

TRANSPORTATION IMPACT STUDY

**BARRIE CENTRAL REDEVELOPMENT
CITY OF BARRIE**

**PREPARED FOR:
HIP BARRIE CENTRAL INC.**

**PREPARED BY:
C.F. CROZIER & ASSOCIATES INC.
2800 HIGH POINT DRIVE, SUITE 100
MILTON, ON. L9T 6P4**

JUNE 2019

CFCA FILE NO. 1351-5233

The material in this report reflects best judgment in light of the information available at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. C.F. Crozier & Associates Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.



Revision Number	Date	Comments
Rev.0	June 2019	Issued for First Submission

1.0 Executive Summary

C.F. Crozier & Associates Inc. (Crozier) was retained by HIP Barrie Central Inc. to undertake a Transportation Impact Study (TIS) in support of a Zoning By-Law Amendment and Site Plan Application for a proposed residential plus YMCA development located at 34-50 Bradford Street in the City of Barrie, referred to as the Barrie Central Redevelopment.

The development proposes three high-rise residential buildings with a total of 600 dwelling units and a YMCA of 6,968 m² (75,000 ft²) GFA. A total of 822 parking spaces are proposed for the entire development with three access connections to the surrounding external roads. The development is projected to be three phased with the full buildouts in 2023, 2024 and 2025, respectively.

Under 2019 existing traffic conditions, the study intersections of Dunlop Street at Eccles Street, Dunlop Street at Bradford Street/ High Street, and Bradford Street at Simcoe Street are all operating below capacity and at a Level of Service (LOS) "C" or better during both a.m. and p.m. peak hours.

The proposed residential portion of the development is projected to generate a total of 194 and 221 trips during the weekday a.m. and p.m. peak hours, respectively. Similarly, a total of 126 and 164 trips are generated by the YMCA during the weekday a.m. and p.m. peak hours.

Under all study horizons, the boundary road network is projected to operate with similar measures of effectiveness between their respective future background traffic conditions (excludes site generated trips) and total traffic conditions (includes site generated trips).

Under phase one full-buildout in 2023, the study intersections are forecast to operate at LOS "C" or better during both the a.m. and p.m. peak hours. The southern site access at Bradford Street is forecast to operate efficiently with a worst LOS "D" for the minor approach.

Under the 2024, 2025 and 2030 total traffic operations, the study intersections are forecast to operate at LOS "C" or better during both the a.m. and p.m. peak hours. The southern site access at Bradford Street is forecast to operate efficiently with a worst LOS "C" for the minor approach. The intersection of Bradford Street at the Site Access operates slightly better under the 2024 to 2030 total traffic conditions compared to the 2023 total traffic conditions. This is attributable to the absence of an access through Eccles Street/ Perry Street under the 2023 horizon, resulting in a larger distribution of the "Building 1" generated trips through the southern site access at Bradford Street. Given the location of the access connections to the site, no issues related to sight lines, corner clearance, access conflicts, heavy truck movements and transit operational conflicts are projected.

No operational benefits are forecast for the proposed Simcoe Street extension compared to a site access at each of Bradford Street/ Simcoe Street and Perry Street/ Eccles Street. We recommend a replacement of the proposed Simcoe Street extension with the two accesses as it further eliminates safety issues such as cars travelling at significant speeds through the site along the new road.

We recommend that; the City of Barrie continue to monitor the signal timing plans at the three signalized study intersections to determine if changes are warranted in the future for optimal performance of the intersections.

Based on the analysis and results herein, it is our professional conclusion that the traffic generated by the proposed Barrie Central development at 34-50 Bradford Street, will not materially affect the operations of the boundary road network. Moreover, the boundary road network has capacity to accommodate the additional trips generated by the development. The Zoning By-Law Amendment and Site Plan Application can be supported from a traffic operations perspective.

TABLE OF CONTENTS

1.0	EXECUTIVE SUMMARY	iii
2.0	INTRODUCTION	1
3.0	EXISTING CONDITIONS	1
3.1	Development Lands	1
3.2	Boundary Road Network.....	1
3.3	Cycling and Pedestrian Facilities.....	2
3.4	Public Transit	2
3.5	Traffic Data	2
3.6	Traffic Modelling	3
3.7	Intersection Operations	3
4.0	DEVELOPMENT PROPOSAL.....	4
5.0	FUTURE BACKGROUND CONDITIONS.....	4
5.1	Study Horizons.....	4
5.2	Traffic Growth Rates.....	4
5.3	Future Roadway Improvement.....	4
5.4	Future Background Developments	5
5.5	Intersection Operations	5
6.0	TOTAL TRAFFIC CONDITIONS.....	7
6.1	ITE Trip Generation.....	8
6.2	Transportation Tomorrow Survey	9
6.3	Trip Distribution and Assignment	9
6.4	Intersection Operations	10
7.0	COMPARING FUTURE BACKGROUND AND TOTAL TRAFFIC CONDITIONS.....	12
8.0	ASSESSING TRAFFIC OPERATIONS WITHOUT SIMCOE STREET EXTENSION.....	14
9.0	SITE ACCESS SAFETY REVIEW	16
10.0	TRANSPORTATION DEMAND MANAGEMENT	16
10.1	Transit Proximity and Car Share.....	16
10.2	Cycling and Pedestrian Facilities.....	16
10.3	Education/Promotion and Incentives	16
10.4	Summary	17
11.0	CONCLUSIONS AND RECOMMENDATIONS.....	17

LIST OF APPENDICES

Appendix A:	Correspondence
Appendix B:	City of Barrie Zoning By-Law Excerpts and Maps
Appendix C:	Traffic Data
Appendix D:	Levels of Service Definitions
Appendix E:	Detailed Capacity Analyses

LIST OF FIGURES

Figure 1:	Site Location
Figure 2:	Site Plan
Figure 3:	2019 Existing Traffic Volumes
Figure 4:	2023 Future Background Volumes
Figure 5:	2024 Future Background Volumes
Figure 6:	2025 Future Background Volumes
Figure 7:	2030 Future Background Volumes
Figure 8:	Traffic Movement Redistribution
Figure 9a:	Phase 1 – YMCA Trip Distribution
Figure 9b:	Phase 1 – YMCA Trip Assignment
Figure 10a:	Phase 1 – Residential Trip Distribution
Figure 10b:	Phase 1 – Residential Trip Assignment
Figure 11a:	Phase 2 & 3 – YMCA Trip Distribution
Figure 11b:	Phase 2 & 3 – YMCA Trip Assignment
Figure 12a:	Phase 2 & 3 – Residential Trip Distribution
Figure 12b:	Phase 2 – Residential Trip Assignment
Figure 12c:	Phase 3 – Residential Trip Assignment
Figure 13:	2023 Total Traffic Volumes
Figure 14:	2024 Total Traffic Volumes
Figure 15:	2025 Total Traffic Volumes
Figure 16:	2030 Total Traffic Volumes (With Simcoe Street Extension)
Figure 17:	2030 Total Traffic Volumes (Without Simcoe Street Extension)

2.0 Introduction

C.F. Crozier & Associates Inc. (Crozier) was retained by HIP Barrie Central Inc. to undertake a Transportation Impact Study (TIS) in support of a Zoning By-Law Amendment and Site Plan Application for a proposed residential plus YMCA development located at 34-50 Bradford Street, in the City of Barrie, referred to as the Barrie Central Redevelopment. The purpose of the study is to assess the impacts of the proposed development on the boundary road network and to recommend required mitigation measures, if warranted.

This study is conducted in accordance with the Traffic Impact Study Requirements (Appendix 2) noted in the "City of Barrie Urban Design Manual (2014)". Additionally, the study incorporates the vision of the "City of Barrie Multi-Modal Active Transportation Master Plan (MMATMP)". A term of reference was submitted to the City on April 17, 2019. Further correspondence was made between Peter Apasnore (Crozier) and Justin Macdonald (City of Barrie) to confirm the scope of work used for this Transportation Impact Study. The terms of reference and correspondence are included in Appendix A.

The analysis undertaken herein was prepared using the site plan and specifications prepared by Martin Simmons Architects, dated June 11, 2019. Any minor changes to the site plan will not materially affect the findings and conclusions contained within this report.

3.0 Existing Conditions

This section discusses the existing conditions at the site and the existing operations of the boundary road network.

3.1 Development Lands

Portions of the subject land is currently zoned as a "Central Area Commercial (C1-2)" and "Transit Central Commercial (C2-1)" by the City of Barrie Zoning Map.

The subject land is currently predominantly vacant. The property is bounded by Dunlop Street to the north, Eccles Street South Street to the west, Bradford Street to the east, and a commercial building to the south. The land previously contained the Barrie Central Collegiate Institute, Prince of Wales Elementary School and a detached house. The buildings were demolished except for partial remains of two walls from the former Prince of Wales School and the track from Barrie Central Collegiate Institute.

3.2 Boundary Road Network

Dunlop Street and Bradford Street are both classified as arterial roadways per the City of Barrie Official Plan Schedule D and both have a posted speed limit of 50 km/h along the segments within the study area herein. Both of the roadways have two lanes each per travel direction and there are pedestrian sidewalks on both sides of the two roadways.

Simcoe Street is classified as a major collector roadway per the City of Barrie Official Plan Schedule D and has an assumed local speed limit of 50 km/h. Simcoe Street has two lanes each per travel direction and a two-way median left-turn lane along some segments of the roadway. There are pedestrian sidewalks on both sides of the roadway.

Eccles Street/ Perry Street is classified as a minor collector roadway per the City of Barrie Official Plan Schedule D and has an assumed local speed limit of 50 km/h. Eccles Street/ Perry Street has a single lane each per travel direction and there are pedestrian sidewalks on both sides of the roadway.

The intersection of Dunlop Street at Eccles Street is a four-legged, signalized intersection with exclusive eastbound and westbound left turns. The east and west approaches (Dunlop Street) both have a single left-turn storage lane, one through lane and one shared lane for right/ through movements. The north approach (Eccles Street) has a single left-turn storage lane, and one shared lane for right/ through movements. The south approach (Eccles Street) has a single lane each for left-turn, right-turn and through movements.

The intersection of Dunlop Street at Bradford Street/ High Street is four-legged and signalized. The east approach (Dunlop Street) has a single right-turn storage lane, one through lane and one shared lane for left/ through movements. The west approach (Dunlop Street) has a single left/through shared lane and a single right/ through shared lane. The north approach (High Street) has a single lane for shared left, right and through movements. The south approach (Bradford Street) has a single lane each for the left-turn, right-turn and through movements.

Bradford Street at Simcoe Street is a three-legged, signalized intersection. The east approach (Simcoe Street) has a single lane for each of the left-turn and right-turn movements. The north approach (Bradford Street) has two through lanes, and a single right-turn storage lane. The south approach (Bradford Street) has a single through lane and a shared lane for left/ through movements.

3.3 Cycling and Pedestrian Facilities

There are pedestrian sidewalks along both sides of the boundary road network with crosswalks located at study intersections. There are currently no cycling facilities on the boundary road network adjacent to the site. The City's Multi-Modal Active Transportation Master Plan (*Figure 7-14*) proposes several cycling facilities, pathways and trails in 2021. Buffered bicycle lanes are proposed on Dunlop Street, bicycle lanes are proposed on Bradford Street, and a one-sided boulevard pathway is provided on Simcoe Street. The cycling plan is provided in Appendix B.

3.4 Public Transit

Barrie Transit routes 1B (Welham), 4B (South GO), 7B (Bear Creek) and 8A (RVH/Yonge) all provide services along Bradford Street with bus stops within 50 m of the site. Barrie Transit routes 1A (Georgian Mall), 4A (East Bayfield), 7A (Bell Farm) and 8B (Crosstown/ Essa) all provide services along Simcoe Street with bus stops within 200 m of the site. Barrie Transit routes 2A (Dunlop), 3A (Georgian Drive), 6B (College) and 8A (RVH/Yonge) all provide services along Dunlop Street with bus stops within 200 m of the site. Barrie Transit route 3B (Pain Swick) provides service along Eccles Street with a bus stop within 50 m of the site. Therefore, the site is highly accessible by transit which is expected to reduce the dependency on auto trips. Relevant transit maps are included in Appendix B.

3.5 Traffic Data

Turning movement counts at the intersections of Bradford Street at Simcoe Street, Dunlop Street at Eccles Street, and Dunlop Street at Bradford Street/ High Street were surveyed by Pyramid Traffic Inc. on Tuesday, April 30, 2019, between 7:00 a.m. – 10:00 a.m. and 3:00 p.m. – 7:00 p.m. Existing traffic signal timing plans for the three intersections were obtained from the City of Barrie.

