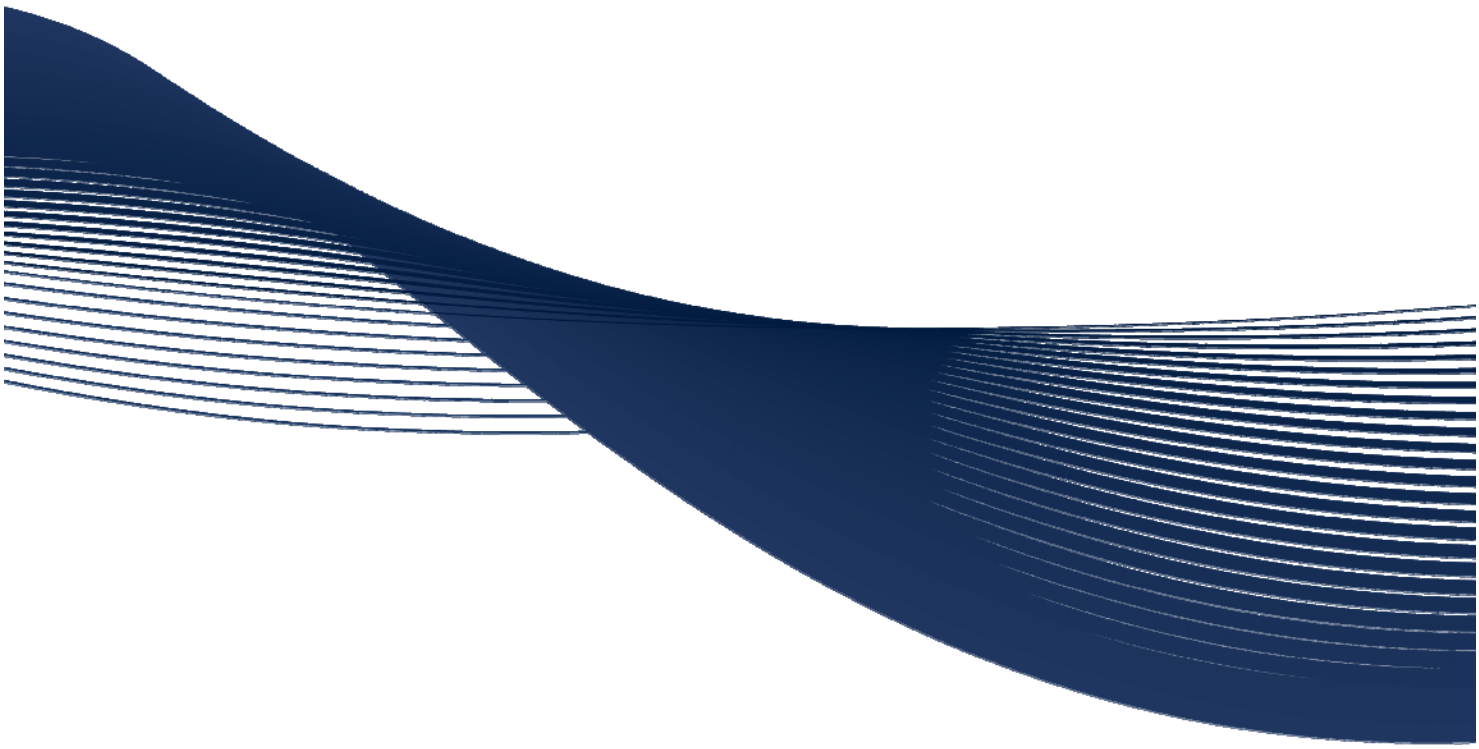
CITY PARK (OLD BARBER) HOMES INC.

REVISED TRAFFIC IMPACT AND PARKING STUDY

5155 Mississauga Road, City of Mississauga

Project No.: UD16-0022



MARCH 2017

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March 20, 2017
Project No. UD16-0022

Giancarlo Tedesco
City of Mississauga
300 City Centre Drive
Mississauga, ON L5B 3C1

Dear Sir:

Re: Response Letter to City of Mississauga Comments dated February 6, 2017
5155 Mississauga Road Proposed Residential Development
City of Mississauga

Cole Engineering Group Ltd. (Cole Engineering) is pleased to provide this letter to the City of Mississauga (the "City"), Planning and Building Department, Development and Design Division, in response to City Staff Comments, issued via memorandum dated February 6, 2017. The comments were drafted by Giancarlo Tedesco.

The subject property is located on the northeast side of the intersection of Barbertown Road and Mississauga Road, municipally known as 5155 Mississauga Road.

We have reviewed the February 6, 2017 memorandum. This letter provides City comments reiterated below in **bold**, and indicates our response to said comments in *italics*. Cole Engineering has also attached a Revised Traffic Impact Study (TIS), which includes an updated site plan.

a) **Group visitor parking spaces and allow for at least one accessible visitor parking space. Adjacent to Mississauga Road visitor parking spaces should not extend beyond the principal front façade of the nearest adjacent dwelling;**

   To be addressed by the Site Plan team.

b) **Indicate the widths of all walkways on the site plan drawing (min. 2.0 m along roadways, 1.8 m where abutted by parking or where the walkway forms a portion of the barrier free path of travel, 1.5 m min.). Walk connections to the municipal sidewalk from the site must be provided.**

   To be addressed by the Site Plan team.

c) **The applicant is advised that this development and/or the townhouse Blocks fronting onto the Municipal right of way will be subject to council resolution 121-91 in that it must provide 3.0 on site, and 0.25 on street parking spaces per dwelling unit. A parking plan is to be submitted to this department for review and approval.**

   The five (5) freehold detached single family homes that front onto Barbertown Road will be equipped with a garage that can accommodate two (2) vehicles in the garage and a driveway that can accommodate an additional two (2) vehicles. This will provide four (4) parking spaces per unit.

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It was also noted by staff that there seems to be no parking restrictions along Barbertown Road. It is assumed that visitors will take advantage of on-street parking or utilize the parking on the townhouse driveways.

d) It appears as though portions of the proposed gateway feature are encroaching within the (Mississauga Road/Barbertown Road municipal right of way and sight triangle. The site plan shall be revised to delete this encroachment.

To be addressed by the Site Plan team.

e) A detailed turning movement diagram will be required to demonstrate how the most easterly visitor parking space will function to the satisfaction of this department. Additional provisions to aid in the safety and operation of these features may be required.

*Refer to **Figure 7-3** in the attached Revised Traffic Impact and Parking Study, dated March 2017, Cole Engineering.*

f) The proposed Mississauga Road access is to be relocated to Barbertown Road.

The applicant is advised that the access to Mississauga Road will be restricted in accordance with the Scenic Route Policy and Official Plan. Access shall be designed for the safe and efficient flow of goods and traffic, further minimizing conflicts with active transportation modes. To ensure this operation, the applicant is to revise the site plan drawing to illustrate access from Barbertown Road only.

*Refer to **Section 5.2** in the attached Revised Traffic Impact and Parking Study, dated March 2017, Cole Engineering.*

g) The plans shall be revised to identify:

- the continuation of the 2.0m back of curb concrete sidewalk along the North side of Barbertown Road.

-all entrances/ driveways as abutting either side of municipal sidewalks which are to remain continuous

- appropriate "clear throat" at internal intersections, whereas driveways and parking spaces will not be permitted

To be addressed by the Site Plan team.

h) This department is in receipt of a Traffic Impact Study, prepared by Cole Engineering Group Ltd. (dated June 2016). Detailed comments and conditions will be provided prior to the Recommendation Meeting.

- Additionally, the study shall recognize the following existing uses and provide an opinion on their impacts to the network and study:

i. The Portico a community church, located at 1814 Barbertown Road.

- Sunday Service: (Sundays: 8:40am; 10:10am; and 11:40am);

- Students @ Portico: (Tuesdays: 7:00pm ? 9:00pm)

- Mid Week Ministry Program: (Wednesdays: 7:00pm ? 8:30pm)

- Facility Rentals: 1,000 seat auditorium; 200 seat chapel; 450 seat gymnasium

ii. ADM Milling, located at 1770 Barbertown Road.

- Tankers: 6 in, 6 out (12 two-way) trips *daily*

- Wheat delivery: 6 in, 6 out (12 two-way) trips *daily*

- The consultant is to review and provide an opinion on the queueing potential associated with the at grade rail crossing North of the site.

We have recognized the above existing uses. In our opinion, these developments will not have any effect on the road network and study, as they are existing developments. Any traffic that is generated from these developments that coincide with the peak periods of the proposed development, was captured in the turning movement count data collection, and subsequently included in our existing traffic analysis.

As for the peak periods of these developments, they do not coincide with the proposed developments peak periods. Since these developments do not have corresponding peak periods, the surrounding road network will be able to accommodate the associated traffic. While one (1) development is experiencing high site generated traffic, the other will be experiencing negligible traffic (off-peak).

We have also reviewed the at grade rail crossing, which is located approximately 560 m north of the proposed development, and we are in the opinion that the proposed development will have no effect on the crossing.

The opinion was made after reviewing both study area intersections (Mississauga Rd & Barbertown Rd, and Mississauga Rd & Site Access) in the future (2021) total traffic horizon year. All southbound movements at both intersections were reviewed for their 95th percentile queue length in both the weekday AM and PM peak period. It was determined that the queue lengths would not have any effect on the crossing, as the maximum observed 95th percentile queue length for the southbound movements was 1.0 m, which was for the southbound left turn at the intersection of Mississauga Rd & Barbertown Rd.

i) The applicant is required to provided short term (outdoor) and long term (indoor) bicycle storage facilities for the purpose of a minimum 1 outdoor and 3 indoor parking spaces (in a close vicinity to the main access). The Site Plan shall be revised to identify these locations and to specify the facility detail(s), including quantity of spaces proposed for each.

*Refer to **Section 8.4.1** in the attached Revised Traffic Impact and Parking Study, date March 2017, by Cole Engineering.*

j) The transportation Impact Study prepared by Cole Engineering Group Ltd. (dated June 2016) identifies several TDM measures to be implemented as part of the proposed development to reduce single occupancy vehicle (SOV) trips to the site.

Prior to Site Plan Approval, the applicant shall enter into an appropriate agreement containing a schedule to incorporate these conditions:

(Conditions remain to be determined)

The applicant is required to provide short term (outdoor) and long term (indoor) bicycle storage facilities for the purpose of a minimum rate of 0.08 outdoor and 0.70 indoor parking spaces per unit (in a close vicinity to the main access).

Please see the attached Revised Traffic Impact and Parking Study, dated March 2017, by Cole Engineering for detailed bicycle storage facilities calculations.

k) Thank-you for the opportunity to review the above noted site plan from a CPTED perspective. I note that the V4 parallel parking spot located adjacent to the property line at the dead end of the east-west street, is very tight to the east property line making egress very difficult.

*Refer to **Figure 7-3** in the attached Revised Traffic Impact and Parking Study, dated March 2017, Cole Engineering.*

l) With regards to waste collection:

For the townhouses:

The Region of Peel will provide curbside collection of garbage, recyclable materials, household organics and yard waste subject to the following conditions:

1. **Waste Collection Vehicle Access Route Comments The turning radius from the centre line must be a minimum of 13 metres on all turns.**
2. **In those situations where a waste collection vehicle must reverse, then the maximum straight back-up distance is 15 metres.**
3. **The internal road layouts should be designed to permit continuous collection without reversing. Where the requirement for continuous collection cannot be met, a cul-de-sac or a T-turnaround will be permitted in accordance with the specifications shown in Appendix 2 and 3 of the WCDSM (Waste Collection Design Standards Manual), respectively.**

   *Refer to **Figure 7-1** and **Figure 7-2** in the attached Revised Traffic Impact and Parking Study, dated March 2017, Cole Engineering.*

Yours sincerely,
COLE ENGINEERING GROUP LTD.

Kim Nystrom
Principal
Traffic and Planning
Transportation

Lauren Short
Traffic Analyst
Traffic and Planning
Transportation

LS/mv

March 23, 2017
Reference No. UD16-0022

Evan Perlman
c/o City Park (Old Barber) Homes Inc.
Glen Scharr & Associates Inc.
700 – 10 Kingsbridge Garden Circle
Mississauga, ON L5R 3K6

Dear Mr. Perlman:

Re: Revised Traffic Impact and Parking Study
5155 Mississauga Road
City of Mississauga

Cole Engineering Group Ltd. (Cole Engineering) is pleased to submit this Revised Traffic Impact and Parking Study for the above noted development. This report documents our findings and conclusions regarding the traffic impact and parking requirements in support of an application for Official Plan and Zoning By-law Amendment for the proposed residential development located at 5155 Mississauga Road, in the City of Mississauga (the "City").

The conceptual development plan for the site will consist of 25 residences including: five (5) freehold detached single family units, 16 townhouse dwellings, and four (4) two-storey back-to-back units within the converted Old Barber House. Access to the proposed development will be provided via a proposed full movement driveway to Mississauga Road. A total 45 parking spaces including 32 parking spaces for common element detached / townhouse dwelling units, eight (8) spaces for common element condo/two-storey townhouse visitors, and five (5) parking spaces for visitors are provided.

This Revised Traffic Impact and Parking Study concludes that the development will have minimal impact to the study intersections. Further, the proposed parking supply was found to be adequate to accommodate the parking demands of the proposed development.

Should you have any questions, please do not hesitate to contact the undersigned.

Yours truly,
COLE ENGINEERING GROUP LTD.

Kim Nystrom
Principal
Traffic and Planning
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Lauren Short
Traffic Analyst
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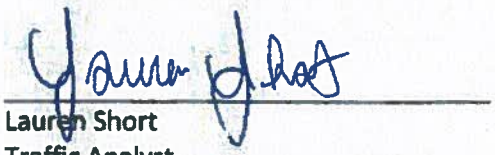
LB/LS:mi

PREPARED BY:

COLE ENGINEERING GROUP LTD.



Lauren Short
Traffic Analyst
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CHECKED BY:

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Kim Nystrom
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AUTHORIZED FOR ISSUE BY:

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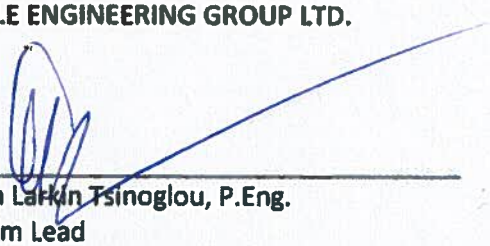

Ann Larkin Tsinoglou, P.Eng.
Team Lead
Traffic and Planning
Transportation

Issues and Revisions Registry

Identification	Date	Description of issued and/or revision
Draft Report	March 2016	For internal review
Draft Report	March 2016	For client review
Final Report	April 2016	For client submission
Final Report	May 2016	For client review
Final Report	June 2016	For client review
Draft Report	March 2017	For client review

Statement of Conditions

This Report / Study (the "Work") has been prepared at the request of, and for the exclusive use of, the Owner / Client, and its affiliates (the "Intended User"). No one other than the Intended User has the right to use and rely on the Work without first obtaining the written authorization of Cole Engineering Group Ltd. and its Owner. Cole Engineering Group Ltd. expressly excludes liability to any party except the intended User for any use of, and/or reliance upon, the work.

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APPENDICES

1 Introduction

Cole Engineering Group Ltd. (Cole Engineering) was retained by City Park (Old Barber) Homes Inc. (the "Owner") to undertake a Traffic Impact and Parking Study in support of an application for Official Plan and Zoning By-law Amendment for the proposed residential development located at 5155 Mississauga Road, in the City of Mississauga (the "City"), in the Region of Peel (the "Region").

The subject property is located in the northeast quadrant of the Mississauga Road and Barbertown Road intersection, with single family houses to the east, Mississauga Road to the west, vacant land to the north and Barbertown Road to the south. **Figure 1-1** illustrates the site location.

The proposed use will consist of 25 residences including five (5) freehold detached single family units, 16 townhouse dwellings, and four (4) two-storey back-to-back units within the converted Old Barber House. Access to the development will be provided via a proposed full moves driveway to Mississauga Road. The proposed development will provide a total 45 parking spaces for common element detached / townhouse dwelling units, eight (8) parking spaces for residential visitors, and five (5) spaces for visitors. In addition, the freehold units will provide a total 20 parking spaces (four (4) spaces per unit, two (2) in the garage and two (2) in driveway). **Figure 1-2** illustrates the proposed Site Plan.

The purpose of this study is to:

- Establish existing traffic conditions for the study area through the operational assessment of the study area intersections;
- Determine future traffic conditions for a post build out, 5-year traffic horizon;
- Identify study area capacity constraints (if any) in the future background conditions and recommend roadway improvements, if required, to provide better roadway operations;
- Forecast and estimate the traffic associated with the proposed development using the information published in the *Trip Generation Manual, 9th Edition*, by the Institute of Transportation Engineers (ITE).
- Undertake future total traffic analysis to determine the impact of the proposed development on the surrounding road network and recommend any improvements which may be required to accommodate the proposed development;
- Identify mitigation measures to address any deficiencies at each horizon year (existing, future background and future total traffic) for key study area intersections; and,
- Review the adequacy of the proposed parking supply with regards to the future demands of the site.

1.1 Study Approach

The study's methodology and analysis reflects the *City of Mississauga`s Traffic Impact Study Guidelines*.

Weekday morning and afternoon peak period traffic volume counts were undertaken by Accu-Traffic Inc. on February 10, 2016, on behalf of Cole Engineering for following intersection:

- Mississauga Road and Barbertown Road (Unsignalized).

Future background traffic volumes for the 2021 horizon year, excluding the additional traffic volumes generated by the proposed development, consist of the following components: traffic growth from outside the study area, and traffic from active developments in the vicinity of the subject development.

Site traffic was derived using information contained in the *Trip Generation, 9th Edition*, published by the Institute of Transportation Engineers (ITE), and distributed based on the existing traffic pattern.

Future total traffic conditions were determined by the summation of the estimated traffic volumes generated by the site and the background traffic volumes for the 2021 full build-out horizon.

1.1.1 Assessment of Unsignalized Intersection Operations

The unsignalized intersection operational analysis in this report was also conducted using *Synchro 9.0* software, which employs the Highway Capacity Manual (HCM 2000) methodology. All parameters for the unsignalized intersection analysis were based on the Synchro default values. Synchro results for the unsignalized intersections are provided in HCM format.

2 Existing Traffic Conditions

2.1 Existing Road Networks

The existing road network, lane configurations and existing traffic control for the study area is shown in **Figure 2-1**. The details are described as follows:

Mississauga Road: is a north-south major collector (scenic) road consisting of two (2) through travel lanes with a continuous left turn lane in the center with dedicated a bike lane on both sides of the road. The road is under the jurisdiction of the City. The roadway maintains a posted speed limit of 50 km/h in the vicinity of the subject site.

Barbertown Road: is an east-west local road consisting of two (2) through travel lanes, and is under jurisdiction of the City. The roadway maintains an unposted speed limit of 50 km/h in the vicinity of the subject site. It is a dead end road with a sidewalk on the south side.

Rothesay Court: is an east-west and south-north local road consisting of two (2) through travel lanes, and is under jurisdiction of the City. The roadway maintains an unposted speed limit of 50 km/h in the vicinity of the subject site. It is a dead end road with a cul-de-sac. A sidewalk is located on the south side of the road.

2.2 Existing Traffic Volumes

Existing traffic volumes were collected by Accu-Traffic Inc. on February 10, 2016 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. Detailed existing traffic data is provided in **Appendix A**.

2.3 Existing Traffic Assessment

The study area intersections were analyzed under existing traffic conditions using *Synchro 9.0* software. Volume / Capacity (v/c) ratios for overall intersection operations, through movements, or shared through / turning movements greater than 0.85, and v/c ratios for exclusive movements greater than 0.95 have been shown in bold. The existing traffic volumes are illustrated in **Figure 2-2**. The results are summarized in **Table 2.1** below, and the detailed calculations are shown in **Appendix B**.

Table 2.1 Existing Traffic Analysis

Intersection	Key Movement	AM Peak Hour	PM Peak Hour
		LOS (v/c)	LOS (v/c)
Mississauga Road / Barbertown Road (Unsignalized)	EB left-through-right	B (0.05)	B (0.02)
	WB left-through-right	B (0.07)	C (0.08)
	NB Left	A (<0.01)	A (0.01)
	NB through-right	A (0.29)	A (0.41)
	SB left	A (0.01)	A (0.03)
	SB through-right	A (0.40)	A (0.33)

The existing analysis reveals that the unsignalized intersection of Mississauga Road / Barbertown Road is operating with good levels of service (LOS) and v/c ratios during the a.m. and p.m. peak hours.

3 Future Background Traffic Conditions

3.1 Background Traffic Growth

Based on the discussion with the City staff, a 1.0% growth rate per annum was applied to all traffic directions during the a.m. and p.m. peak hours, along Mississauga Road.

