DECEMBER 20, 2017

REFER TO FILE: 1346-4573

SENT BY EMAIL:
INFO@RUPGROUPS.COM

Rup Groups
24-1098 Peter Robertson Boulevard
Brampton, ON L6R 3A5

Attention: **Rup Lal**

RE: **TRAFFIC OPINION LETTER**
7170 GOREWAY DRIVE RESIDENTIAL DEVELOPMENT
CITY OF MISSISSAUGA

Dear Rup,

Pursuant to your request for a transportation analysis regarding the proposed condominium townhouses residential development located at 7170 Goreway Drive, in the City of Mississauga, this Traffic Opinion Letter (TOL) has been composed to support the Zoning By-Law Amendment and Site Plan Application.

This letter reviews the development plan from a transportation engineering perspective. The main aspects reviewed in this letter are:

- The existing traffic operations at the study intersections of Goreway Drive at Etude Drive during the weekday a.m. and p.m. peak hours.
- The trips generated by the proposed development.
- The traffic operations at the study intersections when considering site generated traffic for 2017 total traffic conditions.
- Sight distances in either directions along Etude Drive from the proposed full-moves site access

Correspondence between Junaid Khan (Crozier), Giancarlo Tedesco (City of Mississauga) and Linda Wu (City of Mississauga) dated June 16,2017 confirmed the scope of work used in this Traffic Opinion Letter and has been included in the attachments.

1.0 PROJECT PROPOSAL

The subject property (7170 Goreway Drive) is located on the southwest quadrant of the Goreway Drive at Etude Drive intersection. The subject property is categorized as a "Residential-R3-69" zone by the City of Mississauga Zoning By-Law 0225-2007. Relevant zoning excerpts are attached to this Traffic Opinion Letter.

The subject lands currently contain vacant land. Due to the skewed directions, Goreway Drive has been given a north-south alignment to help provide clarity throughout the letter. The subject lands are bounded by Goreway Drive to the east, Etude Drive to the north and residential developments to the south and east. The site location and surrounding area are illustrated in **Figure 1.**

The project proposal is for a total of 14 condominium townhouses residential development. The proposed condominium townhouse dwellings will be accessible through a full moves access on Etude Drive. Refer to **Figure 2** for the Development Concept Plan prepared by Jardin Design Group Inc. dated July 28, 2017.

2.0 EXISTING CONDITIONS

2.1 Boundary Road Network

Goreway Drive is a north-south roadway with a four-lane cross-section at the site frontage, two lane per direction. Goreway Drive is under the jurisdiction of the City of Mississauga and is defined as a major collector roadway per the City of Mississauga Schedule 5 Long Term Road Network, with a posted speed limit of 60 km/h. Concrete sidewalks are located on both sides of the roadway, separated from the roadway by a boulevard strip.

Etude Drive is an east-west roadway with a two-lane cross-section, one lane per direction. Etude Drive is under the jurisdiction of the City of Mississauga and is defined as a minor collector roadway per the City of Mississauga Schedule 5 Long Term Road Network, with a posted speed limit of 50 km/h. Concrete sidewalks are located on both sides of the roadway.

The four-legged intersection of Goreway Drive at Etude Drive is signalized. The northbound and southbound approaches (Goreway Drive) have an exclusive left-turn lane, one through lane and a shared through/ right-turn lane. The eastbound and westbound approaches (Etude Drive) have an exclusive left-turn lane and a shared through/ right-turn lane.

2.2 Traffic Data

Turning movement counts at the intersection of Goreway Drive at Etude Drive were surveyed by Ontario Traffic Inc. on Tuesday May 30th, 2017 between 7 a.m. to 10 a.m. and 3 p.m. to 7 p.m. The peak a.m. and p.m. hours occurred between 7:45 a.m. to 8:45 a.m. and 4:45 p.m. to 5:45 p.m. respectively. Summary of the turning movement counts have been attached to this letter.

2.4 Public Transit

Multiple MiWay Transit bus routes service the immediate surrounding area of the site. Route 11-Westwood operates all week, providing two-way services on Goreway Drive between Westwood mall and Toronto Transit Commission (TTC) Islington subway station. Route 12- Rexdale operates Monday to Friday on Goreway Drive between Westwood mall and Islington Avenue. Route 24-Northwest operates Monday to Friday during rush hour on Goreway Drive between Westwood mall and Skymark Hub. Route 42-Derry operates all week, providing two-way services on Goreway Drive between Westwood mall and Meadowvale Town Centre. Route 59-Airport infield operates Monday to Friday during rush hour between Westwood mall and Toronto Pearson Airport. All bus stops are within approximately 90 metres of the subject property. Relevant maps are attached to this letter.

2.5 Traffic Modelling

The assessment of intersections is based on the method outlined in the "Highway Capacity Manual, 2010" using Synchro 8 modeling software. Intersections are assessed using a Level of Service metric, with ranges of delay assigned a letter from "A" to "F". For stop-controlled intersections, a Level of Service "A" or "B" would typically be measured during off-peak hours when lesser traffic volumes are on the roadways. Levels of Service "C" through "F" would typically be measured in the commuter peak hours when greater vehicle volumes cause longer travel times. The Level of Service (LOS) definitions for signalized intersections are attached.

2.6 Intersection Operations

The 2017 existing traffic operations at the intersection of Goreway Drive at Etude Drive was analyzed on the basis of the traffic volumes recorded. Signal timing plans for the study intersection were provided by the City of Mississauga. Detailed capacity analyses are attached to this Traffic Opinion Letter.

The operations of the critical intersections were analyzed on the basis of the traffic volumes illustrated in **Figure 3**. **Table 1** outlines the existing traffic levels of service

Table 1: 2017 Existing Levels of Service

Intersection	Control	Peak Hour	Level of Service	Average Delay per Vehicle(s)	Max V/C Ratio (Approach)	V/C Ratio(s) > 0.90 (Approach)	95th %ile Queues > Storage Length
Goreway Drive at Etude Drive	Signalized	A.M.	C	27.3 s	0.81 (SBT)	None	42.1 m (WBL) 26.3 m (SBL)
		P.M.	C	25.9 s	0.91 (SBL)	0.91 (SBL)	41.4 m (WBL) 33.9 m (SBL)

Note: The Level of Service of a signalized intersection is based on the average control delay per vehicle.
Signal timings were provided by City of Mississauga
95th percentile queue analysis was completed using SimTraffic with 60 minutes recording time, 10 minutes seeding time, and an average of three runs.

As illustrated in **Table 1**, the intersection of Goreway Drive at Etude Drive operates at a Level of Service "C" during the weekday a.m. and p.m. peak periods. The maximum average delay per vehicle is 27.3 seconds during the weekday a.m. peak hour, with a maximum volume-to-capacity ratio of 0.91 for the southbound left-turn movement. The 95th percentile queue lengths are projected to exceed the storage capacity during the weekday a.m. and p.m. peak hours for the westbound left-turn movement and southbound left-turn movement. Therefore, queue lengths are expected to occasionally extend into the tapers and adjacent through lanes. Operational analyses of existing traffic volumes indicate that a significant reserve capacity is available for future traffic volume growth on the boundary road network.

3.0 DEVELOPMENT CONCEPT

The proposed development includes 14 condominium townhouses residential development. Parking will be provided for each condominium townhouse, as well as a private condominium road and four visitor parking spaces of which one is a barrier free parking spot. One full-moves access is proposed to Etude Drive. Refer to **Figure 2** for the Concept Site Plan prepared by Jardin Design Group Inc. dated July 28th, 2017.

4.0 SITE GENERATED TRAFFIC AND TRIP DISTRIBUTION

Site generated traffic for the proposed development was calculated using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition, Land Use Category 230 "Residential Condominium/Townhouse". **Table 2** below summarizes the expected trips generated by the proposed development.

Table 2: Site Generated Trips

Type of Use	Number of Dwellings	Peak Hour	Trips per Dwelling	In (%)	Out (%)	Total
Residential Condominium/Townhouse (Category 230)	14	Weekday A.M.	Fitted Curve Equation	2 (17%)	10 (83%)	12
		Weekday P.M.	Fitted Curve Equation	8 (67%)	4 (33%)	12

Vehicles entering and exiting the site were distributed based on Transportation Tomorrow Survey data at the study intersection. The site trip distribution and trip assignment volumes are illustrated in **Figure 4 and 5**, respectively.

4.0 TOTAL TRAFFIC OPERATIONS

Traffic operations at the intersections of Goreway Drive at Etude Drive and Etude Drive at Site Access were assessed with the addition of site generated traffic. The operations of the critical intersections were analyzed on the basis of the total traffic volumes illustrated in **Figure 6**. The intersection of Goreway Drive at Etude Drive was analyzed with the existing signal timings. **Table 3** outlines the total traffic levels of service. Detailed capacity analyses are attached to this Traffic Opinion Letter.

Table 3: 2017 Total Traffic Levels of Service

Intersection	Control	Peak Hour	Level of Service	Average Delay per Vehicle(s)	Max V/C Ratio (Approach)	V/C Ratio(s) > 0.90 (Approach)	95th %ile Queues > Storage Length
Goreway Drive at Etude Drive	Signalized	A.M.	C	22.1 s	0.83 (WBL)	None	42.4 m (WBL)
		P.M.	C	21.6 s	0.84 (WBL)	None	43.9 m (WBL) 29.9 m (SBL)
Full Moves Site Access at Etude Drive	Stop Controlled	A.M.	A	9.6 s	0.13 (EBT)	None	None
		P.M.	A	9.6 s	0.01 (WBL)	None	None

Note: The Level of Service of a signalized intersection is based on the average control delay per vehicle. Signal timings were optimized
The Level of Service of a Stop-Controlled intersection is based on the delay associated with the critical minor approach.
95th percentile queue analysis was completed using SimTraffic with 60 minutes recording time, 10 minutes seeding time, and an average of three runs.

As illustrated in **Table 3**, the addition of site generated traffic to the roadway system will have no significant effect to the operations of study intersection. The intersection of Goreway Drive at Etude Drive is projected to operate at the same Level of Service "C" during the weekday a.m. and p.m. peak periods as in the existing conditions. With the optimized signal timing, a maximum average delay per vehicle of 22.1 seconds is projected during the weekday a.m. peak hour, a decrease of 5.2 seconds compared to 2017 existing traffic conditions. A maximum volume-to-capacity ratio of 0.84 for the westbound left-turn movement is projected during the weekday p.m. peak hour. The 95th percentile queue lengths are projected to exceed the storage capacity during the weekday a.m. and p.m. peak hour for the westbound left-turn movement and southbound left-turn movement. Therefore, queue lengths are expected to occasionally extend into the tapers and adjacent through lanes. However, these queues will not have any effect on the proposed development traffic. It is also noted that the proposed development only adds a total of 12 trips in the a.m. peak hour and 12 trips in the p.m. peak hour to this intersection.

The intersection of Etude Drive at Full-moves site access is projected to operate at a Level of Service "A" during weekday a.m. and p.m. peak hours, respectively. A maximum average delay per vehicle of 9.6 seconds is projected for vehicles exiting the site during weekday a.m. peak hour, with a maximum volume-to-capacity ratio of 0.13.

5.0 ACCESS SPACING

The development proposes a full moves access to Etude Drive, 50 m from the intersection of Goreway Drive at Etude Drive. An access spacing and configuration has been conducted in accordance with the Transportation Association of Canada's Geometric Design Guide for Canadian Roads (TAC Manual).

Per Section 3.2.8.2. of the TAC Manual, the minimum desired spacing between a signalized intersection and an access is 55 m for a full moves access on a Collector roadway. The proposed full moves site access is located at 50 m from the intersection of Goreway Drive at Etude Drive which is deficient of the TAC Manual requirement by 5 m.

The maximum 95th percentile queue length for the eastbound approach movements including the eastbound left-turn at the intersection of Goreway Drive at Etude Drive is 49.4 m eastbound through during the p.m. peak hour. Therefore, the full moves site access is not expected to be blocked by the eastbound moving vehicles at the intersection of Goreway Drive and Etude Drive.

Furthermore, along Etude Drive and the surrounding roads, close proximity driveways on either side of the property lines are typical. With queueing not anticipated to block the access, nor materially impact the LOS and delay at the access intersection, the site access location can be supported from a traffic operations perspective.

6.0 CONCLUSION

Intersection analyses of the 2017 existing traffic volumes and 2017 total traffic volumes indicate that the boundary road network has ample capacity to support future volume growth.

Under 2017 existing conditions, the intersection of Goreway Drive at Etude Drive operates at a Level of Service "C" during the weekday a.m. and p.m. peak periods. The maximum average delay per vehicle is 27.3 seconds during the weekday a.m. peak hour, with a maximum volume-to-capacity ratio of 0.91 for the southbound left-turn movement.

The proposed development is projected to generate a total of 11 trips during the weekday a.m. peak period, and 12 trips during the weekday p.m. peak period.

Under 2017 total traffic conditions, the addition of site generated traffic to the roadway system will have a minor effect on the operations of the study intersection. The intersection of Goreway Drive at Etude Drive is projected to operate at a Level of Service "C" during the weekday a.m. and p.m. peak periods. A maximum average delay per vehicle of 28.1 seconds is projected during the weekday p.m. peak hour, an increase of 2.2 seconds compared to 2017 existing traffic conditions. A maximum volume-to-capacity ratio of 1.07 for the southbound left-turn movement is projected during the weekday p.m. hour.

The intersection of Etude Drive at Full-moves site access is projected to operate at a Level of Service "A" during weekday a.m. and p.m. peak hours, respectively. A maximum average delay per vehicle of 9.6 seconds is projected for vehicles exiting the site during weekday a.m. peak hour, with a maximum volume-to-capacity ratio of 0.13.

The proposed site access at Etude Drive is deficient of the TAC Manual's spacing requirement by 5 m. However, queuing analysis indicates that, the full moves access will operate safely without any blocking nor impact to level of service and delay projected at the access intersection. Furthermore, close proximity driveways along Etude Drive and the surrounding roads is common, and no sightline issues, access conflicts, and transit operational conflicts were identified.

The Zoning By-Law Amendment and Site Plan Application can be supported from a traffic operations perspective as the proposed development has a negligible impact on the boundary road network.

Respectfully submitted by,

C.F. CROZIER & ASSOCIATES INC.

Peter Apasnore MASc., E.I.T.
Transportation

C.F. CROZIER & ASSOCIATES INC.

R. Aaron Wignall
Project Manager, Transportation

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ATTACHMENTS

Junaid Khan

From: Linda Wu <Linda.Wu@mississauga.ca>
Sent: Friday, June 16, 2017 2:18 PM
To: Junaid Khan
Cc: Leslie Green; Giancarlo Tedesco
Subject: RE: 7170 Goreway Drive Terms of Reference (CFC#1346-4573)
Attachments: A100 - Development Concept.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Junaid,

We agree that a Traffic Opinion Letter is sufficient in this case. Please see our comments below regarding the TofR:

Site Access
1) The proposed access on Etude Drive is to be restricted to right-in-right-out only due to its proximity to the intersection of Goreway Drive and Etude Drive.
2) We are not supportive of the proposed right-in-right-out access on Goreway Drive due to the following reasons:

- The proposed Etude Drive access would be sufficient to accommodate the future site traffic;
- The proposed Goreway Drive would conflict with the existing Enbridge utility box on Goreway Drive, please note that any resultant utility relocation would be at the applicant's expense.