3.6 Traffic Modelling

The assessment of intersections is based on the method outlined in the "Highway Capacity Manual, 2010" using Synchro 10 modeling software. Intersections are assessed using a Level of Service metric, with ranges of delay assigned a letter from "A" to "F". The Level of Service (LOS) of a signalized intersection is based on the average control delay per vehicle and that a stop-controlled intersection is based on the critical minor approach. 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 and unsignalized intersections are attached.

3.7 Intersection Operations

The 2019 existing traffic operations at the intersections of Bradford Street at Simcoe Street, Dunlop Street at Eccles Street, and Dunlop Street at Bradford Street/ High Street were analyzed on the basis of the existing 2019 traffic volume counts. Refer to Appendix C for the 2019 traffic volume data. The signal timing plans for the study intersections were provided by the City of Barrie. Figure 3 illustrates the 2019 existing traffic volumes and Table 1 outlines the 2019 existing traffic operations. Detailed capacity analyses are shown in Appendix E.

Table 1: 2019 Existing Level of Service

Intersection	Control	Peak Hour	Level of Service	Control Delay	Max V/C Ratio & V/C Ratios > 0.85	95 th %ile Queues > Storage Length
Dunlop Street at Eccles Street	Signal	A.M.	B	18.6 s	0.29 (EBT)	None
		P.M.	C	20.4 s	0.36 (NBT)	20.2 m > 20 m (NBL)
Dunlop Street at Bradford Street/ High Street	Signal	A.M.	B	10.9 s	0.29 (NBR)	None
		P.M.	B	15.8 s	0.52 (NBL)	None
Bradford Street at Simcoe Street	Signal	A.M.	B	11.4 s	0.32 (WBL)	21.6 m > 9.0 m (NBR)
		P.M.	B	14.3 s	0.62 (WBL)	None

Note: The Level of Service of a signalized intersection is based on the average control delay per vehicle. Signal timing plans provided by the City of Barrie were used. 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 Sim-Traffic with 60 minutes recording time, 10 minutes seeding time, and an average of three runs.

As indicated in Table 1, under 2019 existing traffic volumes, the signalized intersections of Dunlop Street at Eccles Street, Dunlop Street at Bradford Street/ High Street, and Bradford Street at Simcoe Street are all operating below capacity. The worst Level of Service at any of the three intersections is "C" during the p.m. peak hour (with a worst delay of 20.4 seconds) occurring at the intersection of Dunlop Street and Eccles Street.

The 95th percentile queues indicate that the northbound left storage at the intersection of Dunlop Street at Eccles Street and the northbound right storage at the intersection of Bradford Street at Simcoe Street are occasionally exceeded with spillovers into the tapers and adjacent through lanes.

4.0 Development Proposal

The development proposal is illustrated on the site plan dated June 11, 2019. The development will be implemented in three phases as outlined below:

- **Phase 1:** Consists of an apartment building (Building 1 - 20-storey and 228 units) which is located near the former Prince of Wales School and a YMCA (75,000 ft² GFA) located immediately north of Building 1. Anticipated completion in 2023.
- **Phase 2:** Consists of an Apartment building (Building 2 - 20-storey and 228 units) which is located to the west of Building 1. The proposed Simcoe Street Extension to Eccles Street is expected during this phase, alternatively, one site access at each of Bradford Street/ Simcoe and at Perry Street/ Eccles will be considered. Anticipated completion in 2024.
- **Phase 3:** Consist of Apartment building (Building 3 - 10-storey and 144 units) which is located at the western limits of the property. Anticipated completion in 2025.

The site proposes a single full-moves site access (located south of building 1) onto Bradford Street. Three other site accesses are proposed on to the segment of Simcoe Street extension running through the site. A total of 822 parking spaces are proposed for the entire site. Refer to Figure 2 for the Site Plan and specifications prepared by Martin Simmons Architects, dated June 11, 2019.

5.0 Future Background Conditions

This section discusses the projected future background traffic conditions and traffic operations at the study intersections.

5.1 Study Horizons

Given the anticipated development implementation phases, study horizon years for each phase as well as five years from full buildout of the final phase have been selected for the analysis. Therefore, the 2023, 2024, 2025 and 2030 future background and total traffic operations were analyzed.

5.2 Traffic Growth Rates

Given that the surrounding area to the site was largely built up at the time of 2019 existing traffic counts, a growth rate of 1% was applied to the through movement traffic along the study road network to forecast future traffic volumes. This growth rate was further confirmed in consultation with the City through the terms of reference submission. A 3% growth rate was however applied to the through trips on Dunlop Street as advised by the City.

5.3 Future Roadway Improvement

Per the City of Barrie Official Plan Schedule E - Road Widening Plan (2018), an ultimate right of way width of 29 m is proposed for a segment of Dunlop Street fronting the development herein. Similarly, a 31 m right of way is proposed for Bradford Street. The designs and timelines for implementation of these proposed road widening were unavailable at the time of this study, therefore, the analysis presented in this report does not account for these potential road improvements. The results herein may further improve upon implementation of the noted road improvements.

5.4 Future Background Developments

As noted in the terms of reference and correspondence with the City of Barrie staff, Table 2 illustrates the trip generated by the background developments that were considered in analysis of future background traffic operations. The background developments include:

- The Barrie 5 Points (2–14 Dunlop Street West, 43 & 45 Maple Avenue, 30–42 Bayfield Street) proposes a 20-storey apartment building with 208 residential condominium units. The site plan application was approved August 29, 2017 as noted on the City's "proposed developments" website.
- The 185-205 Dunlop Street East proposes a mixed-use 11 storey building with 193 residential condominium units and ground floor commercial. According to the City's "proposed developments" website, the site plan application is noted as under review dated January 19, 2018.

Given the locations of the two background developments relative to the site herein and the study intersections, the trips from both sites are calculated together as shown in Table 2.

Table 2: Future Background Developments

Type of Use	Dwelling Units or GFA	Peak Hour	Trip Rate	Inbound	Outbound	Total
Multifamily Housing High-Rise (LUC: 222)	401 units (i.e. 208 plus 193)	AM	$T = 0.28(X) + 12.86$	30 (24%)	95 (76%)	125
		PM	$T = 0.34(X) + 8.56$	95 (61%)	60 (39%)	155

In addition, we have assumed that 50% of the trips accessing the background sites will use the Dunlop Street route onto Highway 400 while the other 50% will use Bayfield Street onto Highway 400. Applying this assumption to the TTS data distribution for the zone will result in the splits shown in Table 3. Table 3 highlights the distribution of trips along Dunlop Street passing through the study intersections herein.

Table 3: Background Development Trips via Dunlop Street at Highway 400

	Peak Hour	Inbound (Eastbound on Dunlop Street)	Outbound (Westbound on Dunlop Street)
Trip Distribution	AM	26%	35%
	PM	37%	27%
Trip Assignment ¹	AM	8	33
	PM	35	16

Note 1: Trip Assignment is calculated as a product of trip distribution and the background development trips in Table 2.

5.5 Intersection Operations

Traffic operations at the intersections of Bradford Street at Simcoe Street, Dunlop Street at Eccles Street, and Dunlop Street at Bradford Street/ High Street were analyzed under the 2023, 2024, 2025 and 2030 future background traffic volumes.

As noted in section 5.4, we have assumed that the City of Barrie will implement an extension of Simcoe Street from Bradford Street to Eccles Street/ Perry Street in 2024. Given this assumption, the future background traffic volumes have been redistributed through the study intersections under the 2024 through to the 2030 horizon years studied herein.

The future background traffic volumes for the 2023, 2024, 2025 and 2030 are illustrated in Figures 4, 5, 6 and 7, respectively. Tables 4, 5, 6 and 7 outlines the 2023, 2024, 2025 and 2030 future background traffic operations. Detailed capacity analyses are shown in Appendix E.

Table 4: 2023 Future Background Level of Service

Intersection	Control	Peak Hour	Level of Service	Control Delay	Max V/C Ratio & V/C Ratios > 0.85	95 th %ile Queues > Storage Length
Dunlop Street at Eccles Street	Signal	A.M.	B	19.2 s	0.33 (EBT)	None
		P.M.	C	21.1 s	0.40 (WBT)	30.5 m > 25 m (EBL)
Dunlop Street at Bradford Street/ High Street	Signal	A.M.	B	11.2 s	0.31 (EBT)	None
		P.M.	B	16.6 s	0.51 (NBL)	None
Bradford Street at Simcoe Street	Signal	A.M.	B	11.4 s	0.34 (WBL)	19.9 m > 9.0 m (NBR)
		P.M.	B	14.7 s	0.65 (WBL)	20.7 m > 9.0 m (NBR)

Table 5: 2024 Future Background Level of Service

Intersection	Control	Peak Hour	Level of Service	Control Delay	Max V/C Ratio & V/C Ratios > 0.85	95 th %ile Queues > Storage Length
Dunlop Street at Eccles Street	Signal	A.M.	B	19.2 s	0.34 (EBT)	None
		P.M.	C	21.2 s	0.41 (WBT)	26.0 m > 25 m (EBL) 21.8 m > 20 m (NBL)
Dunlop Street at Bradford Street/ High Street	Signal	A.M.	A	9.2 s	0.31 (NBR)	None
		P.M.	B	13.8 s	0.50 (NBL)	None
Bradford Street at Simcoe Street	Signal	A.M.	B	11.6 s	0.39 (WBL)	20.3 m > 9.0 m (NBR)
		P.M.	B	14.7 s	0.69 (WBL)	19.6 m > 9.0 m (NBR)
Simcoe Street at Eccles Street/ Perry Street	Stop	A.M.	A	8.9 s	0.23 (EB)	None
		P.M.	B	13.7 s	0.55 (EB)	None

Table 6: 2025 Future Background Level of Service

Intersection	Control	Peak Hour	Level of Service	Control Delay	Max V/C Ratio & V/C Ratios > 0.85	95 th %ile Queues > Storage Length
Dunlop Street at Eccles Street	Signal	A.M.	B	19.3 s	0.35 (EBT)	None
		P.M.	C	21.3 s	0.42 (EBT/WBT)	27.0 m > 20 m (NBL)
Dunlop Street at Bradford Street/ High Street	Signal	A.M.	A	9.2 s	0.31 (NBR)	None
		P.M.	B	13.9 s	0.51 (NBL)	None
Bradford Street at Simcoe Street	Signal	A.M.	B	11.6 s	0.40 (WBL)	19.3 m > 9.0 m (NBR)
		P.M.	B	14.9 s	0.70 (WBL)	19.3 m > 9.0 m (NBR)
Simcoe Street at Eccles Street/ Perry Street	Stop	A.M.	A	9.0 s	0.24 (EB)	None
		P.M.	B	13.9 s	0.55 (EB)	None

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

Table 7: 2030 Future Background Level of Service

Intersection	Control	Peak Hour	Level of Service	Control Delay	Max V/C Ratio & V/C Ratios > 0.85	95 th %ile Queues > Storage Length
Dunlop Street at Eccles Street	Signal	A.M.	C	20.3 s	0.42 (EBT)	None
		P.M.	C	22.1 s	0.48 (EBT/WBT)	23.2 m > 20 m (NBL)
Dunlop Street at Bradford Street/ High Street	Signal	A.M.	A	9.8 s	0.34 (EBT)	None
		P.M.	B	14.4 s	0.55 (NBL)	None
Bradford Street at Simcoe Street	Signal	A.M.	B	11.7 s	0.42 (WBL)	20.6 m > 9.0 m (NBR)
		P.M.	B	15.5 s	0.73 (WBL)	19.6 m > 9.0 m (NBR)
Simcoe Street at Eccles Street/ Perry Street	Stop	A.M.	A	9.2 s	0.25 (EB)	None
		P.M.	B	14.9 s	0.59 (EB)	None

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

As indicated in Tables 4, 5, 6 and 7, the worst traffic operations for all of the study intersections are forecast to occur in the ultimate horizon year of 2030. Under 2030 future background traffic volumes, the worst Level of Service at any of the three signalized intersections is "C" (with a worst delay of 22.1 seconds) during the p.m. peak hour at the intersection of Dunlop Street and Eccles Street.

The intersection of Dunlop Street at Bradford Street/ High Street operates slightly better in the 2024 to 2030 future background conditions compared to the 2023 future background conditions. This is attributable to the 10% redistribution of traffic to account for the proposed extension of Simcoe Street between Bradford Street and Perry Street/ Eccles Street. The traffic movements that were redistributed are noted in Figure 8. Under 2024, 2025 and 2030 future background conditions, the intersection of Simcoe Street at Eccles Street/ Perry Street is forecast to operate at a Level of Service "A" and "B" during the a.m. and p.m. peak hours respectively.