3.2 Background Developments

As discussed with the City staff, Cole Engineering was advised that there are three (3) active background development applications in the vicinity of the study area. The background developments included in the assessment are summarized in **Table 3.1** on the following page. The detailed calculations are shown in **Appendix C.**

Table 3.1 Background Developments Trip Generation

Land Use	Unit / GFA	Parameters	AM peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
5276 Mississauga Road Commercial/Retail Plaza (LUC 820)	111,900 ft^2	Gross Trips	104	63	167	199	216	415
		Gross Trip Rate (trips / unit)	0.92	0.57	1.49	1.78	1.93	3.71
		Bypass Trip (33%)	--	--	--	69	69	138
		New Trips	--	--	--	130	147	277
		New Trip Rate	--	--	--	1.16	1.32	2.48
5276 Mississauga Road Residential Development (LUC 210)	10 Units	Gross Trips	4	13	17	8	5	13
		Gross Trip Rate (trips / unit)	0.40	1.30	1.70	0.80	0.50	1.30
5175 Mississauga Road Residential Development (LUC 210)	15 Units	Gross Trips	5	15	20	12	7	19
		Gross Trip Rate (trips / unit)	0.33	1.00	1.33	0.80	0.47	1.27
		Total	**113**	**91**	**204**	**150**	**159**	**309**

Based on the foregoing, the proposed background developments are expected to generate 204 two-way, and 309 two-way trips during the roadway a.m. and p.m. peak hours, respectively. The background development site traffic volumes are illustrated in **Figure 3-1**.

The following two (2) developments are currently existing in the surrounding area, and are currently fully functioning:

- The Portico Community Church (1814 Barbertown Road); and,
- ADM Milling (1770 Barbertown Road).

The above existing land uses have been acknowledged. In our opinion, these developments will not have any additional impact on the road network and study, as they are existing developments. Any traffic that is generated from these developments that coincides with the peak periods of the proposed development, is captured in the turning movement count data collected, and subsequently included in our existing traffic analysis.

As for the peak periods of these developments, they do not coincide with the proposed development's peak periods. Since these developments do not have corresponding peak periods, the surrounding road network will be able to accommodate the associated traffic. While one (1) development is experiencing high site generated traffic, the other will be experiencing negligible traffic (off-peak).

3.3 Future Background (2021) Assessment

The future background (2021) traffic (sum of the existing, general background growth and active background developments) was analyzed using *Synchro 9.0* software. The results are summarized in **Table 3.2** below with v/c ratios for overall intersection operations, through movements, or shared through / turning movements greater than 0.85; and v/c ratios for exclusive movements greater than 0.95 have been shown in bold. The background developments included in the assessment are summarized in the below **Table 3.2** below. The detailed calculations are shown in **Appendix D**. The future background traffic volumes are illustrated in **Figure 3-2**.

Table 3.2 Future Background (2021) Traffic Analysis

Intersection	Key Movement	AM Peak Hour	PM Peak Hour
		LOS (v/c)	LOS (v/c)
Mississauga Road / Barbertown Road (Unsignalized)	EB left-through-right	C (0.06)	C (0.03)
	WB left-through-right	C (0.09)	C (0.11)
	NB Left	A (<0.01)	A (0.01)
	NB through-right	A (0.36)	A (0.53)
	SB left	A (0.02)	B (0.04)
	SB through-right	A (0.50)	A (0.43)

The future background analysis reveals that the unsignalized intersection of Mississauga Road / Barbertown Road is operating with good LOS and v/c ratios during the a.m. and p.m. peak hours.

4 Site Traffic

The proposed site will consist of 25 residences including five (5) freehold detached units, 16 townhouse dwellings, and four (4) two-storey back-to-back units within the converted Old Barber House on the subject property, for a total of 25 dwelling units. The existing historic Barber House will remain in place and is proposed for two-storey townhouses.

4.1 Site Generated Traffic

Trip generation forecasts are based on information contained in the *Trip Generation Manual, 9th Edition* published by the Institute of Transportation Engineers (ITE). The ITE Land Use Code (LUC) 230 (Residential Condominium / Townhouse) was selected to estimate residential townhouse trips, while LUC 210 was used for the Detached Single Family Units, for the weekday a.m., and p.m. peak hours. The equation was used instead of the average rate calculation since the equations generate higher traffic volume, which is considered more conservative. The results are summarized in **Table 4.1** below.

Table 4.1 Trip Generation for Proposed Development

Land Use	Unit / GFA	Parameters	AM peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Single –Family Detached Housing (LUC 210)	5 Units	Gross Trips	3	10	13	4	3	7
		Gross Trip Rate (trips / unit)	0.60	2.00	2.60	0.80	0.60	1.40
Residential Condominium Common Element Townhouse (LUC 230)	20 Units	Gross Trips	2	12	14	11	5	16
		Gross Trip Rate (trips / unit)	0.10	0.60	0.70	0.55	0.25	0.80
Total			**5**	**22**	**27**	**15**	**8**	**23**

The proposed development is expected to generate 27 two-way (five (5) inbound and 22 outbound) trips during the a.m. peak hour and 23 two-way (15 inbound and eight (8) outbound) trips during the p.m. peak hour. The site traffic volumes associated with the proposed development are illustrated in **Figure 4-1** and detailed calculations are provided in **Appendix E**.

4.2 Trip Distribution

Trip distribution is based on the existing traffic patterns and the available road network. The resulting distribution is summarized in **Table 4.2** below. The site traffic was assigned to the road network as per the trip distribution noted below.

Table 4.2 Trip Distribution Based on Existing Traffic Pattern

Direction (to / from)	Street	AM Peak Hour		PM Peak Hour	
		In	Out	In	Out
North	Mississauga Road	58%	41%	45%	55%
South	Mississauga Road	42%	59%	55%	45%
Total		**100%**			

4.3 Trip Assignment

The proposed site development traffic volumes noted in **Section 4.1** were assigned to the study area intersections based on the trip distribution presented in **Table 4.2**. The site traffic was assigned to the proposed site access on Mississauga Road.

5 Future Total Traffic Conditions

5.1 Future Total (2021) Assessment

The future (2021) total traffic (sum of the future (2021) background traffic and site traffic) was analyzed using *Synchro 9.0* software. The results are summarized in **Table 5.1** below with v/c ratios for overall intersection operations, through movements, or shared through / turning movements greater than 0.85; and v/c ratios for exclusive movements greater than 0.95 have been shown in bold. The future total traffic volumes are illustrated in **Figure 5-1**, respectively, and detailed calculations are provided in **Appendix F**.

Table 5.1 Future Total (2021) Traffic Analysis

Intersection	Key Movement	AM Peak Hour	PM Peak Hour
		LOS (v/c)	LOS (v/c)
Mississauga Road / Barbertown Road (Unsignalized)	EB left-through-right	C (0.06)	C (0.03)
	WB left-through-right	C (0.12)	C (0.13)
	NB Left	A (0.00)	A (0.01)
	NB through-right	- (0.36)	- (0.53)
	SB left	A (0.02)	B (0.04)
	SB through-right	- (0.50)	- (0.43)
Mississauga Road / Proposed Site Access (Unsignalized)	WB left-right	B (0.03)	C (0.02)
	NB through-right	- (0.36)	- (0.53)
	SB left	A (0.00)	A (0.01)
	SB through	- (0.51)	- (0.45)

The future total analysis reveals that the unsignalized intersection of Mississauga Road / Barbertown Road will operate with good LOS and v/c ratio during the a.m. and p.m. peak hours. In addition, the proposed Site Access / Mississauga Road intersection will operate with good LOS and v/c ratios during the road peak hours.

5.2 Proposed Site Access

The site access for the proposed development is proposed to be a full movement access, via Mississauga Road (west side of the development).

The proposed access is expected to have negligible effect on the operations of Mississauga Road due to low site traffic volume. As seen in **Section 5.1**, the addition of site traffic onto Mississauga Road will have no effect on the operations of Mississauga Road.

If the site access were to be provided along Barbertown Road (south of the proposed development), the traffic operations at the site access may be poor, due to no dedicated turning lanes along Barbertown Road. With the close proximity to the intersection of Barbertown Road and Mississauga Road, the queue length of vehicles waiting to turn left, eastbound, into the proposed development, may impact intersection operations. Mississauga Road currently has a two-way centre left-turn lane, which provides a safe refuge and queuing area for left turns along Mississauga Road, and will maintain an acceptable LOS along the roadway.

The proposed site access is located approximately 80 m away from the intersection of Barbertown Road and Mississauga Road, and with an existing left-turn lane, the site traffic will have no impact on the intersection.

As well, closing the current site access onto Barbertown Road, and not providing access for the future proposed development on Barbertown Road, would increase the safety of the roadway, neighbourhood and the park which is located directly south of the proposed development, and minimize traffic infiltration into the neighbourhood.

6 Parking Supply Evaluation

The Site Plan proposes a total of 45 parking spaces including 32 spaces for common elements townhouses (two (2) cars per unit: one (1) in garage and one (1) in driveway), four (4) parking spaces for common element condo visitors, eight parking spaces(8) for two-storey townhouse residents, and one parking space (1) for two-storey townhouse visitors. To determine the adequacy of the proposed parking supply to service the proposed residential development, the existing in force City's Zoning By-law No. 0225-2007 Part 3 was reviewed and examined.

6.1 City of Mississauga Zoning By-law No.: 0225-2007

The City of Mississauga Zoning By-law No. 0225-2007 Part 3 has been reviewed. The parking rates are as follows and the detailed calculations are summarized in **Table 6.1** and **Table 6.2** below.

Table 6.1 Parking Requirements for Freehold Townhouses

Land Use	Unit/GFA	Parking Rate	Required Parking Spaces	Proposed Parking Spaces	Difference
Freehold SFU	5 Units	3.25 spaces / unit	17	20	+3

Based on the current City's Zoning By-law, the proposed development is required to provide 3.25 parking spaces per unit including visitors, for the freehold detached single family units, and is being exceeded by the proposed development.

Table 6.2 Parking Requirements for Rest of the Development

Land Use	Unit/GFA	Parking Rate	Required Parking Spaces	Proposed Parking Spaces	Difference
Common Elements Townhouse	16 Units	2 spaces / unit	32	32	-
Two-storey Townhouses	4 Units	2 spaces / unit	8	8	-
Residential Visitors	20 Units	0.25 spaces / unit	5	5	-
Total			**45**	**45**	**-**

6.1.1 Based on the current City's Zoning By-law, the proposed development is required to provide 45 parking spaces (32 parking spaces for common element townhouses, five (5) parking spaces

for residential visitors and eight (8) spaces for two-storey townhouse residents). Therefore, the proposed parking supply will meet the requirement with 45 parking spaces. Public Transit

The site is located within an area serviced by the Mississauga Transit (Miway) bus services with at least 12 bus stops within a 500 m walking radius. **Figure 6-1** illustrates 500 m walking distance bus stops. The transit routes include:

- **Route 9 – Rathburn-Millers Grove**: operates along Rathburn Road to Creditview Road, continues to Eglinton Avenue and turns to Mississauga Road. The Route 9 ends at Meadowvale Town Centre Bus Terminal. In the vicinity of the site, this route operates with an average headway of 30 minutes during the weekday a.m. and p.m. peak hour, respectively. **Figure 6-2** illustrates Route 9 road network;
- **Route 44 – Mississauga Road:** operates along Mississauga Road. In the vicinity of the site, this route operates with an average headway of 18 to 19 minutes during the weekday a.m. and p.m. peak hour, respectively. **Figure 6-3** illustrates Route 44 road network;
- **Route 35 / Route 35A – Eglinton Road:** operates along Eglinton Avenue. Service starts at Islington Subway Station and it ends at Ninth Line. In the vicinity of the site, this route operates with an average headway of seven (7) minutes during the weekday a.m. and p.m. peak hour, respectively. **Figure 6-4** illustrates Route 35 road network;
- **Route 34 – Credit Valley**: operates along Eglinton Avenue. Service starts at Square One Bus Terminal and it ends at Erin Mills Town Centre Bus Terminal. In the vicinity of the site, this route operates with an average headway of 23 minutes during the weekday a.m. and p.m. peak hour, respectively. **Figure 6-5** illustrates Route 34 road network; and,
- The Streetville GO Train Station is approximately a 13 minute walk from the subject development property, travelling north along Queen Street to Old Station Road.

The above bus services provide a reliable, cost effective alternative mode of traveling through the comprehensive and continually growing transit network system. This further validates the accessibility of the subject site for non-automotive users.

7 Assessment of Inbound and Outbound Movements

The inbound and outbound movements were reviewed based on the latest Site Plan, dated March 20, 2017. The internal vehicular circulation for loading and servicing has been reviewed. The AutoTURN analysis for garbage trucks entering and exiting the site is illustrated in **Figure 7-1** and **Figure 7-2**. The garbage truck dimensions were based on the standards set out in the Region of Peel`s Waste Collection Design Standards Manual, for a 11.93 m long Fully-Automated Waste Collection Vehicle.

From the analysis, there is adequate manoeuvring area on-site to enable garbage and other similar service trucks to exit the site in a forward manner without adversely affecting the adjacent public roadways.

To demonstrate that there is adequate manoeuvring area on-site for passenger vehicles, problem parking spaces were selected for an AutoTURN analysis. The first problem parking space within the site is the most easterly parallel parking space (parking space ‘V3’). It was determined that there is adequate manoeuvring area for the passenger vehicle to enter and exit the parking space, without adversely affecting the other parking spaces, and is illustrated in **Figure 7-3**.

As per the Site Plan, parking spaces 5 and 8 were also selected for an AutoTURN analysis due to the close proximity of the parking spaces. The inbound and outbound movements for parking spaces 5 and 8 are illustrated in **Figure 7-4**.

8 Transportation Demand Management Plan

Transportation Demand Management (TDM) Plan refers to a 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. In short, a TDM plan works to change how, when, where, and why people travel.

The TDM measures have been prepared to address the following required transportation demand management objectives:

- Provision of facilities / operations to minimize single occupant vehicle (SOV) access to the study area and encourage the use of alternate transportation modes, particularly transit; and,
- Identify the operational and financial roles and responsibilities of the landowner including program development, implementation and ongoing management and operations of the travel demand management plan / program.

The TDM education and promotion related strategies support mobility by making the public aware of the options available and actively encourages the use of alternative transportation. These marketing initiatives may take the form of general marketing to targeted outreach. TDM marketing and promotion approaches include:

- Area marketing campaigns – Promoting transit services, carpooling or other TDM;
- Education Programs – Campaigns to inform the public about the specifics of services; and,
- Employer Based Outreach – Partnerships with employers to support TDM.

8.1 TDM Programs

8.1.1 Area Marketing Campaigns

Area marketing campaigns are premised on the objective of behavioural change. The methods of persuasion include conveying messages of:

- Personal benefit;
- Social benefit, and,
- Adhering to the “social norm”.

It is recognized that individuals are more likely to change their current behaviour or continue that behaviour if it is the social norm amongst their peers.

One of the first area marketing TDM campaigns within the GTA was established by Metropolitan Toronto in 1994. The Diamond Lane Campaign was implemented in co-ordination with the expansion of the High Occupancy Lane network. The campaign included billboard, transit vehicle, radio, and newspaper ads. Transportation Management Association (TMA)'s can help facilitate TDM directives by developing promotional materials, advocate for funding, conduct transportation fairs, and many other things.

8.1.2 Education Programs and Information Services

The effectiveness of transportation systems to provide mobility to the public is only as good as the awareness of the public to the services provided. Education programs and information services (such as call-lines and internet based route planners) can supplement marketing campaigns, increasing the commuter's understanding of their mobility options.

Miway provides http://www.mississauga.ca/portal/miway, which is a map based navigator. Progressive trip planners including web based trip data, can add to the commuter's understanding of travel options by providing real time information.

A Denver, Colorado TMA (Transportation Solutions) managed a program which was designed to improve ridership. Before-and-after surveys were to gauge the impact of the efforts. The results clearly demonstrated the direct impact of the project on improved perceptions of bus transportation in the area. The results showed an increase in awareness:

- 17% increase in those who "know which bus routes to take to work / school"; and,
- 19% increase in those who feel they have "the information I need to ride the bus".

8.1.3 Walking / Cycling

The City has a long-standing commitment to an off-road trail system, having built over 250 km of pathways and trails in parks and greenspaces across the City. Pathways in the neighbourhood parks provide cycling and walking friendly connections to schools, community centres and libraries. In addition, cycling safety programs were offered such as CAN-BIKE courses and community safety workshops. The Road Safety Handbook was published and includes a chapter on cycling safety.

8.1.4 Bicycle Parking

As per the City's comments, dated February 6, 2017, "the applicant is required to provide short term (outdoor) and long term (indoor) bicycle storage facilities for the purpose of a minimum rate of 0.08 outdoor and 0.70 indoor parking spaces per units (in a close vicinity to the main access).".

Short-term bicycle parking is typically provided in close proximity to entrances via high tensile strength racks. Long term bicycle parking is intended for use over several hours or overnight and the residents will also likely use their garages for bicycle storage and parking on a long term basis.

The proposed development will provide a brick shed, to be located to the east of the Barber House that will serve as a secure storage facility for both residents and visitors wishing to cycle to and from the site, thus further reducing the single occupancy vehicle (SOV) mode. The brick shed will serve as both short term and long term bicycle parking, with an area of 6.54 m^2.

Based on the City's comments, dated February 6, 2017, **Table 8.1** below summarizes the required bicycle parking spaces for the proposed development, based on short-term and long-term parking.

Table 8.1 Required Bicycle Parking Supply

Type of Bicycle Parking	Rate	# Parking Required
Short-Term (outdoor)	0.08/unit	2 spaces
Long-Term (indoor)	0.70/unit	21 spaces

The proposed development will provide a total of two (2) bicycle parking spaces for visitors (short-term) and 21 bicycle parking spaces for residents (long-term) as summarized in **Table 8.1**.

8.1.5 Carpooling

The Smart Commute program has been established in the form of 10 transportation management associations (TMAs) across the GTHA. The Smart Commute TMAs are supported by Metrolinx to coordinate and implement TDM initiatives.

Smart Commute – Mississauga is a TMA committed to reducing traffic congestion, improving air quality and advocating for sustainable transportation within the study area. Since inception in 2001, Smart Commute has collectively reduced approximately 1.2 million single-occupant vehicle (SOV) trips, which avoided more than 61 million vehicle kilometres traveled (VKT) and prevented the emission of over 14,000 tonnes of greenhouse gases (GHG) and 88 tonnes of smog-causing air pollutants. Smart Commute works to:

- Implement employee trip reduction programs at local workplaces;
- Decrease traffic congestion, and improve air quality and health by reducing vehicle emissions;
- Improve employee productivity and morale, and reduce employee turnover;
- Advocate for improved transit service, and increased local transportation infrastructure;
- Bus-only and cycling lanes, and a wider network of subway and light rapid transit;
- Promote the benefits of transit-supportive development and smart-growth strategies;
- Encourage legislative flexibility in support of high-value, cost effective transportation strategies such as vanpools, telework, transit subsidies and shuttle services; and,
- Increase opportunities for TMA collaboration with business and government.

Smart Commute offers one-on-one support for staff to use sustainable modes of transportation and provides promotions and incentives on an on-going basis. A web based car matching tool is provided to allow carpoolers to easily identify ride matching options among a large membership base and form carpooling arrangements.

9 Conclusions

Based on our analysis, our findings and recommendations are as follows:

- The study area intersection operates at good LOS in the existing traffic conditions during a.m. and p.m. peak hours;
- The study area intersection is operating at good LOS in the future (2021) background traffic conditions during a.m. and p.m. peak hours;
- The proposed development is expected to generate 27 two-way (five (5) inbound and 22 outbound) trips during the a.m. peak hour and 23 two-way (15 inbound and eight (8) outbound) trips during the p.m. peak hour;
- Similar to the future 2021 background traffic analysis, the study area intersections will operate at good LOS in the future (2021) total traffic conditions during a.m. and p.m. peak hours;
- Based on the current City Zoning By-law, the proposed development is required to provide 17 parking spaces, including visitors, for the freehold detached units, while 20 spaces are provided. In addition, the proposed development is required to provide 45 parking spaces (32 parking spaces for common element townhouses, five (5) parking spaces for residential visitors and eight (8) spaces for two-storey townhouses). The proposed parking supply of 45 will successfully accommodate the parking requirements during peak operation;
- The results of the AutoTURN assessment indicate that there is sufficient manoeuvring space within the site for trucks to enter / egress the site with ease; and,
- The proposed development will have minimal impact on the surrounding road network.