As such, the Goreway Drive access is to be removed.

Signal Timing
Please contact the following city staff for signal timing plans:

Jim Kartsomanis, Traffic Signal System Coordinator
Tel: 905-615-3200 ext. 3964
E-mail: Jim.Kartsomanis@mississauga.ca

Site Circulation
Truck turning templates are required if Fire or Waste Collection trucks need to enter/exit the subject site.

The ePlans (pre-consultation) comments provided by City staff based on the attached plan

This Section is of the opinion that the proposed access is to be restricted to a Right-in-Right-out only due to its proximity to the intersection of Goreway Drive and Etude Drive. However, the applicant may explore a full-movement access by relocating the proposed access to the west limit of the subject property and this would require an access operational analysis. The traffic consultant should provide the scope of work for the analysis to this Section for review and receive confirmation prior to commencing of the study.
The applicant is advised that Enbridge is proposing to relocate infrastructure near the subject property. The applicant is strongly advised to contact Enbridge for further information. Please see "Submission Requirements" folder for further information.
All landscaping and grading within close proximity to the proposed access points is to be designed to ensure that adequate sight distances are available for all approaching and exiting motorists and pedestrians.

Driveway accesses shall maintain a 1.5m setback from aboveground features such as utilities and trees. Any above ground utilities located within 1.5m of a proposed access are to be relocated at the applicant's expense.
The applicant is to provide the rationale for proposing 8m by 15m daylight triangle.

Thanks,

Linda

From: Junaid Khan [mailto:jkhan@cfcrozier.ca]
Sent: 2017/05/29 2:50 PM
To: Giancarlo Tedesco
Cc: Aaron Wignall; Linda Wu
Subject: [WARNING: ATTACHMENT UNSCANNED]7170 Goreway Drive Terms of Reference (CFC#1346-4573)

Hi Giancarlo,

I hope my email finds you well. We have been retained to complete a Traffic Impact Study for a proposed residential development located at 7170 Goreway Drive in the City of Mississauga. The proposed development consists of 13 condominium townhouse units, a total supply of 30 parking spaces, including four visitor parking spaces (one being a barrier free accessible parking space). Two site accesses are proposed, one right-in/right-out access to Goreway Drive and one full-moves access to Etude Drive. Attached is the most recent Site Plan for your reference. I have detailed below our Terms of Reference for the requested study. We kindly request your feedback regarding our study assumptions.

The proposed development is expected to generate a total of 10 a.m. and 11 p.m. trips based on ITE Trip Generation (Landuse Category 230). Due to the small scale of the proposed development, would the submission of a Traffic Opinion Letter rather than a Traffic Impact Study be adequate? To complete the Traffic Opinion Letter, we will:

- Analyze the a.m. and p.m. peak hours to reflect the residential use of the development;
- Analyze the study intersection of Goreway Drive at Etude Drive;
- The study intersection will be analyzed under 2017 existing conditions and 2017 total traffic conditions;
- The site trip generation will be completed based on Institute of Transportation Engineers(ITE) data;
- Trip distribution will be based on Transportation Tomorrow Survey data and supported by existing travel patterns.

Also, if you could provide me a contact email to get the signal timings for the Goreway Drive at Etude Drive Road intersection that would greatly appreciated.

I hope the above is acceptable. Should you have any questions or concerns please feel free to contact myself or my colleague Aaron Wignall copied on this email.

Thanks for your time,

| **JUNAID KHAN** | TRANSPORTATION EIT | C.F. CROZIER & ASSOCIATES
| 2800 High Point Drive, Suite 100 | Milton, ON L9T 6P4
| cfcrozier.ca | jkhan@cfcrozier.ca | tel 905 875 0026

CITY OF BRAMPTON

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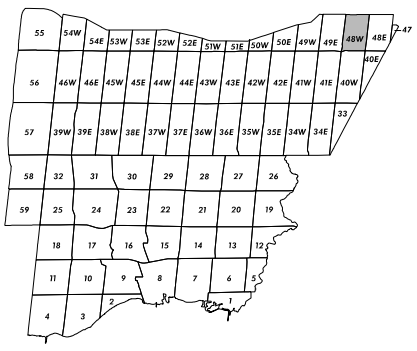

MISSISSAUGA

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Greenlands Overlay

Zoning Notation Example:
R4–12 = R4–Exception 12

Zoning
Map 48W

Schedule "B" To
By–law No. 0225–2007

Revised: 2016 November 30

CITY OF BRAMPTON

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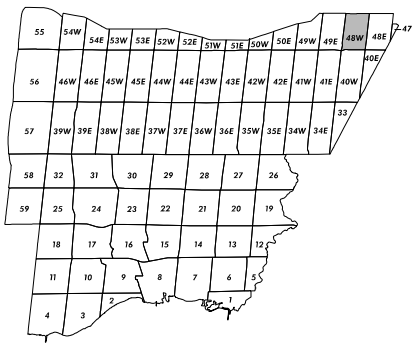

MISSISSAUGA

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Greenlands Overlay

Zoning Notation Example:
R4–12 = R4–Exception 12

Zoning
Map 48W

Schedule "B" To
By–law No. 0225–2007

Revised: 2016 November 30

Produced by Transportation and Works Department, Geomatics Section

Technical Revisions: 2016 October 31

Schedule 5
Long Term Road Network

Special Study Area

0 500 1000 1500 2000
metres

- Provincial Highway and Interchange
- Regional Arterial
- Arterial
- Future Arterial (conceptual)
- Major Collector
- Future Major Collector (conceptual)
- Major Collector (Scenic Route)
- Regional Major Collector (Scenic Route)
- Minor Collector
- Future Minor Collector
- Minor Collector (Scenic Route)
- *Future Road Link to be added.*

APPEALS

The information on this schedule reflects Council adopted amendments.

The following amendments are under appeal and affect this schedule:
No appeals at time of consolidation.

For in effect mapping information refer to the Consolidation Tables and MOPA document.

Notes:

1. The Britannia Road East link from Tomken Road to Kennedy Road is conceptual and is subject to further study.
2. Roads shown on the map are not all under Mississauga jurisdiction.
3. All lines shown are conceptual.
4. Base map information (e.g. railways, watercourses), including any lands or bodies of water outside the city boundaries, is shown for information purposes only.

MISSISSAUGA

Ontario Traffic Inc.

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 10:00:00

One Hour Peak
From: 7:45:00
To: 8:45:00

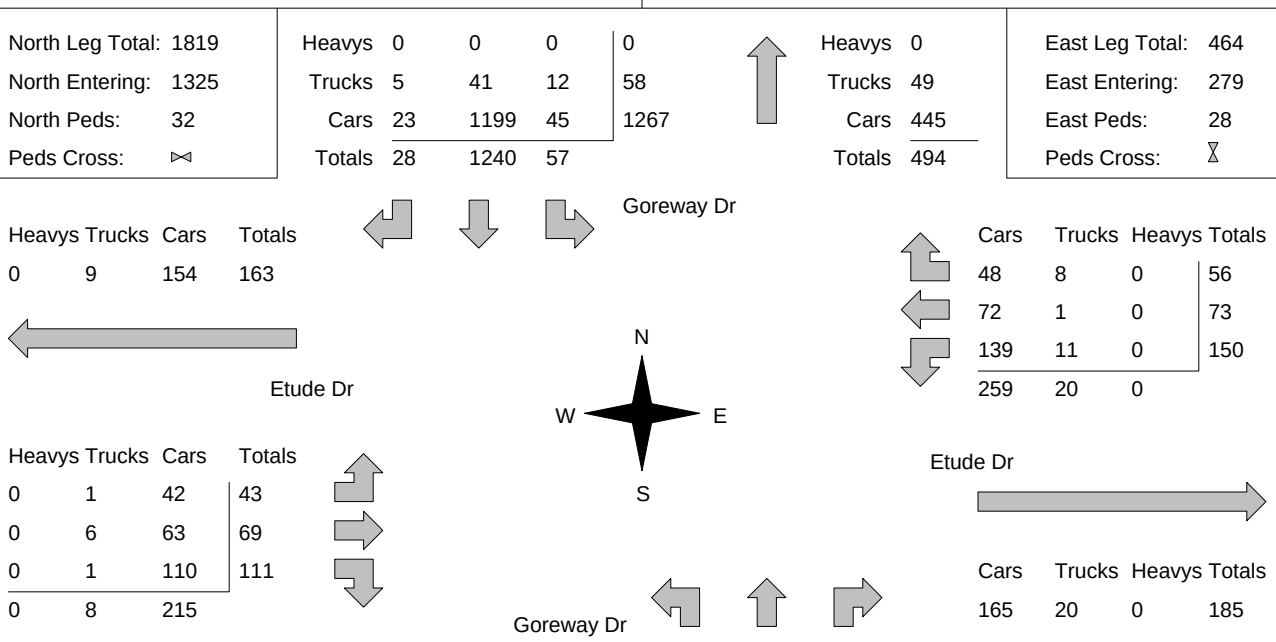
Municipality: Mississauga
Site #: 1715800001
Intersection: Goreway Dr & Etude Dr
TFR File #: 4
Count date: 30-May-17

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Goreway Dr runs N/S



Comments

Ontario Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 19:00:00

One Hour Peak
From: 16:45:00
To: 17:45:00

Municipality: Mississauga
Site #: 1715800001
Intersection: Goreway Dr & Etude Dr
TFR File #: 4
Count date: 30-May-17

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Goreway Dr runs N/S

North Leg Total:	2121
North Entering:	780
North Peds:	59
Peds Cross:	⋈

Heavys	0	1	0	1
Trucks	2	47	2	51
Cars	36	611	81	728
Totals	38	659	83	

Heavys	0
Trucks	35
Cars	1306
Totals	1341

East Leg Total:	727
East Entering:	297
East Peds:	68
Peds Cross:	⧖

Goreway Dr

Heavys	Trucks	Cars	Totals
0	8	282	290

Etude Dr

	Cars	Trucks	Heavys	Totals
	44	1	0	45
	106	1	0	107
	144	1	0	145
	294	3	0	

N
W E
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Heavys	Trucks	Cars	Totals
0	1	47	48
0	0	124	124
0	2	70	72
0	3	241	

Etude Dr

	Cars	Trucks	Heavys	Totals
	426	4	0	430

Goreway Dr

Peds Cross:	⧖
West Peds:	17
West Entering:	244
West Leg Total:	534

Cars	825			
Trucks	50			
Heavys	1			
Totals	876			

Cars	140	1215	221	1576
Trucks	5	33	2	40
Heavys	0	0	0	0
Totals	145	1248	223	

Peds Cross:	⋈
South Peds:	20
South Entering:	1616
South Leg Total:	2492

Comments

Ontario Traffic Inc.

Total Count Diagram

Municipality: Mississauga
Site #: 1715800001
Intersection: Goreway Dr & Etude Dr
TFR File #: 4
Count date: 30-May-17

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Goreway Dr runs N/S

North Leg Total:	12384			
North Entering:	6120			
North Peds:	329			
Peds Cross:	⋈			
Heavys	0	3	0	3
Trucks	20	303	24	347
Cars	203	5208	359	5770
Totals	223	5514	383	
Heavys	0			
Trucks	342			
Cars	5922			
Totals	6264			
East Leg Total:	3988			
East Entering:	1939			
East Peds:	379			
Peds Cross:	⧖			

Goreway Dr

Heavys	Trucks	Cars	Totals
0	47	1409	1456

Cars	Trucks	Heavys	Totals
337	25	0	362
615	11	0	626
927	24	0	951
1879	60	0	

Etude Dr

N

W E

S

Heavys	Trucks	Cars	Totals
0	14	312	326
0	13	603	616
0	7	621	628
0	34	1536	

Etude Dr

Cars	Trucks	Heavys	Totals
1997	51	1	2049

Goreway Dr

Peds Cross:	⧖			
West Peds:	107			
West Entering:	1570			
West Leg Total:	3026			
Cars	6756			
Trucks	334			
Heavys	3			
Totals	7093			
Cars	591	5273	1035	6899
Trucks	16	303	14	333
Heavys	0	0	1	1
Totals	607	5576	1050	
Peds Cross:	⋈			
South Peds:	127			
South Entering:	7233			
South Leg Total:	14326			

Comments

Ontario Traffic Inc.
Traffic Count Summary

Intersection: Goreway Dr & Etude Dr | **Count Date:** 30-May-17 | **Municipality:** Mississauga

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	North/South Total Approaches
7:00:00	1	5	0	6	0	6
8:00:00	32	1091	14	1137	41	1568
9:00:00	56	1206	24	1286	36	1794
10:00:00	38	656	20	714	25	1212
15:00:00	1	6	1	8	0	9
16:00:00	49	749	50	848	29	2141
17:00:00	63	624	30	717	61	2285
18:00:00	72	628	35	735	58	2320
19:00:00	71	539	49	659	79	1984
Totals:	383	5504	223	6110	329	13319

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0
8:00:00	33	334	64	431	16
9:00:00	69	382	57	508	15
10:00:00	39	379	80	498	9
15:00:00	0	1	0	1	0
16:00:00	85	1016	192	1293	29
17:00:00	130	1217	221	1568	25
18:00:00	137	1227	221	1585	13
19:00:00	111	1003	211	1325	20
Totals:	604	5559	1046	7209	127

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	East/West Total Approaches
7:00:00	0	1	0	1	0	1
8:00:00	116	32	45	193	21	361
9:00:00	162	76	53	291	32	512
10:00:00	124	36	31	191	46	355
15:00:00	0	0	1	1	0	10
16:00:00	136	120	74	330	87	581
17:00:00	139	112	73	324	75	576
18:00:00	145	121	43	309	58	549
19:00:00	129	127	42	298	58	563
Totals:	951	625	362	1938	377	3508

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0
8:00:00	21	36	111	168	12
9:00:00	43	77	101	221	8
10:00:00	37	49	78	164	8
15:00:00	1	6	2	9	0
16:00:00	53	111	87	251	17
17:00:00	66	106	80	252	13
18:00:00	53	107	80	240	15
19:00:00	52	124	89	265	32
Totals:	326	616	628	1570	105

Calculated Values for Traffic Crossing Major Street

Hours Ending:	8:00	9:00	10:00	15:00	16:00	17:00	18:00	19:00
Crossing Values:	230	333	244	7	367	403	390	407

Ontario Traffic Inc.