Under all study horizons, the 95th percentile queues forecast that the northbound left and eastbound left traffic queues at the intersection of Dunlop Street and Eccles Street may occasionally exceed the storage lanes into the tapers and adjacent through lanes. Similarly, the northbound right turn traffic at the intersection of Bradford Street and Simcoe Street is forecast to occasionally exceed the storage lanes with spillover into the tapers and adjacent through lanes.

6.0 Total Traffic Conditions

The proposed development will result in additional traffic and turning movements on the boundary road network that previously did not exist. This section discusses the site generated trips and traffic operations with the addition of site generated trips.

6.1 ITE Trip Generation

In order to complete the trip generation for the proposed development, the Institute of Transportation Engineers (ITE) Trip Generation Manual 10th Edition was used. The trips generated by the residential development was calculated using the Land Use Category (LUC: 221) "Multifamily Mid-Rise" and LUC: 222 "Multifamily High-Rise". LUC: 495 "Recreational Community Center" was used to forecast trips for the YCMA portion of the development. The trips generated by the development based on the anticipated three phase plan are illustrated in Tables 8, 9 and 10.

Table 8: ITE Trip Generation (Phase 1)

Type of Use	Dwelling Units or GFA	Peak Hour	Trip Rate	Inbound	Outbound	Total
Multifamily Housing High-Rise (LUC: 222)	229 (228) ¹	AM	T = 0.28(X) + 12.86	18 (24%)	59 (76%)	77
		PM	T = 0.34(X) + 8.56	52 (61%)	34 (39%)	86
Recreational Community Center (LUC: 495)	75,000 ft²	AM	1.76 per 1000 ft²	87 (66%)	45 (34%)	132
		PM	2.31 per 1000 ft²	81 (47%)	92 (53%)	173
Total Trips (5% Reduction for Transit)						
Type of Use		Peak Hour		Inbound	Outbound	Total
Residential Multifamily Housing		AM		17	56	73
		PM		49	32	81
Recreational Center (YMCA)		AM		83	43	126
		PM		77	87	164

Note: The residential units proposed for this phase changed slightly from 229 (previous site plan) to 228 as noted on the site plan dated June 11, 2019. Analysis has been maintained as this has no significant impact on the site generated trips.

Table 9: ITE Trip Generation (Phase 2)

Table A-11 Trip Generation (Phase 2)						
Type of Use	Dwelling Units	Peak Hour	Trip Rate	Inbound	Outbound	Total
Multifamily Housing High-Rise (LUC: 222)	222 (228) ¹	AM	T = 0.28(X) + 12.86	18 (24%)	57 (76%)	75
		PM	T = 0.34(X) + 8.56	51 (61%)	33 (39%)	84
Total Upon Completion of Phase 2 (plus phase 1)						
Type of Use		Peak Hour		Inbound	Outbound	Total
Residential Multifamily Housing		AM		36	116	152
		PM		103	67	170
Recreational Center (YMCA)		AM		87	45	132
		PM		81	92	173
Total Trips (5% Reduction for Transit)						
Type of Use		Peak Hour		Inbound	Outbound	Total
Residential Multifamily Housing		AM		34	110	144
		PM		98	64	162
Recreational Center (YMCA)		AM		83	43	126
		PM		77	87	164

Note: The residential units proposed for this phase changed slightly from 222 (previous site plan) to 228 as noted on the site plan dated June 11, 2019. Analysis has been maintained as this has no significant impact on the site generated trips.

Table 10: ITE Trip Generation (Phase 3)

Type of Use	Dwelling Units	Peak Hour	Trip Rate	Inbound	Outbound	Total
Multifamily Housing Mid-Rise (LUC: 221)	144	AM	0.36 per unit	14 (26%)	38 (74%)	52
		PM	0.44 per unit	38 (61%)	25 (39%)	63
Total Upon Completion of Phase 3 (plus phase 1 & 2)						
Type of Use		Peak Hour		Inbound	Outbound	Total
Residential Multifamily Housing		AM		50	154	204
		PM		141	92	233
Recreational Center (YMCA)		AM		87	45	132
		PM		81	92	173
Total Trips (5% Reduction for Transit)						
Type of Use		Peak Hour		Inbound	Outbound	Total
Residential Multifamily Housing		AM		48	146	194
		PM		134	87	221
Recreational Center (YMCA)		AM		83	43	126
		PM		77	87	164

As noted in Tables 8, 9 and 10, a 5% trip reduction was applied to the site generated trips as recommended by the City of Barrie staff to account for transit trips as there is a significant presence of transit routes on the boundary road network. The residential units proposed for phase one and two changed slightly from a previous site plan, however, the resulting impact on site generated trips is insignificant, as there is only a maximum of two trips difference. Trip generation and resulting traffic operations analysis have therefore been maintained.

6.2 Transportation Tomorrow Survey

The site is located in the GTA 2006 Zone 8501 and the trip distribution was completed based on the 2016 Transportation Tomorrow Survey (TTS). TTS data was used to determine the trip distribution based on the zones of origin and destinations to and from the GTA 2006 Zone 8501. The selected primary travel mode of trips was automobile and the peak hours were 7:00 a.m. – 10:00 a.m. and 3:00 p.m. – 7:00 p.m. to be consistent with the turning movement counts. The TTS data for trip origins and destinations, from and to the Zone are all included in Appendix C.

6.3 Trip Distribution and Assignment

Based on the anticipated implementation of the development phases, access to the development can be made through the intersection of Bradford Street at Simcoe Street and through the southern site access onto Bradford Street. Therefore, site trip assignment at the end of phase 1 was completed as follows:

- Assign YMCA trips through the access at the intersection of Bradford Street at Simcoe Street using the existing travel patterns.
- Assign the residential trips through the south site access using TTS trip distributions.

The site trip distribution for YMCA and residential are illustrated in Figures 9a and 10a, respectively. Similarly, the trip assignments for phase 1 are illustrated in Figures 9b and 10b, respectively.

Given that the proposed extension of Simcoe Street to Eccles Street/ Perry Street is anticipated for implementation in 2024, the trip assignment for all study horizons for 2024 and beyond will be completed with the same trip distribution. A new trip assignment of the YMCA trips based on the existing travel patterns at the study intersections was completed. Similarly, a new trip assignment for the residential portion of the development was completed based on the TTS trip distribution. The trip distribution and trip assignment for the YMCA (post phase two) are illustrated in Figures 11a and 11b, respectively. The residential trip distribution for phase 2 and beyond is illustrated in Figure 12a. Similarly, the residential trip assignment at the end of phase 2 and phase 3 are illustrated in Figures 12b and 12c, respectively.

6.4 Intersection Operations

Traffic operations at the intersections of Bradford Street at Simcoe Street, Dunlop Street at Eccles Street, and Dunlop Street at Bradford Street/ High Street were analyzed under the 2023, 2024, 2025 and 2030 total traffic volumes. The total traffic volume for each horizon is the sum of the site generated traffic and the respective future background traffic volumes. The total traffic volumes for the 2023, 2024, 2025 and 2030 are illustrated in Figures 13, 14, 15, and 16, respectively.

The Simcoe Street extension through the site is proposed for implementation in 2024, therefore, similar to the future background analysis, existing traffic redistribution through Simcoe Street was only applied to the 2024, 2025 and 2030 horizon years studied herein. Tables 11, 12, 13 and 14 outlines the 2023, 2024, 2025 and 2030 total traffic operations. Detailed capacity analyses are shown in Appendix E.

Table 11: 2023 Total Traffic Level of Service

Intersection	Control	Peak Hour	Level of Service	Control Delay	Max V/C Ratio & V/C Ratios > 0.85	95 th %ile Queues > Storage Length
Dunlop Street at Eccles Street	Signal	A.M.	B	19.5 s	0.36 (EBT)	None
		P.M.	C	21.5 s	0.44(EBT/WBT)	26.1 m > 25 m (EBL)
Dunlop Street at Bradford Street/ High Street	Signal	A.M.	B	12.2 s	0.41 (EBT)	None
		P.M.	B	18.3 s	0.71 (NBL)	None
Bradford Street at Site Access/ Simcoe Street	Signal	A.M.	B	11.8 s	0.44 (WBL)	20.4 m > 9.0 m (NBR)
		P.M.	B	17.1 s	0.81 (WBL)	20.9 m > 9.0 m (NBR)
Bradford Street at Site Access	Stop	A.M.	C	16.5 s	0.16 (EB)	None
		P.M.	D	26.6 s	0.17 (EB)	None

Note: The Level of Service of a signalized intersection is based on the average control delay per vehicle. Signal timing plans provided by the City of Barrie were used. The Level of Service of a Stop-controlled intersection is based on the delay associated with the critical minor approach.
The 95th percentile queue analysis was completed using Sim-Traffic with 60 minutes recording time, 10 minutes seeding time, and an average of three runs.

Table 12: 2024 Total Traffic Level of Service

Intersection	Control	Peak Hour	Level of Service	Control Delay	Max V/C Ratio & V/C Ratios > 0.85	95 th %ile Queues > Storage Length
Dunlop Street at Eccles Street	Signal	A.M.	B	20.0 s	0.39 (EBT)	28.3 m > 20 m (NBL)
		P.M.	C	21.7 s	0.48 (EBT)	27.1 m > 25 m (EBL) 32.6 m > 20 m (NBL)
Dunlop Street at Bradford Street/ High Street	Signal	A.M.	A	9.9 s	0.34 (NBR)	None
		P.M.	B	14.5 s	0.58 (NBL)	None
Bradford Street at Simcoe Street/ Site Access	Signal	A.M.	B	11.5 s	0.42 (WBL)	20.6 m > 9.0 m (NBR)
		P.M.	B	15.3 s	0.74 (WBL)	21.0 m > 9.0 m (NBR)
Simcoe Street at Eccles Street/ Perry Street	Stop	A.M.	A	9.5 s	0.30 (SB)	None
		P.M.	C	16.4 s	0.61 (EB)	None
Bradford Street at Site Access	Stop	A.M.	B	13.3 s	0.05 (EB)	None
		P.M.	C	19.0 s	0.04 (EB)	None

Table 13: 2025 Total Traffic Level of Service

Intersection	Control	Peak Hour	Level of Service	Control Delay	Max V/C Ratio & V/C Ratios > 0.85	95 th %ile Queues > Storage Length
Dunlop Street at Eccles Street	Signal	A.M.	C	20.2 s	0.41 (EBT)	29.7 m > 20 m (NBL)
		P.M.	C	21.9 s	0.52 (EBT)	33.1 m > 25 m (EBL) 25.3 m > 25 m (WBL) 33.8 m > 20 m (NBL)
Dunlop Street at Bradford Street/ High Street	Signal	A.M.	B	10.0 s	0.35 (NBR)	None
		P.M.	B	14.7 s	0.60 (NBL)	None
Bradford Street at Simcoe Street/ Site Access	Signal	A.M.	B	11.6 s	0.42 (WBL)	20.5 m > 9.0 m (NBR)
		P.M.	B	15.5 s	0.75 (WBL)	19.2 m > 9.0 m (NBR)
Simcoe Street at Eccles Street/ Perry Street	Stop	A.M.	A	9.6 s	0.31 (SB)	None
		P.M.	C	17.4 s	0.63 (EB)	None
Bradford Street at Site Access	Stop	A.M.	B	13.7 s	0.06 (EB)	None
		P.M.	C	20.6 s	0.05 (EB)	None

Note: The Level of Service of a signalized intersection is based on the average control delay per vehicle. Signal timing plans provided by the City of Barrie were used. The Level of Service of a Stop-controlled intersection is based on the delay associated with the critical minor approach.
The 95th percentile queue analysis was completed using Sim-Traffic with 60 minutes recording time, 10 minutes seeding time, and an average of three runs.

Table 14: 2030 Total Traffic Level of Service

Intersection	Control	Peak Hour	Level of Service	Control Delay	Max V/C Ratio & V/C Ratios > 0.85	95 th %ile Queues > Storage Length
Dunlop Street at Eccles Street	Signal	A.M.	C	20.8 s	0.46 (EBT)	29.6 m > 20 m (NBL)
		P.M.	C	22.8 s	0.58 (EBT)	40.3 m > 25 m (EBL) 29.5 m > 25 m (WBL) 34.5 m > 20 m (NBL)
Dunlop Street at Bradford Street/ High Street	Signal	A.M.	B	10.7 s	0.38 (EBT/WBT)	None
		P.M.	B	15.3 s	0.63 (NBL)	None
Bradford Street at Simcoe Street/ Site Access	Signal	A.M.	B	11.7 s	0.44 (WBL)	21.1 m > 9.0 m (NBR)
		P.M.	B	16.4 s	0.79 (WBL)	19.4 m > 9.0 m (NBR)
Simcoe Street at Eccles Street/ Perry Street	Stop	A.M.	A	9.8 s	0.33 (SB)	None
		P.M.	C	18.7 s	0.66 (EB)	None
Bradford Street at Site Access	Stop	A.M.	B	14.1 s	0.07 (EB)	None
		P.M.	C	21.4 s	0.05 (EB)	None

Note: The Level of Service of a signalized intersection is based on the average control delay per vehicle. Signal timing plans provided by the City of Barrie were used. 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 Sim-Traffic with 60 minutes recording time, 10 minutes seeding time, and an average of three runs.

