creek	Hamilton	Cambridge	Haldimand-Norfolk	External
4005	45	35	7	14	210	33	18	1119	179	13	39	22	9	12

TTS PM

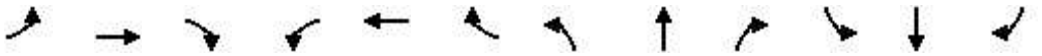
Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Column15
Mon May 14 2018 14:31:12 GMT-0400 (Eastern Daylight Time) - Run Time: 1994ms														
Cross Tabulation Query Form - Trip - 2016 v1.1														
Row: 2006 GTA zone of origin - gta06_orig														
Column: Planning district of destination - pd_dest														
Filters:														
(2006 GTA zone of origin - gta06_orig In 4005														
and														
Start time of trip - start_time In 1600-1859														
and														
Primary travel mode of trip - mode_prime In D	M	T)												
Trip 2016														
Table:														
	PD 1 of Toronto	PD 8 of Toronto	Oshawa	Vaughan	Caledon	Brampton	Mississauga	Milton	Oakville	Burlington	Hamilton	Lincoln	Puslinch	Brantford
4005	41	11	13	24	14	3	100	44	867	284	14	19	17	11

Appendix F – Future Total Traffic Level of Service Calculations

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	67	838	32	491	77	131	67
v/c Ratio	0.23	0.98	0.29	0.60	0.12	0.26	0.10
Control Delay	13.9	48.3	20.6	17.4	11.4	16.2	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.9	48.3	20.6	17.4	11.4	16.2	8.4
Queue Length 50th (m)	5.3	107.1	2.6	46.1	4.8	11.8	2.7
Queue Length 95th (m)	8.1	#187.1	3.5	75.4	10.7	17.6	8.2
Internal Link Dist (m)		112.4		73.1	100.7		48.6
Turn Bay Length (m)			35.0				
Base Capacity (vph)	295	852	109	814	629	508	664
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.98	0.29	0.60	0.12	0.26	0.10

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	773	14	13	387	57	11	29	10	92	25	19
Future Volume (vph)	40	773	14	13	387	57	11	29	10	92	25	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3			5.3		5.3	5.3	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00		0.98	1.00	
Frt	1.00	1.00		1.00	0.98			0.96		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)	1741	1850		1805	1752			1677		1763	1656	
Flt Permitted	0.35	1.00		0.12	1.00			0.94		0.71	1.00	
Satd. Flow (perm)	643	1850		238	1752			1592		1312	1656	
Peak-hour factor, PHF	0.60	0.95	0.58	0.41	0.92	0.82	0.55	0.78	0.50	0.70	0.79	0.54
Adj. Flow (vph)	67	814	24	32	421	70	20	37	20	131	32	35
RTOR Reduction (vph)	0	2	0	0	9	0	0	12	0	0	21	0
Lane Group Flow (vph)	67	836	0	32	482	0	0	65	0	131	46	0
Confl. Peds. (#/hr)	11		14	14		11	14		20	20		14
Heavy Vehicles (%)	3%	2%	7%	0%	6%	3%	9%	8%	0%	0%	0%	7%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	32.0	32.0		32.0	32.0			27.0		27.0	27.0	
Effective Green, g (s)	32.0	32.0		32.0	32.0			27.0		27.0	27.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.39		0.39	0.39	
Clearance Time (s)	5.3	5.3		5.3	5.3			5.3		5.3	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	295	850		109	805			617		508	642	
v/s Ratio Prot		c0.45			0.28						0.03	
v/s Ratio Perm	0.10			0.13				0.04		c0.10		
v/c Ratio	0.23	0.98		0.29	0.60			0.10		0.26	0.07	
Uniform Delay, d1	11.3	18.5		11.7	14.0			13.6		14.5	13.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	1.8	27.2		6.7	3.3			0.3		1.2	0.2	
Delay (s)	13.1	45.8		18.5	17.3			13.9		15.7	13.6	
Level of Service	B	D		B	B			B		B	B	
Approach Delay (s)		43.4			17.4			13.9			15.0	
Approach LOS		D			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	30.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	69.6	Sum of lost time (s)	10.6
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	850	25	9	437	20	8
Future Volume (Veh/h)	850	25	9	437	20	8
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)	924	27	10	475	22	9
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (m)	97					
pX, platoon unblocked			0.53		0.53	0.53
vC, conflicting volume			951		1432	938
vC1, stage 1 conf vol					938	
vC2, stage 2 conf vol					495	
vCu, unblocked vol			457		1372	431
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			98		93	97
cM capacity (veh/h)			581		300	329

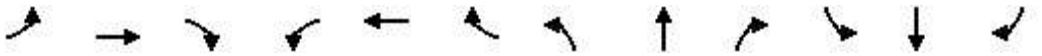
Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	951	10	475	31
Volume Left	0	10	0	22
Volume Right	27	0	0	9
cSH	1700	581	1700	308
Volume to Capacity	0.56	0.02	0.28	0.10
Queue Length 95th (m)	0.0	0.4	0.0	2.7
Control Delay (s)	0.0	11.3	0.0	18.0
Lane LOS		B		C
Approach Delay (s)	0.0	0.2		18.0
Approach LOS				C

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	56.3%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	42	583	28	844	140	93	275
v/c Ratio	0.39	0.69	0.13	1.00	0.24	0.19	0.39
Control Delay	25.1	20.0	12.9	51.9	13.5	15.5	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.1	20.0	12.9	51.9	13.5	15.5	10.3
Queue Length 50th (m)	3.6	59.5	2.1	108.3	10.5	8.2	14.0
Queue Length 95th (m)	12.1	95.3	5.6	#189.4	17.0	15.8	21.8
Internal Link Dist (m)		112.4		64.7	100.7		51.2
Turn Bay Length (m)			35.0				
Base Capacity (vph)	109	844	211	845	586	486	713
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.69	0.13	1.00	0.24	0.19	0.39