Count Date: 30-May-17 Site #: 1715800001

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	1	1	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	14	13	280	275	3	3	1	1	11	11	0	0	0	0	0	0	0	0	13	13
7:30:00	19	5	484	204	7	4	2	1	18	7	1	1	0	0	0	0	0	0	19	6
7:45:00	20	1	776	292	8	1	3	1	33	15	1	0	0	0	0	0	0	0	37	18
8:00:00	29	9	1053	277	11	3	4	1	43	10	3	2	0	0	0	0	0	0	41	4
8:15:00	37	8	1363	310	17	6	8	4	54	11	4	1	0	0	0	0	0	0	51	10
8:30:00	57	20	1692	329	26	9	12	4	65	11	6	2	0	0	0	0	0	0	61	10
8:45:00	65	8	1975	283	31	5	15	3	74	9	6	0	0	0	0	0	0	0	69	8
9:00:00	74	9	2215	240	32	1	15	0	87	13	6	0	0	0	0	0	0	0	77	8
9:15:00	80	6	2404	189	34	2	16	1	95	8	7	1	0	0	0	0	0	0	83	6
9:30:00	93	13	2556	152	39	5	16	0	105	10	7	0	0	0	0	0	0	0	87	4
9:45:00	97	4	2692	136	44	5	18	2	120	15	9	2	0	0	0	0	0	0	94	7
10:00:00	109	12	2828	136	49	5	18	0	130	10	9	0	0	0	0	0	0	0	102	8
10:00:23	110	1	2832	4	50	1	18	0	130	0	9	0	0	0	0	0	0	0	102	0
10:00:25	110	0	2832	0	50	0	18	0	130	0	9	0	0	0	0	0	0	0	102	0
15:00:00	110	0	2834	2	50	0	18	0	130	0	9	0	0	0	0	0	0	0	102	0
15:15:00	115	5	2947	113	63	13	19	1	140	10	9	0	0	0	1	1	0	0	110	8
15:30:00	129	14	3169	222	73	10	21	2	151	11	10	1	0	0	1	0	0	0	118	8
15:45:00	143	14	3358	189	88	15	21	0	166	15	11	1	0	0	1	0	0	0	123	5
16:00:00	156	13	3535	177	98	10	21	0	177	11	11	0	0	0	1	0	0	0	131	8
16:15:00	169	13	3683	148	104	6	22	1	191	14	13	2	0	0	1	0	0	0	145	14
16:30:00	179	10	3822	139	109	5	22	0	202	11	13	0	0	0	2	1	0	0	155	10
16:45:00	190	11	3948	126	114	5	22	0	208	6	14	1	0	0	2	0	0	0	174	19
17:00:00	218	28	4112	164	124	10	22	0	223	15	15	1	0	0	2	0	0	0	192	18
17:15:00	232	14	4261	149	129	5	22	0	236	13	16	1	0	0	3	1	0	0	209	17
17:30:00	254	22	4426	165	139	10	24	2	245	9	16	0	0	0	3	0	0	0	222	13
17:45:00	271	17	4559	133	150	11	24	0	255	10	16	0	0	0	3	0	0	0	233	11
18:00:00	288	17	4694	135	157	7	24	0	268	13	17	1	0	0	3	0	0	0	250	17
18:15:00	318	30	4836	142	170	13	24	0	275	7	18	1	0	0	3	0	0	0	273	23
18:30:00	330	12	4976	140	188	18	24	0	286	11	18	0	0	0	3	0	0	0	299	26
18:45:00	340	10	5090	114	194	6	24	0	296	10	19	1	0	0	3	0	0	0	306	7
19:00:00	359	19	5199	109	203	9	24	0	302	6	20	1	0	0	3	0	0	0	329	23
19:00:23	359	0	5208	9	203	0	24	0	303	1	20	0	0	0	3	0	0	0	329	0
19:00:38	359	0	5208	0	203	0	24	0	303	0	20	0	0	0	3	0	0	0	329	0

Ontario Traffic Inc.

Count Date: 30-May-17 Site #: 1715800001

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	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	24	24	8	7	6	6	1	1	0	0	1	1	0	0	0	0	0	0	3	3
7:30:00	52	28	11	3	13	7	1	0	1	1	1	0	0	0	0	0	0	0	6	3
7:45:00	82	30	19	8	30	17	3	2	1	0	2	1	0	0	0	0	0	0	11	5
8:00:00	109	27	32	13	42	12	7	4	1	0	3	1	0	0	0	0	0	0	21	10
8:15:00	149	40	46	14	55	13	8	1	1	0	7	4	0	0	0	0	0	0	26	5
8:30:00	180	31	62	16	65	10	10	2	2	1	9	2	0	0	0	0	0	0	33	7
8:45:00	221	41	91	29	78	13	14	4	2	0	10	1	0	0	0	0	0	0	39	6
9:00:00	262	41	107	16	87	9	16	2	2	0	11	1	0	0	0	0	0	0	53	14
9:15:00	282	20	112	5	93	6	17	1	2	0	12	1	0	0	0	0	0	0	64	11
9:30:00	310	28	123	11	99	6	17	0	2	0	13	1	0	0	0	0	0	0	79	15
9:45:00	349	39	133	10	110	11	17	0	2	0	16	3	0	0	0	0	0	0	84	5
10:00:00	384	35	143	10	112	2	18	1	2	0	17	1	0	0	0	0	0	0	99	15
10:00:23	384	0	143	0	112	0	18	0	2	0	17	0	0	0	0	0	0	0	99	0
10:00:25	384	0	143	0	112	0	18	0	2	0	17	0	0	0	0	0	0	0	99	0
15:00:00	384	0	143	0	113	1	18	0	2	0	17	0	0	0	0	0	0	0	99	0
15:15:00	424	40	170	27	132	19	19	1	5	3	17	0	0	0	0	0	0	0	124	25
15:30:00	453	29	191	21	147	15	20	1	6	1	19	2	0	0	0	0	0	0	154	30
15:45:00	478	25	211	20	163	16	20	0	6	0	20	1	0	0	0	0	0	0	174	20
16:00:00	517	39	257	46	184	21	21	1	8	2	20	0	0	0	0	0	0	0	186	12
16:15:00	568	51	287	30	210	26	22	1	8	0	20	0	0	0	0	0	0	0	210	24
16:30:00	592	24	325	38	231	21	22	0	8	0	22	2	0	0	0	0	0	0	224	14
16:45:00	623	31	351	26	243	12	22	0	8	0	24	2	0	0	0	0	0	0	243	19
17:00:00	655	32	369	18	253	10	22	0	8	0	24	0	0	0	0	0	0	0	261	18
17:15:00	695	40	398	29	267	14	22	0	8	0	25	1	0	0	0	0	0	0	280	19
17:30:00	731	36	427	29	277	10	22	0	8	0	25	0	0	0	0	0	0	0	300	20
17:45:00	767	36	457	30	287	10	23	1	9	1	25	0	0	0	0	0	0	0	311	11
18:00:00	799	32	489	32	295	8	23	0	9	0	25	0	0	0	0	0	0	0	319	8
18:15:00	838	39	521	32	311	16	23	0	10	1	25	0	0	0	0	0	0	0	331	12
18:30:00	855	17	555	34	312	1	23	0	10	0	25	0	0	0	0	0	0	0	351	20
18:45:00	898	43	585	30	321	9	24	1	11	1	25	0	0	0	0	0	0	0	362	11
19:00:00	927	29	614	29	337	16	24	0	11	0	25	0	0	0	0	0	0	0	377	15
19:00:23	927	0	614	0	337	0	24	0	11	0	25	0	0	0	0	0	0	0	377	0
19:00:38	927	0	615	1	337	0	24	0	11	0	25	0	0	0	0	0	0	0	379	2

Ontario Traffic Inc.

Count Date: 30-May-17 Site #: 1715800001

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	6	6	62	62	17	17	0	0	5	5	1	1	0	0	0	0	0	0	0	0
7:30:00	9	3	136	74	28	11	0	0	13	8	2	1	0	0	0	0	0	0	6	6
7:45:00	22	13	206	70	42	14	1	1	23	10	4	2	0	0	0	0	0	0	11	5
8:00:00	31	9	300	94	60	18	2	1	34	11	4	0	0	0	0	0	0	0	16	5
8:15:00	51	20	390	90	71	11	2	0	44	10	4	0	0	0	0	0	0	0	22	6
8:30:00	66	15	477	87	86	15	3	1	51	7	5	1	0	0	0	0	0	0	25	3
8:45:00	81	15	561	84	99	13	4	1	63	12	6	1	0	0	0	0	0	0	30	5
9:00:00	98	17	644	83	115	16	4	0	72	9	6	0	0	0	0	0	0	0	31	1
9:15:00	106	8	726	82	135	20	4	0	86	14	6	0	0	0	0	0	0	0	31	0
9:30:00	118	12	813	87	158	23	4	0	98	12	7	1	0	0	0	0	0	0	31	0
9:45:00	128	10	889	76	180	22	5	1	112	14	8	1	0	0	0	0	0	0	36	5
10:00:00	135	7	968	79	193	13	6	1	127	15	8	0	0	0	0	0	0	0	40	4
10:00:23	135	0	968	0	193	0	6	0	127	0	8	0	0	0	0	0	0	0	40	0
10:00:25	135	0	969	1	193	0	6	0	127	0	8	0	0	0	0	0	0	0	40	0
15:00:00	135	0	969	0	193	0	6	0	127	0	8	0	0	0	0	0	0	0	40	0
15:15:00	155	20	1153	184	250	57	7	1	141	14	8	0	0	0	0	0	0	0	41	1
15:30:00	169	14	1420	267	284	34	7	0	153	12	9	1	0	0	0	0	0	0	54	13
15:45:00	186	17	1696	276	331	47	9	2	174	21	9	0	0	0	0	0	1	1	63	9
16:00:00	216	30	1928	232	383	52	10	1	184	10	9	0	0	0	0	0	1	0	69	6
16:15:00	239	23	2205	277	440	57	10	0	193	9	9	0	0	0	0	0	1	0	80	11
16:30:00	272	33	2488	283	499	59	10	0	205	12	10	1	0	0	0	0	1	0	86	6
16:45:00	305	33	2778	290	548	49	10	0	224	19	10	0	0	0	0	0	1	0	86	0
17:00:00	343	38	3097	319	602	54	13	3	232	8	11	1	0	0	0	0	1	0	94	8
17:15:00	377	34	3365	268	656	54	14	1	241	9	12	1	0	0	0	0	1	0	100	6
17:30:00	408	31	3676	311	705	49	15	1	251	10	12	0	0	0	0	0	1	0	104	4
17:45:00	445	37	3993	317	769	64	15	0	257	6	12	0	0	0	0	0	1	0	106	2
18:00:00	478	33	4287	294	822	53	15	0	269	12	12	0	0	0	0	0	1	0	107	1
18:15:00	509	31	4512	225	874	52	15	0	273	4	12	0	0	0	0	0	1	0	112	5
18:30:00	538	29	4822	310	922	48	16	1	287	14	13	1	0	0	0	0	1	0	122	10
18:45:00	557	19	5010	188	975	53	16	0	291	4	13	0	0	0	0	0	1	0	122	0
19:00:00	588	31	5257	247	1031	56	16	0	302	11	14	1	0	0	0	0	1	0	127	5
19:00:23	588	0	5257	0	1031	0	16	0	302	0	14	0	0	0	0	0	1	0	127	0
19:00:38	591	3	5273	16	1035	4	16	0	303	1	14	0	0	0	0	0	1	0	127	0

Ontario Traffic Inc.

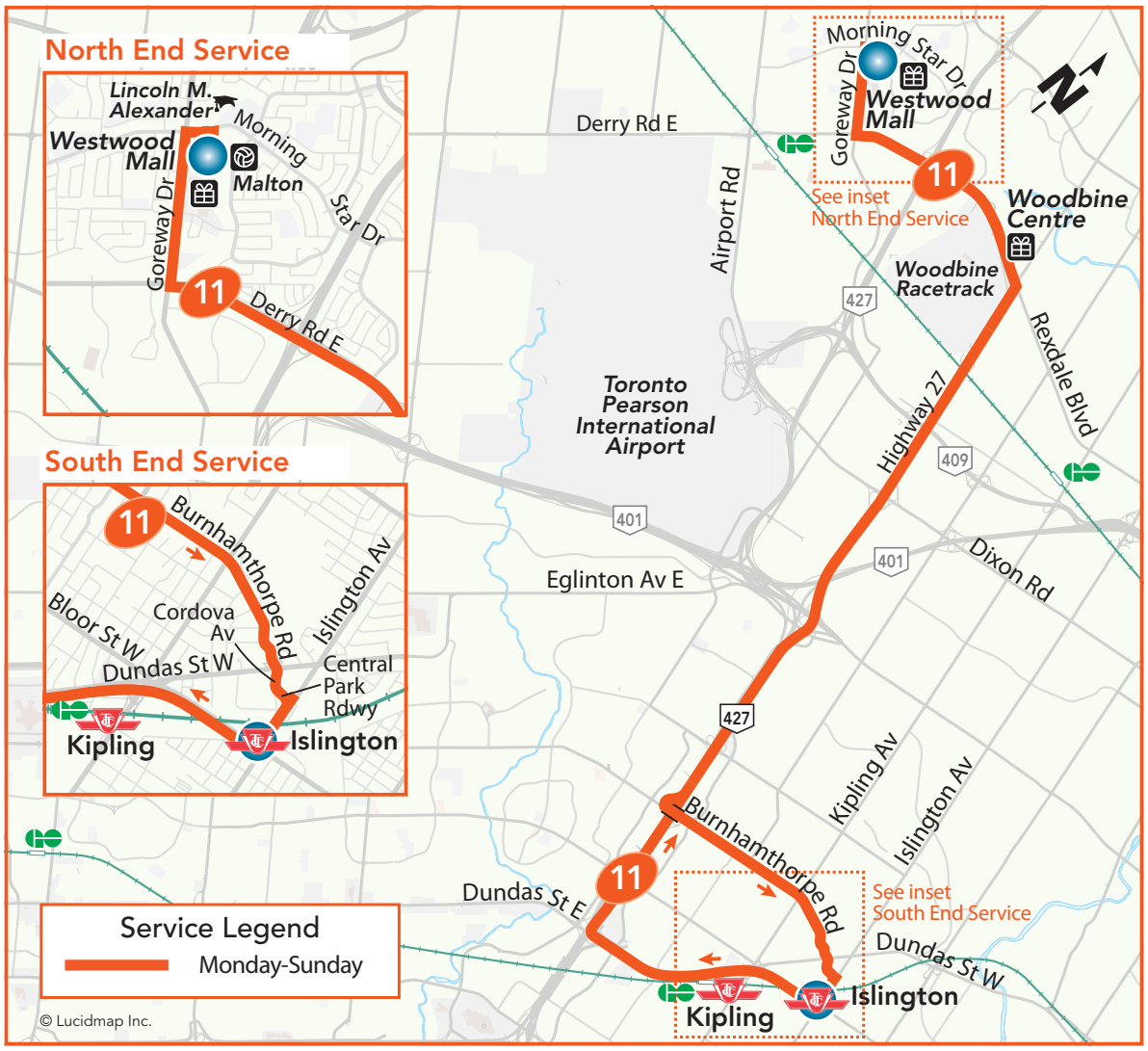
Count Date: 30-May-17 Site #: 1715800001