As indicated in Tables 11, 12, 13 and 14, the worst total traffic operations for all of the study intersections are forecast to occur in the ultimate horizon year of 2030. Under 2030 total traffic volumes, the worst Level of Service at any of the three signalized intersections is "C" (with a worst delay of 22.8 seconds) during the p.m. peak hour at the intersection of Dunlop Street and Eccles Street.

The worst LOS forecast for the intersection of Bradford Street at Site Access is "D" for the minor approach during the p.m. peak hour with an average vehicle delay of 26.6 seconds occurring under the 2023 total traffic conditions. The intersection of Bradford Street at Site Access operates slightly better under the 2024 to 2030 total traffic conditions compared to the 2023 total traffic conditions. This is attributable to the absence of an access through Eccles Street/ Perry Street under the 2023 horizon, resulting in a larger distribution of the "Building 1" generated trips through the southern site access at Bradford Street.

Under all study horizons, the 95th percentile queues forecasts that the northbound left, eastbound left and eastbound left traffic queues at the intersection of Dunlop Street and Eccles Street may occasionally exceed the storage lanes with spillover into the tapers and adjacent through lanes. Similarly, the northbound right turn traffic at the intersection of Bradford Street and Simcoe Street is forecast to occasionally exceed the storage lanes with spillover into the tapers and adjacent through lanes. The traffic queuing forecast for the total traffic operations (with site generated trips) are similar to their respective future background traffic operations (without site generated trips).

7.0 Comparing Future Background and Total Traffic Conditions

Tables 15, 16, 17 and 18 outlines the changes that result upon addition of the site generated trips. The tables are setup to illustrate the resulting changes in measures of operational effectiveness transiting from respective future background operations (without site generated trips) to the total traffic operations (with site generated trips).

Table 15: 2023 Future Background Traffic versus 2023 Total Traffic Levels of Service

Intersection	Peak Hour	Level of Service	Average Delay per Vehicle(s)	Max V/C ratio
Dunlop Street at Eccles Street	AM	Remains B	Increases by 0.3 s	Increases by 0.03 (EBT)
	PM	Remains C	Increases by 0.4 s	Increases by 0.04 (WBT)
Dunlop Street at Bradford Street/ High Street	AM	Remains B	Increases by 1.0 s	Increases by 0.10 (EBT)
	PM	Remains B	Increases by 1.7 s	Increases by 0.20 (NBL)
Bradford Street at Simcoe Street/ Site Access	AM	Remains B	Increases by 0.4 s	Increases by 0.10 (WBL)
	PM	Remains B	Increases by 2.4 s	Increases by 0.16 (WBL)

Table 16: 2024 Future Background Traffic versus 2024 Total Traffic Levels of Service

Intersection	Peak Hour	Level of Service	Average Delay per Vehicle(s)	Max V/C ratio
Dunlop Street at Eccles Street	AM	Remains B	Increases by 0.8 s	Increases by 0.05 (EBT)
	PM	Remains C	Increases by 0.5 s	Increases by 0.07 (from WBT to EBT)
Dunlop Street at Bradford Street/ High Street	AM	Remains A	Increases by 0.7 s	Increases by 0.03 (NBR)
	PM	Remains B	Increases by 0.7 s	Increases by 0.08 (NBL)
Bradford Street at Simcoe Street/ Site Access	AM	Remains B	Decreases by 0.1 s	Increases by 0.03 (WBL)
	PM	Remains B	Increases by 0.6 s	Increases by 0.05 (WBL)
Simcoe Street at Eccles Street/ Perry Street	AM	Remains A	Increases by 0.6 s	Increases by 0.07 (EB)
	PM	Falls from B to C	Increases by 2.7 s	Increases by 0.06 (EB)

Table 17: 2025 Future Background Traffic versus 2025 Total Traffic Levels of Service

Intersection	Peak Hour	Level of Service	Average Delay per Vehicle(s)	Max V/C ratio
Dunlop Street at Eccles Street	AM	Remains C	Increases by 0.9 s	Increases by 0.06 (EBT)
	PM	Remains C	Increases by 0.10 s	Increases by 0.10 (EBT)
Dunlop Street at Bradford Street/ High Street	AM	Falls from A to B	Increases by 0.8 s	Increases by 0.04 (NBR)
	PM	Remains B	Increases by 0.8 s	Increases by 0.09 (NBL)
Bradford Street at Simcoe Street/ Site Access	AM	Remains B	No change	Increases by 0.02 (WBL)
	PM	Remains B	Increases by 0.6 s	Increases by 0.05 (WBL)
Simcoe Street at Eccles Street/ Perry Street	AM	Remains A	Increases by 0.6 s	Increases by 0.07 (EB)
	PM	Falls from B to C	Increases by 3.5 s	Increases by 0.08 (EB)

Table 18: 2030 Future Background Traffic versus 2030 Total Traffic Levels of Service

Intersection	Peak Hour	Level of Service	Average Delay per Vehicle(s)	Max V/C ratio
Dunlop Street at Eccles Street	AM	Falls from B to C	Increases by 0.5 s	Increases by 0.04 (EBT)
	PM	Remains C	Increases by 0.7 s	Increases by 0.10 (EBT)
Dunlop Street at Bradford Street/ High Street	AM	Falls from A to B	Increases by 0.9 s	Increases by 0.04 (EBT)
	PM	Remains B	Increases by 0.9 s	Increases by 0.08 (NBL)
Bradford Street at Simcoe Street/ Site Access	AM	Remains B	No change	Increases by 0.02 (WBL)
	PM	Remains B	Increases by 0.9 s	Increases by 0.06 (WBL)
Simcoe Street at Eccles Street/ Perry Street	AM	Remains A	Increases by 0.6 s	Increases by 0.08 (EB)
	PM	Falls from B to C	Increases by 3.8 s	Increases by 0.07 (EB)

As illustrated in Tables 15, 16, 17 and 18, the operational measures of effectiveness are projected to remain virtually the same or have minor changes comparing traffic operations with and without the proposed Barrie Central Redevelopment.

Under the 2024, 2025 and 2030 horizons, the fall from LOS "B" to "C" (p.m. peak) for the intersection of Simcoe Street at Eccles Street/Perry Street is attributable to slightly higher overall delay resulting from the additional traffic volumes at the intersection. The same conclusion is established for the fall from LOS "B" to "C" (a.m. peak) for the intersection of Dunlop Street at Eccles Street and the fall from LOS "A" to "B" (a.m. peak) for the intersection of Dunlop Street at Bradford Street/ High Street. It is noted that, the respective future background operations for the noted traffic movements are projected to be close to the upper boundaries of the LOS range and ultimately falling to the next LOS for any slight increase in traffic.

Per the 95th percentile queues, the traffic queuing forecast for the total traffic operations (with site generated trips) are similar to their respective future background traffic operations (without site generated trips).

8.0 Assessing Traffic Operations without Simcoe Street Extension

Traffic operational analyses for the 2024 horizon and beyond were conducted with the proposed Simcoe Street extension between Bradford Street and Perry Street/ Eccles Street as recommended by the City of Barrie. This section assesses the impact of replacing the Simcoe Street extension with an access at Bradford Street/ Simcoe Street and another access at Perry Street/ Eccles Street. The focus of this assessment is the ultimate 2030 horizon year studied herein.

Table 19 illustrates the 2030 total traffic operations given a replacement of the Simcoe Street extension with two site accesses as noted. Figure 17 illustrates the 2030 total traffic volumes without the Simcoe Street Extension. Detailed capacity analyses are shown in Appendix E.

Table 19: 2030 Total Traffic Level of Service (Without Simcoe Extension)

Intersection	Control	Peak Hour	Level of Service	Control Delay	Max V/C Ratio & V/C Ratios > 0.85	95 th %ile Queues > Storage Length
Dunlop Street at Eccles Street	Signal	A.M.	C	20.8 s	0.46 (EBT)	28.0 m > 25 m (EBL) 29.5 m > 20 m (NBL)
		P.M.	C	22.8 s	0.58 (EBT)	43.8 m > 25 m (EBL) 37.4 m > 25 m (WBL) 37.1 m > 20 m (NBL)
Dunlop Street at Bradford Street/ High Street	Signal	A.M.	B	10.8 s	0.38 (EBT/WBT)	None
		P.M.	B	15.4 s	0.65 (NBL)	None
Bradford Street at Simcoe Street/ Site Access	Signal	A.M.	B	12.1 s	0.48 (WBL)	19.5 m > 9.0 m (NBR)
		P.M.	B	18.4 s	0.86 (WBL)	18.9 m > 9.0 m (NBR)
Site Access at Eccles Street/ Perry Street	Stop	A.M.	A	9.5 s	0.30 (SB)	None
		P.M.	C	17.4 s	0.64 (EB)	None
Bradford Street at Site Access	Stop	A.M.	B	14.5 s	0.07 (EB)	None
		P.M.	C	23.3 s	0.06 (EB)	None

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

Table 20 outlines the changes in measures of operational effectiveness transiting from the 2030 total traffic analysis with the proposed Simcoe Street extension (Table 14) to 2030 total traffic analysis without the extension (Table 19).

Table 20: Comparing 2030 Total Traffic LOS with & without Proposed Simcoe Street Extension

Intersection	Peak Hour	Level of Service	Average Delay per Vehicle(s)	Max V/C ratio
Dunlop Street at Eccles Street	AM	Remains C	No change	No change
	PM	Remains C	No change	No change
Dunlop Street at Bradford Street/ High Street	AM	Remains B	Increases by 0.1 s	No change
	PM	Remains B	Increases by 0.1 s	Increases by 0.02 (NBL)
Bradford Street at Simcoe Street/ Site Access	AM	Remains B	Increases by 0.4 s	Increases by 0.04 (WBL)
	PM	Remains B	Increases by 2.0 s	Increases by 0.07 (WBL)
Intersection with Eccles Street/ Perry Street	AM	Remains A	Decreases by 0.3 s	Decreases by 0.03 (SB)
	PM	Remains C	Decreases by 1.3 s	Decreases by 0.02 (EB)
Bradford Street at Site Access	AM	Remains B	Increases by 0.4 s	Increases by 0.08 (EB)
	PM	Remains C	Increases by 1.9 s	Increases by 0.01 (EB)

As illustrated in Tables 20, the operational measures of effectiveness are projected to remain virtually the same or have minor changes comparing traffic operations with and without the proposed Simcoe Street extension between Bradford Street and Eccles Street/ Perry Street. The 95th percentile queues indicate that the traffic queuing forecast for the two scenarios are similar.

Given the forecasted operations, there is no benefit in extending Simcoe Street as the traffic operations on the boundary road network remain the same with or without the roadway extension. We recommend that a site access at the Bradford Street/ Simcoe Street and Eccles Street/ Perry Street should be considered in place of the Simcoe Street extension.

9.0 Site Access Safety Review

This section assesses the proposed site accesses from an operational feasibility and safety perspective. The proposed access connections from the site to external roadway will be at the intersection of Bradford Street at Simcoe Street, the intersection of Perry Street/ Eccles Street and the southern site access at Bradford Street.

Since the proposed access connections are located at existing intersections and the southern access at Bradford already exist, no issues related to access spacing, corner clearance, sight distance, heavy truck movements and transit operational conflicts are forecast. Moreover, traffic speed on these roads are at a 50 km/h speed limit and the presence of several accesses along Bradford Street and Perry Street/ Eccles Street is expected to further lead to slower speeds and reduced chances of safety concerns.

10.0 Transportation Demand Management

There are a couple of low impact opportunities for the development to promote Travel Demand Management (TDM) measures in support of reduced automobile use.

10.1 Transit Proximity and Car Share

As noted under section 3.4 of this report, multiple Barrie transit bus routes service the immediate surroundings of the site. The site is accessible via transit facilities, which could reduce the car ownership rate at the development. The development also proposes car share spaces to encourage car pooling and promote ride share.

10.2 Cycling and Pedestrian Facilities

As mentioned under section 3.3, there are pedestrian facilities on either side of the boundary roads at the site. The site also proposes an implementation of a well-connected wayfinding and signage plan to ensure safety of vulnerable road users such as pedestrians, cyclists and disabled. This is further expected to encourage active transportation and the use of the transit.