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	505	22	21	700	90	35	44	23	75	80	127
Future Volume (vph)	35	505	22	21	700	90	35	44	23	75	80	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3			5.3		5.3	5.3	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99			0.99		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		0.99	1.00			0.99		0.98	1.00	
Frt	1.00	0.99		1.00	0.98			0.97		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1805	1830		1629	1822			1777		1680	1650	
Flt Permitted	0.12	1.00		0.27	1.00			0.82		0.71	1.00	
Satd. Flow (perm)	238	1830		460	1822			1478		1255	1650	
Peak-hour factor, PHF	0.84	0.91	0.79	0.75	0.95	0.84	0.67	0.73	0.82	0.81	0.74	0.76
Adj. Flow (vph)	42	555	28	28	737	107	52	60	28	93	108	167
RTOR Reduction (vph)	0	3	0	0	8	0	0	13	0	0	73	0
Lane Group Flow (vph)	42	580	0	28	836	0	0	127	0	93	202	0
Confl. Peds. (#/hr)	16		16	16		16	37		22	22		37
Heavy Vehicles (%)	0%	3%	0%	10%	2%	0%	0%	0%	0%	5%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	32.0	32.0		32.0	32.0			27.0		27.0	27.0	
Effective Green, g (s)	32.0	32.0		32.0	32.0			27.0		27.0	27.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.39		0.39	0.39	
Clearance Time (s)	5.3	5.3		5.3	5.3			5.3		5.3	5.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	109	841		211	837			573		486	640	
v/s Ratio Prot		0.32			c0.46						c0.12	
v/s Ratio Perm	0.18			0.06				0.09		0.07		
v/c Ratio	0.39	0.69		0.13	1.00			0.22		0.19	0.32	
Uniform Delay, d1	12.3	14.9		10.8	18.8			14.3		14.1	14.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	10.0	4.6		1.3	30.9			0.9		0.9	1.3	
Delay (s)	22.3	19.5		12.1	49.7			15.2		15.0	16.2	
Level of Service	C	B		B	D			B		B	B	
Approach Delay (s)		19.7			48.5			15.2			15.8	
Approach LOS		B			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	31.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	69.6	Sum of lost time (s)	10.6
Intersection Capacity Utilization	87.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	579	24	7	781	30	9
Future Volume (Veh/h)	579	24	7	781	30	9
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)	629	26	8	849	33	10
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			TWLTL		
Median storage veh)	2			2		
Upstream signal (m)	89					
pX, platoon unblocked			0.74		0.74	0.74
vC, conflicting volume			655		1507	642
vC1, stage 1 conf vol					642	
vC2, stage 2 conf vol					865	
vCu, unblocked vol			357		1509	339
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			99		90	98
cM capacity (veh/h)			888		329	520

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	655	8	849	43
Volume Left	0	8	0	33
Volume Right	26	0	0	10
cSH	1700	888	1700	360
Volume to Capacity	0.39	0.01	0.50	0.12
Queue Length 95th (m)	0.0	0.2	0.0	3.2
Control Delay (s)	0.0	9.1	0.0	16.4
Lane LOS		A		C
Approach Delay (s)	0.0	0.1		16.4
Approach LOS				C

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix G – Transit Route Services

3 THIRD LINE

Monday to Friday Effective March 4, 2018

Timepoint	South Oakville Centre (Depart)	Bronte GO (Northbound)	Third Line & Upper Middle	Hospital	Third Line & Upper Middle	Bronte GO (Southbound)	Third Line & Rebecca	Lakeshore & Bronte	South Oakville Centre (Arrive)
Monday to Friday									
	To Hospital				**To South Oakville Centre**				
a.m.	--	--	--	6:00	6:08	6:15	6:20	6:24	6:34
	--	--	--	6:15	6:23	6:30	6:35	6:39	6:49
	6:07	6:15	6:22	6:30	6:38	6:45	6:50	6:54	7:04
	6:22	6:30	6:37	6:45	6:53	7:00	7:05	7:09	7:19
	6:37	6:45	6:52	7:00	7:08	7:15	7:20	7:24	7:34
	6:52	7:00	7:07	7:15	7:23	7:30	7:35	7:39	7:49
	7:07	7:15	7:22	7:30	7:38	7:45	7:50	7:54	8:04
	7:22	7:30	7:37	7:45	7:53	8:00	8:05	8:09	8:19
	7:37	7:45	7:52	8:00	8:08	8:15	8:20	8:24	8:34
	7:52	8:00	8:07	8:15	8:23	8:30	8:35	8:39	8:49
	8:07	8:15	8:22	8:30	8:38	8:45	8:50	8:54	9:04
	8:22	8:30	8:37	8:45	8:53	9:00	9:05	9:09	9:19
	8:37	8:45	8:52	9:00	9:08	9:15	9:20	9:24	9:34
	9:07	9:15	9:22	9:30	9:38	9:45	9:50	9:54	10:04
	9:37	9:45	9:52	10:00	10:08	10:15	10:20	10:24	10:34
	and every 30 minutes until								
p.m.	3:07	3:15	3:22	3:30	3:38	3:45	3:50	3:54	4:04
	3:37	3:45	3:52	4:00	4:08	4:15	4:20	4:24	4:34
	4:07	4:15	4:22	4:30	4:38	4:45	4:50	4:54	5:04
	4:22	4:30	4:37	4:45	4:53	5:00	5:05	5:09	5:19
	4:37	4:45	4:52	5:00	5:08	5:15	5:20	5:24	5:34
	4:52	5:00	5:07	5:15	5:23	5:30	5:35	5:39	5:49
	5:07	5:15	5:22	5:30	5:38	5:45	5:50	5:54	6:04
	5:22	5:30	5:37	5:45	5:53	6:00	6:05	6:09	6:19
	5:37	5:45	5:52	6:00	6:08	6:15	6:20	6:24	6:34
	5:52	6:00	6:07	6:15	6:23	6:30	6:35	6:39	6:49
	6:07	6:15	6:22	6:30	6:38	6:45	6:50	6:54	7:04
	6:22	6:30	6:37	6:45	6:53	7:00	7:05	7:09	7:19
	6:37	6:45	6:52	7:00	7:08	7:15	7:20	7:24	7:34
	7:07	7:15	7:22	7:30	7:38	7:45	7:50	7:54	8:04
	7:37	7:45	7:52	8:00	8:08	8:15	8:20	8:24	8:34
	8:37	8:45	8:52	9:00	9:08	9:15	9:20	9:24	9:34
	9:37	9:45	9:52	10:00	10:08	10:15	10:20	10:24	10:34
	10:37	10:45	10:52	11:00	11:08	11:15	11:20	11:24	11:34