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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	2	2	8	8	27	27	1	1	0	0	0	0	0	0	0	0	0	0	2	2
7:30:00	6	4	18	10	55	28	1	0	0	0	0	0	0	0	0	0	0	0	5	3
7:45:00	15	9	25	7	81	26	2	1	1	1	0	0	0	0	0	0	0	0	9	4
8:00:00	19	4	35	10	111	30	2	0	1	0	0	0	0	0	0	0	0	0	12	3
8:15:00	30	11	47	12	146	35	3	1	3	2	0	0	0	0	0	0	0	0	12	0
8:30:00	42	12	63	16	172	26	3	0	5	2	0	0	0	0	0	0	0	0	15	3
8:45:00	57	15	88	25	191	19	3	0	7	2	1	1	0	0	0	0	0	0	19	4
9:00:00	60	3	104	16	211	20	4	1	9	2	1	0	0	0	0	0	0	0	20	1
9:15:00	67	7	113	9	236	25	4	0	9	0	1	0	0	0	0	0	0	0	21	1
9:30:00	74	7	123	10	253	17	4	0	9	0	1	0	0	0	0	0	0	0	23	2
9:45:00	84	10	137	14	270	17	6	2	9	0	1	0	0	0	0	0	0	0	26	3
10:00:00	94	10	153	16	287	17	7	1	9	0	3	2	0	0	0	0	0	0	28	2
10:00:23	95	1	157	4	289	2	7	0	9	0	3	0	0	0	0	0	0	0	28	0
10:00:25	95	0	157	0	289	0	7	0	9	0	3	0	0	0	0	0	0	0	28	0
15:00:00	95	0	159	2	289	0	7	0	9	0	3	0	0	0	0	0	0	0	28	0
15:15:00	108	13	189	30	306	17	7	0	9	0	3	0	0	0	0	0	0	0	35	7
15:30:00	115	7	209	20	343	37	7	0	10	1	3	0	0	0	0	0	0	0	37	2
15:45:00	137	22	235	26	357	14	7	0	11	1	3	0	0	0	0	0	0	0	42	5
16:00:00	147	10	268	33	374	17	8	1	11	0	5	2	0	0	0	0	0	0	45	3
16:15:00	164	17	291	23	394	20	8	0	13	2	5	0	0	0	0	0	0	0	46	1
16:30:00	176	12	306	15	416	22	9	1	13	0	5	0	0	0	0	0	0	0	47	1
16:45:00	193	17	331	25	438	22	10	1	13	0	5	0	0	0	0	0	0	0	52	5
17:00:00	210	17	372	41	454	16	11	1	13	0	5	0	0	0	0	0	0	0	58	6
17:15:00	221	11	407	35	475	21	11	0	13	0	6	1	0	0	0	0	0	0	59	1
17:30:00	228	7	422	15	487	12	11	0	13	0	7	1	0	0	0	0	0	0	65	6
17:45:00	240	12	455	33	508	21	11	0	13	0	7	0	0	0	0	0	0	0	69	4
18:00:00	262	22	479	24	532	24	12	1	13	0	7	0	0	0	0	0	0	0	73	4
18:15:00	274	12	527	48	553	21	12	0	13	0	7	0	0	0	0	0	0	0	81	8
18:30:00	289	15	553	26	578	25	13	1	13	0	7	0	0	0	0	0	0	0	95	14
18:45:00	299	10	579	26	595	17	14	1	13	0	7	0	0	0	0	0	0	0	97	2
19:00:00	312	13	603	24	621	26	14	0	13	0	7	0	0	0	0	0	0	0	105	8
19:00:23	312	0	603	0	621	0	14	0	13	0	7	0	0	0	0	0	0	0	107	2
19:00:38	312	0	603	0	621	0	14	0	13	0	7	0	0	0	0	0	0	0	107	0

11 Westwood

Monday-Sunday Service

Effective: January 28, 2013



Legend

Islington	TTC Subway Station	Major Transit Terminal	Shopping Centre	Public Library
Clarkson	GO Train Station	Hospital	High School, University or College	Living Arts Centre
	Transitway Station	Ice Rink	Recreation or Community Centre	Civic Centre (City Hall)

Customer Service - We're here to help

@MiWayHelps | miway.ca/feedback | 905-615-INFO (4636)

miway.info@mississauga.ca | TTY: 905-615-3886

Find a schedule or trip plan

m.miway.ca | miway.ca/planatrip | citylink 905-615-4BUS(4287)

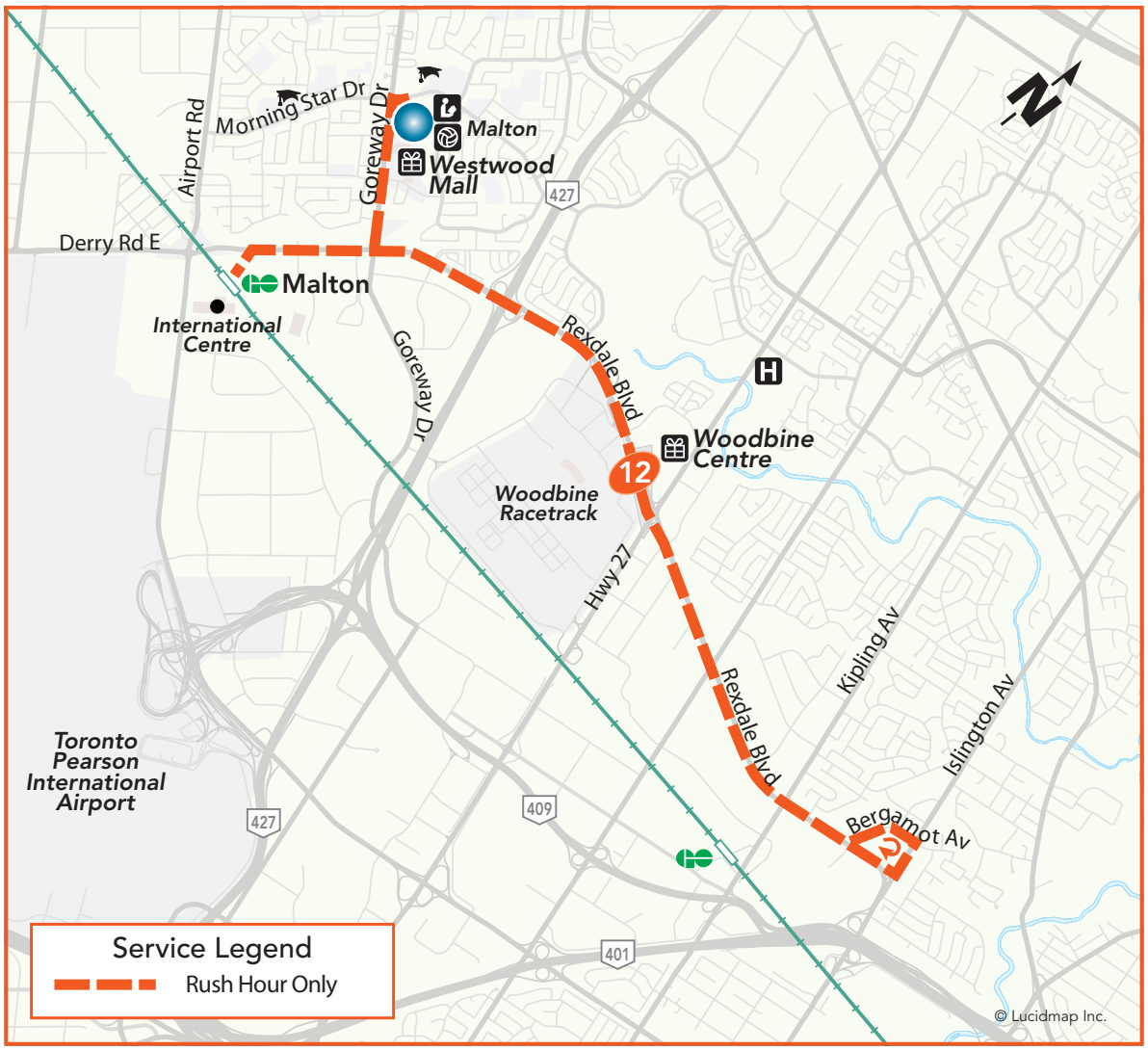
Call and enter a four-digit bus stop number.

MISSISSAUGA

12 Rexdale

Monday-Friday Service

Effective: January 28, 2013



Legend

Islington	TTC Subway Station	Major Transit Terminal	Shopping Centre	Public Library
Clarkson	GO Train Station	Hospital	High School, University or College	Living Arts Centre
	Transitway Station	Ice Rink	Recreation or Community Centre	Civic Centre (City Hall)

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miway.info@mississauga.ca | TTY: 905-615-3886

Find a schedule or trip plan

m.miway.ca | miway.ca/planatrip | citylink 905-615-4BUS(4287)

Call and enter a four-digit bus stop number.

MISSISSAUGA

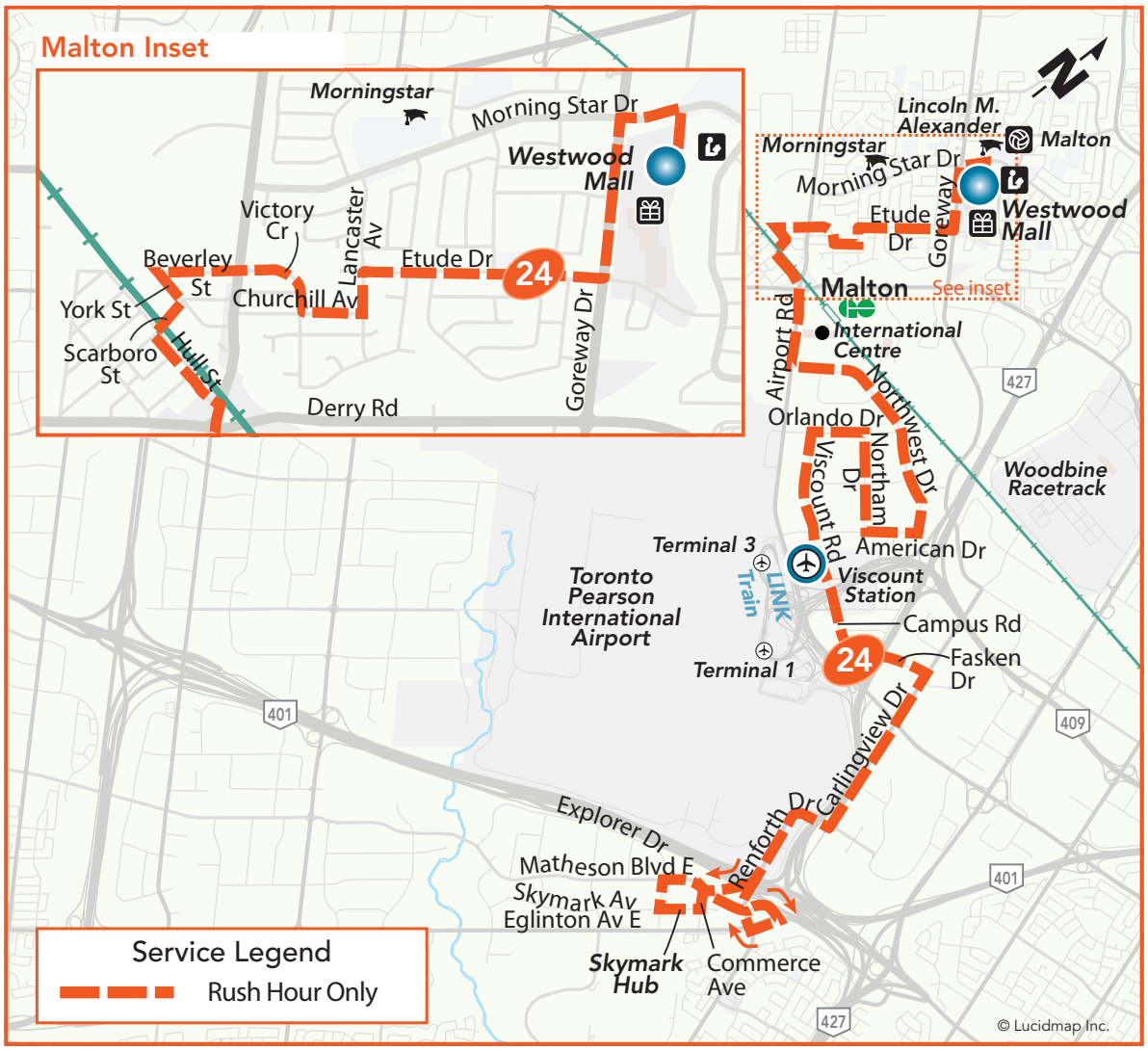
mi local

mi WAY

24 Northwest

Monday-Friday Service

Effective: June 29, 2015



Legend

Islington	TTC Subway Station	Major Transit Terminal	Shopping Centre	Public Library
Clarkson	GO Train Station	Hospital	High School, University or College	Living Arts Centre
	Transitway Station	Ice Rink	Recreation or Community Centre	Civic Centre (City Hall)

Customer Service - We're here to help

@MiWayHelps | miway.ca/feedback | 905-615-INFO (4636)

miway.info@mississauga.ca | TTY: 905-615-3886

Find a schedule or trip plan

m.miway.ca | miway.ca/planatrip | citylink 905-615-4BUS(4287)

Call and enter a four-digit bus stop number.