10.3 Education/Promotion and Incentives

The provision of transit, trail and cycling maps within the lobby of the apartment buildings will increase awareness of transit routes, nearby pedestrian and cycling routes and provide incentive for residents and visitors to utilize the existing network. Prior to occupancy, future residents can be informed of the active transportation options at the proposed development.

Furthermore, upon occupancy, a TDM information package comprising of active transportation network maps, and transit maps/schedules can be provided to tenants. Information on Smart Commute and Car share opportunities may also be beneficial to educate residents of alternative transportation modes for their existing and future areas of employment.

10.4 Summary

The site is located in close proximity to transit and active transportation infrastructure. Additionally, the projected future implementation of more active transportation facilities on the boundary road, and the potential for expanding non-auto trips within the zone will result in lower auto-trips than forecasted for the proposed development herein.

11.0 Conclusions and Recommendations

This study has analyzed the operations of boundary road network to determine the impact of the proposed Barrie Central Redevelopment at 34-50 Bradford Street, City of Barrie. The detailed analysis contained within this report has resulted in the following key findings:

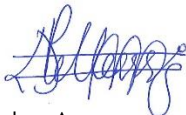
- Under 2019 existing traffic conditions, the study intersections of Dunlop Street at Eccles Street, Dunlop Street at Bradford Street/ High Street, and Bradford Street at Simcoe Street are all operating below capacity and at a Level of Service (LOS) "C" or better during both the a.m. and p.m. peak hours.
- The proposed development is projected to generate a total of 194 and 221 residential trips during the weekday a.m. and p.m. peak hours, respectively. Similarly, a total of 126 and 164 trips are generated by the YMCA during the weekday a.m. and p.m. peak hours.
- Under all study horizons, the boundary road network is projected to operate with similar measures of effectiveness between their respective future background traffic conditions (excludes site generated trips) and total traffic conditions (includes site generated trips).
- Under phase one full-buildout in 2023, the study intersections are forecast to operate at a LOS "C" or better during both the a.m. and p.m. peak hours. The southern site access at Bradford Street is forecast to operate efficiently with a worst LOS "D" for the minor approach.
- Under phase two full-buildout in 2024, the study intersections are forecast to operate at a LOS "C" or better during both the a.m. and p.m. peak hours. The southern site access at Bradford Street is forecast to operate efficiently with a worst LOS "C" for the minor approach.
- Under phase three full-buildout in 2025, the study intersections are forecast to operate at a LOS "C" or better during both the a.m. and p.m. peak hours. The southern site access at Bradford Street is forecast to operate efficiently with a worst LOS "C" for the minor approach.
- Under 2030 total traffic conditions, the study intersections are forecast to operate at a LOS "C" or better during both the a.m. and p.m. peak hours. The southern site access at Bradford Street is forecast to operate efficiently with a worst LOS "C" for the minor approach.
- Given the location of access connections to the site, no issues related to sight-lines, corner clearance, access conflicts, heavy truck movements and transit operational conflicts are projected.
- No operational benefits are forecast for the proposed Simcoe Street extension compared to a site access at each of Bradford Street/ Simcoe Street and Perry Street/ Eccles Street. We recommend a replacement of the proposed Simcoe Street extension with the two accesses as it further eliminates safety issues such as cars travelling at significant speeds through the site along the new road.

- We recommend that; the City of Barrie continue to monitor the signal timing plans at the three signalized study intersections to determine if changes are warranted in the future for optimal performance of the intersections.

It is our professional conclusion that the traffic generated by the proposed Barrie Central Redevelopment at 34-50 Bradford Street, will not materially affect the operations of the boundary road network. Moreover, the boundary road network has capacity to accommodate the additional trips generated by the development. The Zoning By-Law Amendment and Site Plan Application can be supported from a traffic operations perspective.

Respectfully submitted,

C.F. CROZIER & ASSOCIATES INC.



Peter Apasnore, M.A.Sc., EIT.
Transportation
/pa

C.F. CROZIER & ASSOCIATES INC.



R. Aaron Wignall
Associate, Transportation

I:\1300\1351-Hip Dev\5233 - 34-50 Bradford St\Reports\TIS\2019.06.17 34-50 Bradford Street TIS.docx

APPENDIX A

Correspondence

Peter Apasnore

From: Justin MacDonald <Justin.MacDonald@barrie.ca>
Sent: June 4, 2019 2:50 PM
To: Peter Apasnore
Cc: Aaron Wignall
Subject: RE: Terms of Reference:

Good morning Peter,

With regards to the modal split staff do not support the proposed reduction in trips. Our current modal split is 3%, and we have utilized 5% percent for the Secondary lands. It is staff's recommendation to use a modal split of 5%.

I cannot provide the reported submitted for the reports indicated below as they are prepared by 3rd party and are cannot be distributed by the City. They are viewable at the Planning Department located at 70 Collier Street.

Thanks,

Justin MacDonald, C.E.T.,
Senior Transportation Operations Technologist
Roads, Parks & Fleet



City of Barrie: Barrie Operations Centre, 165 Ferndale Drive North, Barrie ON, L4N 9V9
Office: 705-739-4220 5178

From: Peter Apasnore [mailto:papasnore@cfcrozier.ca]
Sent: Wednesday, May 15, 2019 4:03 PM
To: Justin MacDonald <Justin.MacDonald@barrie.ca>
Cc: Aaron Wignall <awignall@cfcrozier.ca>
Subject: RE: Terms of Reference:

Hi Justin,

Thank you for the feedback. As advised, we will apply a 3% growth rate to the through movements on Dunlop, all other streets will be analyzed with a 1% growth rate applied to the through movements as the study area is built up.

Rental condominium units typically have a high transit demand and a lower single occupant vehicle trips compared to other residential uses. There are currently no condominium buildings in the study area which is why transit is at 3%, walking 2% and cycling 2% (based on TTS attached).

We have assumed a 15% transit modal split for the following reasons:

- the proposed buildings are rental condominium units
- there are 4 transit bus routes operating on each of Bradford Street, Dunlop Street and Simcoe Street
- the site proposes to implement aggressive transportation demand management measures to encourage active transportation and transit use

Given the above, I hope the 15% transit modal split is acceptable. Additionally, please provide traffic reports for the following background developments, or may we exclude them?

- the Barrie 5 Points (2–14 Dunlop Street West, 43 & 45 Maple Avenue, 30–42 Bayfield Street) for 20-storey apartment building with 208 residential condominium units.
- 185-205 Dunlop Street East for Mixed use 11 storey building with 193 residential condominium units and ground floor commercial.

Regards,

Peter Apasnore M.A.Sc., EIT | Transportation
C.F. Crozier & Associates Consulting Engineers
2800 High Point Drive, Suite 100 | Milton, ON L9T 6P4
cfcrozier.ca | papasnore@cfcrozier.ca
tel: 905.875.0026 ext: 306



This communication is intended solely for the attention and use of the named recipients and contains information that is privileged and confidential. If you are not the intended recipient, or the person responsible for delivering this information to the intended recipient, please notify us immediately by telephone. If you have received this information in error, please be notified that you are not authorized to read, copy, distribute, use or retain this message or any part of it.

From: Justin MacDonald <Justin.MacDonald@barrie.ca>
Sent: May 15, 2019 11:07 AM
To: Peter Apasnore <papasnore@cfcrozier.ca>
Subject: RE: Terms of Reference:

Good morning Peter,

I have spoken with my manager and we have concerns regarding the proposed 15% reduction in trips relating transit ridership. Our current modal split is 3%.

With regards to growth rate a growth rate of 3% per year would be applicable to Dunlop Street and Simcoe Street.

The growth rate for Eccles Street would have to account for the Simcoe Street extension.

I have a request in with our Engineering Department to run the EMME 3 model to estimate volumes on the Simcoe Street extension.

Should you have any questions please let me know.

Thanks,

Justin MacDonald, C.E.T.,
Senior Transportation Operations Technologist
Roads, Parks & Fleet



City of Barrie: Barrie Operations Centre, 165 Ferndale Drive North, Barrie ON, L4N 9V9
Office: 705-739-4220 5178

From: Peter Apasnore [<mailto:papasnore@cfcrozier.ca>]
Sent: Wednesday, May 15, 2019 9:18 AM
To: Justin MacDonald <Justin.MacDonald@barrie.ca>
Subject: RE: Terms of Reference:

Hi Justin,

This is another follow up. Can you provide a feedback as promised and please provide Traffic Impact Study reports for the background developments noted.

Thanks.

Peter Apasnore M.A.Sc., EIT | Transportation
C.F. Crozier & Associates Consulting Engineers
2800 High Point Drive, Suite 100 | Milton, ON L9T 6P4
cfcrozier.ca | papasnore@cfcrozier.ca
tel: 905.875.0026 ext: 306



This communication is intended solely for the attention and use of the named recipients and contains information that is privileged and confidential. If you are not the intended recipient, or the person responsible for delivering this information to the intended recipient, please notify us immediately by telephone. If you have received this information in error, please be notified that you are not authorized to read, copy, distribute, use or retain this message or any part of it.

From: Peter Apasnore
Sent: May 6, 2019 1:41 PM
To: Justin.MacDonald@barrie.ca
Subject: RE: Terms of Reference:

Hi Justin,

I am following up again on the terms of reference submitted below. Please provide your feedback. Additionally, please direct me to appropriate staff to obtain traffic signals timing plans for the study intersections. Thank you.

Regards,

From: Peter Apasnore
Sent: April 30, 2019 8:50 AM
To: Justin.MacDonald@barrie.ca
Subject: RE: Terms of Reference:

Hi Justin,

This is a follow up to the term of reference submitted below. We are getting underway, so a quick feedback will be appreciated.

Regards,

From: Peter Apasnore
Sent: April 17, 2019 4:13 PM
To: Justin.MacDonald@barrie.ca
Cc: Aaron Wignall <awignall@cfcrozier.ca>
Subject: Terms of Reference:

Hi Justin,

We have been retained to prepare a Traffic Impact Study (TIS) for the proposed residential plus YMCA development located at 34-50 Bradford Street, 125 & 155 Dunlop Street West in the City of Barrie. I have attached the latest site plan for your review.

The development proposal as illustrated on the site plan will be implemented in three phases as outlined below:

- **Phase 1:** Consist of Apartment Building 1 (20-storey and 229 units) which is located near the former Prince of Wales School and a YMCA (75,000 ft² GFA) located immediately north of Building 1. Anticipated completion in 2023.
- **Phase 2:** Consist of Apartment Building 2 (20-storey and 222 units) which is located to the west of Building 1, and the Simcoe Street Extension to Eccles Street. Anticipated completion in 2024.
- **Phase 3:** Consist of Apartment Building 3 (10-storey and 144 units) which is located at the western limits of the property. Anticipated completion in 2025.

Our proposed scope of work will incorporate the procedures set out in the Traffic Impact Study Requirements (Appendix 2) of the *"City of Barrie Urban Design Manual (2014)"*. Additionally, the study will incorporate the vision of the *"City of Barrie Multi-Modal Active Transportation Master Plan (MMATMP)"*. To prepare the TIS, we will:

- Commission traffic counts and analyze the 2019 existing traffic operations for the Weekday a.m., and Weekday p.m. peak hours at the proposed study intersections listed below:
 - Bradford Street and Simcoe Street
 - Dunlop Street and Eccles Street
 - Dunlop Street and High Street/Bradford Street
 - Simcoe Street Extension and Eccles Street/Perry Street (**only future analysis**)
- Given the development implementation phases, study horizon years for each phase as well as five years from full buildout have been selected for the analysis (*i.e.* 2023, 2024, 2025 and 2030 horizon years).
- Forecast the future background traffic volumes (excludes site generated trips) for the 2023, 2024, 2025 and 2030 horizon years. The forecast will be as follows:
 - Grow the through traffic volumes at a 1% annual growth rate.
 - Incorporate traffic from background developments. The following future developments have been identified;
 - The Barrie 5 Points (2–14 Dunlop Street West, 43 & 45 Maple Avenue, 30–42 Bayfield Street) for 20-storey apartment building with 208 residential condominium units.
 - 185-205 Dunlop Street East for Mixed use 11 storey building with 193 residential condominium units and ground floor commercial.
 - Reroute 10% of trips from the intersection of Dunlop Street at High Street/Bradford Street through the Simcoe Street Extension in the 2024 horizon year and beyond.
- Forecast the development trips and assign to boundary road network as follows:
 - Use the *Institute of Transportation Engineers' (ITE - 10th edition)* data to generate the development trips.
 - Apply a modal split trip reduction of 15% to account for the Barrie GO Station (350 m from the site) and the presence of several Barrie transit routes near the development.
 - Assign trips to the boundary road network using a combination of Transportation Tomorrow Survey (TTS) data and the existing travel pattern.
- Analyze the total traffic operations (includes site generated trips) for the study horizon years. All analysis will be conducted using *Synchro (Version 10)* modelling software.
- Compare the future background and total traffic operations to identify if capacity issues are forecast to occur per the development proposal herein and recommend mitigation measures if required.