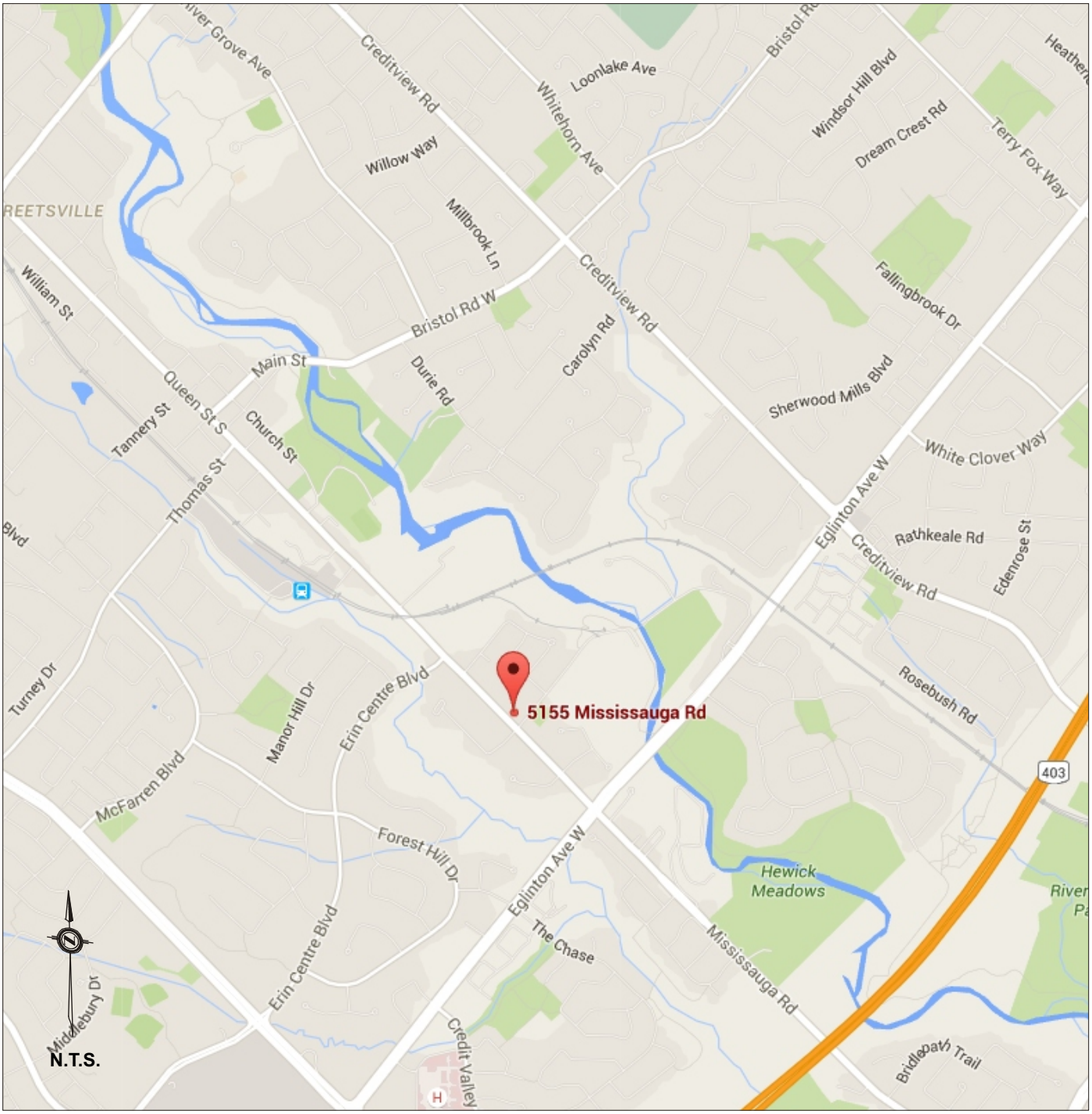


Figure 1-1
Site Location

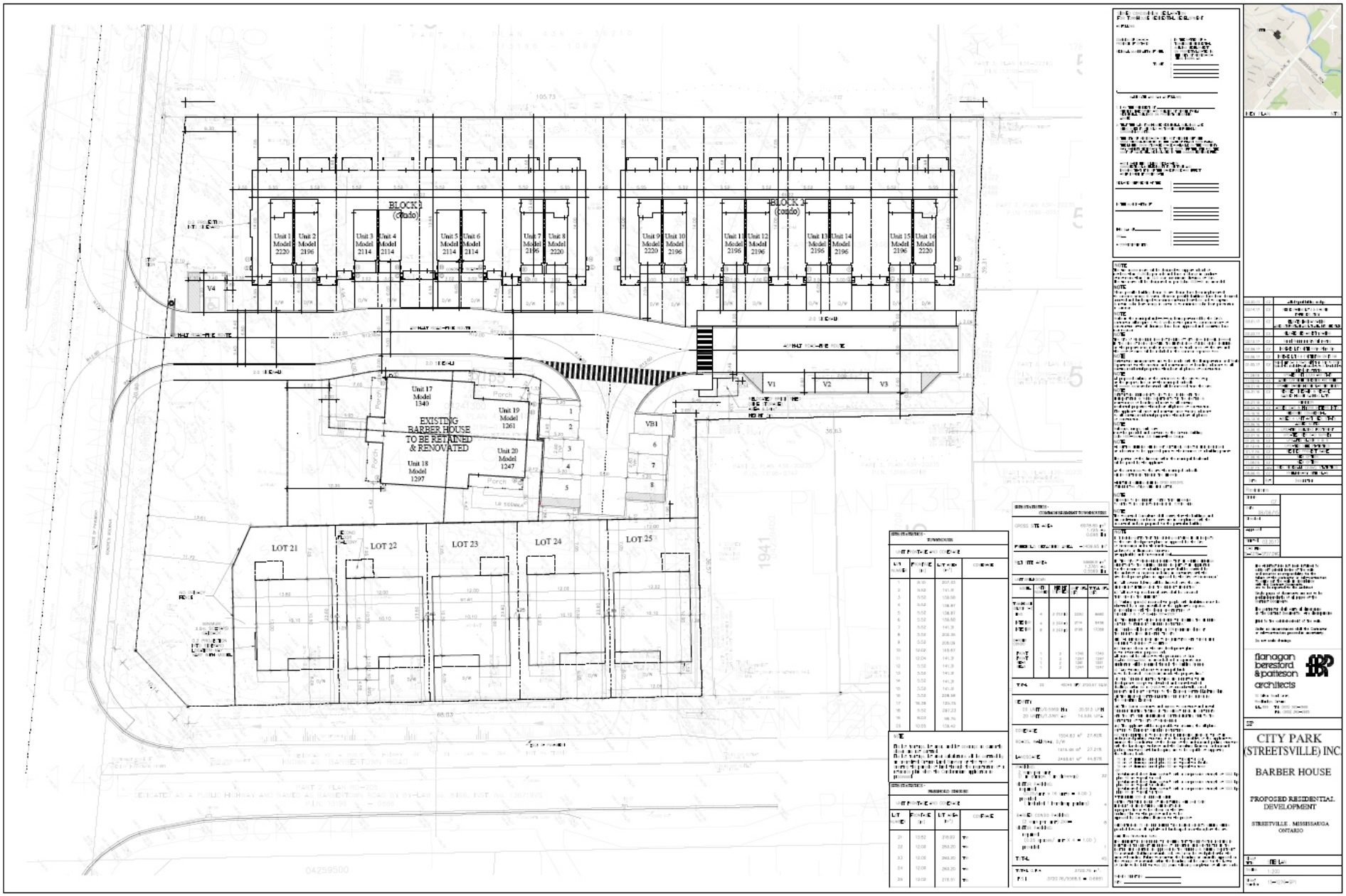


Figure 1-2
Proposed Site Plan

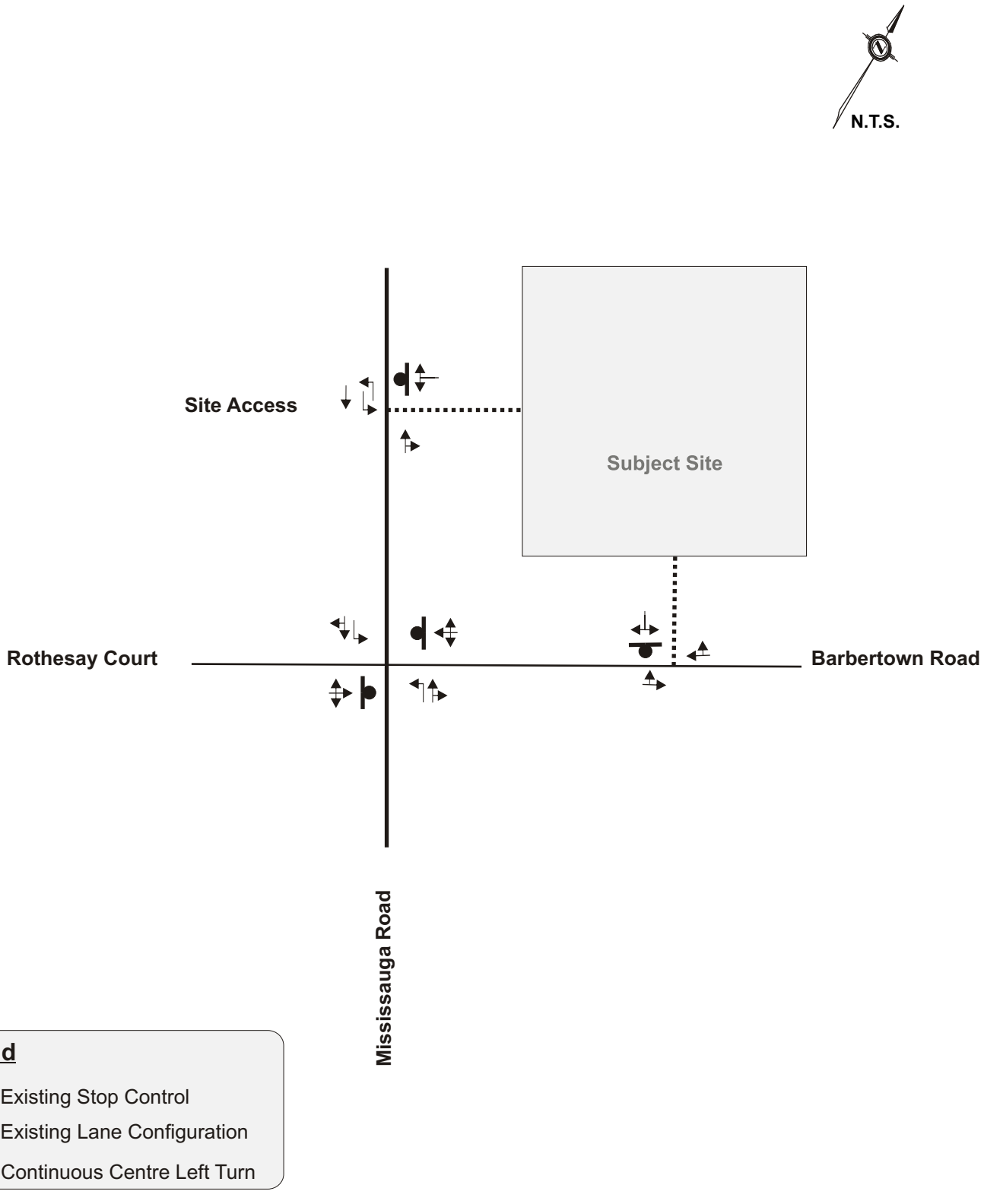
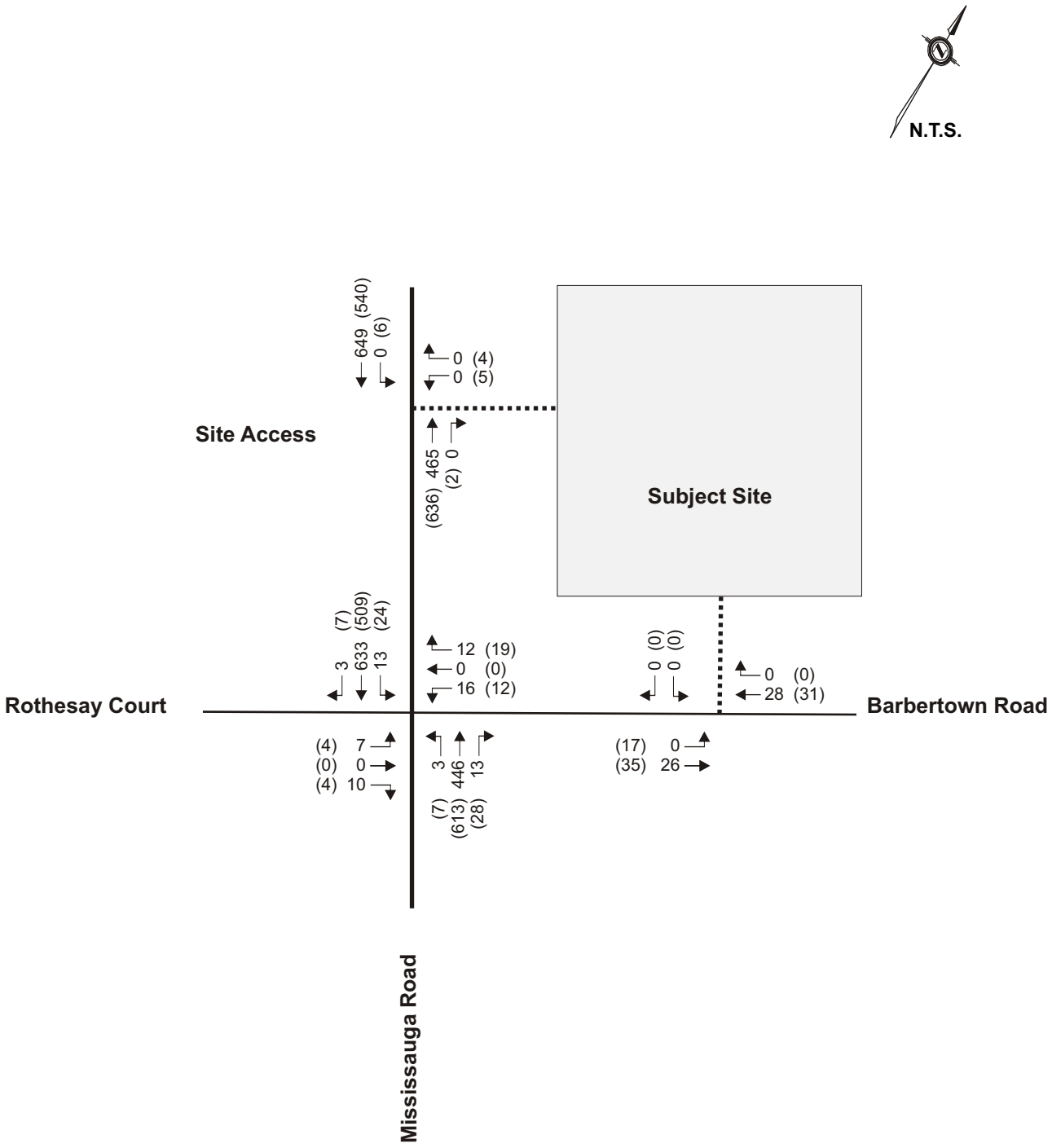