MISSISSAUGA

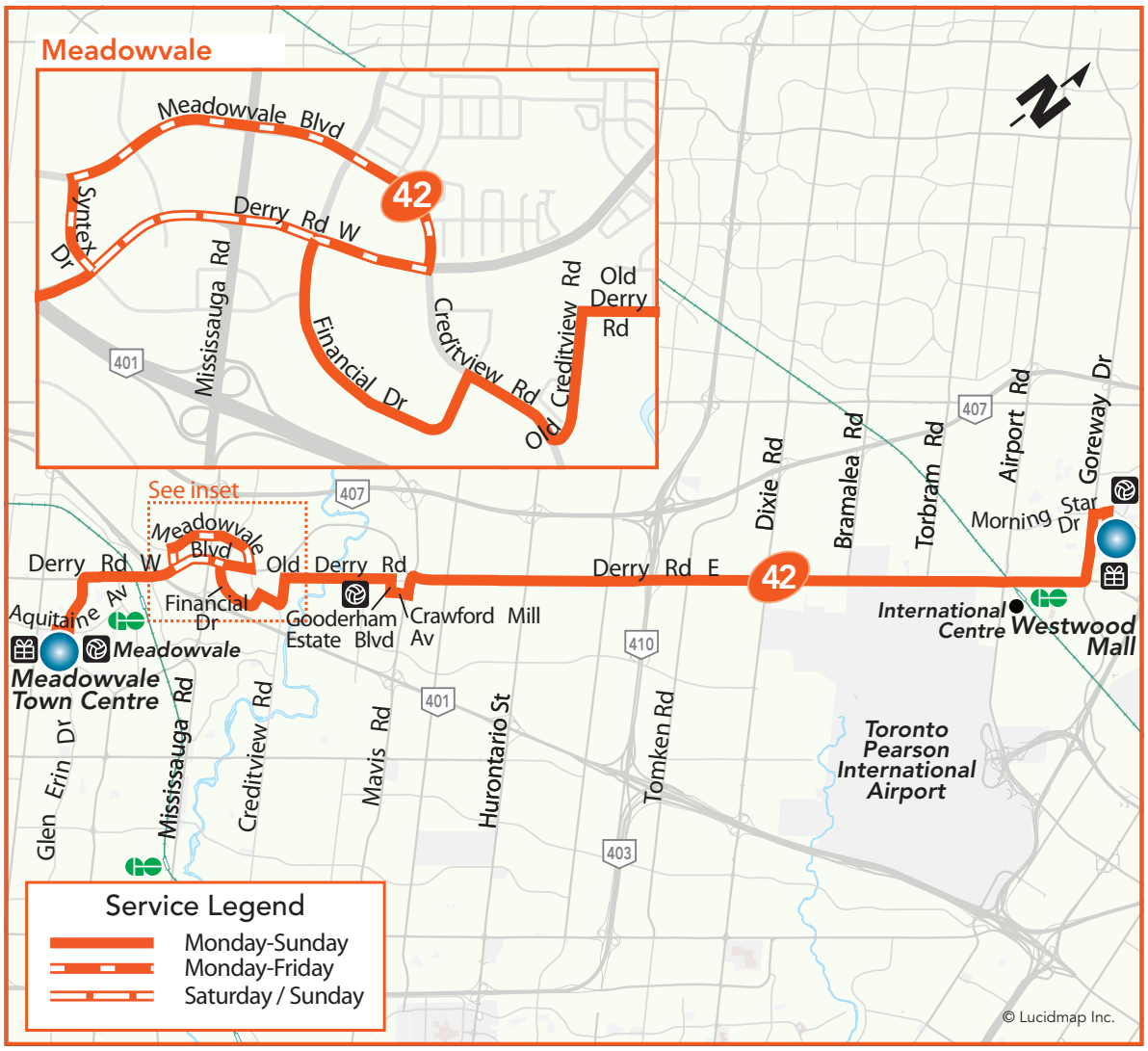
mi local

mi WAY

42 Derry

Monday-Sunday Service

Effective: January 28, 2013



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MISSISSAUGA

mi local

mi WAY

59 Airport Infield

Monday-Friday Service

Effective: January 28, 2013

Legend

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Level of Service Definitions

Two-Way Stop Controlled Intersections

Level of Service	Control Delay per Vehicle (seconds)	Interpretation
A	≤ 10	EXCELLENT. Large and frequent gaps in traffic on the main roadway. Queuing on the minor street is rare.
B	> 10 and ≤ 15	VERY GOOD. Many gaps exist in traffic on the main roadway. Queuing on the minor street is minimal.
C	> 15 and ≤ 25	GOOD. Fewer gaps exist in traffic on the main roadway. Delay on minor approach becomes more noticeable.
D	> 25 and ≤ 35	FAIR. Infrequent and shorter gaps in traffic on the main roadway. Queue lengths develop on the minor street.
E	> 35 and ≤ 50	POOR. Very infrequent gaps in traffic on the main roadway. Queue lengths become noticeable.
F	> 50	UNSATISFACTORY. Very few gaps in traffic on the main roadway. Excessive delay with significant queue lengths on the minor street.

Adapted from Highway Capacity Manual 2000, Transportation Research Board

Level of Service Definitions

Signalized Intersections

Level of Service	Control Delay per Vehicle (seconds)	Interpretation
A	≤ 10	EXCELLENT. Extremely favourable progression with most vehicles arriving during the green phase. Most vehicles do not stop and short cycle lengths may contribute to low delay.
B	> 10 and ≤ 20	VERY GOOD. Very good progression and/or short cycle lengths with slightly more vehicles stopping than LOS "A" causing slightly higher levels of average delay.
C	> 20 and ≤ 35	GOOD. Fair progression and longer cycle lengths lead to a greater number of vehicles stopping than LOS "B".
D	> 35 and ≤ 55	FAIR. Congestion becomes noticeable with higher average delays resulting from a combination of long cycle lengths, high volume-to-capacity ratios and unfavourable progression.
E	> 55 and ≤ 80	POOR. Lengthy delays values are indicative of poor progression, long cycle lengths and high volume-to-capacity ratios. Individual cycle failures are common with individual movement failures also common.
F	> 80	UNSATISFACTORY. Indicative of oversaturated conditions with vehicular demand greater than the capacity of the intersection.

Adapted from Highway Capacity Manual 2000, Transportation Research Board

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	69	111	150	73	56	62	395	59	57	1240	28
Future Volume (vph)	43	69	111	150	73	56	62	395	59	57	1240	28
Ideal Flow (vphpl)	1900	1900	1640	1900	1900	1640	1900	1900	1640	1900	1900	1640
Storage Length (m)	55.0		0.0	35.0		0.0	0.0		0.0	25.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.97	0.98		0.98	0.98		1.00	0.99		0.98	1.00	
Frt		0.908			0.935			0.981			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1642	0	1706	1641	0	1738	3261	0	1508	3520	0
Flt Permitted	0.670			0.583			0.072			0.479		
Satd. Flow (perm)	1224	1642	0	1030	1641	0	132	3261	0	749	3520	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		68			32			24			2	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		237.8			202.3			57.3			147.3	
Travel Time (s)		17.1			14.6			3.4			8.8	
Confl. Peds. (#/hr)	32		19	19		32	10		28	28		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	9%	1%	7%	2%	14%	5%	10%	3%	21%	3%	18%
Adj. Flow (vph)	45	73	117	158	77	59	65	416	62	60	1305	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	190	0	158	136	0	65	478	0	60	1334	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	1.19	0.99	0.99	1.19	0.99	0.99	1.19	0.99	0.99	1.19
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	42.0	42.0		42.0	42.0		12.0	63.0		63.0	63.0	
Total Split (s)	42.0	42.0		42.0	42.0		15.0	63.0		63.0	63.0	
Total Split (%)	35.0%	35.0%		35.0%	35.0%		12.5%	52.5%		52.5%	52.5%	
Maximum Green (s)	35.0	35.0		35.0	35.0		8.0	56.0		56.0	56.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Walk Time (s)	13.0	13.0		13.0	13.0			42.0		42.0	42.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0			14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	35.0	35.0		35.0	35.0		71.0	71.0		56.0	56.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.59	0.59		0.47	0.47	
v/c Ratio	0.13	0.36		0.53	0.27		0.35	0.25		0.17	0.81	
Control Delay	32.6	23.4		43.1	26.5		15.7	11.5		20.3	32.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	32.6	23.4		43.1	26.5		15.7	11.5		20.3	32.4	
LOS	C	C		D	C		B	B		C	C	
Approach Delay		25.2			35.4			12.0			31.8	
Approach LOS		C			D			B			C	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 10 (8%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 120
Control Type: Pretimed
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 27.3 Intersection LOS: C
Intersection Capacity Utilization 104.0% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 3: Goreway Drive & Etude Drive

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	124	72	145	107	45	145	1248	223	83	659	38
Future Volume (vph)	48	124	72	145	107	45	145	1248	223	83	659	38
Ideal Flow (vphpl)	1900	1900	1640	1900	1900	1640	1900	1900	1640	1900	1900	1640
Storage Length (m)	55.0		0.0	35.0		0.0	0.0		0.0	25.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.95	0.99		0.98	0.98		0.99	0.99		0.99	1.00	
Frt		0.945			0.956			0.977			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1773	0	1807	1772	0	1755	3424	0	1789	3380	0
Flt Permitted	0.631			0.556			0.269			0.110		
Satd. Flow (perm)	1127	1773	0	1041	1772	0	494	3424	0	206	3380	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			18			30			7	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		237.8			202.3			57.3			147.3	
Travel Time (s)		17.1			14.6			3.4			8.8	
Confl. Peds. (#/hr)	59		20	20		59	17		68	68		17
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	0%	3%	1%	1%	2%	4%	3%	1%	2%	7%	5%
Adj. Flow (vph)	51	131	76	153	113	47	153	1314	235	87	694	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	51	207	0	153	160	0	153	1549	0	87	734	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	1.19	0.99	0.99	1.19	0.99	0.99	1.19	0.99	0.99	1.19
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	39.0	39.0		39.0	39.0		11.0	63.0		63.0	63.0	
Total Split (s)	42.0	42.0		42.0	42.0		15.0	63.0		63.0	63.0	
Total Split (%)	35.0%	35.0%		35.0%	35.0%		12.5%	52.5%		52.5%	52.5%	
Maximum Green (s)	35.0	35.0		35.0	35.0		8.0	56.0		56.0	56.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Walk Time (s)	13.0	13.0		13.0	13.0			42.0		42.0	42.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0			14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	35.0	35.0		35.0	35.0		71.0	71.0		56.0	56.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.59	0.59		0.47	0.47	
v/c Ratio	0.16	0.39		0.50	0.30		0.41	0.76		0.91	0.46	
Control Delay	33.2	32.2		42.3	31.0		14.4	20.9		103.4	22.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	33.2	32.2		42.3	31.0		14.4	20.9		103.4	22.8	
LOS	C	C		D	C		B	C		F	C	
Approach Delay		32.4			36.5			20.3			31.3	
Approach LOS		C			D			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 115
Control Type: Pretimed
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 25.9 Intersection LOS: C
Intersection Capacity Utilization 112.7% ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 3: Goreway Drive & Etude Drive

Intersection: 3: Goreway Drive & Etude Drive

Movement	EB	EB	WB	WB	NB	NB	NB	B6	B10	B10	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	T	T	T	L	T
Maximum Queue (m)	44.5	65.8	37.2	76.4	24.9	45.8	48.2	2.0	2.2	13.6	27.3	147.8
Average Queue (m)	12.7	32.4	29.1	31.0	11.0	24.7	20.7	0.1	0.1	0.5	10.4	109.9
95th Queue (m)	29.5	54.8	42.1	64.5	21.2	42.7	40.3	1.4	1.6	5.6	26.3	149.4
Link Distance (m)		226.9		190.9	44.2	44.2	44.2	62.4	19.5	19.5		140.1
Upstream Blk Time (%)						0	0			0		2
Queuing Penalty (veh)						0	0			0		0
Storage Bay Dist (m)	55.0		35.0								25.0	
Storage Blk Time (%)	0	1	11	3							0	42
Queuing Penalty (veh)	0	0	14	4							1	24

Intersection: 3: Goreway Drive & Etude Drive

Movement	SB
Directions Served	TR
Maximum Queue (m)	133.5
Average Queue (m)	88.5
95th Queue (m)	128.2
Link Distance (m)	140.1
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: Bend

Movement	SB	SB
Directions Served	T	T
Maximum Queue (m)	3.1	5.8
Average Queue (m)	0.1	0.2
95th Queue (m)	2.2	3.0
Link Distance (m)	54.0	54.0
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 43

Intersection: 3: Goreway Drive & Etude Drive

Movement	EB	EB	WB	WB	NB	NB	NB	B6	B6	B11	B10	B10
Directions Served	L	TR	L	TR	L	T	TR	T	T	T	T	T
Maximum Queue (m)	52.7	75.5	37.3	73.1	44.9	66.1	63.8	48.2	52.6	55.4	31.1	32.5
Average Queue (m)	13.2	34.3	28.1	32.3	19.5	58.3	58.3	21.3	22.3	4.7	16.0	22.6
95th Queue (m)	31.4	58.8	41.4	59.7	36.2	66.8	66.5	44.7	46.8	32.6	31.8	33.6
Link Distance (m)		226.9		190.9	44.2	44.2	44.2	62.4	62.4	54.0	19.5	19.5
Upstream Blk Time (%)					0	20	23			0	6	19
Queuing Penalty (veh)					0	0	0			0	0	0
Storage Bay Dist (m)	55.0		35.0									
Storage Blk Time (%)	0	1	8	5								
Queuing Penalty (veh)	0	1	12	7								

Intersection: 3: Goreway Drive & Etude Drive

Movement	B10	SB	SB	SB
Directions Served		L	T	TR
Maximum Queue (m)	21.7	27.3	131.6	119.8
Average Queue (m)	9.0	23.1	93.0	78.1
95th Queue (m)	22.0	33.9	157.3	144.4
Link Distance (m)	19.5		140.1	140.1
Upstream Blk Time (%)	1		13	3
Queuing Penalty (veh)	0		0	0
Storage Bay Dist (m)		25.0		
Storage Blk Time (%)		48	26	
Queuing Penalty (veh)		156	22	

Intersection: 6: Bend

Movement	SB
Directions Served	T
Maximum Queue (m)	2.2
Average Queue (m)	0.1
95th Queue (m)	1.5
Link Distance (m)	44.2
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 198

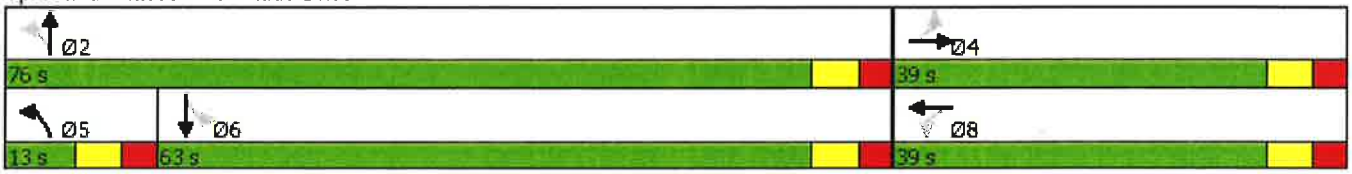
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	69	118	150	73	56	64	395	59	57	1240	28
Future Volume (vph)	45	69	118	150	73	56	64	395	59	57	1240	28
Ideal Flow (vphpl)	1900	1900	1640	1900	1900	1640	1900	1900	1640	1900	1900	1640
Storage Length (m)	55.0		0.0	35.0		0.0	0.0		0.0	25.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.97	0.98		0.99	0.98		1.00	0.99		0.99	1.00	
Frt		0.906			0.935			0.981			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1640	0	1706	1642	0	1738	3262	0	1508	3520	0
Flt Permitted	0.670			0.532			0.112			0.479		
Satd. Flow (perm)	1226	1640	0	941	1642	0	205	3262	0	749	3520	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		74			33			26			3	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		54.0			202.3			57.3			147.3	
Travel Time (s)		3.9			14.6			3.4			8.8	
Confl. Peds. (#/hr)	32		19	19		32	10		28	28		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	9%	1%	7%	2%	14%	5%	10%	3%	21%	3%	18%
Adj. Flow (vph)	47	73	124	158	77	59	67	416	62	60	1305	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	47	197	0	158	136	0	67	478	0	60	1334	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	1.19	0.99	0.99	1.19	0.99	0.99	1.19	0.99	0.99	1.19
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	39.0	39.0		39.0	39.0		11.0	63.0		63.0	63.0	
Total Split (s)	39.0	39.0		39.0	39.0		13.0	76.0		63.0	63.0	
Total Split (%)	33.9%	33.9%		33.9%	33.9%		11.3%	66.1%		54.8%	54.8%	
Maximum Green (s)	32.0	32.0		32.0	32.0		6.0	69.0		56.0	56.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)	13.0	13.0		13.0	13.0			42.0		42.0	42.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0			14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)	21.2	21.2		21.2	21.2		69.3	69.3		59.1	59.1	
Actuated g/C Ratio	0.20	0.20		0.20	0.20		0.66	0.66		0.57	0.57	
v/c Ratio	0.19	0.50		0.83	0.38		0.30	0.22		0.14	0.67	
Control Delay	35.1	26.5		72.5	29.2		11.3	7.7		15.5	20.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	35.1	26.5		72.5	29.2		11.3	7.7		15.5	20.3	
LOS	D	C		E	C		B	A		B	C	
Approach Delay		28.2			52.4			8.1			20.1	
Approach LOS		C			D			A			C	