- Review the proposed site accesses from a safety perspective with regards to driver sight lines, intersection spacing, access configuration, and corner clearance.
- Document all analysis and recommendations regarding the findings of the study to maintain acceptable operations of the boundary road network.

I hope this scope is acceptable. Please provide your feedback and confirm that the background developments are sufficient. Additionally, we will appreciate if you can provide us with the Traffic Impact Study reports for these background developments.

Regards,

This E-mail message (including attachments, if any) is intended for the use of the individual or entity to which it is addressed and may contain information that is privileged, proprietary, confidential and exempt from disclosure. If you are not the intended recipient, you are notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify the sender and erase this E-mail message immediately.

This E-mail message (including attachments, if any) is intended for the use of the individual or entity to which it is addressed and may contain information that is privileged, proprietary, confidential and exempt from disclosure. If you are not the intended recipient, you are notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify the sender and erase this E-mail message immediately.

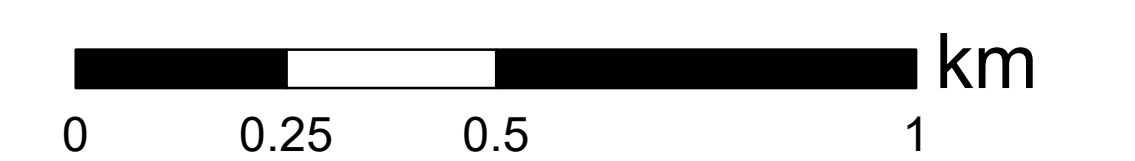
APPENDIX B

City of Barrie Zoning By-Law Excerpts and Maps

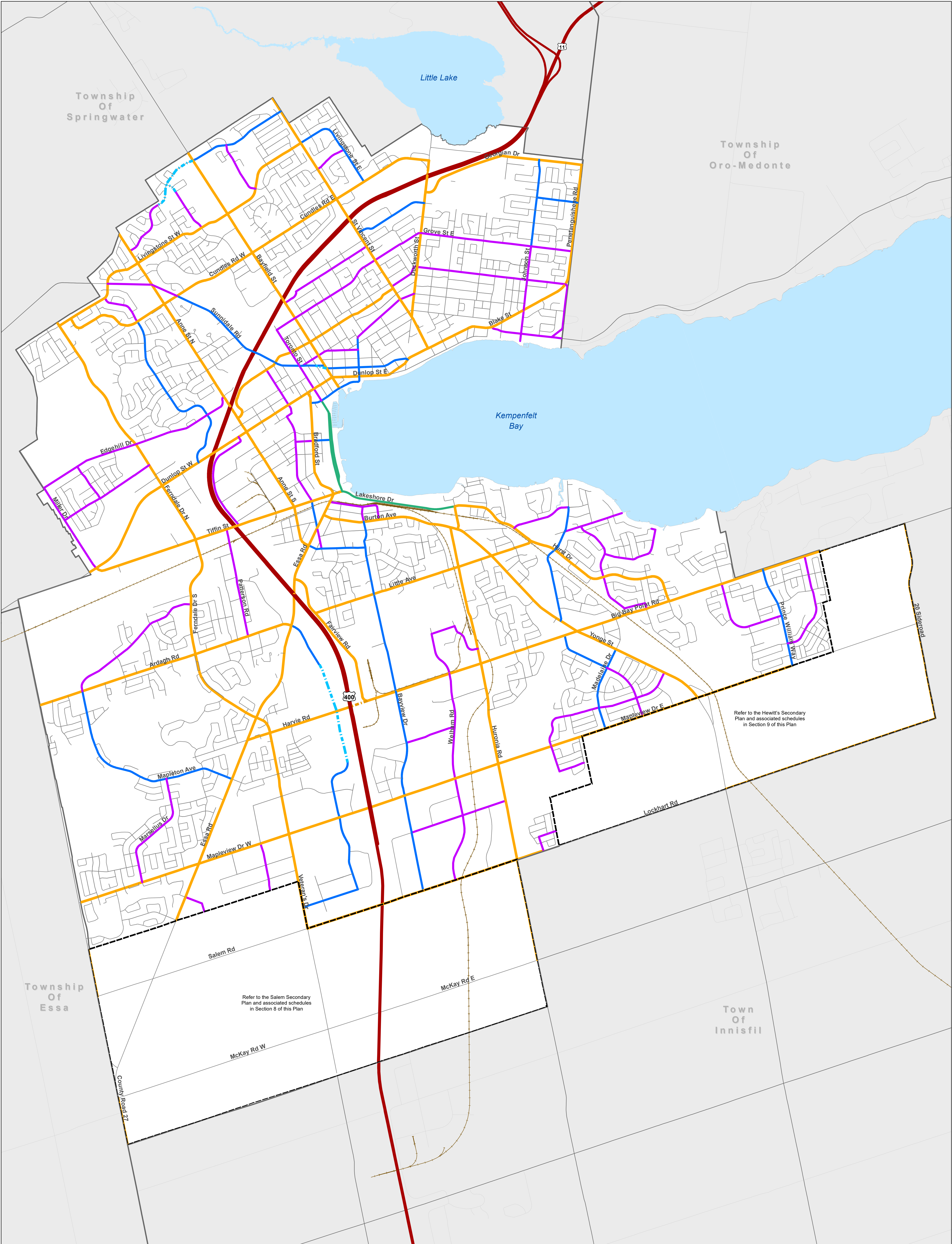


ZONING BY-LAW 2009-141 NORTH SECTION Office Consolidation December 31, 2017

- Central Area Commercial (C1, C1-1, C1-2)
- Transition Centre Commercial (C2, C2-1, C2-2)
- Shopping Centre Commercial (C3)
- General Commercial (C4)
- Convenience Commercial (C5)
- Mixed Use Node (MU1)
- Mixed Use Corridor (MU2)
- Neighbourhood Mixed Use (NMU)
- Residential Hold (RH)
- Residential Single Detached Dwelling First Density (R1)
- Residential Single Detached Dwelling Second Density (R2, R2-WS)
- Residential Single Detached Dwelling Third Density (R3, R3-WS)
- Residential Single Detached Dwelling Fourth Density (R4, R4-WS)
- Neighbourhood Residential (R5)
- Residential Apartment Dwelling First Density (RA1, RA1-1, RA1-2, RA1-3)
- Residential Apartment Dwelling Second Density (RA2, RA2-1, RA2-2)
- Residential Multiple Dwelling First Density (RM1, RM1-SS, RM1-WS)
- Residential Multiple Dwelling Second Density (RM2, RM2-TH, RM2-TH WS)
- RM3, Neighbourhood Multiple Residential
- Institutional (I)
- Educational Institutional (I-E)
- Major Institutional (I-M, I-M-1)
- Open Space (OS)
- Environmental Protection Area (EP)
- Agriculture (A)
- Business Park (BP)
- Highway Industrial (HI)
- Light Industrial (LI)
- General Industrial (GI)
- Restrictive Industrial (RI)
- Municipal Services and Utilities (MSU)
- Refer to Zoning By-law 054-04 Innisfil
- City Centre Revitalization
- City Boundary
- Parcels



The City of Barrie does not warrant the accuracy, completeness, content, or currency of the information provided.
This is not a legal Plan of Survey
Copyright ©City of Barrie 2018
Produced (in part) under license from:
© Queens Printer, Ontario Ministry of Natural Resources. All rights reserved;
© Her Majesty the Queen in Right of Canada, Department of Natural Resources. All rights reserved;
© Members of the Ontario Geospatial Data Exchange. All rights reserved.
For information please contact Service Barrie at 705-726-4242 or ServiceBarrie@barrie.ca



OFFICIAL PLAN
Schedule D
Roads Plan
Office Consolidation
January 2018

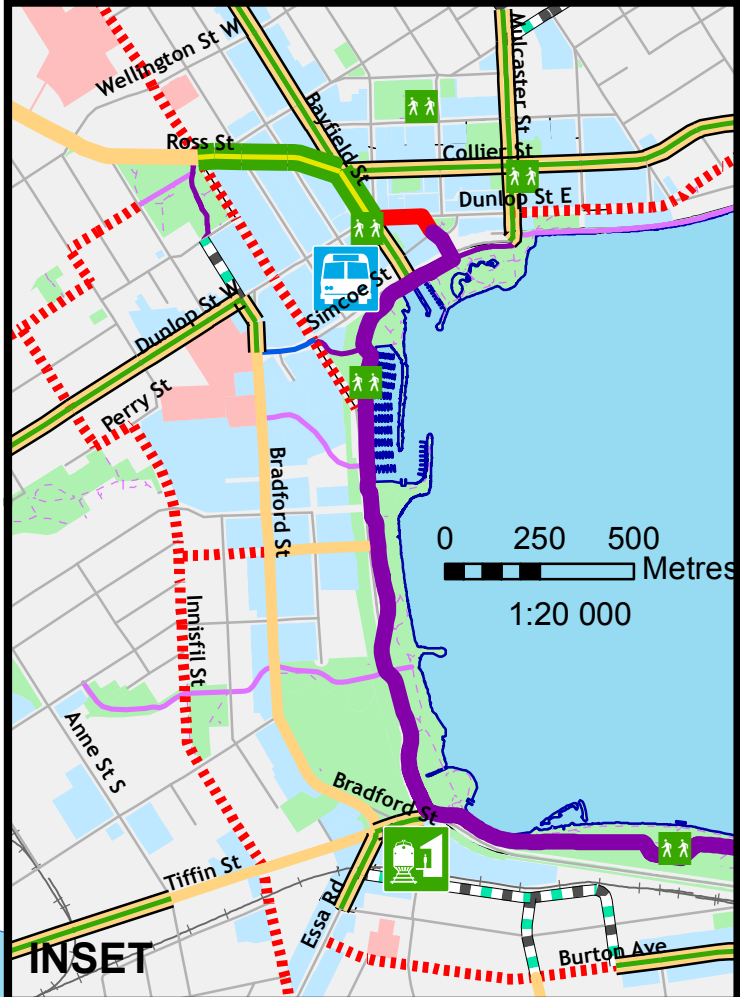
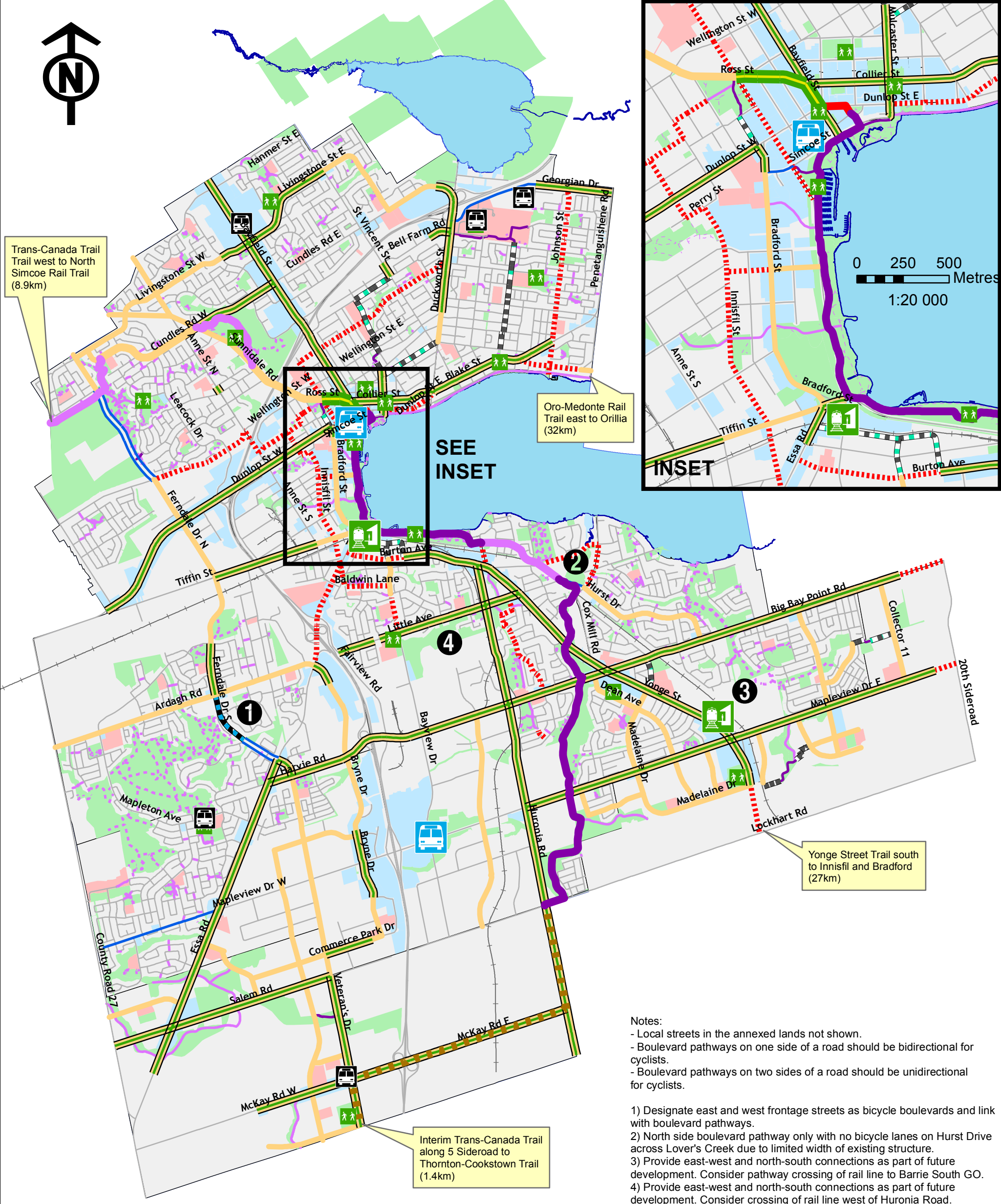
- | | | |
|--------------------|-----------------|------------------|
| Provincial Highway | Minor Collector | FUTURE ARTERIAL |
| Arterial | Parkway | Future Collector |
| Major Collector | Local | Railway |