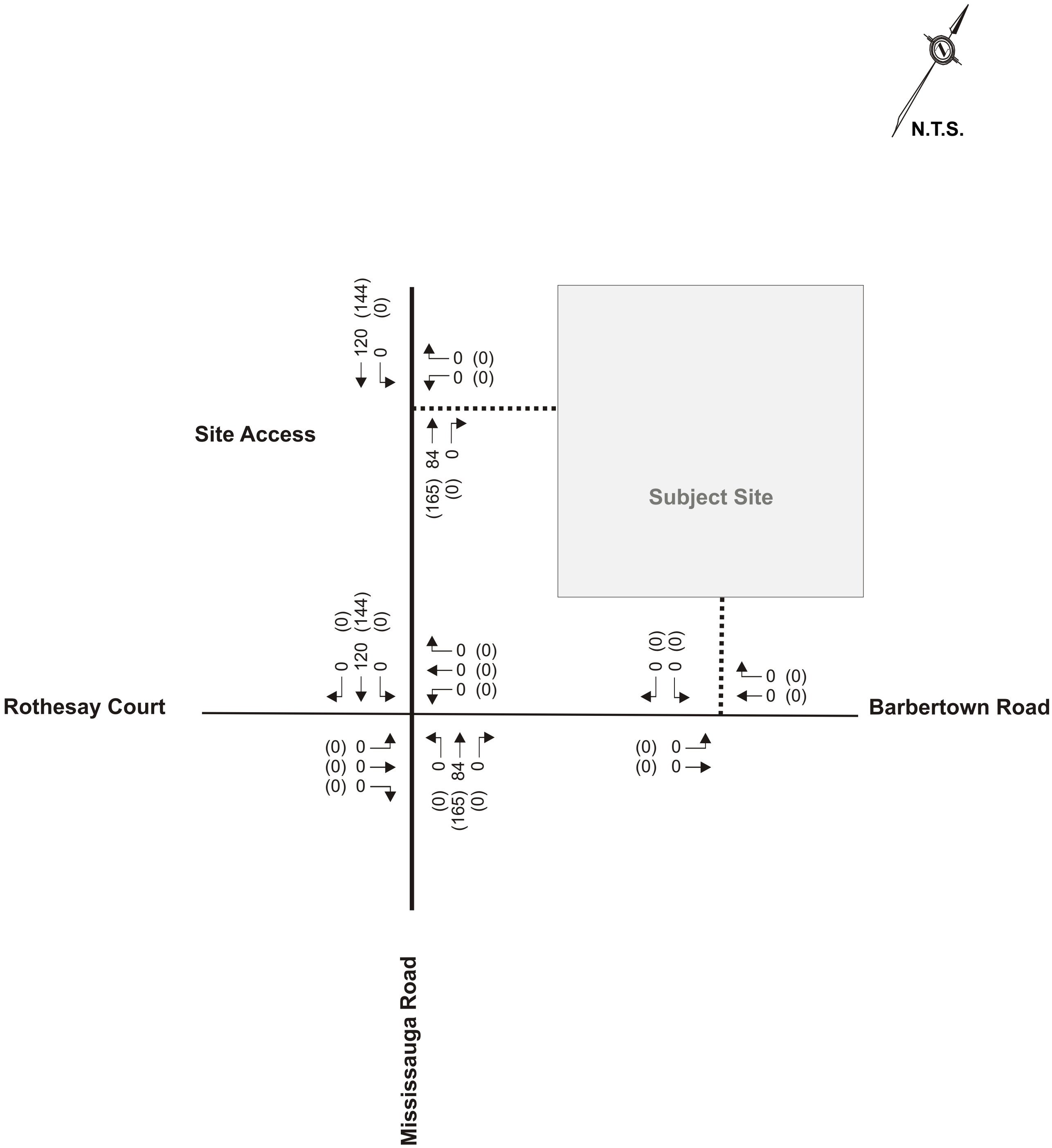
Figure 2-1
Existing Lane Configurations



Legend

99 AM Peak Hour Volume
(99) PM Peak Hour Volume

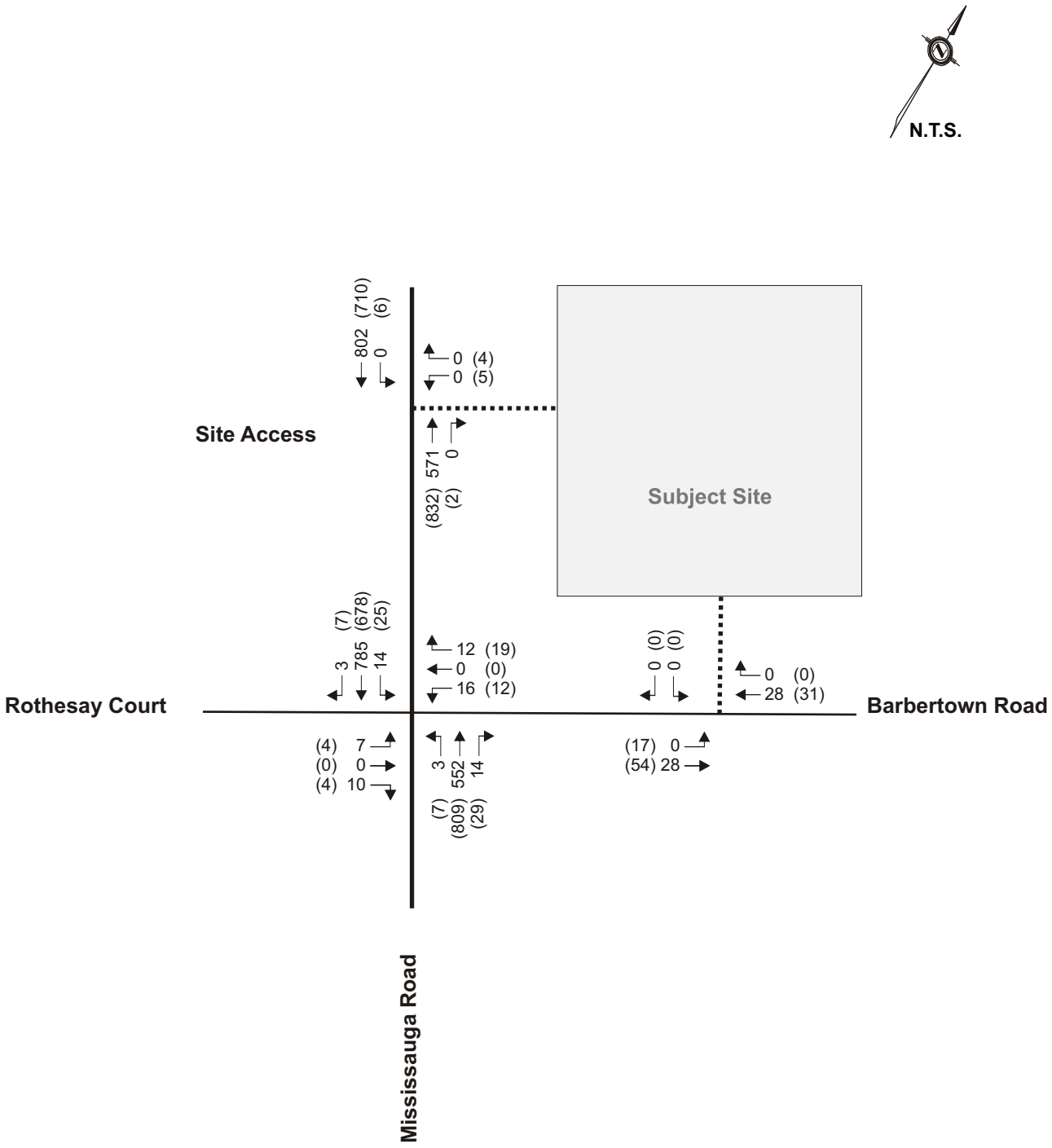
Figure 2-2
Existing Traffic Volumes



Legend

99 AM Peak Hour Volume
(99) PM Peak Hour Volume

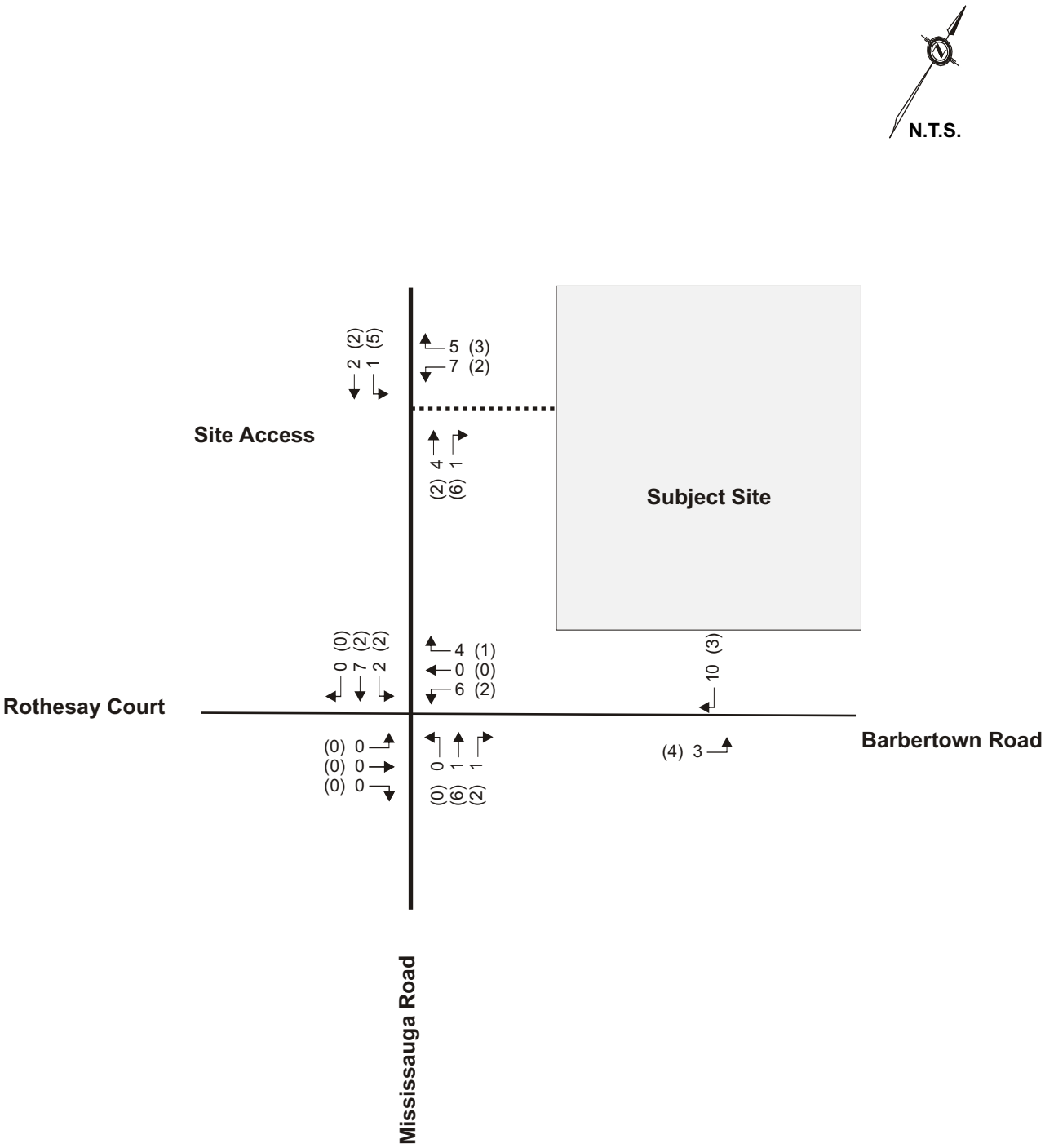
Figure 3-1
Background Development Site Traffic Volumes



Legend

99 AM Peak Hour Volume
(99) PM Peak Hour Volume

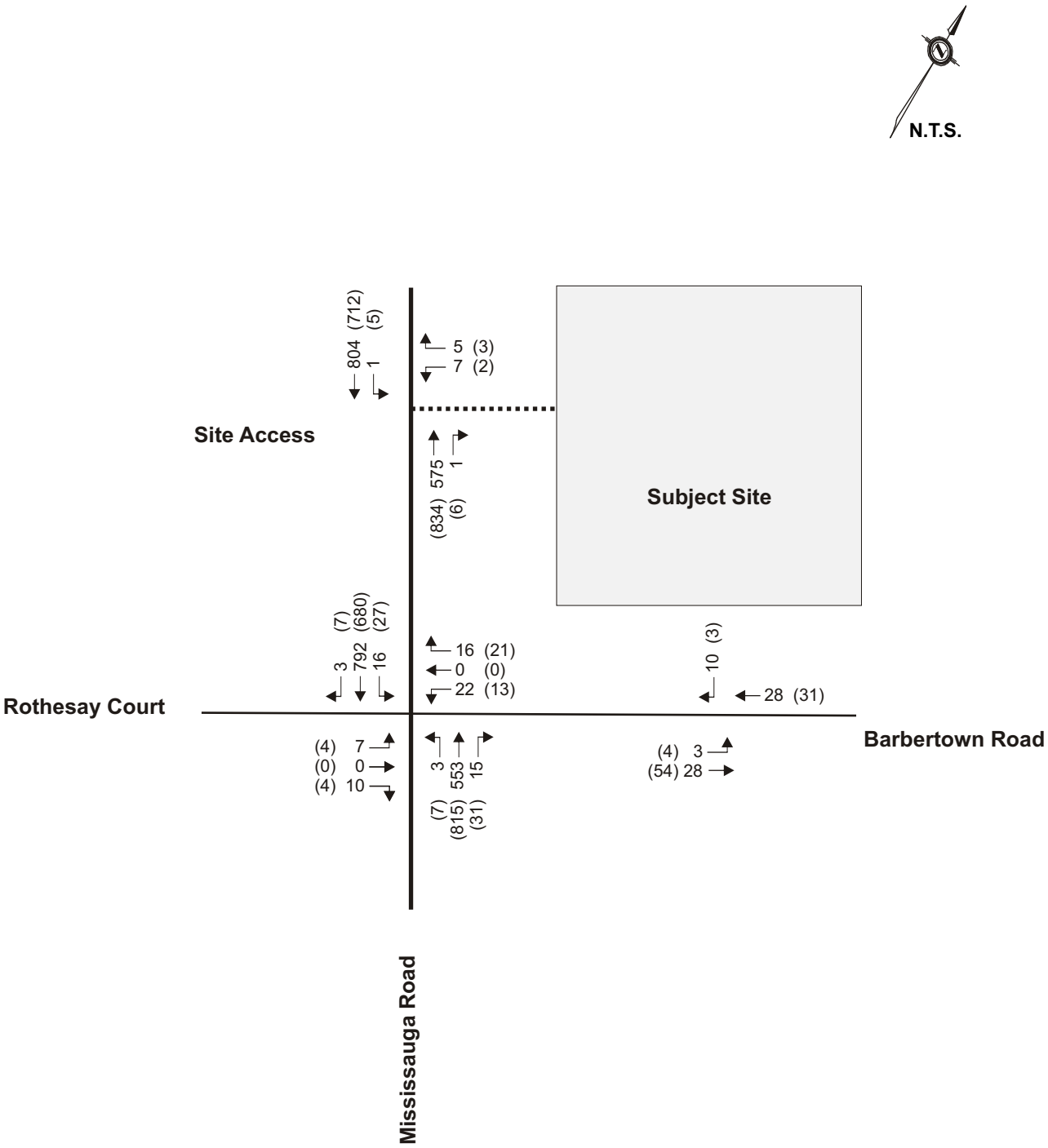
Figure 3-2
Future Background Traffic Volumes



Legend

99 AM Peak Hour Volume
(99) PM Peak Hour Volume

Figure 4-1
Site Traffic Volumes



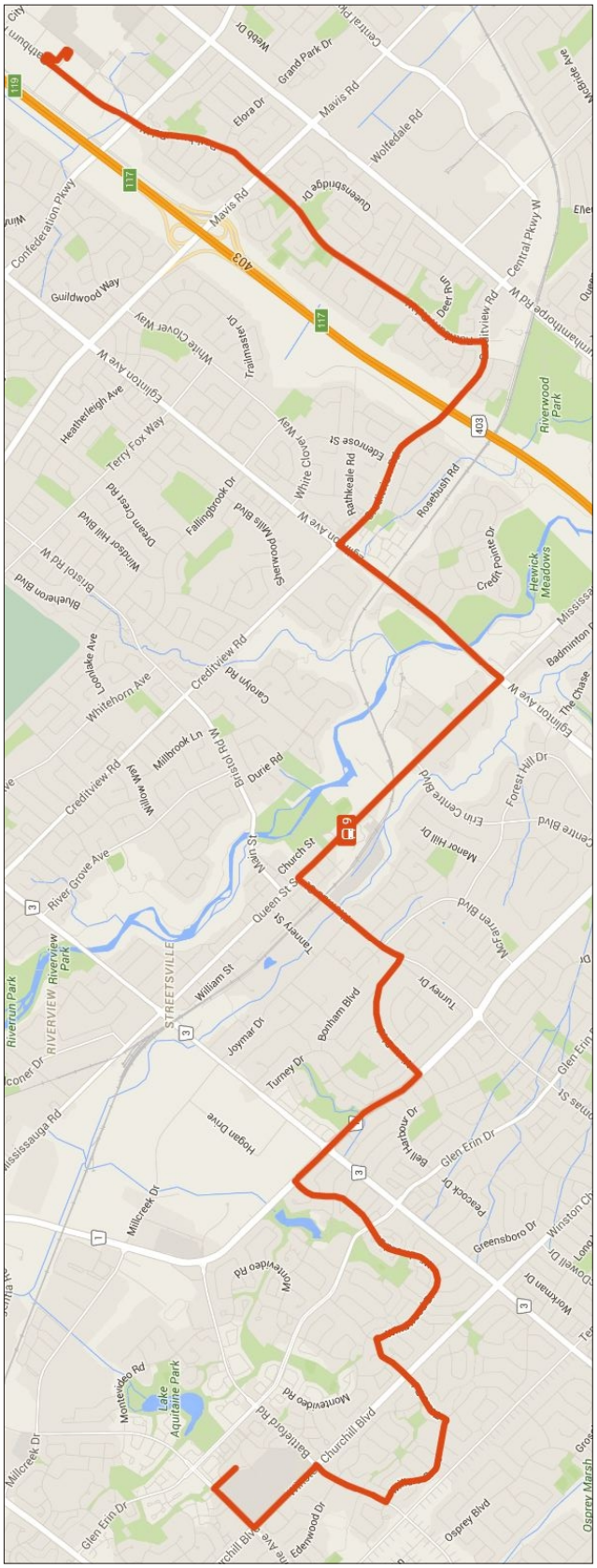
Legend

99 AM Peak Hour Volume
(99) PM Peak Hour Volume

Figure 5-1
Future Total Traffic Volumes

N.T.S.

Figure 6-1
Miway Bus Stops in 500 m Walking Distance



N.T.S.

Figure 6-2
Miway - Route 9 - Ratburn / Miller Drive

N.T.S.

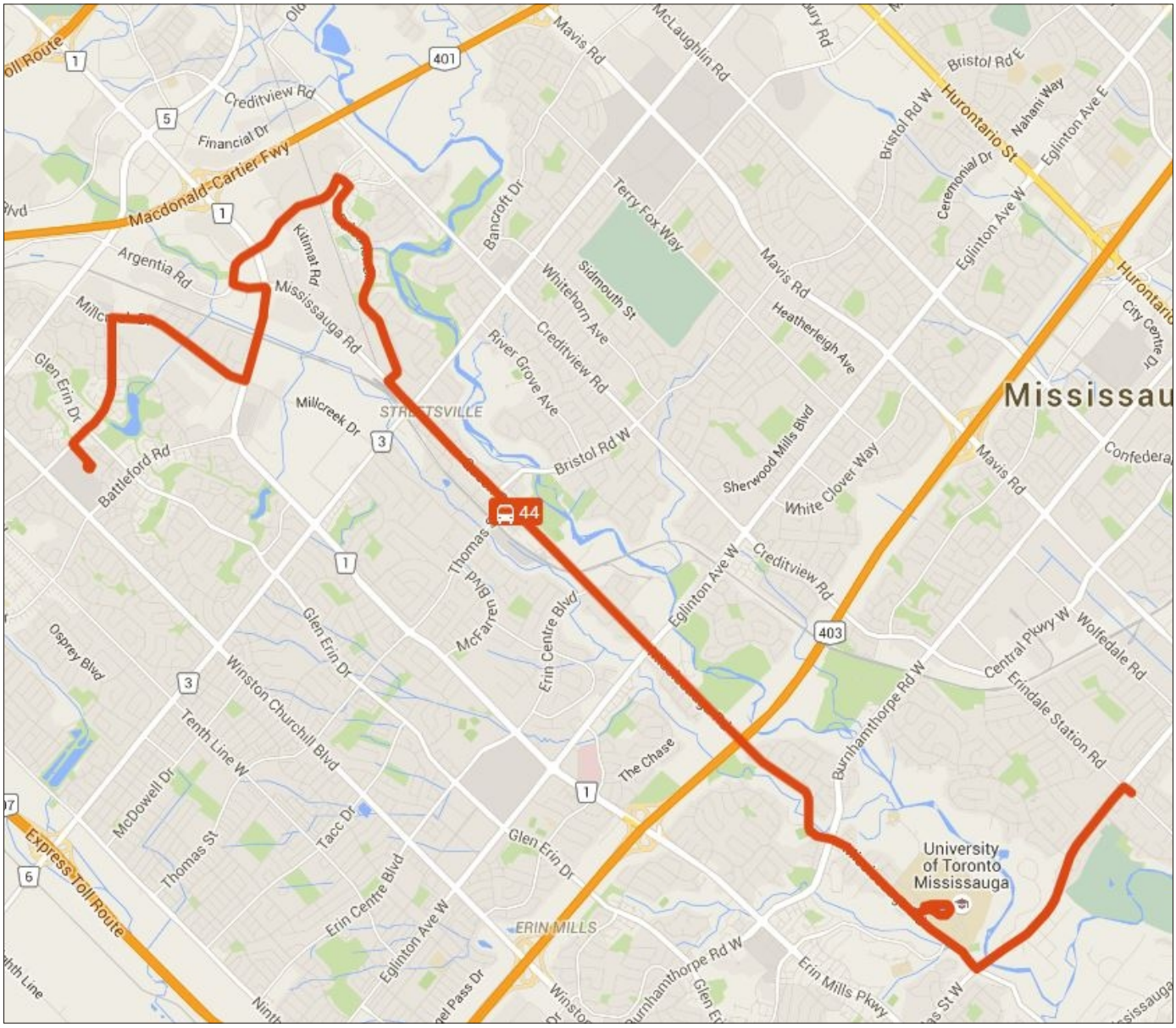


Figure 6-3
Miway - Route 44 - Mississauga Road

N.T.S.