Intersection Summary

Area Type: Other
Cycle Length: 115
Actuated Cycle Length: 104.6
Natural Cycle: 115
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 22.1 — Intersection LOS: C
Intersection Capacity Utilization 97.9% — ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 3: Etude Drive



Intersection: 3: Etude Drive

Movement	EB	EB	WB	WB	NB	NB	NB	B6	B10	B10	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	T	T		L	T
Maximum Queue (m)	38.9	43.6	37.3	107.2	26.6	52.2	52.7	1.8	11.6	2.6	27.2	144.0
Average Queue (m)	11.7	25.2	29.7	33.0	12.7	25.1	21.6	0.1	0.5	0.1	9.4	92.4
95th Queue (m)	28.6	44.2	42.4	75.4	22.7	44.9	43.5	1.5	5.1	1.6	23.8	137.0
Link Distance (m)		39.6		190.9	44.2	44.2	44.2	62.4	19.5	19.5		140.2
Upstream Blk Time (%)	0	5				1	1		0			1
Queuing Penalty (veh)	0	11				0	0		0			0
Storage Bay Dist (m)	55.0		35.0								25.0	
Storage Blk Time (%)	0	5	14	3							0	33
Queuing Penalty (veh)	0	2	18	5							2	19

Intersection: 3: Etude Drive

Movement	SB
Directions Served	TR
Maximum Queue (m)	118.0
Average Queue (m)	73.2
95th Queue (m)	113.2
Link Distance (m)	140.2
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Full Moves

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (m)	40.6	2.2	9.1
Average Queue (m)	4.1	0.1	2.4
95th Queue (m)	21.8	1.4	9.0
Link Distance (m)	146.2	39.6	43.8
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 56

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	223	0	2	163	1	9
Future Vol, veh/h	223	0	2	163	1	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	223	0	2	163	1	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	223	0	390	223
Stage 1	-	-	-	-	223	-
Stage 2	-	-	-	-	167	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1346	-	614	817
Stage 1	-	-	-	-	814	-
Stage 2	-	-	-	-	863	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1346	-	613	817
Mov Cap-2 Maneuver	-	-	-	-	661	-
Stage 1	-	-	-	-	814	-
Stage 2	-	-	-	-	861	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	798	-	-	1346	-
HCM Lane V/C Ratio	0.013	-	-	0.001	-
HCM Control Delay (s)	9.6	-	-	7.7	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

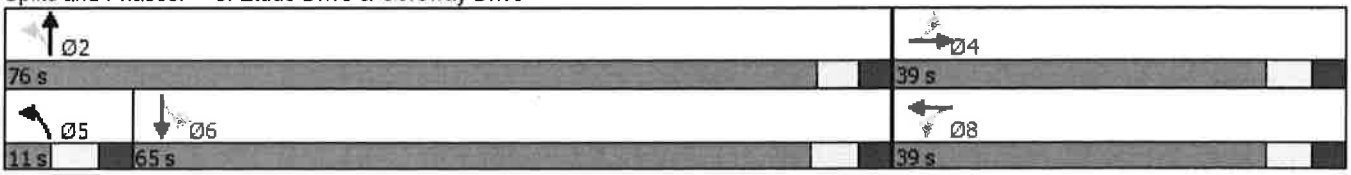
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	124	75	145	107	45	151	1248	223	83	659	39
Future Volume (vph)	49	124	75	145	107	45	151	1248	223	83	659	39
Ideal Flow (vphpl)	1900	1900	1640	1900	1900	1640	1900	1900	1640	1900	1900	1640
Storage Length (m)	55.0		0.0	35.0		0.0	0.0		0.0	25.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.97	0.99		0.99	0.99		1.00	0.99		1.00	1.00	
Frt		0.944			0.956			0.977			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1690	0	1706	1717	0	1738	3250	0	1508	3481	0
Flt Permitted	0.621			0.509			0.301			0.133		
Satd. Flow (perm)	1138	1690	0	901	1717	0	549	3250	0	211	3481	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26			18			32			7	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		53.6			202.3			57.3			147.3	
Travel Time (s)		3.9			14.6			3.4			8.8	
Confl. Peds. (#/hr)	32		19	19		32	10		28	28		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	9%	1%	7%	2%	14%	5%	10%	3%	21%	3%	18%
Adj. Flow (vph)	52	131	79	153	113	47	159	1314	235	87	694	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	210	0	153	160	0	159	1549	0	87	735	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	1.19	0.99	0.99	1.19	0.99	0.99	1.19	0.99	0.99	1.19
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	39.0	39.0		39.0	39.0		11.0	62.5		63.0	63.0	
Total Split (s)	39.0	39.0		39.0	39.0		11.0	76.0		65.0	65.0	
Total Split (%)	33.9%	33.9%		33.9%	33.9%		9.6%	66.1%		56.5%	56.5%	
Maximum Green (s)	32.0	32.0		32.0	32.0		4.0	69.5		58.0	58.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	3.5		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	6.5		7.0	7.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)	13.0	13.0		13.0	13.0			42.0		42.0	42.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0			14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)	21.3	21.3		21.3	21.3		69.3	69.8		58.2	58.2	
Actuated g/C Ratio	0.20	0.20		0.20	0.20		0.66	0.67		0.56	0.56	
v/c Ratio	0.23	0.58		0.84	0.44		0.39	0.71		0.74	0.38	
Control Delay	36.0	38.7		74.8	35.3		11.2	14.4		60.5	14.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	36.0	38.7		74.8	35.3		11.2	14.4		60.5	14.6	
LOS	D	D		E	D		B	B		E	B	
Approach Delay		38.2			54.6			14.1			19.4	
Approach LOS		D			D			B			B	

Intersection Summary

Area Type: Other
Cycle Length: 115
Actuated Cycle Length: 104.6
Natural Cycle: 115
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 21.6 — Intersection LOS: C
Intersection Capacity Utilization 105.2% — ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 3: Etude Drive & Goreway Drive



Intersection: 3: Etude Drive & Goreway Drive

Movement	EB	EB	WB	WB	NB	NB	NB	B6	B6	B6	B11	B11
Directions Served	L	TR	L	TR	L	T	TR	T	T	T	T	T
Maximum Queue (m)	38.5	42.8	37.3	124.7	60.3	70.0	70.2	15.6	48.8	52.3	24.2	74.3
Average Queue (m)	13.6	31.4	28.6	40.4	24.3	59.2	58.7	0.7	21.6	21.7	1.3	22.0
95th Queue (m)	33.4	49.4	43.9	95.3	47.0	70.5	71.1	7.0	44.9	46.9	15.4	75.1
Link Distance (m)		38.8		190.9	44.2	44.2	44.2	62.4	62.4	62.4	54.0	54.0
Upstream Blk Time (%)	0	9			3	18	21		0	0	0	2
Queuing Penalty (veh)	0	23			0	0	0		0	0	0	0
Storage Bay Dist (m)	55.0		35.0									
Storage Blk Time (%)	0	9	15	6								
Queuing Penalty (veh)	0	5	23	9								

Intersection: 3: Etude Drive & Goreway Drive

Movement	B10	B10	B10	SB	SB	SB
Directions Served	T	T		L	T	TR
Maximum Queue (m)	31.2	34.2	25.4	27.4	155.8	147.8
Average Queue (m)	12.9	21.6	10.3	26.5	134.4	116.5
95th Queue (m)	31.8	39.5	25.3	29.9	172.0	163.1
Link Distance (m)	19.5	19.5	19.5		140.0	140.0
Upstream Blk Time (%)	4	20	2		36	3
Queuing Penalty (veh)	0	0	0		0	0
Storage Bay Dist (m)				25.0		
Storage Blk Time (%)				75	37	
Queuing Penalty (veh)				247	31	

Intersection: 8: Access

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (m)	40.8	17.6	9.1
Average Queue (m)	6.4	0.8	1.0
95th Queue (m)	24.3	6.7	5.6
Link Distance (m)	146.2	38.8	59.1
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 337

Intersection	
Int Delay, s/veh	0.2

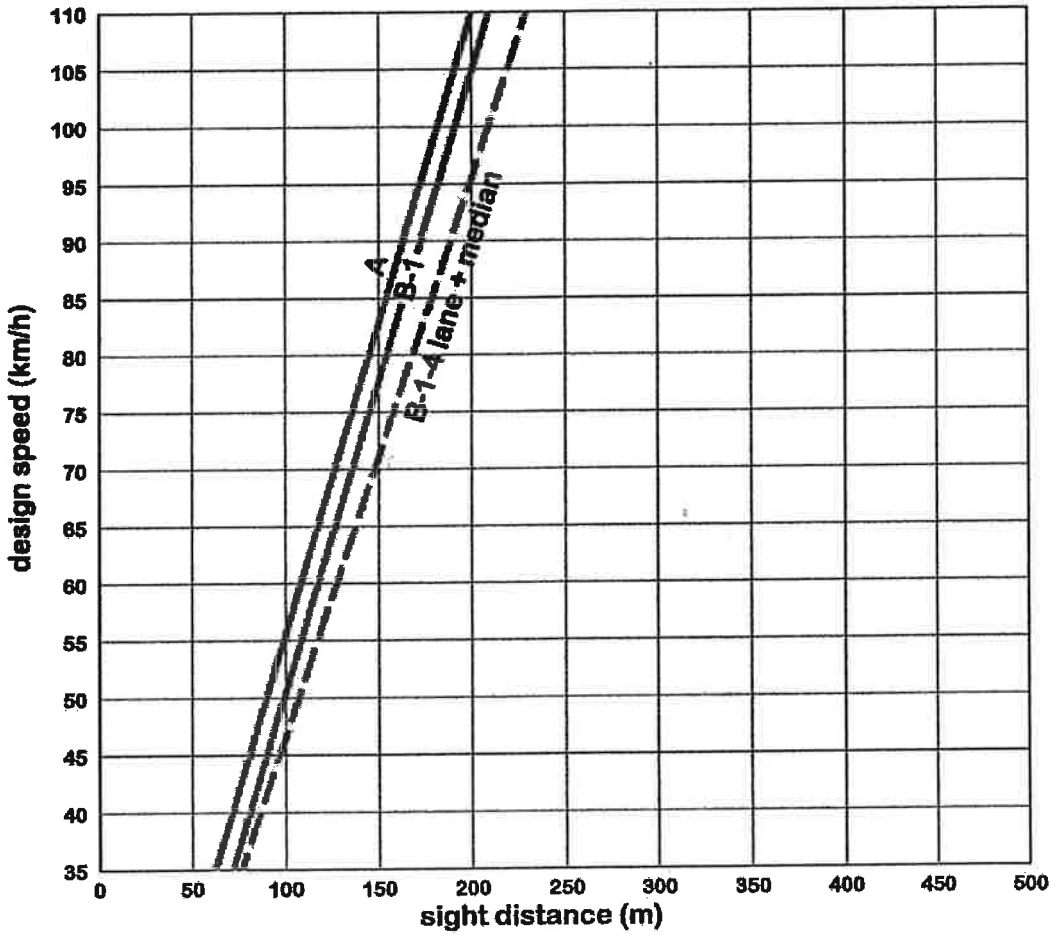
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	244	1	7	290	0	4
Future Vol, veh/h	244	1	7	290	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	92	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	257	1	7	315	0	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	258	0	587	257
Stage 1	-	-	-	-	257	-
Stage 2	-	-	-	-	330	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1307	-	472	782
Stage 1	-	-	-	-	786	-
Stage 2	-	-	-	-	728	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1307	-	469	782
Mov Cap-2 Maneuver	-	-	-	-	469	-
Stage 1	-	-	-	-	786	-
Stage 2	-	-	-	-	724	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	782	-	-	1307	-
HCM Lane V/C Ratio	0.005	-	-	0.006	-
HCM Control Delay (s)	9.6	-	-	7.8	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Figure 2.3.3.4a Sight Distance for Crossing Movements and Vehicles Turning Left across Passenger Vehicle approaching from the Left

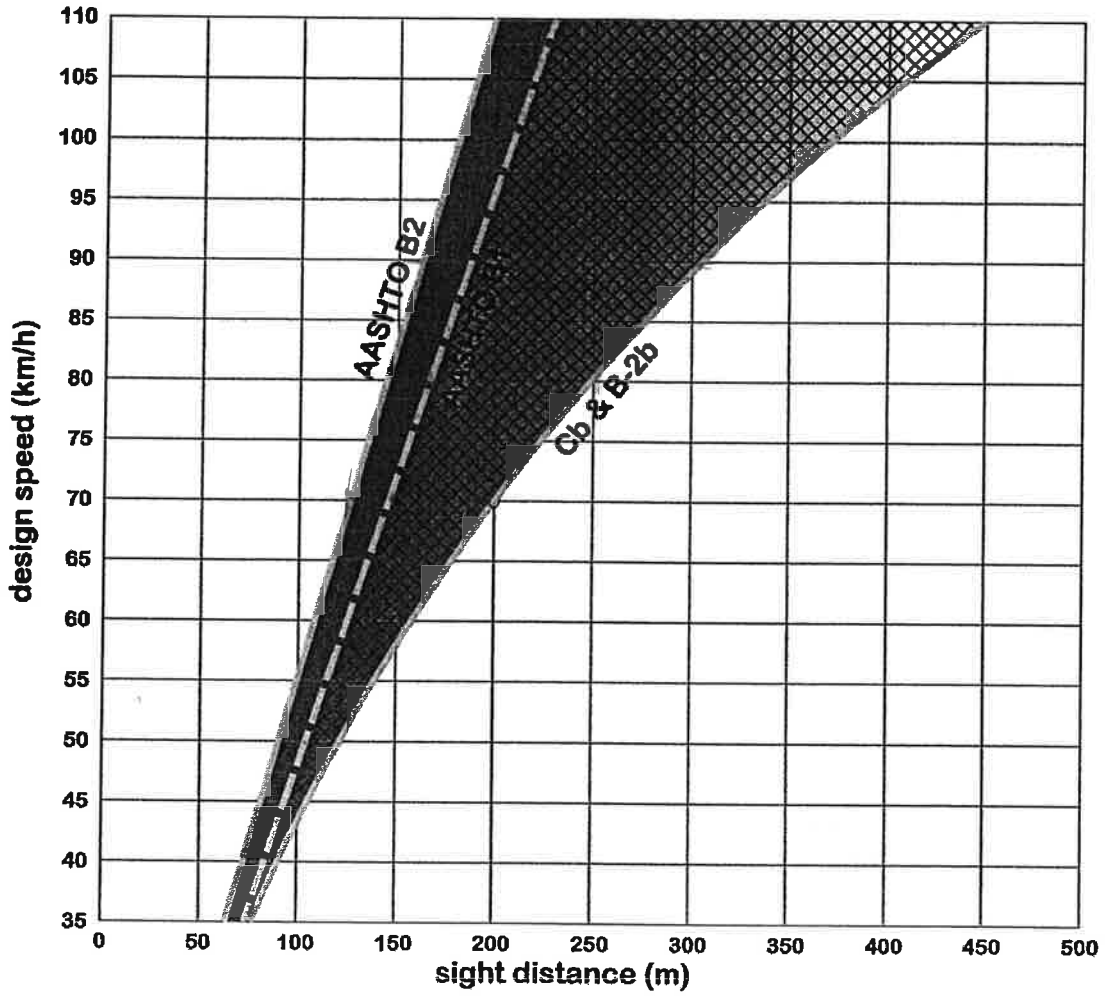


A – sight distance for passenger vehicle crossing a two –lane roadway from stop.