Late Night Service departs from the Oakville GO station at 11:40 p.m., 12:30 and 1:30 a.m., Monday to Saturday, and 7:40 p.m. on Sunday and holidays. Let the driver know the nearest bus stop to your destination.

Oakville Transit
430 Wyecroft Road
8:30 a.m. - 4:30 p.m.
Monday - Friday

oakvilletransit.ca
@oakvilletransit

Mailing Address
Oakville Transit
1225 Trafalgar Road
Oakville, ON L6H 0H3

Info Line 905-815-2020
care-A-van 905-337-9222

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While every effort will be made to operate our service to these timetables, all schedules including bus stop times and transfer times are based on normal traffic and weather conditions and as such are subject to change. Oakville Transit will not be responsible for any loss, damage or inconvenience that may result from any errors, omissions or service delays.

OAKVILLE TRANSIT

3 THIRD LINE

Saturday, Sunday/Holidays Effective March 4, 2018

Timepoint	South Oakville Centre (Depart)	Bronte GO (Northbound)	Third Line & Upper Middle	Hospital	Third Line & Upper Middle	Bronte GO (Southbound)	Third Line & Rebecca	Lakeshore & Bronte	South Oakville Centre (Arrive)
Saturday									
	To Hospital				**To South Oakville Centre**				
a.m.	--	--	--	7:00	7:08	7:15	7:20	7:24	7:34
	7:07	7:15	7:22	7:30	7:38	7:45	7:50	7:54	8:04
	7:37	7:45	7:52	8:00	8:08	8:15	8:20	8:24	8:34
	8:07	8:15	8:22	8:30	8:38	8:45	8:50	8:54	9:04
	and every 30 minutes until								
p.m.	6:37	6:45	6:52	7:00	7:08	7:15	7:20	7:24	7:34
	7:07	7:15	7:22	7:30	7:38	7:45	7:50	7:54	8:04
	7:37	7:45	7:52	8:00	8:08	8:15	8:20	8:24	8:34
	8:37	8:45	8:52	9:00	9:08	9:15	9:20	9:24	9:34
	9:37	9:45	9:52	10:00	10:08	10:15	10:20	10:24	10:34
	10:37	10:45	10:52	11:00	11:08	11:15	11:20	11:24	11:34
Sunday / Holidays									
	To Hospital				**To South Oakville Centre**				
a.m.	--	--	--	8:00	8:08	8:15	8:20	8:24	8:34
	8:07	8:15	8:22	8:30	8:38	8:45	8:50	8:54	9:04
	8:37	8:45	8:52	9:00	9:08	9:15	9:20	9:24	9:34
	9:07	9:15	9:22	9:30	9:38	9:45	9:50	9:54	10:04
	and every 30 minutes until								
p.m.	6:07	6:15	6:22	6:30	6:38	6:45	6:50	6:54	7:04
	6:37	6:45	6:52	7:00	7:08	7:15	7:20	7:24	7:34
	7:07	7:15	7:22	7:30	7:38	7:45	7:50	7:54	8:04
	7:37	7:45	7:52	8:00*	** Ends at the hospital*				

Late Night Service departs from the Oakville GO station at 11:40 p.m., 12:30 and 1:30 a.m., Monday to Saturday, and 7:40 p.m. on Sunday and holidays. Let the driver know the nearest bus stop to your destination.

Have you tried real-time bus tracking?

Track your bus at oakvilletransit.ca or download the Oakville Transit mobile app.

Download on the App Store GET IT ON Google play

Oakville Transit
430 Wyecroft Road
8:30 a.m. - 4:30 p.m.
Monday - Friday

oakvilletransit.ca
@oakvilletransit

Mailing Address
Oakville Transit
1225 Trafalgar Road
Oakville, ON L6H 0H3

Info Line 905-815-2020
care-A-van 905-337-9222

While every effort will be made to operate our service to these timetables, all schedules including bus stop times and transfer times are based on normal traffic and weather conditions and as such are subject to change. Oakville Transit will not be responsible for any loss, damage or inconvenience that may result from any errors, omissions or service delays.

OAKVILLE TRANSIT

14/14A LAKESHORE WEST

Monday to Friday Effective September 3, 2017

Monday to Friday (Westbound)

To Appleby GO – 14 via Great Lakes Blvd., 14A via Burloak Dr.