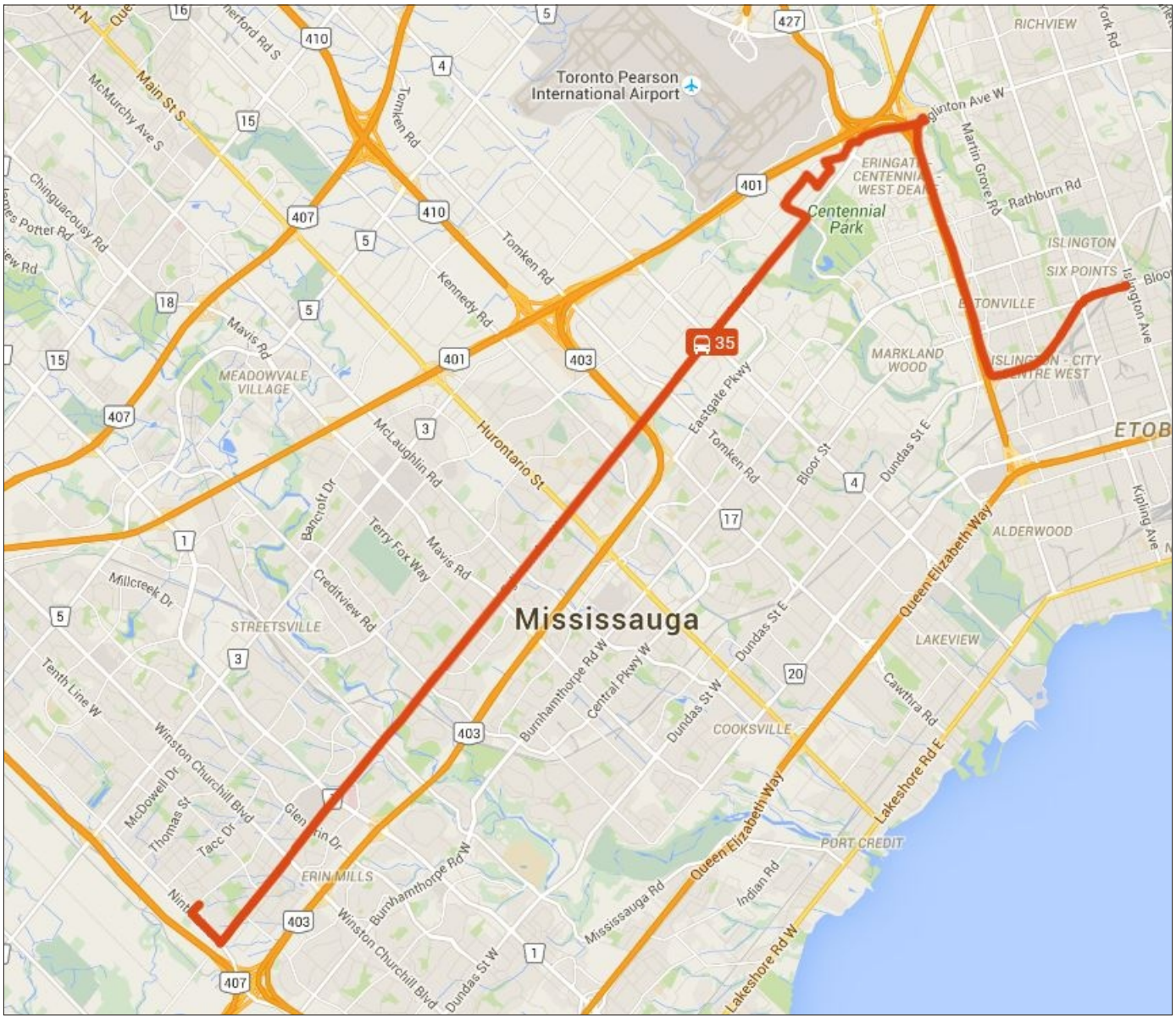


Figure 6-4
Miway - Route 35/35A - Eglinton Avenue

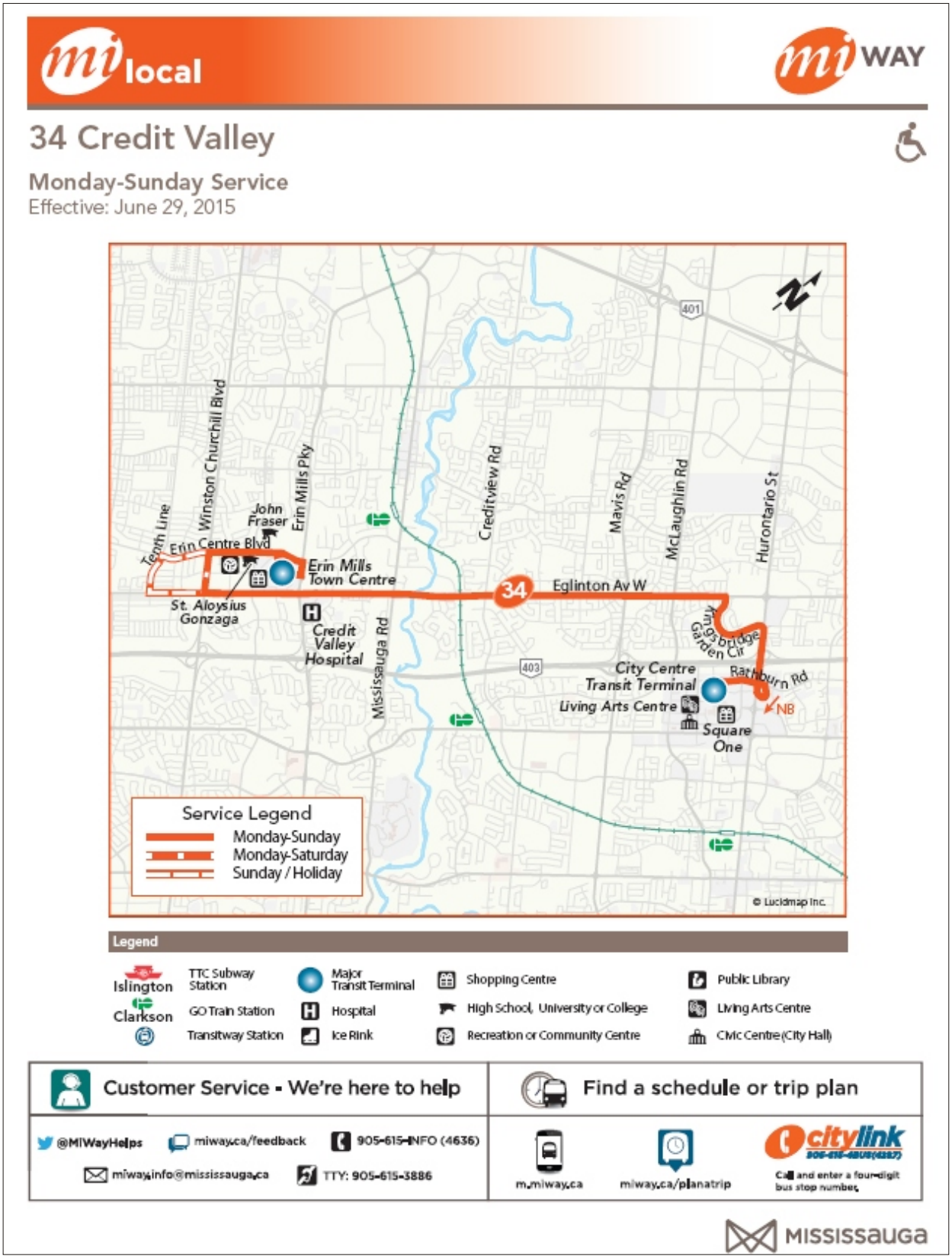


Figure 6-5
Miway - Route 34 - Credit Valley

MISSISSAUGA

ASPHALT ROAD–FIRE ROUTE

3.40
6.80
7.20
3.40

Peel (Garbage Truck)
Custom

R12.00

R8.60

70.90

2.0 SIDEWALK

R12.00

R12.00

6.40

3.00

3.00

2.00

2.00

0.80

5.52

7.65

2.00

4.95

Porch

Porch

PLAN 4

12.34

5.42

13.61

SECOND FLOOR BALCONY

LOT 22

Peel (Garbage Truck)
Custom

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70 VALLEYWOOD DRIVE, MARKHAM, ON L3R 4T5
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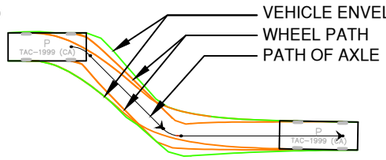
LEGEND

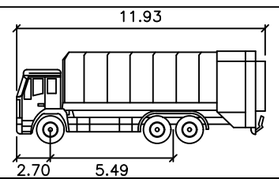


VEHICLE ENVELOPE
WHEEL PATH
PATH OF AXLE

DESIGN VEHICLE

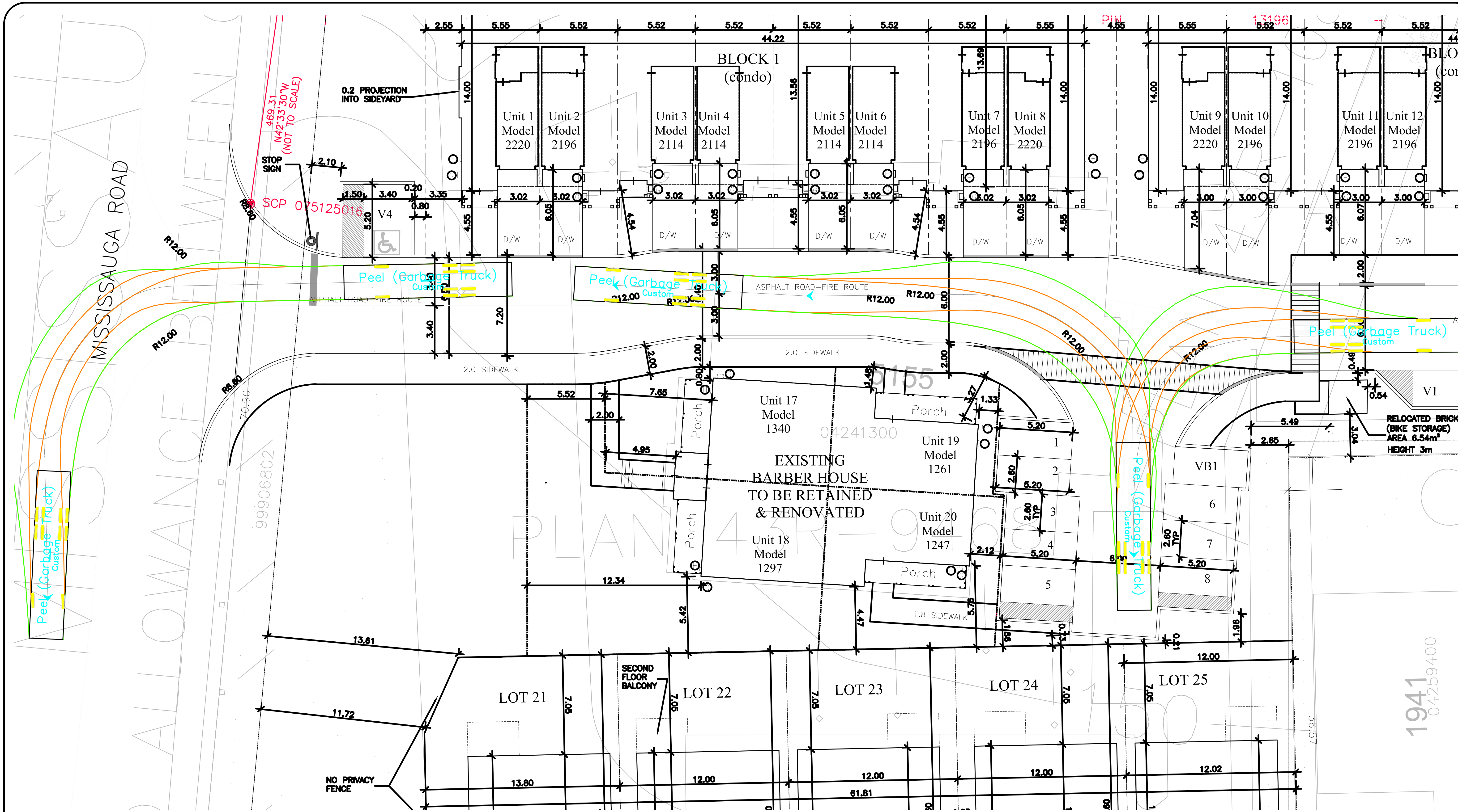
Peel (Garbage Truck)

	meters
Width	: 2.40
Track	: 2.40
Lock to Lock Time	: 6.0
Steering Angle	: 25.0



GARBAGE TRUCK (11.93 m) - INBOUND
PROPOSED MIXED-USE DEVELOPMENT
5155 MISSISSAUGA ROAD
CITY OF MISSISSAUGA

DATE:	MARCH, 2017	PROJECT No.:	UD16-0022
SCALE:	NTS	FIGURE No.:	7-1


BLOCK 1
(condo)
Unit 1 Model 2220
Unit 2 Model 2196
Unit 3 Model 2114
Unit 4 Model 2114
Unit 5 Model 2114
Unit 6 Model 2114
Unit 7 Model 2196
Unit 8 Model 2220
Unit 9 Model 2220
Unit 10 Model 2196
Unit 11 Model 2196
Unit 12 Model 2196
0.2 PROJECTION INTO SIDEYARD
STOP SIGN
469.31
N42°33'30"W
(NOT TO SCALE)
SCP 075125016
V4
MISSISSAUGA ROAD
ASPHALT ROAD–FIRE ROUTE
2.0 SIDEWALK
Peel (Garbage Truck)
Custom
Unit 17 Model 1340
Unit 18 Model 1297
Unit 19 Model 1261
Unit 20 Model 1247
EXISTING BARBER HOUSE TO BE RETAINED & RENOVATED
Porch
1.8 SIDEWALK
VB1
V1
RELOCATED BRICK (BIKE STORAGE) AREA 6.54m²
HEIGHT 3m
SECOND FLOOR BALCONY
NO PRIVACY FENCE
LOT 21
LOT 22
LOT 23
LOT 24
LOT 25
61.81

COLE ENGINEERING

70 VALLEYWOOD DRIVE, MARKHAM, ON L3R 4T5
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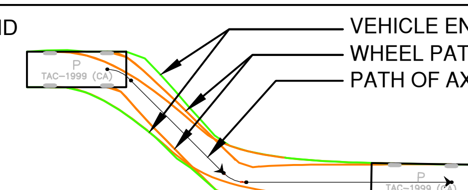
LEGEND



DESIGN VEHICLE

Peel (Garbage Truck)

meters

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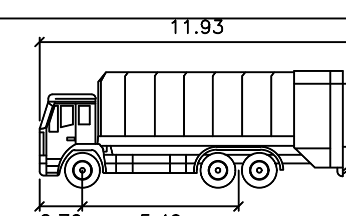
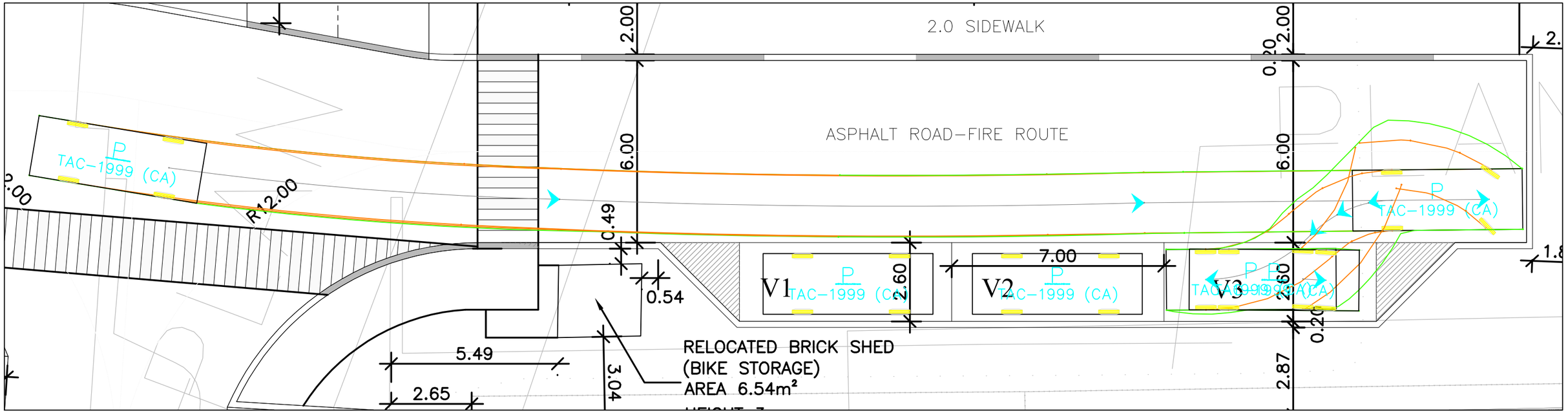
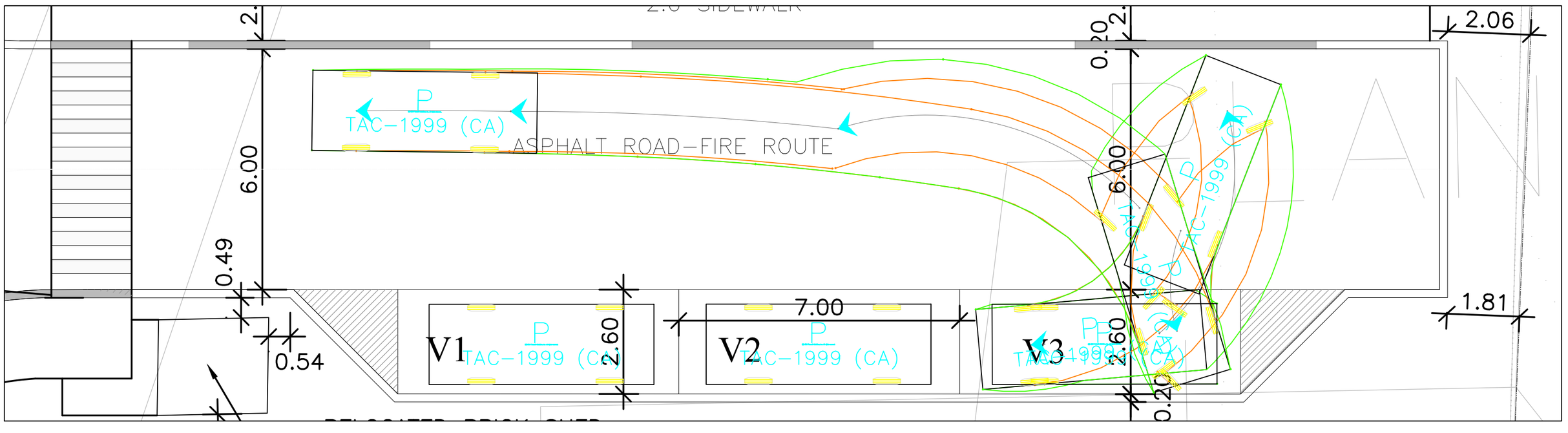
Track	: 2.40
Lock to Lock Time	: 6.0
Steering Angle	: 25.0



GARBAGE TRUCK (11.93 m) - OUTBOUND
PROPOSED MIXED-USE DEVELOPMENT
5155 MISSISSAUGA ROAD
CITY OF MISSISSAUGA

DATE:	MARCH, 2017	PROJECT No.:	UD16-0022
SCALE:	NTS	FIGURE No.:	7-2





COLE ENGINEERING
70 VALLEYWOOD DRIVE, MARKHAM, ON L3R 4T5
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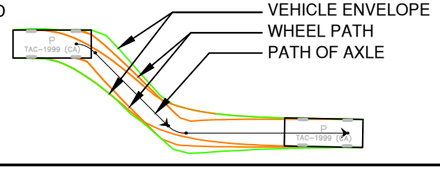
LEGEND



DESIGN VEHICLE

P

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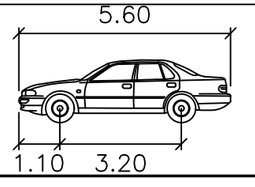
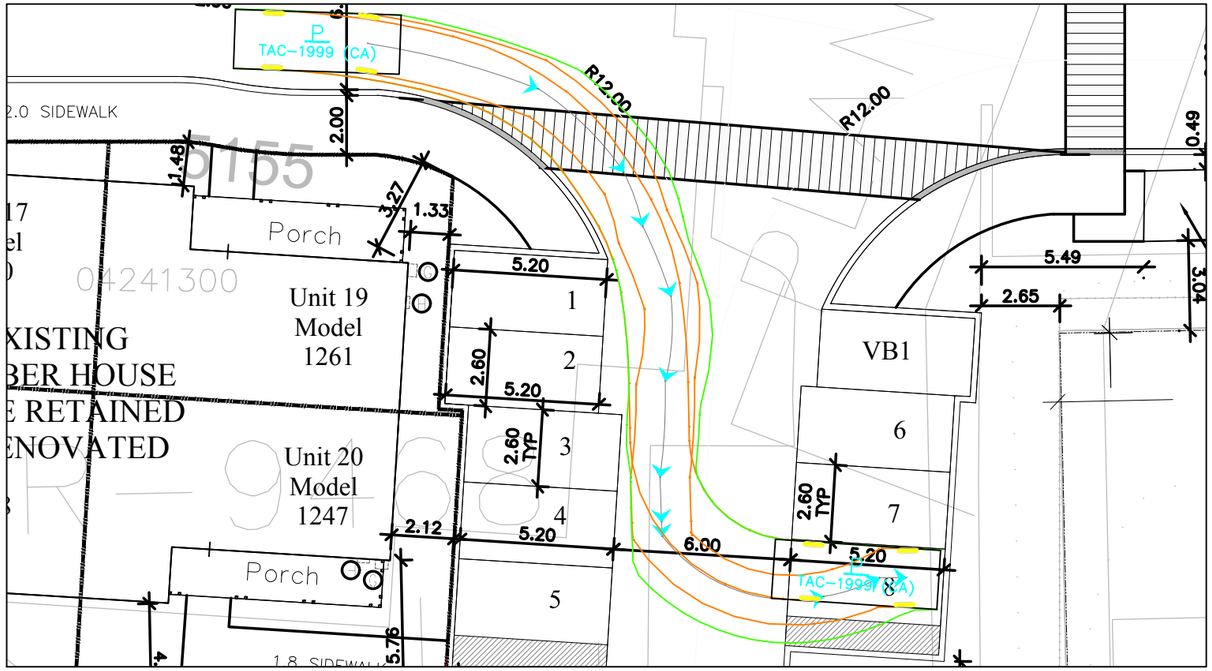
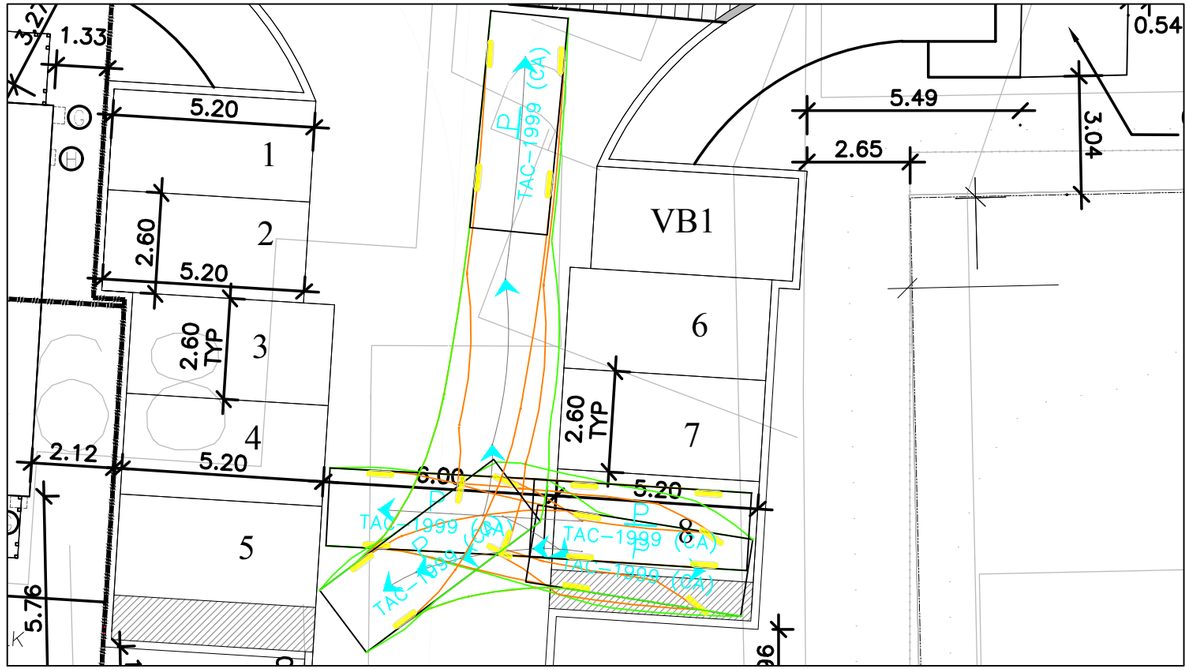
Track	: 2.00
Lock to Lock Time	: 6.0
Steering Angle	: 35.9