B-1 – sight distance for passenger vehicle turning left onto a two-lane roadway across passenger vehicle approaching from the left.

B-1-4 lane + median – sight distance for passenger vehicle turning left onto a four-lane roadway across passenger vehicle approaching from the left when median width is less than the vehicle length.

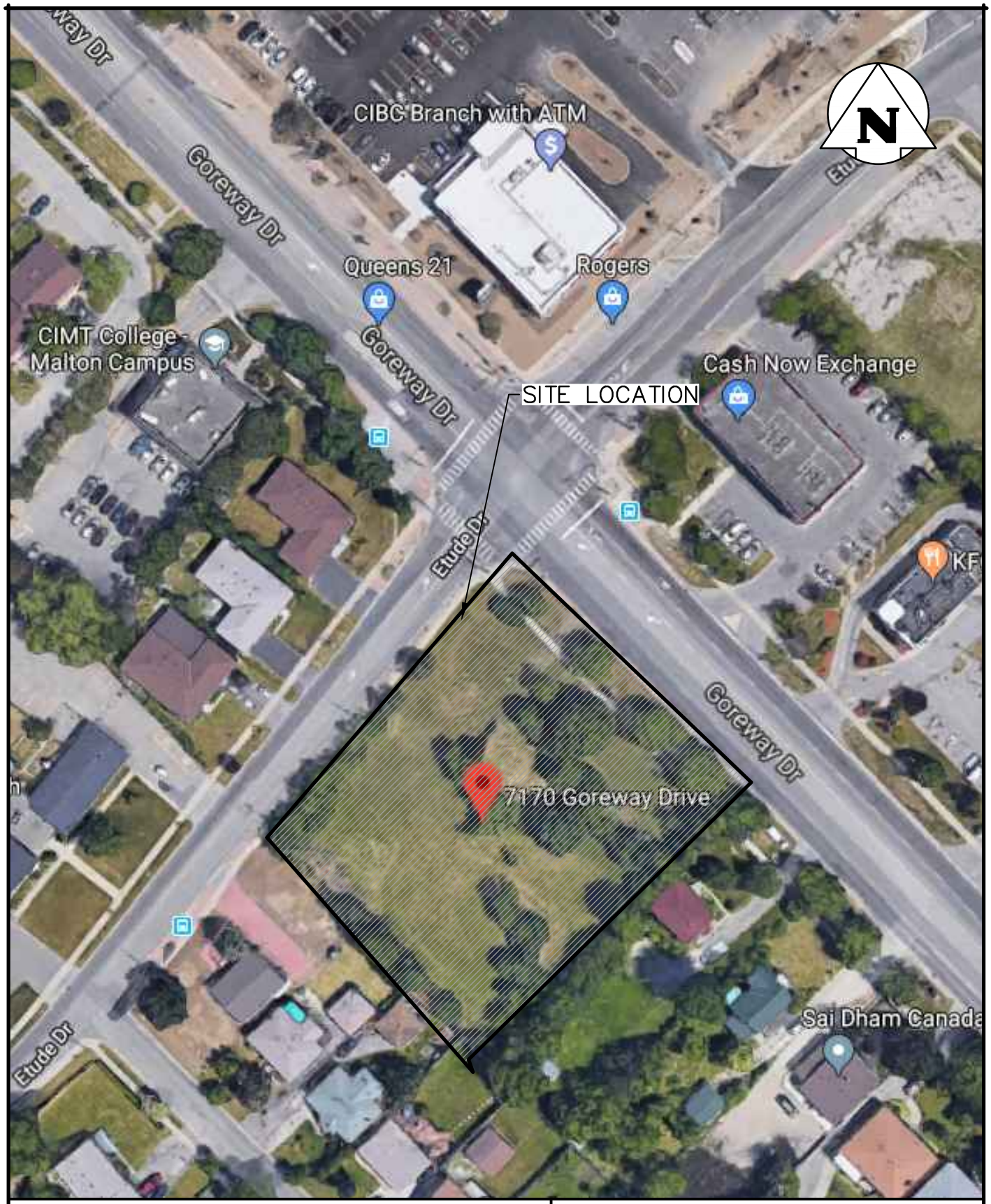
Figure 2.3.3.4b Sight Distance for Turning Movements with Vehicles approaching in the Intended Direction of Travel



Area bounded by AASHTO B1 and B-2b (crosshatched) – design domain for sight distance for passenger vehicle to turn left onto a two-lane roadway without being overtaken by a vehicle approaching from the right.

Area bounded by AASHTO B2 and Cb (shaded) – design domain for sight distance for passenger vehicle to turn right onto a two-lane roadway without being overtaken by a vehicle approaching from the left.

FIGURES

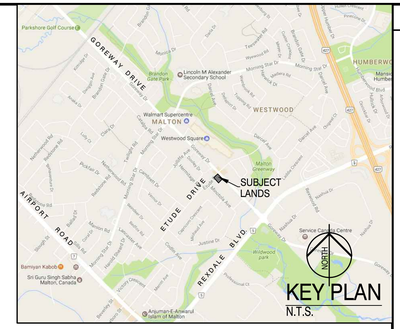


RESIDENTIAL DEVELOPMENT
7170 GOREWAY DRIVE
CITY OF MISSISSAUGA

SITE LOCATION

CROZIER & ASSOCIATES Consulting Engineers
2800 High Point Drive
Suite 100
Milton, ON L9T 6P4
905 875-0026 T
905 875-4915 F
www.cfcrozier.ca

Drawn	Design	Project No.	
P.A.	P.A.	1346-4573	
Check	Check	Scale	Dwg.
R.A.W.	R.A.W.	N.T.S	FIG. 01



LEGEND

- STORM CONNECTION
- SANITARY CONNECTION
- WATER CONNECTION
- HYDRO CONNECTION
- DOUBLE CATCH BASIN
- CATCH BASIN
- STREET LIGHT
- HYDRANT
- TRANSFORMER
- CABLE TV PEDESTAL
- BELL PEDESTAL
- ENTRANCE DOOR LOCATION
- GARAGE DOOR LOCATION
- COMMUNITY MAILBOX
- ENGINEERED FILL LOT
- VALVE AND CHAMBER
- SANITARY MANHOLE
- STORM MANHOLE
- AIR-CONDITIONING UNIT
- PROPOSED GRADE
- EXISTING GRADE
- PROPOSED SWALE GRADE
- DOWNSPOUT LOCATION
- TELECOM. JUNCTION BOX
- PROPOSED BERM
- SWALE DIRECTION
- HYDRO METER
- GAS METER
- F.FLR. FINISHED FLOOR ELEVATION
- T/WALL TOP OF FOUNDATION WALL
- F.SLAB FIN. BASEMENT FLOOR SLAB
- U/FTG. UNDERSIDE FOOTING ELEVATION

LOT SUMMARY

LOT CATEGORY	ENDS	INTERNAL	CORNER	TOTAL
6.0m x 20.2m lots (19'8") **TYPE-A** (Street Facing Townhouse)	4 (2 UPGRADED)	8	2	14
TOTAL	4	8	2	14

DEVELOPMENT STATISTICS:

GROSS SITE AREA :	4,009 m²
DAYLIGHT TRIANGLE:	59 m²
NET SITE AREA:	4,068 m²
CONDOMINIUM TOWHOUSES :	14 UNITS
162M² (1738 FT²)± UNIT: (3 STOREY)	14 UNITS
REQUIRED PARKING:	32 SPACES
@ 2 SPACES/UNIT	28 SPACES
VISITOR @ 0.25 SPACES/UNIT	3.50 SPACES
1 ACCESSIBLE SPACE	1 SPACE
PARKING PROVIDED:	33 SPACES
DRIVEWAY / GARAGE:	28 SPACES
VISITOR:	4 SPACES
ACCESSIBLE SPACE:	1 SPACE

NOTES:

- NOT BASED ON ENGINEERING, FLOODPLAIN OR GRADING ANALYSIS.
- AREAS AND DIMENSIONS ARE APPROXIMATE AND SUBJECT TO CONFIRMATION BY SURVEY.
- DIMENSIONS OF DAYLIGHT TRIANGLE TO BE CONFIRMED.

NORTH

PART OF LOT 11 CONCESSION 7
EAST OF HURONTARIO STREET
GEOGRAPHIC TOWNSHIP OF
TORONTO CITY OF MISSISSAUGA
MINICIPALITY OF PEEL

BENCHMARK
Elevations are Geodetic and are Referred to the Canadian Geodetic Datum Benchmark No. 448, having an Elevation of 162.55m.

SCALE 1:250
5m 0m 5m 10m 15m

No:	DATE:	WORK DESCRIPTION:
16		
15		
14		
13		
12		
11		
10		
9		
8		
7		
6	JULY 28, 2017	UPDATED O.F.A. STATS AND ISSUED TO WESTON CONSULTING.
5	JULY 05, 2017	ISSUED NEW CONCEPT SITE PLAN TO WESTON CONSULTING FOR REVIEW.
4	MAY 08, 2017	REVISED TO SHOW TWO 4 UNIT BLOCKS FOR TYPE B PRODUCT & ISSUED TO WESTON CONSULTING FOR REVIEW.
3	MAY 08, 2017	ADDED EXTRA UNIT & ISSUED TO WESTON CONSULTING FOR REVIEW.
2	APR. 25, 2017	NOTED RIGHT IN/OUT ACCESS TO GOREWAY DRIVE & ISSUED TO WESTON CONSULTING FOR REVIEW.
1	APR. 12, 2017	ISSUED TO WESTON CONSULTING FOR REVIEW.

jardin
DESIGN GROUP INC
64 JARDIN DR. SUITE 3A
VAUGHAN ONT. L4K 3P3
TEL: 905 660-3377 FAX: 905 660-3713
EMAIL: info@jardindesign.ca

DEVELOPMENT CONCEPT

CONCEPT SITE PLAN

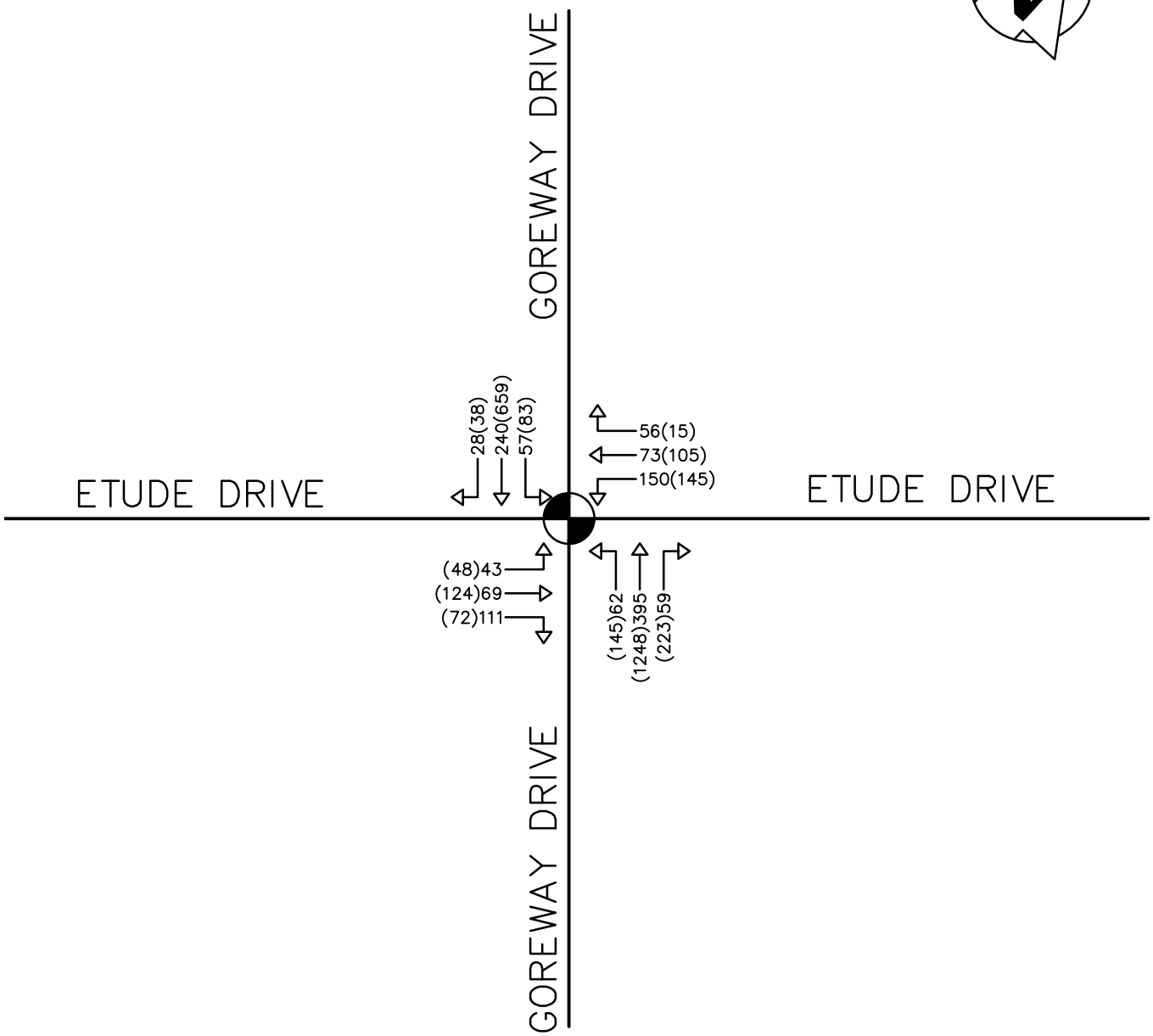
7170 GOREWAY DRIVE
(CITY OF MISSISSAUGA)

BILD

TYPE: SP
SCALE: 1:250
PROJ. No.: 17-18
No.: A-01

DRAWN BY: DRAWING NAME: --

NOTE:
THIS FIGURE IS SCHEMATIC ONLY AND IS NOT TO BE SCALED.