Timepoint	Route	Oakville GO (Depart)	Church & Dunn	Rebecca & Kerr	South Oakville Centre (Dp.)	Lakeshore & Bronte	Lakeshore & Great Lakes	Great Lakes & Rebecca	Burloak & Rebecca	Harvester & Burloak	Appleby GO (Arrive)
a.m.	14	6:10	6:19	6:22	6:35	6:42	6:45	6:48	--	6:52	7:01
	14A	**6:25**	**6:34**	**6:37**	**6:45**	**6:52**	**6:55**	--	**6:59**	**7:03**	**7:12**
	14	6:40	6:49	6:52	7:05	7:12	7:15	7:18	--	7:22	7:31
	14A	**6:55**	**7:04**	**7:07**	**7:15**	**7:22**	**7:25**	--	**7:29**	**7:33**	**7:42**
	14	7:10	7:19	7:22	7:35	7:42	7:45	7:48	--	7:52	8:01
	14A	**7:25**	**7:34**	**7:37**	**7:45**	**7:52**	**7:55**	--	**7:59**	**8:03**	**8:12**
	14	7:40	7:49	7:52	8:05	8:12	8:15	8:18	--	8:22	8:31
	14A	**7:55**	**8:04**	**8:07**	**8:20**	**8:27**	**8:30**	--	**8:34**	**8:38**	**8:47**
	14	8:10	8:19	8:22	8:35	8:42	8:45	8:48	--	8:52	9:01
	14A	**8:25**	**8:34**	**8:37**	**8:50**	**8:57**	**9:00**	--	**9:04**	**9:08**	**9:17**
	14	8:40	8:49	8:52	9:05	9:12	9:15	9:18	--	9:22	9:31
	14A	**9:10**	**9:19**	**9:22**	**9:35**	**9:42**	**9:45**	--	**9:49**	**9:53**	**10:02**
	14	9:40	9:49	9:52	10:05	10:12	10:15	10:18	--	10:22	10:31
	14A	**10:10**	**10:19**	**10:22**	**10:35**	**10:42**	**10:45**	--	**10:49**	**10:53**	**11:02**
	14	10:40	10:49	10:52	11:05	11:12	11:15	11:18	--	11:22	11:31
	14A	**11:10**	**11:19**	**11:22**	**11:35**	**11:42**	**11:45**	--	**11:49**	**11:53**	**12:02**
	14	11:40	11:49	11:52	12:05	12:12	12:15	12:18	--	12:22	12:31
p.m.	**14A**	**12:10**	**12:19**	**12:22**	**12:35**	**12:42**	**12:45**	--	**12:49**	**12:53**	**1:02**
	14	12:40	12:49	12:52	1:05	1:12	1:15	1:18	--	1:22	1:31
	14A	**1:10**	**1:19**	**1:22**	**1:35**	**1:42**	**1:45**	--	**1:49**	**1:53**	**2:02**
	14	1:40	1:49	1:52	2:05	2:12	2:15	2:18	--	2:22	2:31
	14A	**2:10**	**2:19**	**2:22**	**2:35**	**2:42**	**2:45**	--	**2:49**	**2:53**	**3:02**
	14	2:40	2:49	2:52	3:05	3:12	3:15	3:18	--	3:22	3:31
	14A	**3:10**	**3:19**	**3:22**	**3:35**	**3:42**	**3:45**	--	**3:49**	**3:53**	**4:02**
	14	3:40	3:49	3:52	4:05	4:12	4:15	4:18	--	4:22	4:31
	14A	**4:10**	**4:19**	**4:22**	**4:35**	**4:42**	**4:45**	--	**4:49**	**4:53**	**5:02**
	14	4:25	4:34	4:37	4:50	4:57	5:00	5:03	--	5:07	5:16
	14A	**4:40**	**4:49**	**4:52**	**5:05**	**5:12**	**5:15**	--	**5:19**	**5:23**	**5:32**
	14	4:55	5:04	5:07	5:20	5:27	5:30	5:33	--	5:37	5:46
	14A	**5:10**	**5:19**	**5:22**	**5:35**	**5:42**	**5:45**	--	**5:49**	**5:53**	**6:02**
	14	5:25	5:34	5:37	5:50	5:57	6:00	6:03	--	6:07	6:16
	14A	**5:40**	**5:49**	**5:52**	**6:05**	**6:12**	**6:15**	--	**6:19**	**6:23**	**6:32**
	14	5:55	6:04	6:07	6:20	6:27	6:30	6:33	--	6:37	6:46
	14A	**6:10**	**6:19**	**6:22**	**6:35**	**6:42**	**6:45**	--	**6:49**	**6:53**	**7:02**
	14	6:25	6:34	6:37	6:50	6:57	7:00	7:03	--	7:07	7:16
	14A	**6:40**	**6:49**	**6:52**	**7:05**	**7:12**	**7:15**	--	**7:19**	**7:23**	**7:32**
	14	7:10	7:19	7:22	7:35	7:42	7:45	7:48	--	7:52	8:01
	14A	**7:40**	**7:49**	**7:52**	**8:05**	**8:12**	**8:15**	--	**8:19**	**8:23**	**8:32**
	14	8:40	8:49	8:52	9:05	9:12	9:15	9:18	--	9:22	9:31
	14	9:40	9:49	9:52	10:05	10:12	10:15	10:18	--	10:22	10:31
	14	10:40	10:49	10:52	11:05	11:12	11:15	11:18	--	11:22	11:31

Monday to Friday (Eastbound)

To Oakville GO – 14 via Great Lakes Blvd., 14A via Burloak Dr.