1:20,000

0 0.5 1 2 km

The City of Barrie does not warrant the accuracy, completeness, content, or currency of the information provided.
This is not a legal Plan of Survey
Copyright ©City of Barrie 2017
Produced (in part) under license from:
© Queens Printer, Ontario Ministry of Natural Resources. All rights reserved;
© Her Majesty the Queen in Right of Canada, Department of Natural Resources. All rights reserved;
© Members of the Ontario Geospatial Data Exchange. All rights reserved.
For information please contact Service Barrie at 705-726-4242 or ServiceBarrie@barrie.ca

GIS Branch 4/27/2018



- Notes:
- Local streets in the annexed lands not shown.
 - Boulevard pathways on one side of a road should be bidirectional for cyclists.
 - Boulevard pathways on two sides of a road should be unidirectional for cyclists.
- 1) Designate east and west frontage streets as bicycle boulevards and link with boulevard pathways.
- 2) North side boulevard pathway only with no bicycle lanes on Hurst Drive across Lover's Creek due to limited width of existing structure.
- 3) Provide east-west and north-south connections as part of future development. Consider pathway crossing of rail line to Barrie South GO.
- 4) Provide east-west and north-south connections as part of future development. Consider crossing of rail line west of Huronia Road.

Transit Hubs

- GO Rail Station and Major Bus Hub
- Major Bus Hub
- Minor Bus Hub
- Civic Facility

Trans-Canada Trail

- Major AT Pathway
- Standard AT Pathway
- Buffered Bicycle Lanes
- Bicycle Lanes
- Signed Route (Mixed Traffic)
- Interim On-Road Route

Road ROW Cycling Facilities

- Buffered Bicycle Lanes
- Bicycle Lanes
- Boulevard Pathway – Two Sides
- Boulevard Pathway – One Side
- Bicycle Boulevard
- Signed Route (Mixed Traffic)
- Other Road ROW Cycling Facility
- Streets with No Cycling Facilities

Other Pathways and Trails

- Major AT Pathway
- Standard AT Pathway
- Hiking Trail
- Railroad
- Schools
- Parks and Natural Heritage System
- Commercial and Mixed-Use Zoned Areas

Figure 7-14

Cycling, Pathway and Trail Network

Proposed Preferred Scenario – 2021

0 1 000 2 000 3 000 4 000 Metres

1:50 000

Secondary Plan, Background Studies & Infrastructure Master Plans – Intensification and Annexed Lands

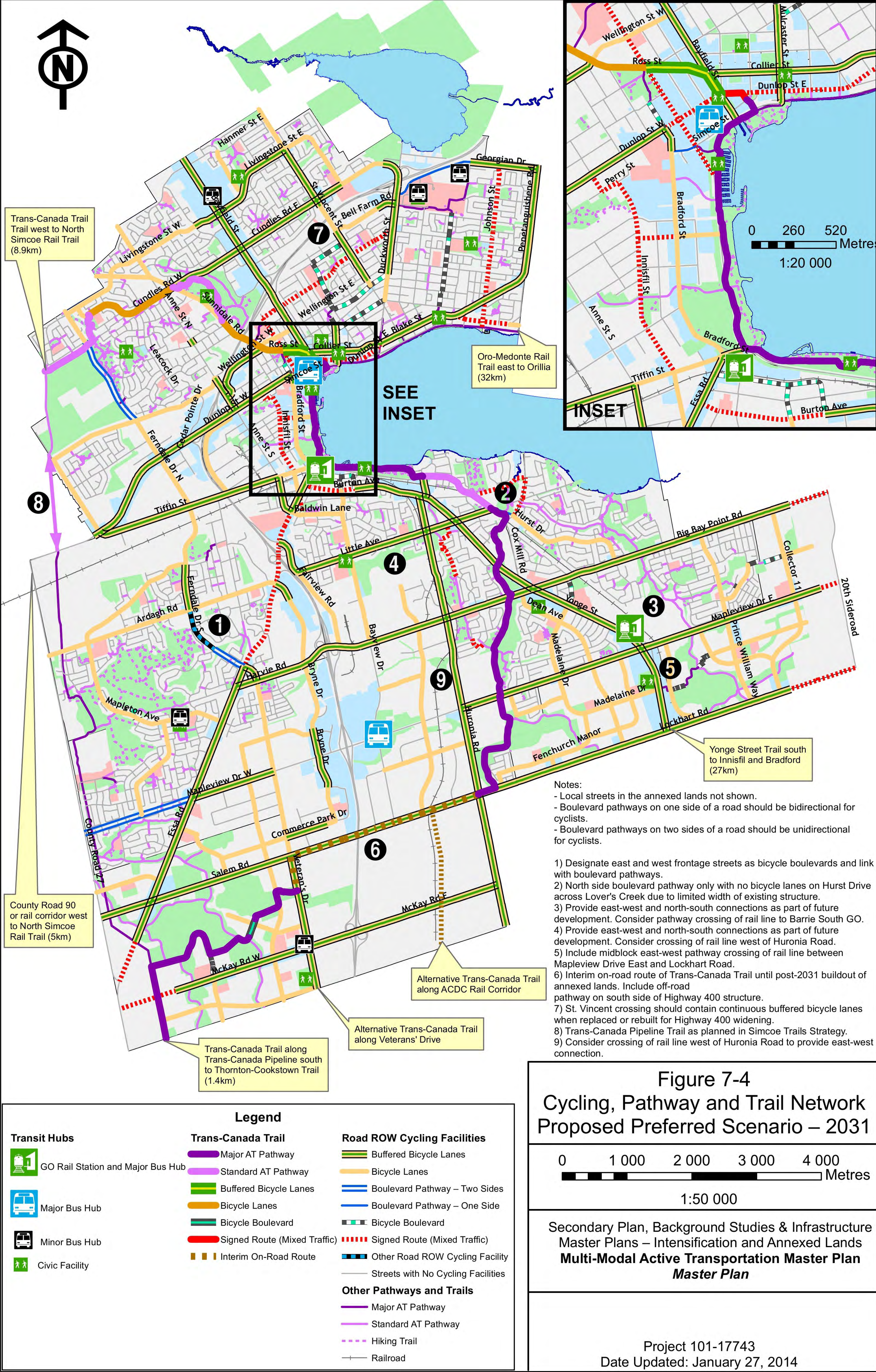
Multi-Modal Active Transportation Master Plan

Master Plan

Project 101-17743

Date Updated: January 27, 2014

What was proposed in the 2013 MMATMP?



Sunday Schedule

Route 1A Georgian Mall

Park Place (Depart)	Allandale Rec. Centre	Allandale GO	Downtown	Georgian Mall (Arrive)
777	935	7320	1	77
9:20 AM	9:30 AM	9:37 AM	9:46 AM	10:00 AM
10:05 AM	10:15 AM	10:22 AM	10:31 AM	10:45 AM
10:50 AM	11:00 AM	11:07 AM	11:16 AM	11:30 AM
11:35 AM	11:45 AM	11:52 AM	12:01 PM	12:15 PM
12:20 PM	12:30 PM	12:37 PM	12:46 PM	1:00 PM
1:05 PM	1:15 PM	1:22 PM	1:31 PM	1:45 PM
1:50 PM	2:00 PM	2:07 PM	2:16 PM	2:30 PM
2:35 PM	2:45 PM	2:52 PM	3:01 PM	3:15 PM
3:20 PM	3:30 PM	3:37 PM	3:46 PM	4:00 PM
4:05 PM	4:15 PM	4:22 PM	4:31 PM	4:45 PM
4:50 PM	5:00 PM	5:07 PM	5:16 PM	5:30 PM
5:35 PM	5:45 PM	5:52 PM	6:01 PM	6:15 PM
6:20 PM	6:30 PM	6:37 PM	6:46 PM	7:00 PM
7:05 PM	7:15 PM	7:22 PM	7:31 PM	7:45 PM
7:50 PM	8:00 PM	8:07 PM	8:16 PM	8:30 PM
8:35 PM	8:45 PM	8:52 PM	9:01 PM	9:15 PM
9:20 PM	9:30 PM	9:37 PM	9:46 PM	10:00 PM

Route 1B Welham

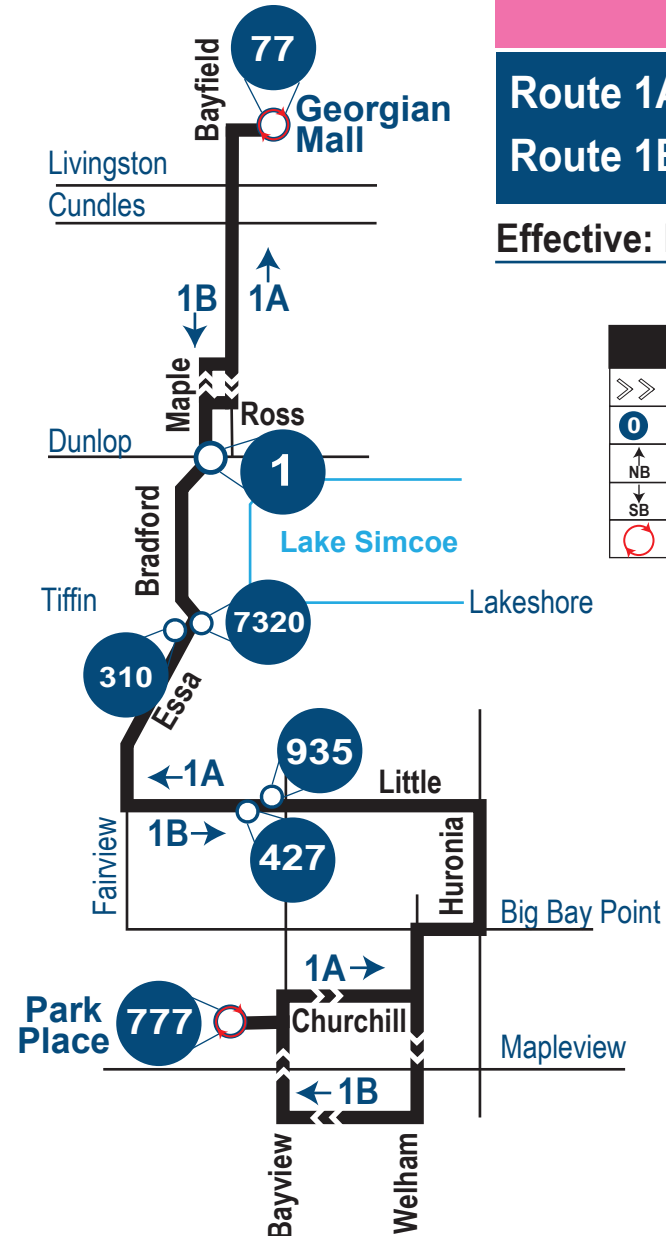
Georgian Mall (Depart)	Downtown	Allandale GO	Allandale Rec. Centre	Park Place (Arrive)
77	1	310	427	777
9:15 AM	9:35 AM	9:39 AM	9:46 AM	9:59 AM
10:00 AM	10:20 AM	10:24 AM	10:31 AM	10:44 AM
10:45 AM	11:05 AM	11:09 AM	11:16 AM	11:29 AM
11:30 AM	11:50 AM	11:54 AM	12:01 PM	12:14 PM
12:15 PM	12:35 PM	12:39 PM	12:46 PM	12:59 PM
1:00 PM	1:20 PM	1:24 PM	1:31 PM	1:44 PM
1:45 PM	2:05 PM	2:09 PM	2:16 PM	2:29 PM
2:30 PM	2:50 PM	2:54 PM	3:01 PM	3:14 PM
3:15 PM	3:35 PM	3:39 PM	3:46 PM	3:59 PM
4:00 PM	4:20 PM	4:24 PM	4:31 PM	4:44 PM
4:45 PM	5:05 PM	5:09 PM	5:16 PM	5:29 PM
5:30 PM	5:50 PM	5:54 PM	6:01 PM	6:14 PM
6:15 PM	6:35 PM	6:39 PM	6:46 PM	6:59 PM
7:00 PM	7:20 PM	7:24 PM	7:31 PM	7:44 PM
7:45 PM	8:05 PM	8:09 PM	8:16 PM	8:29 PM
8:30 PM	8:50 PM	8:54 PM	9:01 PM	9:14 PM
9:15 PM	9:35 PM	9:39 PM	9:46 PM	9:59 PM