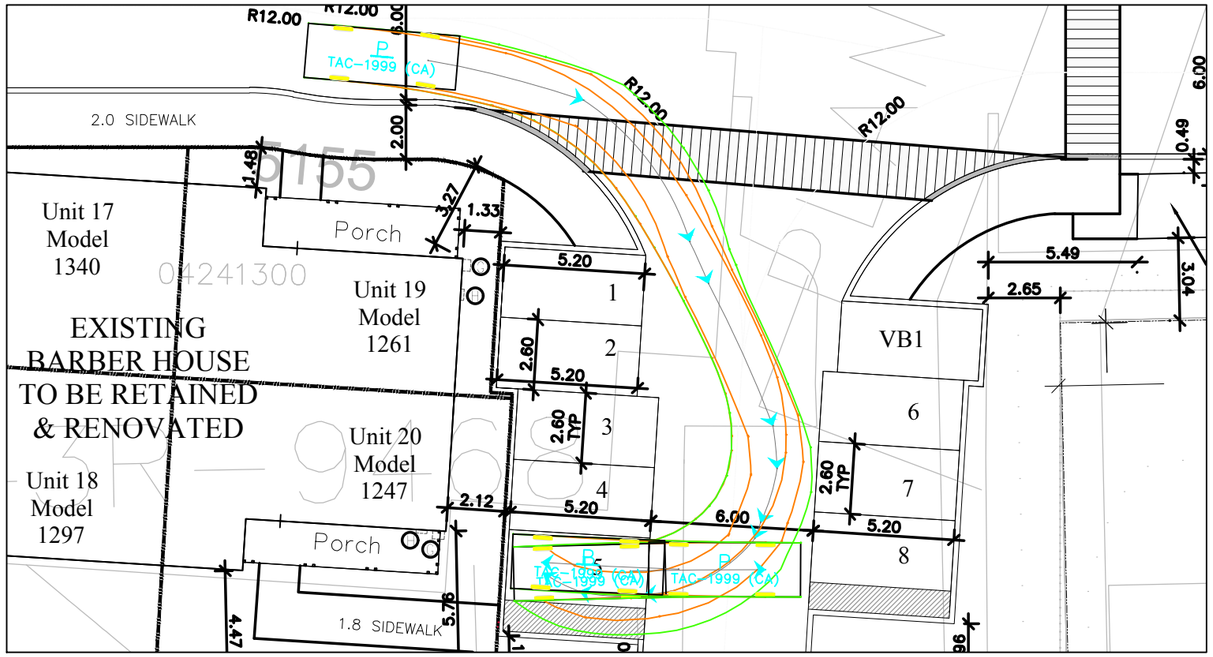


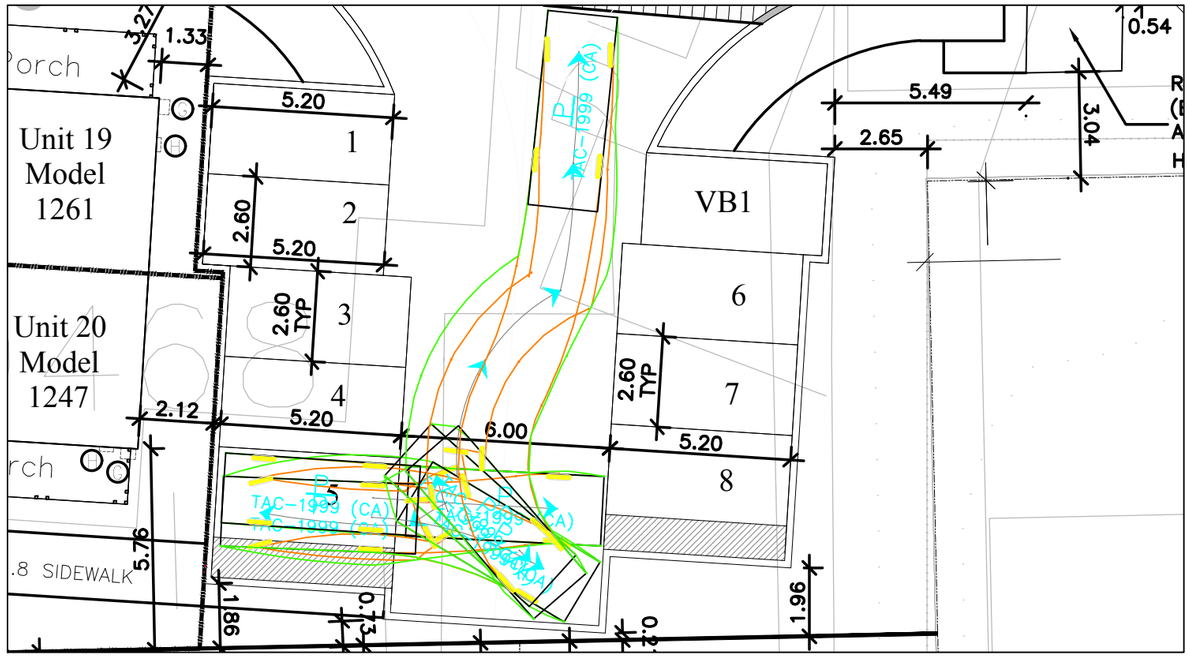
PTAC - EASTERLY PARKING SPACE - INBOUND AND OUTBOUND
PROPOSED MIXED-USE DEVELOPMENT
5155 MISSISSAUGA ROAD
CITY OF MISSISSAUGA

DATE:	MARCH, 2017	PROJECT No.:	UD16-0022
SCALE:	NTS	FIGURE No.:	7-3









COLE ENGINEERING
70 VALLEYWOOD DRIVE, MARKHAM, ON L3R 4T5
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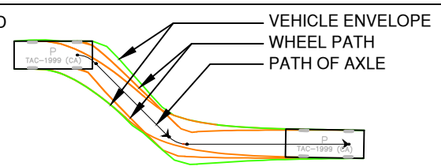
LEGEND



DESIGN VEHICLE

P

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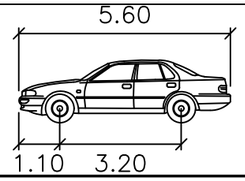
Track	: 2.00
Lock to Lock Time	: 6.0
Steering Angle	: 35.9



PARKING SPACES 5 AND 8 - INBOUND AND OUTBOUND
PROPOSED MIXED-USE DEVELOPMENT
5155 MISSISSAUGA ROAD
CITY OF MISSISSAUGA

DATE:	MARCH, 2017	PROJECT No.:	UD16-0022
SCALE:	NTS	FIGURE No.:	7-4

APPENDIX A
Existing Traffic Data

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 8:00:00
To: 9:00:00

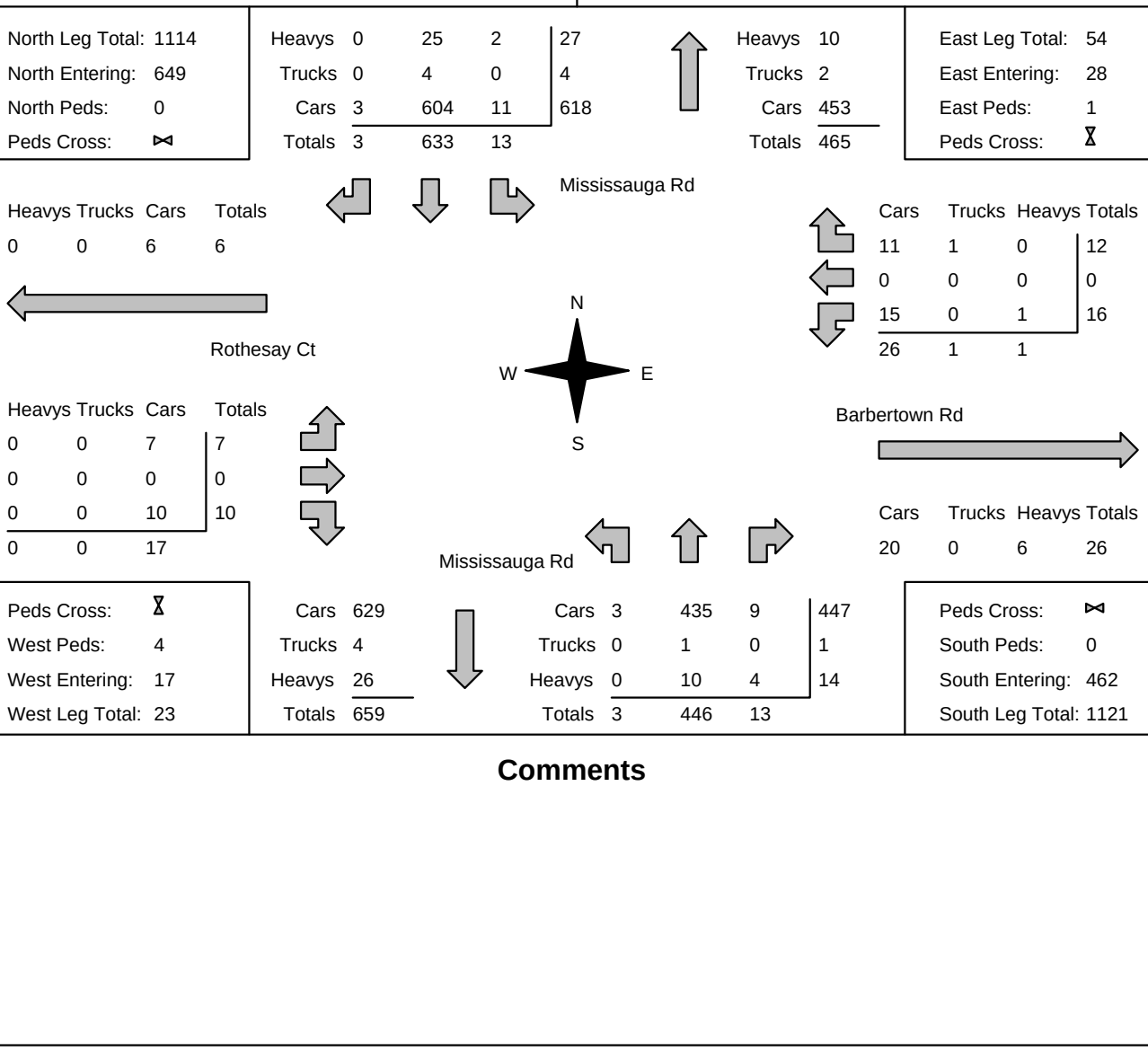
Municipality: Mississauga
Site #: 1602600001
Intersection: Mississauga Rd & Barbertown Rd
TFR File #: 1
Count date: 10-Feb-16

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Mississauga Rd runs N/S



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 16:00:00
To: 18:00:00

One Hour Peak
From: 17:00:00
To: 18:00:00

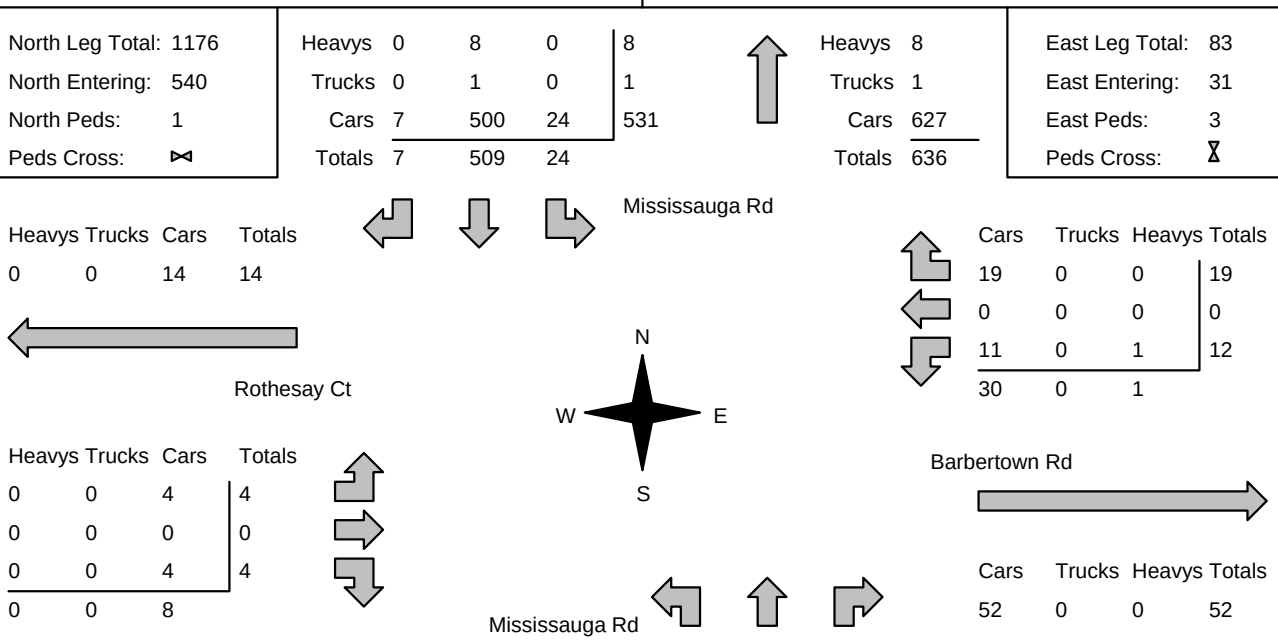
Municipality: Mississauga
Site #: 1602600001
Intersection: Mississauga Rd & Barbertown Rd
TFR File #: 1
Count date: 10-Feb-16

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Mississauga Rd runs N/S



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Total Count Diagram

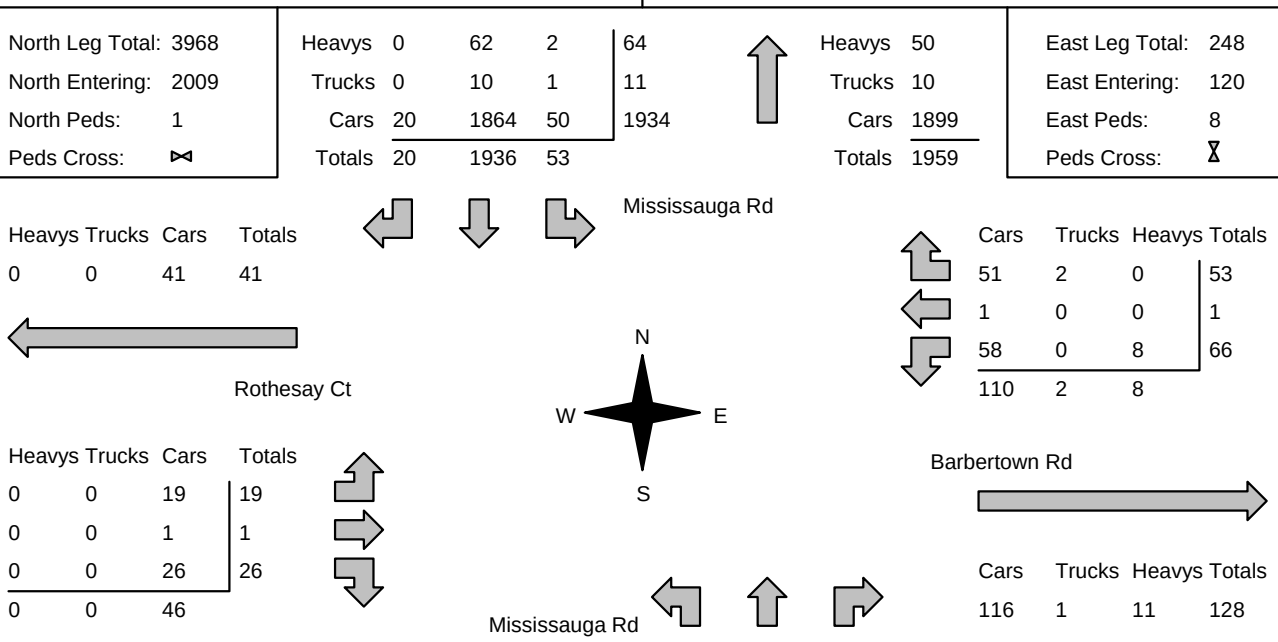
Municipality: Mississauga
Site #: 1602600001
Intersection: Mississauga Rd & Barbertown Rd
TFR File #: 1
Count date: 10-Feb-16

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Mississauga Rd runs N/S



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Traffic Count Summary

Intersection: Mississauga Rd & Barbertown Rd | **Count Date:** 10-Feb-16 | **Municipality:** Mississauga

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*7*	*420*	*2*	*429*	*0*
9:00:00	*13*	*633*	*3*	*649*	*0*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*9*	*374*	*8*	*391*	*0*
18:00:00	*24*	*509*	*7*	*540*	*1*
Totals:	53	1936	20	2009	1

North/South Total Approaches: *0*, *747*, *1111*, *0*, *944*, *1188*, 3990

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*4*	*301*	*13*	*318*	*1*
9:00:00	*3*	*446*	*13*	*462*	*0*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*6*	*527*	*20*	*553*	*0*
18:00:00	*7*	*613*	*28*	*648*	*0*
S Totals:	20	1887	74	1981	1

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*15*	*1*	*9*	*25*	*2*
9:00:00	*16*	*0*	*12*	*28*	*1*
16:00:00	*1*	*0*	*0*	*1*	*0*
17:00:00	*22*	*0*	*13*	*35*	*2*
18:00:00	*12*	*0*	*19*	*31*	*3*
Totals:	66	1	53	120	8

East/West Total Approaches: *1*, *38*, *45*, *1*, *42*, *39*, 166

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*1*	*0*	*0*	*1*	*0*
8:00:00	*5*	*1*	*7*	*13*	*4*
9:00:00	*7*	*0*	*10*	*17*	*4*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*2*	*0*	*5*	*7*	*1*
18:00:00	*4*	*0*	*4*	*8*	*0*
W Totals:	19	1	26	46	9

Calculated Values for Traffic Crossing Major Street

Hours Ending:	*7:00*	*8:00*	*9:00*	*16:00*	*17:00*	*18:00*	*0:00*	*0:00*
Crossing Values:	*1*	*22*	*23*	*1*	*24*	*17*	*0*	*0*

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 10-Feb-16 Site #: 1602600001

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	57	57	0	0	0	0	1	1	0	0	0	0	2	2	0	0	0	0
7:30:00	0	0	133	76	0	0	0	0	2	1	0	0	0	0	6	4	0	0	0	0
7:45:00	1	1	270	137	0	0	1	1	2	0	0	0	0	0	15	9	0	0	0	0
8:00:00	6	5	396	126	2	2	1	0	3	1	0	0	0	0	21	6	0	0	0	0
8:15:00	7	1	551	155	2	0	1	0	3	0	0	0	2	2	31	10	0	0	0	0
8:30:00	8	1	686	135	5	3	1	0	5	2	0	0	2	0	40	9	0	0	0	0
8:45:00	14	6	843	157	5	0	1	0	7	2	0	0	2	0	46	6	0	0	0	0
9:00:00	17	3	1000	157	5	0	1	0	7	0	0	0	2	0	46	0	0	0	0	0
9:15:00	17	0	1000	0	5	0	1	0	7	0	0	0	2	0	46	0	0	0	0	0
16:00:00	17	0	1000	0	5	0	1	0	7	0	0	0	2	0	46	0	0	0	0	0
16:15:00	17	0	1096	96	6	1	1	0	9	2	0	0	2	0	49	3	0	0	0	0
16:30:00	22	5	1188	92	8	2	1	0	9	0	0	0	2	0	51	2	0	0	0	0
16:45:00	23	1	1268	80	13	5	1	0	9	0	0	0	2	0	52	1	0	0	0	0
17:00:00	26	3	1364	96	13	0	1	0	9	0	0	0	2	0	54	2	0	0	0	0
17:15:00	29	3	1498	134	16	3	1	0	9	0	0	0	2	0	57	3	0	0	0	0
17:30:00	32	3	1630	132	17	1	1	0	9	0	0	0	2	0	59	2	0	0	0	0
17:45:00	39	7	1754	124	17	0	1	0	10	1	0	0	2	0	61	2	0	0	0	0
18:00:00	50	11	1864	110	20	3	1	0	10	0	0	0	2	0	62	1	0	0	1	1
18:15:00	50	0	1864	0	20	0	1	0	10	0	0	0	2	0	62	0	0	0	1	0
18:15:15	50	0	1864	0	20	0	1	0	10	0	0	0	2	0	62	0	0	0	1	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 10-Feb-16 Site #: 1602600001

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	3	3	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	4	1	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
7:45:00	5	1	1	0	4	2	0	0	0	0	0	0	1	1	0	0	0	0	2	1
8:00:00	13	8	1	0	9	5	0	0	0	0	0	0	2	1	0	0	0	0	2	0
8:15:00	15	2	1	0	10	1	0	0	0	0	0	0	2	0	0	0	0	0	2	0
8:30:00	19	4	1	0	12	2	0	0	0	0	1	1	3	1	0	0	0	0	2	0
8:45:00	22	3	1	0	17	5	0	0	0	0	1	0	3	0	0	0	0	0	2	0
9:00:00	28	6	1	0	20	3	0	0	0	0	1	0	3	0	0	0	0	0	3	1
9:15:00	28	0	1	0	20	0	0	0	0	0	1	0	3	0	0	0	0	0	3	0
16:00:00	28	0	1	0	20	0	0	0	0	0	1	0	4	1	0	0	0	0	3	0
16:15:00	34	6	1	0	22	2	0	0	0	0	1	0	4	0	0	0	0	0	4	1
16:30:00	37	3	1	0	27	5	0	0	0	0	2	1	6	2	0	0	0	0	4	0
16:45:00	42	5	1	0	27	0	0	0	0	0	2	0	6	0	0	0	0	0	5	1
17:00:00	47	5	1	0	32	5	0	0	0	0	2	0	7	1	0	0	0	0	5	0
17:15:00	47	0	1	0	42	10	0	0	0	0	2	0	7	0	0	0	0	0	6	1
17:30:00	51	4	1	0	42	0	0	0	0	0	2	0	8	1	0	0	0	0	6	0
17:45:00	55	4	1	0	48	6	0	0	0	0	2	0	8	0	0	0	0	0	6	0
18:00:00	58	3	1	0	51	3	0	0	0	0	2	0	8	0	0	0	0	0	8	2
18:15:00	58	0	1	0	51	0	0	0	0	0	2	0	8	0	0	0	0	0	8	0
18:15:15	58	0	1	0	51	0	0	0	0	0	2	0	8	0	0	0	0	0	8	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 10-Feb-16 Site #: 1602600001