*** First trip to Oakville GO enters service at Lakeshore and Jones.*

** These trips enter service at Burloak & Prince William at 5:40, 5:55 and 6:10 a.m.*

Timepoint	Route	Appleby GO (Depart)	Harvester & Appleby	Harvester & Burloak	Burloak & New	Great Lakes & Rebecca	Lakeshore & Great Lakes	Lakeshore & Bronte	South Oakville Centre (Dp.)	Rebecca & Kerr	Church & Dunn	Oakville GO (Arrive)
a.m.	14	--	--	--	--	--	**	5:20	5:30	5:37	5:40	5:53
	14	--	--	--	--	5:42*	5:45	5:49	6:00	6:07	6:10	6:23
	14A	--	--	--	**5:57***	--	**6:01**	**6:05**	**6:15**	**6:22**	**6:25**	**6:38**
	14	--	--	--	--	6:12*	6:15	6:19	6:30	6:37	6:40	6:53
	14A	**6:15**	**6:19**	**6:23**	**6:27**	--	**6:31**	**6:35**	**6:45**	**6:52**	**6:55**	**7:08**
	14	6:30	6:34	6:38	--	6:42	6:45	6:49	7:00	7:07	7:10	7:23
	14A	**6:45**	**6:49**	**6:53**	**6:57**	--	**7:01**	**7:05**	**7:15**	**7:22**	**7:25**	**7:38**
	14	7:00	7:04	7:08	--	7:12	7:15	7:19	7:30	7:37	7:40	7:53
	14A	**7:15**	**7:19**	**7:23**	**7:27**	--	**7:31**	**7:35**	**7:45**	**7:52**	**7:55**	**8:08**
	14	7:30	7:34	7:38	--	7:42	7:45	7:49	8:00	8:07	8:10	8:23
	14A	**7:45**	**7:49**	**7:53**	**7:57**	--	**8:01**	**8:05**	**8:15**	**8:22**	**8:25**	**8:38**
	14	8:00	8:04	8:08	--	8:12	8:15	8:19	8:30	8:37	8:40	8:53
	14A	**8:15**	**8:19**	**8:23**	**8:27**	--	**8:31**	**8:35**	**8:45**	**8:52**	**8:55**	**9:08**
	14	8:30	8:34	8:38	--	8:42	8:45	8:49	9:00	9:07	9:10	9:23
	14A	**8:45**	**8:49**	**8:53**	**8:57**	--	**9:01**	**9:05**	**9:15**	**9:22**	**9:25**	**9:38**
	14	9:15	9:19	9:23	--	9:27	9:30	9:34	9:45	9:52	9:55	10:08
	14A	**9:45**	**9:49**	**9:53**	**9:57**	--	**10:01**	**10:05**	**10:15**	**10:22**	**10:25**	**10:38**
	14	10:15	10:19	10:23	--	10:27	10:30	10:34	10:45	10:52	10:55	11:08
	14A	**10:45**	**10:49**	**10:53**	**10:57**	--	**11:01**	**11:05**	**11:15**	**11:22**	**11:25**	**11:38**
	14	11:15	11:19	11:23	--	11:27	11:30	11:34	11:45	11:52	11:55	12:08
	14A	**11:45**	**11:49**	**11:53**	**11:57**	--	**12:01**	**12:05**	**12:15**	**12:22**	**12:25**	**12:38**
p.m.	14	12:15	12:19	12:23	--	12:27	12:30	12:34	12:45	12:52	12:55	1:08
	14A	**12:45**	**12:49**	**12:53**	**12:57**	--	**1:01**	**1:05**	**1:15**	**1:22**	**1:25**	**1:38**
	14	1:15	1:19	1:23	--	1:27	1:30	1:34	1:45	1:52	1:55	2:08
	14A	**1:45**	**1:49**	**1:53**	**1:57**	--	**2:01**	**2:05**	**2:15**	**2:22**	**2:25**	**2:38**
	14	2:15	2:19	2:23	--	2:27	2:30	2:34	2:45	2:52	2:55	3:08
	14A	**2:45**	**2:49**	**2:53**	**2:57**	--	**3:01**	**3:05**	**3:15**	**3:22**	**3:25**	**3:38**
	14	3:15	3:19	3:23	--	3:27	3:30	3:34	3:45	3:52	3:55	4:08
	14A	**3:45**	**3:49**	**3:53**	**3:57**	--	**4:01**	**4:05**	**4:15**	**4:22**	**4:25**	**4:38**
	14	4:17	4:21	4:25	--	4:29	4:32	4:36	4:45	4:52	4:55	5:08
	14A	**4:47**	**4:51**	**4:55**	**4:59**	--	**5:03**	**5:07**	**5:15**	**5:22**	**5:25**	**5:38**
	14	5:17	5:21	5:25	--	5:29	5:32	5:36	5:45	5:52	5:55	6:08
	14A	**5:32**	**5:36**	**5:40**	**5:44**	--	**5:48**	**5:52**	**6:00**	**6:07**	**6:10**	**6:23**
	14	5:47	5:51	5:55	--	5:59	6:02	6:06	6:15	6:22	6:25	6:38
	14A	**6:02**	**6:06**	**6:10**	**6:14**	--	**6:18**	**6:22**	**6:30**	**6:37**	**6:40**	**6:53**
	14	6:17	6:21	6:25	--	6:29	6:32	6:36	6:45	6:52	6:55	7:08
	14A	**6:32**	**6:36**	**6:40**	**6:44**	--	**6:48**	**6:52**	**7:00**	**7:07**	**7:10**	**7:23**
	14	6:47	6:51	6:55	--	6:59	7:02	7:06	7:15	7:22	7:25	7:38
	14A	**7:17**	**7:21**	**7:25**	**7:29**	--	**7:33**	**7:37**	**7:45**	**7:52**	**7:55**	**8:08**
	14	7:45	7:49	7:53	--	7:57	8:00	8:04	8:15	8:22	8:25	8:38
	14	8:45	8:49	8:53	--	8:57	9:00	9:04	9:15	9:22	9:25	9:38
	14	9:45	9:49	9:53	--	9:57	10:00	10:04	10:15	10:22	10:25	10:38
	14	10:45	10:49	10:53	--	10:57	11:00	11:04	11:15	11:22	11:25	11:38
	14	11:45	11:48	11:51	--	11:55	11:58	12:00	12:07	12:14	12:17	12:30

Late Night Service departs from the Oakville GO station at 11:40 p.m., 12:30 and 1:30a.m., Monday to Saturday, and 7:40 p.m. on Sunday and holidays. Let the driver know the nearest bus stop to your destination within Oakville. Drop-off service covers up to Burloak Drive only.