LEGEND:

- SIGNAL CONTROL
- STOP CONTROL
- YEILD CONTROL
- ROUND ABOUT
- AM(PM) WEEKDAY AM(PM) TRIP DISTRIBUTION

RESIDENTIAL DEVELOPMENT
7170 GOREWAY DRIVE
CITY OF MISSISSAUGA

2017 EXISTING TRAFFIC VOLUMES

CROZIER & ASSOCIATES Consulting Engineers
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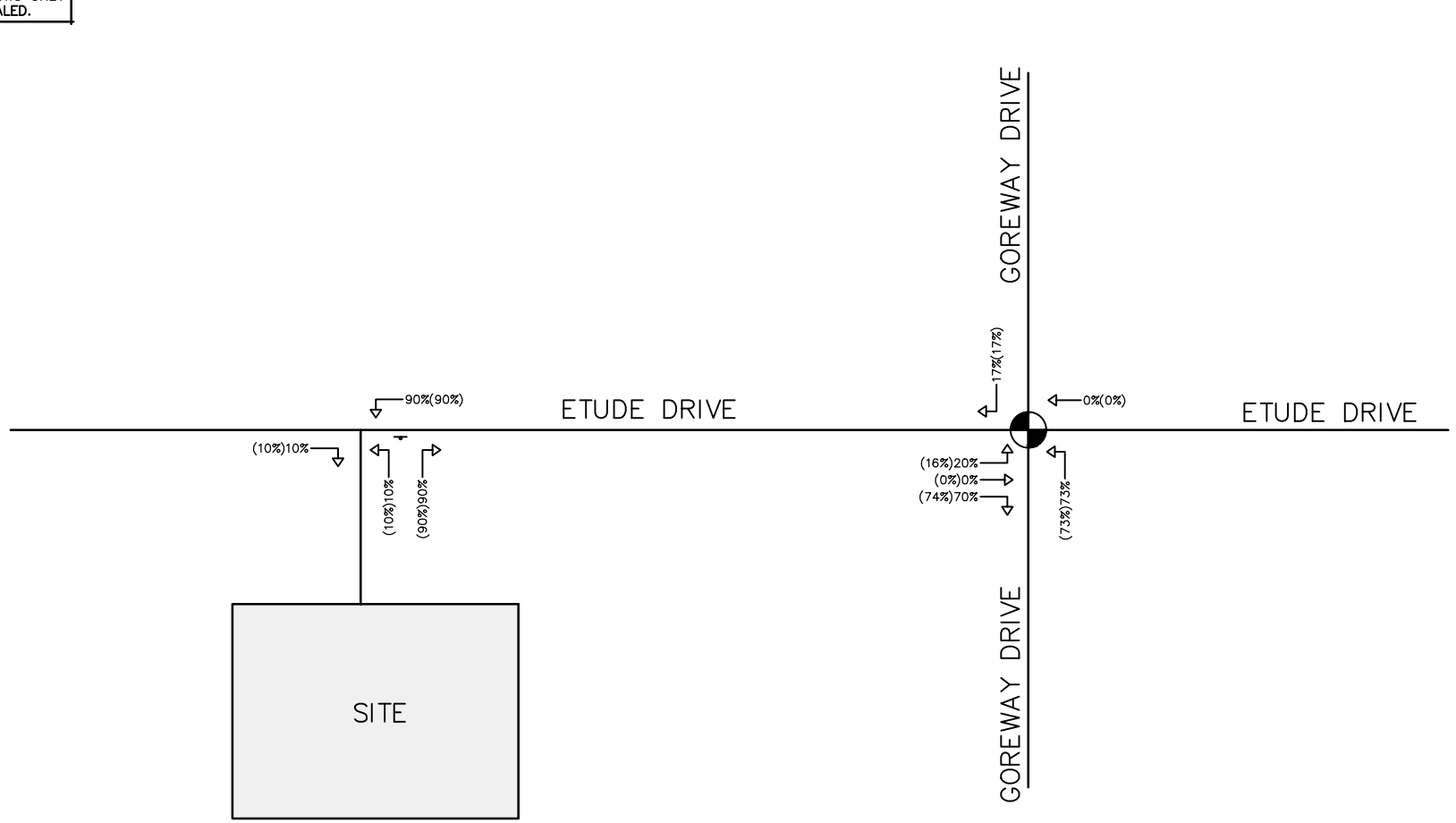
905 875-4915 F
www.cfcrozier.ca

Drawn	Design	Project No.	
P.A.	P.A.	1346-4573	
Check	Check	Scale	Dwg.
R.A.W.	R.A.W.	N.T.S	FIG. 03

NOTE:
THIS FIGURE IS SCHEMATIC ONLY AND IS NOT TO BE SCALED.



LEGEND:

- SIGNAL CONTROL
- STOP CONTROL
- YEILD CONTROL
- ROUND ABOUT
- AM(PM) WEEKDAY AM(PM) TRIP DISTRIBUTION

RESIDENTIAL DEVELOPMENT
7170 GOREWAY DRIVE
CITY OF MISSISSAUGA

TRIP DISTRIBUTION

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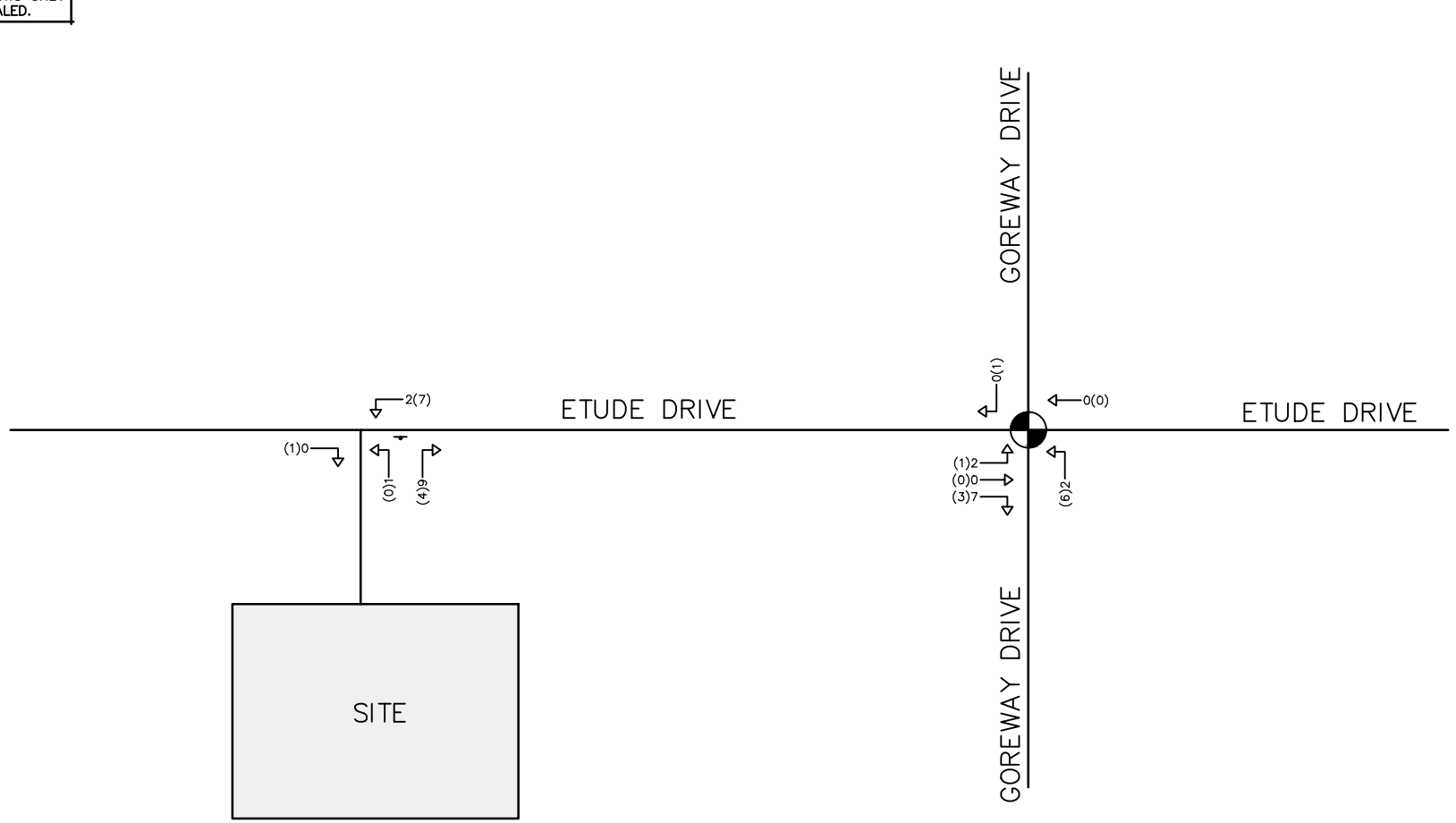
Drawn	Design	Project No.	
P.A.	P.A.	1346-4573	
Check	Check	Scale	Dwg.
R.A.W.	R.A.W.	N.T.S	FIG. 04

NOTE:
THIS FIGURE IS SCHEMATIC ONLY AND IS NOT TO BE SCALED.



LEGEND:

- SIGNAL CONTROL
- STOP CONTROL
- YEILD CONTROL
- ROUND ABOUT
- AM(PM) WEEKDAY AM(PM) TRIP DISTRIBUTION

RESIDENTIAL DEVELOPMENT
7170 GOREWAY DRIVE
CITY OF MISSISSAUGA

TRIP ASSIGNMENT

CROZIER & ASSOCIATES Consulting Engineers
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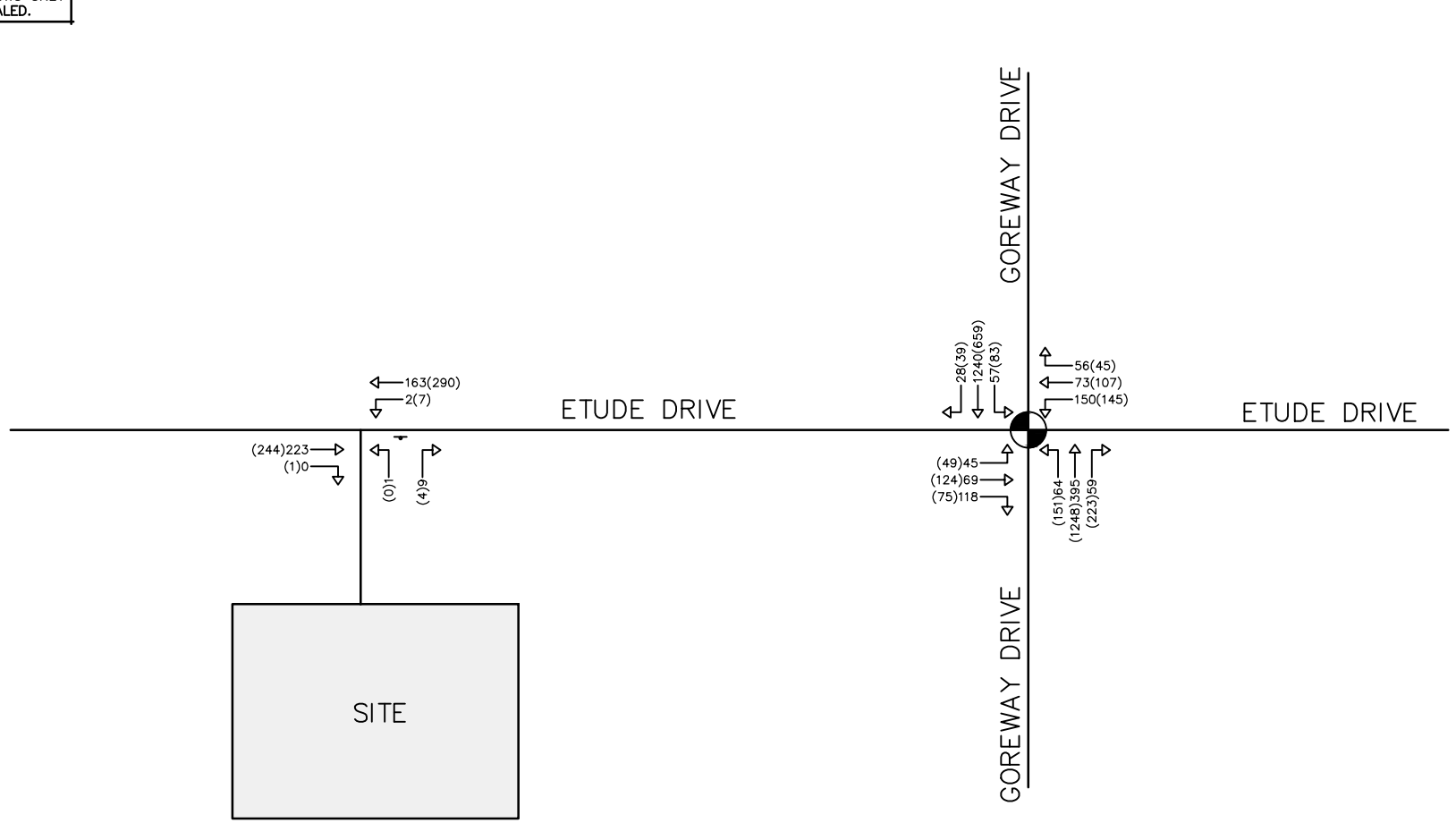
Drawn	Design	Project No.	
P.A.	P.A.	1346-4573	
Check	Check	Scale	Dwg.
R.A.W.	R.A.W.	N.T.S	FIG. 05

NOTE:
THIS FIGURE IS SCHEMATIC ONLY AND IS NOT TO BE SCALED.



LEGEND:

- SIGNAL CONTROL
- STOP CONTROL
- YEILD CONTROL
- ROUND ABOUT
- AM(PM) WEEKDAY AM(PM) TRIP DISTRIBUTION

RESIDENTIAL DEVELOPMENT
7170 GOREWAY DRIVE
CITY OF MISSISSAUGA

2017 TOTAL TRAFFIC VOLUMES

CROZIER & ASSOCIATES Consulting Engineers
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905 875 4915 F
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Drawn	Design	Project No.	
P.A.	P.A.	1346-4573	
Check	Check	Scale	Dwg.
R.A.W.	R.A.W.	N.T.S	FIG. 06