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	45	45	3	3	0	0	1	1	0	0	0	0	7	7	0	0	0	0
7:30:00	0	0	97	52	5	2	0	0	1	0	0	0	0	0	9	2	1	1	0	0
7:45:00	1	1	180	83	8	3	0	0	2	1	0	0	0	0	14	5	2	1	1	1
8:00:00	4	3	282	102	10	2	0	0	2	0	0	0	0	0	17	3	3	1	1	0
8:15:00	4	0	390	108	12	2	0	0	2	0	0	0	0	0	20	3	4	1	1	0
8:30:00	4	0	494	104	14	2	0	0	2	0	0	0	0	0	24	4	4	0	1	0
8:45:00	6	2	609	115	17	3	0	0	3	1	0	0	0	0	27	3	6	2	1	0
9:00:00	7	1	717	108	19	2	0	0	3	0	0	0	0	0	27	0	7	1	1	0
9:15:00	7	0	717	0	19	0	0	0	3	0	0	0	0	0	27	0	7	0	1	0
16:00:00	7	0	717	0	19	0	0	0	3	0	0	0	0	0	27	0	7	0	1	0
16:15:00	10	3	824	107	23	4	0	0	6	3	0	0	0	0	35	8	8	1	1	0
16:30:00	12	2	948	124	29	6	0	0	6	0	0	0	0	0	40	5	8	0	1	0
16:45:00	12	0	1080	132	32	3	0	0	6	0	0	0	0	0	41	1	8	0	1	0
17:00:00	13	1	1225	145	37	5	0	0	7	1	0	0	0	0	42	1	9	1	1	0
17:15:00	15	2	1378	153	38	1	0	0	7	0	0	0	0	0	45	3	9	0	1	0
17:30:00	15	0	1536	158	44	6	0	0	8	1	0	0	0	0	46	1	9	0	1	0
17:45:00	17	2	1693	157	55	11	0	0	8	0	0	0	0	0	47	1	9	0	1	0
18:00:00	20	3	1829	136	65	10	0	0	8	0	0	0	0	0	50	3	9	0	1	0
18:15:00	20	0	1829	0	65	0	0	0	8	0	0	0	0	0	50	0	9	0	1	0
18:15:15	20	0	1829	0	65	0	0	0	8	0	0	0	0	0	50	0	9	0	1	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 10-Feb-16 Site #: 1602600001

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	2	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	3	1	1	1	3	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1
7:45:00	3	0	1	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	3	2
8:00:00	6	3	1	0	7	3	0	0	0	0	0	0	0	0	0	0	0	0	4	1
8:15:00	9	3	1	0	10	3	0	0	0	0	0	0	0	0	0	0	0	0	8	4
8:30:00	11	2	1	0	13	3	0	0	0	0	0	0	0	0	0	0	0	0	8	0
8:45:00	13	2	1	0	16	3	0	0	0	0	0	0	0	0	0	0	0	0	8	0
9:00:00	13	0	1	0	17	1	0	0	0	0	0	0	0	0	0	0	0	0	8	0
9:15:00	13	0	1	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0
16:00:00	13	0	1	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0
16:15:00	13	0	1	0	18	1	0	0	0	0	0	0	0	0	0	0	0	0	8	0
16:30:00	14	1	1	0	19	1	0	0	0	0	0	0	0	0	0	0	0	0	9	1
16:45:00	15	1	1	0	21	2	0	0	0	0	0	0	0	0	0	0	0	0	9	0
17:00:00	15	0	1	0	22	1	0	0	0	0	0	0	0	0	0	0	0	0	9	0
17:15:00	15	0	1	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0
17:30:00	18	3	1	0	24	2	0	0	0	0	0	0	0	0	0	0	0	0	9	0
17:45:00	19	1	1	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0
18:00:00	19	0	1	0	26	2	0	0	0	0	0	0	0	0	0	0	0	0	9	0
18:15:00	19	0	1	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0
18:15:15	19	0	1	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 17:00:00
To: 19:00:00

One Hour Peak
From: 17:00:00
To: 18:00:00

Municipality: Mississauga
Site #: 1620000001
Intersection: Mississauga Rd & 5155 Mississaug
TFR File #: 1
Count date: 16-Dec-16

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Mississauga Rd runs N/S

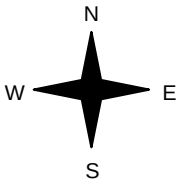
North Leg Total: 1045
North Entering: 484
North Peds: 0
Peds Cross: ⋈

Heavys	9	0	9
Trucks	1	0	1
Cars	468	6	474
Totals	478	6	

Heavys	8
Trucks	3
Cars	550
Totals	561

East Leg Total: 17
East Entering: 9
East Peds: 3
Peds Cross: ⋈

Cars	Trucks	Heavys	Totals
4	0	0	4
5	0	0	5
9	0	0	



5155 Mississauga Rd West driveway

Cars	Trucks	Heavys	Totals
8	0	0	8

Cars	473		
Trucks	1		
Heavys	9		
Totals	483		

Cars	546	2	548
Trucks	3	0	3
Heavys	8	0	8
Totals	557	2	

Peds Cross: ⋈
South Peds: 0
South Entering: 559
South Leg Total: 1042

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Total Count Diagram

Municipality: Mississauga
Site #: 1620000001
Intersection: Mississauga Rd & 5155 Mississaug
TFR File #: 1
Count date: 16-Dec-16

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Mississauga Rd runs N/S

North Leg Total: 1984
North Entering: 939
North Peds: 0
Peds Cross: ⋈

Heavys	16	0	16
Trucks	2	0	2
Cars	909	12	921
Totals	927	12	

Heavys	16
Trucks	4
Cars	1025
Totals	1045

East Leg Total: 37
East Entering: 14
East Peds: 4
Peds Cross: ⋈

Mississauga Rd

Cars	Trucks	Heavys	Totals
6	0	0	6
8	0	0	8
14	0	0	

N
W E
S

5155 Mississauga Rd West driveway

Cars	Trucks	Heavys	Totals
23	0	0	23

Mississauga Rd

Cars	917		
Trucks	2		
Heavys	16		
Totals	935		

Cars	1019	11	1030
Trucks	4	0	4
Heavys	16	0	16
Totals	1039	11	

Peds Cross: ⋈
South Peds: 0
South Entering: 1050
South Leg Total: 1985

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Traffic Count Summary

Intersection: Mississauga Rd & 5155 Mississau | **Count Date:** 16-Dec-16 | **Municipality:** Mississauga

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
17:00:00	*0*	*0*	*0*	*0*	*0*
18:00:00	*6*	*478*	*0*	*484*	*0*
19:00:00	*6*	*449*	*0*	*455*	*0*
Totals:	12	927	0	939	0

North/South Total Approaches: *0*, *1043*, *946*, 1989

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
17:00:00	*0*	*0*	*0*	*0*	*0*
18:00:00	*0*	*557*	*2*	*559*	*0*
19:00:00	*0*	*482*	*9*	*491*	*0*
S Totals:	0	1039	11	1050	0

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
17:00:00	*0*	*0*	*0*	*0*	*0*
18:00:00	*5*	*0*	*4*	*9*	*3*
19:00:00	*3*	*0*	*2*	*5*	*1*
Totals:	8	0	6	14	4

East/West Total Approaches: *0*, *9*, *5*, 14

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
17:00:00	*0*	*0*	*0*	*0*	*0*
18:00:00	*0*	*0*	*0*	*0*	*0*
19:00:00	*0*	*0*	*0*	*0*	*0*
W Totals:	0	0	0	0	0

Calculated Values for Traffic Crossing Major Street

Hours Ending:	*17:00*	*18:00*	*19:00*	*0:00*	*0:00*	*0:00*	*0:00*	*0:00*
Crossing Values:	*0*	*5*	*3*	*0*	*0*	*0*	*0*	*0*

Accu-Traffic Inc.

Count Date: 16-Dec-16 Site #: 1620000001

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	123	123	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0
17:30:00	2	2	255	132	0	0	0	0	0	0	0	0	0	0	6	3	0	0	0	0
17:45:00	3	1	381	126	0	0	0	0	1	1	0	0	0	0	8	2	0	0	0	0
18:00:00	6	3	468	87	0	0	0	0	1	0	0	0	0	0	9	1	0	0	0	0
18:15:00	10	4	577	109	0	0	0	0	1	0	0	0	0	0	12	3	0	0	0	0
18:30:00	10	0	688	111	0	0	0	0	2	1	0	0	0	0	13	1	0	0	0	0
18:45:00	10	0	785	97	0	0	0	0	2	0	0	0	0	0	15	2	0	0	0	0
19:00:00	12	2	909	124	0	0	0	0	2	0	0	0	0	0	16	1	0	0	0	0
19:15:00	12	0	909	0	0	0	0	0	2	0	0	0	0	0	16	0	0	0	0	0
19:15:15	12	0	909	0	0	0	0	0	2	0	0	0	0	0	16	0	0	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 16-Dec-16 Site #: 1620000001

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	2	2	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30:00	5	3	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
17:45:00	5	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
18:00:00	5	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
18:15:00	5	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
18:30:00	6	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
18:45:00	7	1	0	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0
19:00:00	8	1	0	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0	4	1
19:15:00	8	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
19:15:15	8	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 16-Dec-16 Site #: 1620000001

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	156	156	1	1	0	0	1	1	0	0	0	0	2	2	0	0	0	0
17:30:00	0	0	288	132	1	0	0	0	2	1	0	0	0	0	4	2	0	0	0	0
17:45:00	0	0	418	130	2	1	0	0	3	1	0	0	0	0	6	2	0	0	0	0
18:00:00	0	0	546	128	2	0	0	0	3	0	0	0	0	0	8	2	0	0	0	0
18:15:00	0	0	669	123	6	4	0	0	4	1	0	0	0	0	10	2	0	0	0	0
18:30:00	0	0	798	129	8	2	0	0	4	0	0	0	0	0	11	1	0	0	0	0
18:45:00	0	0	905	107	10	2	0	0	4	0	0	0	0	0	14	3	0	0	0	0
19:00:00	0	0	1019	114	11	1	0	0	4	0	0	0	0	0	16	2	0	0	0	0
19:15:00	0	0	1019	0	11	0	0	0	4	0	0	0	0	0	16	0	0	0	0	0
19:15:15	0	0	1019	0	11	0	0	0	4	0	0	0	0	0	16	0	0	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 16-Dec-16 Site #: 1620000001

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 17:00:00
To: 19:00:00

One Hour Peak
From: 18:00:00
To: 19:00:00

Municipality: Mississauga
Site #: 1620000002
Intersection: Barbertown Road & 5155 Mississa
TFR File #: 1
Count date: 16-Dec-16

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Barbertown Road runs W/E

North Leg Total: 17
North Entering: 0
North Peds: 0
Peds Cross: ⋈

Heavys	0	0	0
Trucks	0	0	0
Cars	0	0	0
Totals	0	0	

Heavys	0
Trucks	0
Cars	17
Totals	17

East Leg Total: 69
East Entering: 30
East Peds: 0
Peds Cross: ⧖

Heavys	Trucks	Cars	Totals
0	0	30	30

Barbertown Road

Heavys	Trucks	Cars	Totals
0	0	17	17
2	0	37	39
2	0	54	

5155 Mississauga Rd South driveway

Cars	Trucks	Heavys	Totals
0	0	0	0
30	0	0	30
30	0	0	

N
W E
S

Barbertown Road

Cars	Trucks	Heavys	Totals
37	0	2	39

Peds Cross: ⧖
West Peds: 0
West Entering: 56
West Leg Total: 86

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Total Count Diagram

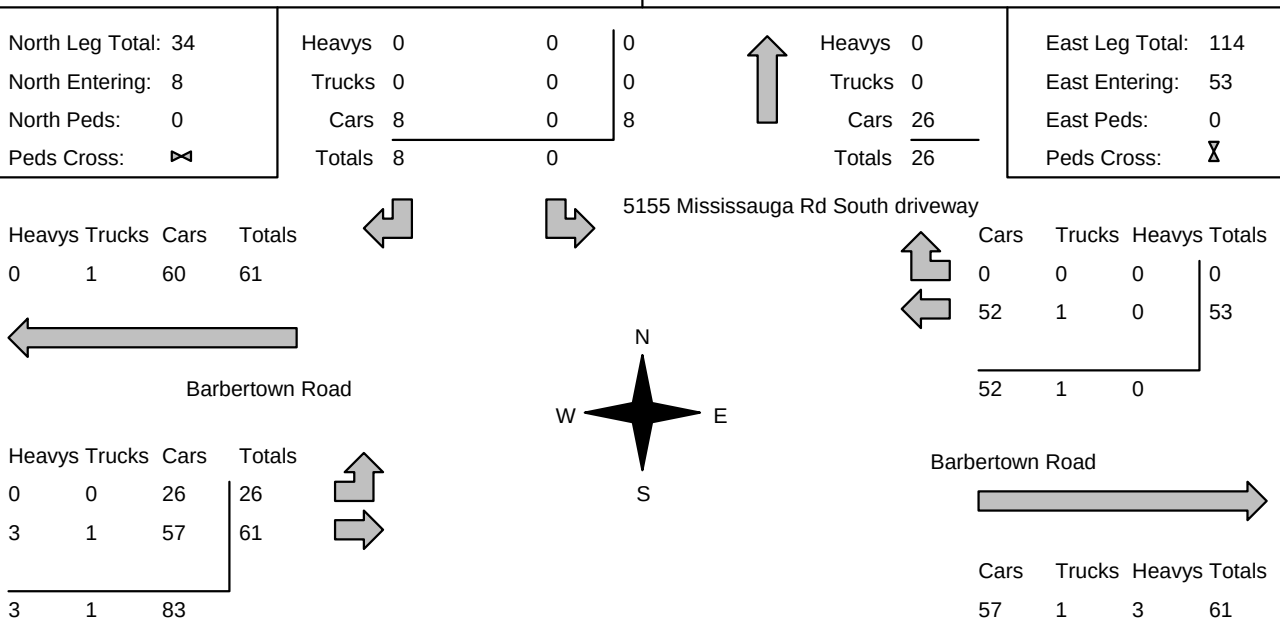
Municipality: Mississauga
Site #: 1620000002
Intersection: Barbertown Road & 5155 Mississa
TFR File #: 1
Count date: 16-Dec-16

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Barbertown Road runs W/E



Peds Cross:
West Peds: 0
West Entering: 87
West Leg Total: 148

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Traffic Count Summary

Intersection: Barbertown Road & 5155 Mississa | **Count Date:** 16-Dec-16 | **Municipality:** Mississauga

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
17:00:00	*0*	*0*	*0*	*0*	*0*
18:00:00	*0*	*0*	*8*	*8*	*0*
19:00:00	*0*	*0*	*0*	*0*	*0*
Totals:	0	0	8	8	0

North/South Total Approaches: 8

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
17:00:00	*0*	*0*	*0*	*0*	*0*
18:00:00	*0*	*0*	*0*	*0*	*0*
19:00:00	*0*	*0*	*0*	*0*	*0*
S Totals:	0	0	0	0	0

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
17:00:00	*0*	*0*	*0*	*0*	*0*
18:00:00	*0*	*23*	*0*	*23*	*0*
19:00:00	*0*	*30*	*0*	*30*	*0*
Totals:	0	53	0	53	0

East/West Total Approaches: 140

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
17:00:00	*0*	*0*	*0*	*0*	*0*
18:00:00	*9*	*22*	*0*	*31*	*0*
19:00:00	*17*	*39*	*0*	*56*	*0*
W Totals:	26	61	0	87	0

Calculated Values for Traffic Crossing Major Street

Hours Ending:	*17:00*	*18:00*	*19:00*	*0:00*	*0:00*	*0:00*	*0:00*	*0:00*
Crossing Values:	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 16-Dec-16 Site #: 1620000002

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	0	0	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30:00	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00:00	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15:00	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30:00	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:00:00	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15:00	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15:15	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 16-Dec-16 Site #: 1620000002

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30:00	0	0	10	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	14	4	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
18:00:00	0	0	22	8	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
18:15:00	0	0	26	4	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
18:30:00	0	0	32	6	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	40	8	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
19:00:00	0	0	52	12	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
19:15:00	0	0	52	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
19:15:15	0	0	52	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 16-Dec-16 Site #: 1620000002

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

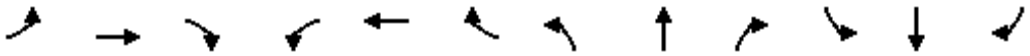
Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 16-Dec-16 Site #: 1620000002

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	2	2	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30:00	3	1	10	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	6	3	16	6	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
18:00:00	9	3	20	4	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0
18:15:00	14	5	28	8	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
18:30:00	20	6	32	4	0	0	0	0	1	0	0	0	0	0	2	1	0	0	0	0
18:45:00	22	2	43	11	0	0	0	0	1	0	0	0	0	0	3	1	0	0	0	0
19:00:00	26	4	57	14	0	0	0	0	1	0	0	0	0	0	3	0	0	0	0	0
19:15:00	26	0	57	0	0	0	0	0	1	0	0	0	0	0	3	0	0	0	0	0
19:15:15	26	0	57	0	0	0	0	0	1	0	0	0	0	0	3	0	0	0	0	0

APPENDIX B
Existing Traffic Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	0	10	16	0	12	3	446	13	13	633	3
Future Volume (Veh/h)	7	0	10	16	0	12	3	446	13	13	633	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	8	0	11	17	0	13	3	480	14	14	681	3
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)												
pX, platoon unblocked												
vC, conflicting volume	1210	1210	682	1213	1205	487	684			494		
vC1, stage 1 conf vol	710	710		493	493							
vC2, stage 2 conf vol	499	500		720	712							
vCu, unblocked vol	1210	1210	682	1213	1205	487	684			494		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.3	4.1			4.2		
tC, 2 stage (s)	6.1	5.5		6.2	5.5							
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.2			2.3		
p0 queue free %	98	100	98	95	100	98	100			99		
cM capacity (veh/h)	352	366	453	340	368	569	919			1006		

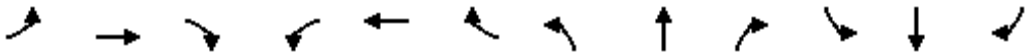
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	19	30	3	494	14	684
Volume Left	8	17	3	0	14	0
Volume Right	11	13	0	14	0	3
cSH	404	412	919	1700	1006	1700
Volume to Capacity	0.05	0.07	0.00	0.29	0.01	0.40
Queue Length 95th (m)	1.2	1.9	0.1	0.0	0.3	0.0
Control Delay (s)	14.3	14.4	8.9	0.0	8.6	0.0
Lane LOS	B	B	A		A	
Approach Delay (s)	14.3	14.4	0.1		0.2	
Approach LOS	B	B				

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	43.5%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	465	0	0	649
Future Volume (Veh/h)	0	0	465	0	0	649
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	500	0	0	698
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)						
pX, platoon unblocked						
vC, conflicting volume	1198	500			500	
vC1, stage 1 conf vol	500					
vC2, stage 2 conf vol	698					
vCu, unblocked vol	1198	500			500	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	420	575			1075	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	0	500	0	698
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.29	0.00	0.41
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	0.0	0.0	0.0	
Approach LOS	A			

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	37.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	0	4	12	0	19	7	613	28	24	509	7
Future Volume (Veh/h)	4	0	4	12	0	19	7	613	28	24	509	7
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	4	0	4	13	0	20	8	659	30	26	547	8
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)												
pX, platoon unblocked												
vC, conflicting volume	1298	1308	551	1293	1297	674	555			689		
vC1, stage 1 conf vol	603	603		690	690							
vC2, stage 2 conf vol	695	705		603	607							
vCu, unblocked vol	1298	1308	551	1293	1297	674	555			689		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.3	4.1			4.2		
tC, 2 stage (s)	6.1	5.5		6.2	5.5							
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.2			2.3		
p0 queue free %	99	100	99	96	100	95	99			97		
cM capacity (veh/h)	317	337	538	328	348	444	1026			848		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	8	33	8	689	26	555
Volume Left	4	13	8	0	26	0
Volume Right	4	20	0	30	0	8
cSH	399	390	1026	1700	848	1700
Volume to Capacity	0.02	0.08	0.01	0.41	0.03	0.33
Queue Length 95th (m)	0.5	2.2	0.2	0.0	0.8	0.0
Control Delay (s)	14.2	15.1	8.5	0.0	9.4	0.0
Lane LOS	B	C	A		A	
Approach Delay (s)	14.2	15.1	0.1		0.4	
Approach LOS	B	C				