While every effort will be made to operate our service to these timetables, all schedules including bus stop times and transfer times are based on normal traffic and weather conditions and as such are subject to change. Oakville Transit will not be responsible for any loss, damage or inconvenience that may result from any errors, omissions or service delays.

14/14A LAKESHORE WEST

Saturday Effective September 3, 2017

Saturday (Westbound)

To Appleby GO – 14 via Great Lakes Blvd., 14A via Burloak Dr.

Timepoint	Route	Oakville GO (Depart)	Church & Dunn	Rebecca & Kerr	South Oakville Centre (Dp.)	Lakeshore & Bronte	Lakeshore & Great Lakes	Great Lakes & Rebecca	Burloak & Rebecca	Harvester & Burloak	Appleby GO (Arrive)
a.m.	14	7:10	7:19	7:22	7:35	7:42	7:45	7:48	--	7:52	8:01
	14A	**7:40**	**7:49**	**7:52**	**8:05**	**8:12**	**8:15**	--	**8:19**	**8:23**	**8:32**
	14	8:10	8:19	8:22	8:35	8:42	8:45	8:48	--	8:52	9:01
	14A	**8:40**	**8:49**	**8:52**	**9:05**	**9:12**	**9:15**	--	**9:19**	**9:23**	**9:32**
	14	9:10	9:19	9:22	9:35	9:42	9:45	9:48	--	9:52	10:01
	14A	**9:40**	**9:49**	**9:52**	**10:05**	**10:12**	**10:15**	--	**10:19**	**10:23**	**10:32**
	14	10:10	10:19	10:22	10:35	10:42	10:45	10:48	--	10:52	11:01
	14A	**10:40**	**10:49**	**10:52**	**11:05**	**11:12**	**11:15**	--	**11:19**	**11:23**	**11:32**
	14	11:10	11:19	11:22	11:35	11:42	11:45	11:48	--	11:52	12:01
	14A	**11:40**	**11:49**	**11:52**	**12:05**	**12:12**	**12:15**	--	**12:19**	**12:23**	**12:32**
p.m.	14	12:10	12:19	12:22	12:35	12:42	12:45	12:48	--	12:52	1:01
	14A	**12:40**	**12:49**	**12:52**	**1:05**	**1:12**	**1:15**	--	**1:19**	**1:23**	**1:32**
	14	1:10	1:19	1:22	1:35	1:42	1:45	1:48	--	1:52	2:01
	14A	**1:40**	**1:49**	**1:52**	**2:05**	**2:12**	**2:15**	--	**2:19**	**2:23**	**2:32**
	14	2:10	2:19	2:22	2:35	2:42	2:45	2:48	--	2:52	3:01
	14A	**2:40**	**2:49**	**2:52**	**3:05**	**3:12**	**3:15**	--	**3:19**	**3:23**	**3:32**
	14	3:10	3:19	3:22	3:35	3:42	3:45	3:48	--	3:52	4:01
	14A	**3:40**	**3:49**	**3:52**	**4:05**	**4:12**	**4:15**	--	**4:19**	**4:23**	**4:32**
	14	4:10	4:19	4:22	4:35	4:42	4:45	4:48	--	4:52	5:01
	14A	**4:40**	**4:49**	**4:52**	**5:05**	**5:12**	**5:15**	--	**5:19**	**5:23**	**5:32**
	14	5:10	5:19	5:22	5:35	5:42	5:45	5:48	--	5:52	6:01
	14A	**5:40**	**5:49**	**5:52**	**6:05**	**6:12**	**6:15**	--	**6:19**	**6:23**	**6:32**
	14	6:10	6:19	6:22	6:35	6:42	6:45	6:48	--	6:52	7:01
	14A	**6:40**	**6:49**	**6:52**	**7:05**	**7:12**	**7:15**	--	**7:19**	**7:23**	**7:32**
	14	7:10	7:19	7:22	7:35	7:42	7:45	7:48	--	7:52	8:01
	14A	**7:40**	**7:49**	**7:52**	**8:05**	**8:12**	**8:15**	--	**8:19**	**8:23**	**8:32**
	14	8:40	8:49	8:52	9:05	9:12	9:15	9:18	--	9:22	9:31
	14	9:40	9:49	9:52	10:05	10:12	10:15	10:18	--	10:22	10:31
	14	10:40	10:49	10:52	11:05	11:12	11:15	11:18	--	11:22	11:31

Saturday (Eastbound)

To Oakville GO – 14 via Great Lakes Blvd., 14A via Burloak Dr.

** These trips enter service at Burloak & Prince William at 6:25 and 6:55 a.m.*

Timepoint	Route	Appleby GO (Depart)	Harvester & Appleby	Harvester & Burloak	Burloak & New	Great Lakes & Rebecca	Lakeshore & Great Lakes	Lakeshore & Bronte	South Oakville Centre (Dp.)	Rebecca & Kerr	Church & Dunn	Oakville GO (Arrive)
a.m.	14	--	--	--	--	6:27*	6:30	6:34	6:45	6:52	6:55	7:08
	14A	--	--	--	**6:57***	--	**7:01**	**7:05**	**7:15**	**7:22**	**7:25**	**7:38**
	14	7:15	7:19	7:23	--	7:27	7:30	7:34	7:45	7:52	7:55	8:08
	14A	**7:45**	**7:49**	**7:53**	**7:57**	--	**8:01**	**8:05**	**8:15**	**8:22**	**8:25**	**8:38**
	14	8:15	8:19	8:23	--	8:27	8:30	8:34	8:45	8:52	8:55	9:08
	14A	**8:45**	**8:49**	**8:53**	**8:57**	--	**9:01**	**9:05**	**9:15**	**9:22**	**9:25**	**9:38**
	14	9:15	9:19	9:23	--	9:27	9:30	9:34	9:45	9:52	9:55	10:08
	14A	**9:45**	**9:49**	**9:53**	**9:57**	--	**10:01**	**10:05**	**10:15**	**10:22**	**10:25**	**10:38**
	14	10:15	10:19	10:23	--	10:27	10:30	10:34	10:45	10:52	10:55	11:08
	14A	**10:45**	**10:49**	**10:53**	**10:57**	--	**11:01**	**11:05**	**11:15**	**11:22**	**11:25**	**11:38**
	14	11:15	11:19	11:23	--	11:27	11:30	11:34	11:45	11:52	11:55	12:08
	14A	**11:45**	**11:49**	**11:53**	**11:57**	--	**12:01**	**12:05**	**12:15**	**12:22**	**12:25**	**12:38**
p.m.	14	12:15	12:19	12:23	--	12:27	12:30	12:34	12:45	12:52	12:55	1:08
	14A	**12:45**	**12:49**	**12:53**	**12:57**	--	**1:01**	**1:05**	**1:15**	**1:22**	**1:25**	**1:38**
	14	1:15	1:19	1:23	--	1:27	1:30	1:34	1:45	1:52	1:55	2:08
	14A	**1:45**	**1:49**	**1:53**	**1:57**	--	**2:01**	**2:05**	**2:15**	**2:22**	**2:25**	**2:38**
	14	2:15	2:19	2:23	--	2:27	2:30	2:34	2:45	2:52	2:55	3:08
	14A	**2:45**	**2:49**	**2:53**	**2:57**	--	**3:01**	**3:05**	**3:15**	**3:22**	**3:25**	**3:38**
	14	3:15	3:19	3:23	--	3:27	3:30	3:34	3:45	3:52	3:55	4:08
	14A	**3:45**	**3:49**	**3:53**	**3:57**	--	**4:01**	**4:05**	**4:15**	**4:22**	**4:25**	**4:38**
	14	4:15	4:19	4:23	--	4:27	4:30	4:34	4:45	4:52	4:55	5:08
	14A	**4:45**	**4:49**	**4:53**	**4:57**	--	**5:01**	**5:05**	**5:15**	**5:22**	**5:25**	**5:38**
	14	5:15	5:19	5:23	--	5:27	5:30	5:34	5:45	5:52	5:55	6:08
	14A	**5:45**	**5:49**	**5:53**	**5:57**	--	**6:01**	**6:05**	**6:15**	**6:22**	**6:25**	**6:38**
	14	6:15	6:19	6:23	--	6:27	6:30	6:34	6:45	6:52	6:55	7:08
	14A	**6:45**	**6:49**	**6:53**	**6:57**	--	**7:01**	**7:05**	**7:15**	**7:22**	**7:25**	**7:38**
	14	7:15	7:19	7:23	---	7:27	7:30	7:34	7:45	7:52	7:55	8:08
	14A	**7:45**	**7:49**	**7:53**	**7:57**	--	**8:01**	**8:05**	**8:15**	**8:22**	**8:25**	**8:38**
	14	8:15	8:19	8:23	--	8:27	8:30	8:34	8:45	8:52	8:55	9:08
	14A	**8:45**	**8:49**	**8:53**	**8:57**	--	**9:01**	**9:05**	**9:15**	**9:22**	**9:25**	**9:38**
	14	9:45	9:49	9:53	--	9:57	10:00	10:04	10:15	10:22	10:25	10:38
	14	10:45	10:49	10:53	--	10:57	11:00	11:04	11:15	11:22	11:25	11:38

Late Night Service departs from the Oakville GO station at 11:40 p.m., 12:30 and 1:30a.m., Monday to Saturday, and 7:40 p.m. on Sunday and holidays. Let the driver know the nearest bus stop to your destination within Oakville. Drop-off service covers up to Burloak Drive only.

Oakville Transit
430 Wyecroft Road
8:30 a.m. - 4:30 p.m.
Monday - Friday
oakvilletransit.ca
@oakvilletransit

Mailing Address
Oakville Transit
1225 Trafalgar Road
Oakville, ON L6H 0H3
Info Line 905-815-2020
care-A-van 905-337-9222

14/14A LAKESHORE WEST

Sunday/Holidays **Effective September 3, 2017**

Sunday/Holidays (Westbound)

To Appleby GO – 14 via Great Lakes Blvd., 14A via Burloak Dr.