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	44.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	636	0	0	540
Future Volume (Veh/h)	0	0	636	0	0	540
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	684	0	0	581
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)						
pX, platoon unblocked						
vC, conflicting volume	1265	684			684	
vC1, stage 1 conf vol	684					
vC2, stage 2 conf vol	581					
vCu, unblocked vol	1265	684			684	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	407	452			919	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	0	684	0	581
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.40	0.00	0.34
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	0.0	0.0	0.0	
Approach LOS	A			

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	36.8%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX C
Background Developments Trip Generation Calculation

Land Use	Commercial/Retail Plaza- Shopping Center		111900 ft2
Total	111.9 000 square feet		1000
Land Use	820 Weekday AM peak Hour		
Equation	Ln(T)=0.61LN(x)+2.24		
In	62%	Avg. Rate	0.96
Out	38%		
Internal Capture	0%		
Pass-by	0%		

Source ITE	IN	OUT	TOTAL	Avg	Eqn
Gross	104	63	167	107	167
Gross Rate	0.92	0.57	1.49		
Internal	0	0	0		
Passby	0	0	0		
New	104	63	167		
New Rate	0.93	0.56	1.49		

To/From		Proportions		Trips		
		Inbound	Outbound	In	Out	Total
North	Mississaug	58%	41%	61	26	87
South	Mississaug	42%	59%	43	37	80
West						
East						
Total		100%	100%	104	63	167

Check	ok	ok
Difference	0	0
	0	0
	0	0
	0	0

Existing Distribution

	IN	
N	649	58%
S	462	42%
Total	1111	100%

AM 5267 Mississauga Rd Residential Development

Land Use:	Residential				
Variable:	10	Units			
Land Use	210	AM Peak Hour		Avg.Rate	0.75
Eqn	T=0.70(x)+9.74			Pg	297
IN	25%				
Out	75%				
Non-Auto	0%				
Internal Capture	0%				
Pass-by	0%				
Visitor	0%				

	IN	Out	Total	Eqn	Avg Rate
Gross	4	13	17	17	8
Gross Rate	0.40	1.30	1.70		
Transit	0	0	0		
Internal Capture	0	0	0		
Pass-by	0	0	0		
Visitors	0	0	0		
New	4	13	17		
Rate	0.40	1.30	1.70		

To/From		Proportions		Trips			Check	
		Inbound	Outbound	In	Out	Total	OK	OK
North	Mississauga Road	58%	41%	2	5	7		
South	Mississauga Road	42%	59%	2	8	10		
East				0	0	0		
West				0	0	0		
	Total	100%	100%	4	13	17		

Existing Distribution

	IN		OUT	
N	649	58%	465	41%
S	462	42%	659	59%
Total	1111	100%	1124	100%

AM 5267 Mississauga Rd Residential Development

Land Use:	Residential				
Variable:	15	Units			
Land Use	210	AM Peak Hour		Avg.Rate	0.75
Eqn	T=0.70(x)+9.74			Pg	297
IN	25%				
Out	75%				
Non-Auto	0%				
Internal Capture	0%				
Pass-by	0%				
Visitor	0%				

	IN	Out	Total	Eqn	Avg Rate
Gross	5	15	20	20	11
Gross Rate	0.33	1.00	1.33		
Transit	0	0	0		
Internal Capture	0	0	0		
Pass-by	0	0	0		
Visitors	0	0	0		
New	5	15	20		
Rate	0.33	1.00	1.33		

To/From		Proportions		Trips			Check	
		Inbound	Outbound	In	Out	Total	OK	OK
North	Mississauga Road	58%	41%	3	6	9		
South	Mississauga Road	42%	59%	2	9	11		
East				0	0	0		
West				0	0	0		
	Total	100%	100%	5	15	20		

Existing Distribution

	IN		OUT	
N	649	58%	465	41%
S	462	42%	659	59%
Total	1111	100%	1124	100%

Land Use	Commercial/Retail Plaza-Shopping Center		111900 ft2
Total	111.9 000 square feet		1000
Land Use	820 Weekday PM peak Hour		
Equation	Ln(T)=0.67LN(x)+3.31		
In	48%	Avg. Rate	3.71
Out	52%		
Internal Capture	0%		
Pass-by	33%		

Source ITE	IN	OUT	TOTAL	Avg	Eqn
Gross	199	216	415	415	646
Gross Rate	1.78	1.93	3.71		
Internal	0	0	0		
Passby	69	69	138		
New	130	147	277		
New Rate	1.16	1.32	2.48		

To/From		Proportions		Trips		
		Inbound	Outbound	In	Out	Total
North	Mississaug	45%	55%	59	81	140
South	Mississaug	55%	45%	71	66	137
West						
East						
	Total	100%	100%	130	147	277

Check	ok	ok
Difference	0	0
	0	0
	0	0
	0	0

Existing Distribution

	IN		OUT	
N	540	45%	636	55%
S	648	55%	525	45%
Total	1188	100%	1161	100%

PM 5267 Mississauga Rd Residential Development

Land Use:	Residential				
Variable:	10	Units			
Land Use	210	PM Peak Hour		Avg.Rate	1
Eqn	Ln(T)=0.90LN*(x)+0.51			Pg	298
IN	63%				
Out	37%				
Non-Auto	0%				
Internal Capture	0%				
Pass-by	0%				
Visitor	0%				

	IN	Out	Total	Eqn	Avg Rate
Gross	8	5	13	13	10
Gross Rate	0.80	0.50	1.30		
Transit	0	0	0		
Internal Capture	0	0	0		
Pass-by	0	0	0		
Visitors	0	0	0		
New	8	5	13		
Rate	0.80	0.50	1.30		

To/From		Proportions		Trips			Check	
		Inbound	Outbound	In	Out	Total	OK	OK
North	Mississauga Road	58%	41%	5	2	7		
South	Mississauga Road	42%	59%	3	3	6		
East				0	0	0		
West				0	0	0		
	Total	100%	100%	8	5	13		

Existing Distribution

	IN		OUT	
N	649	58%	465	41%
S	462	42%	659	59%
Total	1111	100%	1124	100%

PM 5267 Mississauga Rd Residential Development

Land Use:	Residential			
Variable:	15	Units		
Land Use	210	AM Peak Hour	Avg.Rate	1
Eqn	Ln(T)=0.90*LN(x)+0.51		Pg	298
IN	63%			
Out	37%			
Non-Auto	0%			
Internal Capture	0%			
Pass-by	0%			
Visitor	0%			

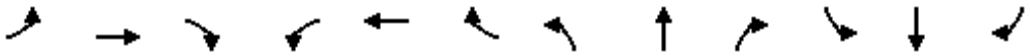
	IN	Out	Total	Eqn	Avg Rate
Gross	12	7	19	19	15
Gross Rate	0.80	0.47	1.27		
Transit	0	0	0		
Internal Capture	0	0	0		
Pass-by	0	0	0		
Visitors	0	0	0		
New	12	7	19		
Rate	0.80	0.47	1.27		

To/From		Proportions		Trips			Check	
		Inbound	Outbound	In	Out	Total	OK	OK
North	Mississauga Road	58%	41%	7	3	10		
South	Mississauga Road	42%	59%	5	4	9		
East				0	0	0		
West				0	0	0		
	Total	100%	100%	12	7	19		

Existing Distribution

	IN		OUT	
N	649	58%	465	41%
S	462	42%	659	59%
Total	1111	100%	1124	100%

APPENDIX D
Future Background Traffic Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	0	10	16	0	12	3	552	14	14	785	3
Future Volume (Veh/h)	7	0	10	16	0	12	3	552	14	14	785	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	8	0	11	17	0	13	3	594	15	15	844	3
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)												
pX, platoon unblocked												
vC, conflicting volume	1488	1490	846	1492	1484	602	847			609		
vC1, stage 1 conf vol	876	876		608	608							
vC2, stage 2 conf vol	613	615		885	877							
vCu, unblocked vol	1488	1490	846	1492	1484	602	847			609		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.3	4.1			4.2		
tC, 2 stage (s)	6.1	5.5		6.2	5.5							
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.2			2.3		
p0 queue free %	97	100	97	94	100	97	100			98		
cM capacity (veh/h)	282	302	365	270	304	489	799			909		

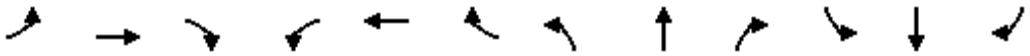
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	19	30	3	609	15	847
Volume Left	8	17	3	0	15	0
Volume Right	11	13	0	15	0	3
cSH	325	335	799	1700	909	1700
Volume to Capacity	0.06	0.09	0.00	0.36	0.02	0.50
Queue Length 95th (m)	1.5	2.3	0.1	0.0	0.4	0.0
Control Delay (s)	16.8	16.8	9.5	0.0	9.0	0.0
Lane LOS	C	C	A		A	
Approach Delay (s)	16.8	16.8	0.0		0.2	
Approach LOS	C	C				

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	51.5%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	571	0	0	802
Future Volume (Veh/h)	0	0	571	0	0	802
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	614	0	0	862
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)						
pX, platoon unblocked						
vC, conflicting volume	1476	614			614	
vC1, stage 1 conf vol	614					
vC2, stage 2 conf vol	862					
vCu, unblocked vol	1476	614			614	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	348	496			975	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	0	614	0	862
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.36	0.00	0.51
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	0.0	0.0	0.0	
Approach LOS	A			

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	0	4	12	0	19	7	809	29	25	678	7
Future Volume (Veh/h)	4	0	4	12	0	19	7	809	29	25	678	7
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	4	0	4	13	0	20	8	870	31	27	729	8
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)												
pX, platoon unblocked												
vC, conflicting volume	1693	1704	733	1688	1692	886	737			901		
vC1, stage 1 conf vol	787	787		902	902							
vC2, stage 2 conf vol	906	917		787	791							
vCu, unblocked vol	1693	1704	733	1688	1692	886	737			901		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.3	4.1			4.2		
tC, 2 stage (s)	6.1	5.5		6.2	5.5							
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.2			2.3		
p0 queue free %	98	100	99	95	100	94	99			96		
cM capacity (veh/h)	229	257	424	242	268	335	878			703		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	8	33	8	901	27	737
Volume Left	4	13	8	0	27	0
Volume Right	4	20	0	31	0	8
cSH	297	291	878	1700	703	1700
Volume to Capacity	0.03	0.11	0.01	0.53	0.04	0.43
Queue Length 95th (m)	0.7	3.0	0.2	0.0	1.0	0.0
Control Delay (s)	17.4	18.9	9.1	0.0	10.3	0.0
Lane LOS	C	C	A		B	
Approach Delay (s)	17.4	18.9	0.1		0.4	
Approach LOS	C	C				

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	54.3%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	832	0	0	710
Future Volume (Veh/h)	0	0	832	0	0	710
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	895	0	0	763
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)						
pX, platoon unblocked						
vC, conflicting volume	1658	895			895	
vC1, stage 1 conf vol	895					
vC2, stage 2 conf vol	763					
vCu, unblocked vol	1658	895			895	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	315	342			767	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	0	895	0	763
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1700	1700	1700	1700
Volume to Capacity	0.00	0.53	0.00	0.45
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	0.0	0.0	0.0	
Approach LOS	A			

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	47.1%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX E
Site Trip Generation Calculations

AM Mississauga Rd

Land Use: Residential-Common Elements Townhouse (Block 1, 2,and 3)
Variable: 20 Units

Land Use 230 AM Peak Hour Avg.Rate 0.44
Eqn Ln(T)=0.80Ln(X)+0.26 Pg 395
IN 17%
Out 83%
Non-Auto 0%
Internal Capture 0%
Pass-by 0%
Visitor 0%

	IN	Out	Total	Eqn	Avg Rate
Gross	2	12	14	14	9
Gross Rate	0.10	0.60	0.70		
Transit	0	0	0		
Internal Capture	0	0	0		
Pass-by	0	0	0		
Visitors	0	0	0		
New	2	12	14		
Rate	0.10	0.60	0.70		

To/From		Proportions		Trips			Check	
		Inbound	Outbound	In	Out	Total	OK	OK
North	Mississauga Road	58%	41%	1	5	6		
South	Mississauga Road	42%	59%	1	7	8		
East				0	0	0		
West				0	0	0		
	Total	100%	100%	2	12	14		

Existing Distribution

	IN		OUT	
N	649	58%	465	41%
S	462	42%	659	59%
Total	1111	100%	1124	100%

AM Mississauga Rd

Land Use: Residential-Free Hold Townhouse (Block 4 and5)
Variable: 5 Units

Land Use 210 AM Peak Hour Avg.Rate 0.75
Eqn T=0.70(x)+9.74 Pg 395
IN 25%
Out 75%
Non-Auto 0%
Internal Capture 0%
Pass-by 0%
Visitor 0%

	IN	Out	Total	Eqn	Avg Rate
Gross	3	10	13	13	4
Gross Rate	0.60	2.00	2.60		
Transit	0	0	0		
Internal Capture	0	0	0		
Pass-by	0	0	0		
Visitors	0	0	0		
New	3	10	13		
Rate	0.60	2.00	2.60		

To/From		Proportions		Trips			Check	
		Inbound	Outbound	In	Out	Total	OK	0
North	Mississauga Road	58%	41%	2	4	6		
South	Mississauga Road	42%	59%	1	6	7		
East				0	0	0		
West				0	0	0		
	Total	100%	100%	3	10	13		

PM Mississauga Rd

Land Use:	Residential-Common Elements Townhouse (Block 1, 2,and 3)		
Variable:	20 Units		
Land Use	230 PM Peak Hour	Avg.Rate	0.52
Eqn	Ln(T)=0.82Ln(X)+0.32	Pg	396
IN	67%		
Out	33%		
Non-Auto	0%		
Internal Capture	0%		
Pass-by	0%		
Visitor	0%		

	IN	Out	Total	Eqn	Avg Rate
Gross	11	5	16	16	10
Gross Rate	0.55	0.25	0.80		
Transit	0	0	0		
Internal Capture	0	0	0		
Pass-by	0	0	0		
Visitors	0	0	0		
New	11	5	16		
Rate	0.55	0.25	0.80		

To/From		Proportions		Trips			Check	
		Inbound	Outbound	In	Out	Total	OK	OK
North	Mississauga Road	45%	55%	5	3	8		
South	Mississauga Road	55%	45%	6	2	8		
East				0	0	0		
West				0	0	0		
	Total	100%	100%	11	5	16		

Existing Distribution

	IN		OUT	
N	540	45%	636	55%
S	648	55%	525	45%
Total	1188	100%	1161	100%

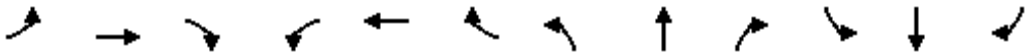
PM Mississauga Rd

Land Use:	Residential-Free Hold Townhouse (Block 4 and5)		
Variable:	5 Units		
Land Use	210 PM Peak Hour	Avg.Rate	1
Eqn	Ln(T)=0.90Ln(X)+0.51	Pg	298
IN	63%		
Out	37%		
Non-Auto	0%		
Internal Capture	0%		
Pass-by	0%		
Visitor	0%		

	IN	Out	Total	Eqn	Avg Rate
Gross	4	3	7	7	5
Gross Rate	0.80	0.60	1.40		
Transit	0	0	0		
Internal Capture	0	0	0		
Pass-by	0	0	0		
Visitors	0	0	0		
New	4	3	7		
Rate	0.80	0.60	1.40		

To/From		Proportions		Trips			Check	
		Inbound	Outbound	In	Out	Total	OK	0
North	Mississauga Road	45%	55%	2	2	4		
South	Mississauga Road	55%	45%	2	1	3		
East				0	0	0		
West				0	0	0		
	Total	100%	100%	4	3	7		

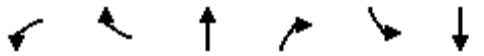
APPENDIX F
Future Total Traffic Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	0	10	22	0	16	3	553	15	16	792	3
Future Volume (Veh/h)	7	0	10	22	0	16	3	553	15	16	792	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	8	0	11	24	0	17	3	595	16	17	852	3
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)												
pX, platoon unblocked												
vC, conflicting volume	1506	1504	854	1506	1498	603	855			611		
vC1, stage 1 conf vol	888	888		609	609							
vC2, stage 2 conf vol	618	617		897	889							
vCu, unblocked vol	1506	1504	854	1506	1498	603	855			611		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.3	4.1			4.2		
tC, 2 stage (s)	6.1	5.5		6.2	5.5							
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.2			2.3		
p0 queue free %	97	100	97	91	100	97	100			98		
cM capacity (veh/h)	276	298	362	266	301	488	793			908		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	19	41	3	611	17	855
Volume Left	8	24	3	0	17	0
Volume Right	11	17	0	16	0	3
cSH	320	328	793	1700	908	1700
Volume to Capacity	0.06	0.12	0.00	0.36	0.02	0.50
Queue Length 95th (m)	1.5	3.4	0.1	0.0	0.5	0.0
Control Delay (s)	17.0	17.5	9.6	0.0	9.0	0.0
Lane LOS	C	C	A		A	
Approach Delay (s)	17.0	17.5	0.0		0.2	
Approach LOS	C	C				

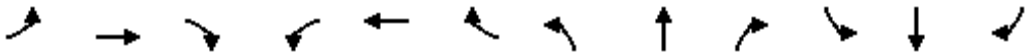
Intersection Summary				
Average Delay	0.8			
Intersection Capacity Utilization	51.9%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	7	5	575	1	1	804
Future Volume (Veh/h)	7	5	575	1	1	804
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	8	5	618	1	1	865
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)						
pX, platoon unblocked						
vC, conflicting volume	1486	618			619	
vC1, stage 1 conf vol	618					
vC2, stage 2 conf vol	867					
vCu, unblocked vol	1486	618			619	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	99			100	
cM capacity (veh/h)	346	493			971	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	13	619	1	865
Volume Left	8	0	1	0
Volume Right	5	1	0	0
cSH	391	1700	971	1700
Volume to Capacity	0.03	0.36	0.00	0.51
Queue Length 95th (m)	0.8	0.0	0.0	0.0
Control Delay (s)	14.5	0.0	8.7	0.0
Lane LOS	B		A	
Approach Delay (s)	14.5	0.0	0.0	
Approach LOS	B			

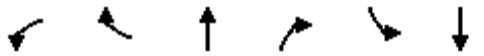
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	0	4	13	0	21	7	815	31	27	680	7
Future Volume (Veh/h)	4	0	4	13	0	21	7	815	31	27	680	7
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	4	0	4	14	0	23	8	876	33	29	731	8
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)												
pX, platoon unblocked												
vC, conflicting volume	1708	1718	735	1702	1706	892	739			909		
vC1, stage 1 conf vol	793	793		908	908							
vC2, stage 2 conf vol	915	925		793	797							
vCu, unblocked vol	1708	1718	735	1702	1706	892	739			909		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.3	4.1			4.2		
tC, 2 stage (s)	6.1	5.5		6.2	5.5							
tF (s)	3.5	4.0	3.3	3.6	4.0	3.4	2.2			2.3		
p0 queue free %	98	100	99	94	100	93	99			96		
cM capacity (veh/h)	223	254	423	239	266	332	876			698		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	8	37	8	909	29	739
Volume Left	4	14	8	0	29	0
Volume Right	4	23	0	33	0	8
cSH	292	290	876	1700	698	1700
Volume to Capacity	0.03	0.13	0.01	0.53	0.04	0.43
Queue Length 95th (m)	0.7	3.5	0.2	0.0	1.0	0.0
Control Delay (s)	17.7	19.2	9.1	0.0	10.4	0.0
Lane LOS	C	C	A		B	
Approach Delay (s)	17.7	19.2	0.1		0.4	
Approach LOS	C	C				

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	54.8%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2	3	834	6	5	712
Future Volume (Veh/h)	2	3	834	6	5	712
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	2	3	897	6	5	766
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)						
pX, platoon unblocked						
vC, conflicting volume	1676	900			903	
vC1, stage 1 conf vol	900					
vC2, stage 2 conf vol	776					
vCu, unblocked vol	1676	900			903	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	99			99	
cM capacity (veh/h)	310	340			761	

Direction, Lane #	WB 1	NB 1	SB 1	SB 2
Volume Total	5	903	5	766
Volume Left	2	0	5	0
Volume Right	3	6	0	0
cSH	327	1700	761	1700
Volume to Capacity	0.02	0.53	0.01	0.45
Queue Length 95th (m)	0.4	0.0	0.2	0.0
Control Delay (s)	16.2	0.0	9.8	0.0
Lane LOS	C		A	
Approach Delay (s)	16.2	0.0	0.1	
Approach LOS	C			

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		