Timepoint	Route	Oakville GO (Depart)	Church & Dunn	Rebecca & Kerr	South Oakville Centre (Dp.)	Lakeshore & Bronte	Lakeshore & Great Lakes	Great Lakes & Rebecca	Burloak & Rebecca	Harvester & Burloak	Appleby GO (Arrive)
a.m.	14	8:10	8:19	8:22	8:35	8:42	8:45	8:48	--	8:52	9:01
	14A	**8:40**	**8:49**	**8:52**	**9:05**	**9:12**	**9:15**	--	**9:19**	**9:23**	**9:32**
	14	9:10	9:19	9:22	9:35	9:42	9:45	9:48	--	9:52	10:01
	14A	**9:40**	**9:49**	**9:52**	**10:05**	**10:12**	**10:15**	--	**10:19**	**10:23**	**10:32**
	14	10:10	10:19	10:22	10:35	10:42	10:45	10:48	--	10:52	11:01
	14A	**10:40**	**10:49**	**10:52**	**11:05**	**11:12**	**11:15**	--	**11:19**	**11:23**	**11:32**
	14	11:10	11:19	11:22	11:35	11:42	11:45	11:48	--	11:52	12:01
	14A	**11:40**	**11:49**	**11:52**	**12:05**	**12:12**	**12:15**	--	**12:19**	**12:23**	**12:32**
p.m.	14	12:10	12:19	12:22	12:35	12:42	12:45	12:48	--	12:52	1:01
	14A	**12:40**	**12:49**	**12:52**	**1:05**	**1:12**	**1:15**	--	**1:19**	**1:23**	**1:32**
	14	1:10	1:19	1:22	1:35	1:42	1:45	1:48	--	1:52	2:01
	14A	**1:40**	**1:49**	**1:52**	**2:05**	**2:12**	**2:15**	--	**2:19**	**2:23**	**2:32**
	14	2:10	2:19	2:22	2:35	2:42	2:45	2:48	--	2:52	3:01
	14A	**2:40**	**2:49**	**2:52**	**3:05**	**3:12**	**3:15**	--	**3:19**	**3:23**	**3:32**
	14	3:10	3:19	3:22	3:35	3:42	3:45	3:48	--	3:52	4:01
	14A	**3:40**	**3:49**	**3:52**	**4:05**	**4:12**	**4:15**	--	**4:19**	**4:23**	**4:32**
	14	4:10	4:19	4:22	4:35	4:42	4:45	4:48	--	4:52	5:01
	14A	**4:40**	**4:49**	**4:52**	**5:05**	**5:12**	**5:15**	--	**5:19**	**5:23**	**5:32**
	14	5:10	5:19	5:22	5:35	5:42	5:45	5:48	--	5:52	6:01
	14A	**5:40**	**5:49**	**5:52**	**6:05**	**6:12**	**6:15**	--	**6:19**	**6:23**	**6:32**
	14	6:10	6:19	6:22	6:35	6:42	6:45	6:48	--	6:52	7:01
	14A	**6:40**	**6:49**	**6:52**	**7:05**	**7:12**	**7:15**	--	**7:19**	**7:23**	**7:32**
	14	7:10	7:19	7:22	7:35	7:42	7:45	7:48	--	7:52	8:01

Sunday/Holidays (Eastbound)

To Oakville GO – 14 via Great Lakes Blvd., 14A via Burloak Dr.

** This trip enters service at Burloak & Prince William at 7:55 a.m.*

Timepoint	Route	Appleby GO (Depart)	Harvester & Appleby	Harvester & Burloak	Burloak & New	Great Lakes & Rebecca	Lakeshore & Great Lakes	Lakeshore & Bronte	South Oakville Centre (Dp.)	Rebecca & Kerr	Church & Dunn	Oakville GO (Arrive)
a.m.	14	--	--	--	--	7:57*	8:00	8:04	8:15	8:22	8:25	8:38
	14A	**8:15**	**8:19**	**8:23**	**8:27**	--	**8:31**	**8:35**	**8:45**	**8:52**	**8:55**	**9:08**
	14	8:45	8:49	8:53	--	8:57	9:00	9:04	9:15	9:22	9:25	9:38
	14A	**9:15**	**9:19**	**9:23**	**9:27**	--	**9:31**	**9:35**	**9:45**	**9:52**	**9:55**	**10:08**
	14	9:45	9:49	9:53	--	9:57	10:00	10:04	10:15	10:22	10:25	10:38
	14A	**10:15**	**10:19**	**10:23**	**10:27**	--	**10:31**	**10:35**	**10:45**	**10:52**	**10:55**	**11:08**
	14	10:45	10:49	10:53	--	10:57	11:00	11:04	11:15	11:22	11:25	11:38
	14A	**11:15**	**11:19**	**11:23**	**11:27**	--	**11:31**	**11:35**	**11:45**	**11:52**	**11:55**	**12:08**
	14	11:45	11:49	11:53	--	11:57	12:00	12:04	12:15	12:22	12:25	12:38
p.m.	**14A**	**12:15**	**12:19**	**12:23**	**12:27**	--	**12:31**	**12:35**	**12:45**	**12:52**	**12:55**	**1:08**
	14	12:45	12:49	12:53	--	12:57	1:00	1:04	1:15	1:22	1:25	1:38
	14A	**1:15**	**1:19**	**1:23**	**1:27**	--	**1:31**	**1:35**	**1:45**	**1:52**	**1:55**	**2:08**
	14	1:45	1:49	1:53	--	1:57	2:00	2:04	2:15	2:22	2:25	2:38
	14A	**2:15**	**2:19**	**2:23**	**2:27**	--	**2:31**	**2:35**	**2:45**	**2:52**	**2:55**	**3:08**
	14	2:45	2:49	2:53	--	2:57	3:00	3:04	3:15	3:22	3:25	3:38
	14A	**3:15**	**3:19**	**3:23**	**3:27**	--	**3:31**	**3:35**	**3:45**	**3:52**	**3:55**	**4:08**
	14	3:45	3:49	3:53	--	3:57	4:00	4:04	4:15	4:22	4:25	4:38
	14A	**4:15**	**4:19**	**4:23**	**4:27**	--	**4:31**	**4:35**	**4:45**	**4:52**	**4:55**	**5:08**
	14	4:45	4:49	4:53	--	4:57	5:00	5:04	5:15	5:22	5:25	5:38
	14A	**5:15**	**5:19**	**5:23**	**5:27**	--	**5:31**	**5:35**	**5:45**	**5:52**	**5:55**	**6:08**
	14	5:45	5:49	5:53	--	5:57	6:00	6:04	6:15	6:22	6:25	6:38
	14A	**6:15**	**6:19**	**6:23**	**6:27**	--	**6:31**	**6:35**	**6:45**	**6:52**	**6:55**	**7:08**
	14	6:45	6:49	6:53	--	6:57	7:00	7:04	7:15	7:22	7:25	7:38
	14A	**7:15**	**7:19**	**7:23**	**7:27**	--	**7:31**	**7:35**	**7:45**	**7:52**	**7:55**	**8:08**

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While every effort will be made to operate our service to these timetables, all schedules including bus stop times and transfer times are based on normal traffic and weather conditions and as such are subject to change. Oakville Transit will not be responsible for any loss, damage or inconvenience that may result from any errors, omissions or service delays.