Frequently visit Barrie.ca/transit "Schedules & Maps"
for changes in the schedule

Times are approximate. Riders should arrive at the
bus stop at least 5 minutes before the scheduled time



Print (Two-Sided) & Fold Here for Brochure



Route 1

Route 1A: Georgian Mall
Route 1B: Welham

Effective: December 9, 2018

Legend	
➡➡	Route Direction
⊙	Time Point
↑ NB	Route 1A
↓ SB	Route 1B
⊙	Route Letter Change

Visit myridebarrie.ca for
real-time bus arrival information



Weekday Schedule

Route 1A Georgian Mall

Park Place (Depart)	Allandale Rec. Centre	Allandale GO	Downtown	Georgian Mall (Arrive)
777	935	7320	1	77
5:50 AM	6:00 AM	6:07 AM	6:16 AM	6:30 AM
6:20 AM	6:30 AM	6:37 AM	6:46 AM	7:00 AM
6:50 AM	7:00 AM	7:07 AM	7:16 AM	7:30 AM
7:20 AM	7:30 AM	7:37 AM	7:46 AM	8:00 AM
7:50 AM	8:00 AM	8:07 AM	8:16 AM	8:30 AM
8:20 AM	8:30 AM	8:37 AM	8:46 AM	9:00 AM
8:50 AM	9:00 AM	9:07 AM	9:16 AM	9:30 AM
9:20 AM	9:30 AM	9:37 AM	9:46 AM	10:00 AM
9:50 AM	10:00 AM	10:07 AM	10:16 AM	10:30 AM
10:20 AM	10:30 AM	10:37 AM	10:46 AM	11:00 AM
10:47 AM	10:59 AM	11:07 AM	11:15 AM	11:30 AM
11:17 AM	11:29 AM	11:37 AM	11:45 AM	12:00 PM
11:47 AM	11:59 AM	12:07 PM	12:15 PM	12:30 PM
12:17 PM	12:29 PM	12:37 PM	12:45 PM	1:00 PM
12:47 PM	12:59 PM	1:07 PM	1:15 PM	1:30 PM
1:17 PM	1:29 PM	1:37 PM	1:45 PM	2:00 PM
1:47 PM	1:59 PM	2:07 PM	2:15 PM	2:30 PM
2:17 PM	2:29 PM	2:37 PM	2:45 PM	3:00 PM
2:47 PM	2:59 PM	3:07 PM	3:15 PM	3:30 PM
3:17 PM	3:29 PM	3:37 PM	3:45 PM	4:00 PM
3:47 PM	3:59 PM	4:07 PM	4:15 PM	4:30 PM
4:17 PM	4:29 PM	4:37 PM	4:45 PM	5:00 PM
4:47 PM	4:59 PM	5:07 PM	5:15 PM	5:30 PM
5:17 PM	5:29 PM	5:37 PM	5:45 PM	6:00 PM
5:50 PM	6:00 PM	6:07 PM	6:16 PM	6:30 PM
6:20 PM	6:30 PM	6:37 PM	6:46 PM	7:00 PM
6:50 PM	7:00 PM	7:07 PM	7:16 PM	7:30 PM
7:35 PM	7:45 PM	7:52 PM	8:01 PM	8:15 PM
8:20 PM	8:30 PM	8:37 PM	8:46 PM	9:00 PM
9:05 PM	9:15 PM	9:22 PM	9:31 PM	9:45 PM
9:50 PM	10:00 PM	10:07 PM	10:16 PM	10:30 PM
10:35 PM	10:45 PM	10:52 PM	11:01 PM	11:15 PM
11:20 PM	11:30 PM	11:37 PM	11:46 PM	12:00 AM

Route 1B Welham

Georgian Mall (Depart)	Downtown	Allandale GO	Allandale Rec. Centre	Park Place (Arrive)
77	1	310	427	777
5:00 AM	5:20 AM	5:24 AM	5:31 AM	5:44 AM
5:30 AM	5:50 AM	5:54 AM	6:01 AM	6:14 AM
6:00 AM	6:20 AM	6:24 AM	6:31 AM	6:44 AM
6:30 AM	6:50 AM	6:54 AM	7:01 AM	7:14 AM
7:00 AM	7:20 AM	7:24 AM	7:31 AM	7:44 AM
7:30 AM	7:50 AM	7:54 AM	8:01 AM	8:14 AM
8:00 AM	8:20 AM	8:24 AM	8:31 AM	8:44 AM
8:30 AM	8:50 AM	8:54 AM	9:01 AM	9:14 AM
9:00 AM	9:20 AM	9:24 AM	9:31 AM	9:44 AM
9:30 AM	9:50 AM	9:54 AM	10:01 AM	10:14 AM
10:00 AM	10:20 AM	10:24 AM	10:31 AM	10:44 AM
10:30 AM	10:50 AM	10:54 AM	11:01 AM	11:14 AM
11:00 AM	11:20 AM	11:24 AM	11:31 AM	11:44 AM
11:30 AM	11:50 AM	11:55 AM	12:01 PM	12:16 PM
12:00 PM	12:20 PM	12:25 PM	12:31 PM	12:46 PM
12:30 PM	12:50 PM	12:55 PM	1:01 PM	1:16 PM
1:00 PM	1:20 PM	1:25 PM	1:31 PM	1:46 PM
1:30 PM	1:50 PM	1:55 PM	2:01 PM	2:16 PM
2:00 PM	2:20 PM	2:25 PM	2:31 PM	2:46 PM
2:30 PM	2:50 PM	2:55 PM	3:01 PM	3:16 PM
3:00 PM	3:20 PM	3:25 PM	3:31 PM	3:46 PM
3:30 PM	3:50 PM	3:55 PM	4:01 PM	4:16 PM
4:00 PM	4:20 PM	4:25 PM	4:31 PM	4:46 PM
4:30 PM	4:50 PM	4:55 PM	5:01 PM	5:16 PM
5:00 PM	5:20 PM	5:25 PM	5:31 PM	5:46 PM
5:30 PM	5:50 PM	5:55 PM	6:01 PM	6:16 PM
6:00 PM	6:20 PM	6:25 PM	6:31 PM	6:46 PM
6:30 PM	6:50 PM	6:54 PM	7:01 PM	7:14 PM
7:00 PM	7:20 PM	7:24 PM	7:31 PM	7:44 PM
7:30 PM	7:50 PM	7:54 PM	8:01 PM	8:14 PM
8:15 PM	8:35 PM	8:39 PM	8:46 PM	8:59 PM
9:00 PM	9:20 PM	9:24 PM	9:31 PM	9:44 PM
9:45 PM	10:05 PM	10:09 PM	10:16 PM	10:29 PM
10:30 PM	10:50 PM	10:54 PM	11:01 PM	11:14 PM
11:15 PM	11:35 PM	11:39 PM	11:46 PM	11:59 PM

Saturday Schedule

Route 1A Georgian Mall

Park Place (Depart)	Allandale Rec. Centre	Allandale GO	Downtown	Georgian Mall (Arrive)
777	935	7320	1	77
7:20 AM	7:30 AM	7:37 AM	7:46 AM	8:00 AM
7:50 AM	8:00 AM	8:07 AM	8:16 AM	8:30 AM
8:20 AM	8:30 AM	8:37 AM	8:46 AM	9:00 AM
8:50 AM	9:00 AM	9:07 AM	9:16 AM	9:30 AM
9:20 AM	9:30 AM	9:37 AM	9:46 AM	10:00 AM
9:50 AM	10:00 AM	10:07 AM	10:16 AM	10:30 AM
10:20 AM	10:30 AM	10:37 AM	10:46 AM	11:00 AM
10:47 AM	10:59 AM	11:07 AM	11:15 AM	11:30 AM
11:17 AM	11:29 AM	11:37 AM	11:45 AM	12:00 PM
11:47 AM	11:59 AM	12:07 PM	12:15 PM	12:30 PM
12:17 PM	12:29 PM	12:37 PM	12:45 PM	1:00 PM
12:47 PM	12:59 PM	1:07 PM	1:15 PM	1:30 PM
1:17 PM	1:29 PM	1:37 PM	1:45 PM	2:00 PM
1:47 PM	1:59 PM	2:07 PM	2:15 PM	2:30 PM
2:17 PM	2:29 PM	2:37 PM	2:45 PM	3:00 PM
2:47 PM	2:59 PM	3:07 PM	3:15 PM	3:30 PM
3:17 PM	3:29 PM	3:37 PM	3:45 PM	4:00 PM
3:47 PM	3:59 PM	4:07 PM	4:15 PM	4:30 PM
4:17 PM	4:29 PM	4:37 PM	4:45 PM	5:00 PM
4:47 PM	4:59 PM	5:07 PM	5:15 PM	5:30 PM
5:17 PM	5:29 PM	5:37 PM	5:45 PM	6:00 PM
5:50 PM	6:00 PM	6:07 PM	6:16 PM	6:30 PM
6:20 PM	6:30 PM	6:37 PM	6:46 PM	7:00 PM
6:50 PM	7:00 PM	7:07 PM	7:16 PM	7:30 PM
7:35 PM	7:45 PM	7:52 PM	8:01 PM	8:15 PM
8:20 PM	8:30 PM	8:37 PM	8:46 PM	9:00 PM
9:05 PM	9:15 PM	9:22 PM	9:31 PM	9:45 PM
9:50 PM	10:00 PM	10:07 PM	10:16 PM	10:30 PM
10:35 PM	10:45 PM	10:52 PM	11:01 PM	11:15 PM
11:20 PM	11:30 PM	11:37 PM	11:46 PM	12:00 AM

Route 1B Welham

Georgian Mall (Depart)	Downtown	Allandale GO	Allandale Rec. Centre	Park Place (Arrive)
77	1	310	27	777
7:00 AM	7:20 AM	7:24 AM	7:31 AM	7:44 AM
7:30 AM	7:50 AM	7:54 AM	8:01 AM	8:14 AM
8:00 AM	8:20 AM	8:24 AM	8:31 AM	8:44 AM
8:30 AM	8:50 AM	8:54 AM	9:01 AM	9:14 AM
9:00 AM	9:20 AM	9:24 AM	9:31 AM	9:44 AM
9:30 AM	9:50 AM	9:54 AM	10:01 AM	10:14 AM
10:00 AM	10:20 AM	10:24 AM	10:31 AM	10:44 AM
10:30 AM	10:50 AM	10:54 AM	11:01 AM	11:14 AM
11:00 AM	11:20 AM	11:24 AM	11:31 AM	11:44 AM
11:30 AM	11:50 AM	11:55 AM	12:01 PM	12:16 PM
12:00 PM	12:20 PM	12:25 PM	12:31 PM	12:46 PM
12:30 PM	12:50 PM	12:55 PM	1:01 PM	1:16 PM
1:00 PM	1:20 PM	1:25 PM	1:31 PM	1:46 PM
1:30 PM	1:50 PM	1:55 PM	2:01 PM	2:16 PM
2:00 PM	2:20 PM	2:25 PM	2:31 PM	2:46 PM
2:30 PM	2:50 PM	2:55 PM	3:01 PM	3:16 PM
3:00 PM	3:20 PM	3:25 PM	3:31 PM	3:46 PM
3:30 PM	3:50 PM	3:55 PM	4:01 PM	4:16 PM
4:00 PM	4:20 PM	4:25 PM	4:31 PM	4:46 PM
4:30 PM	4:50 PM	4:55 PM	5:01 PM	5:16 PM
5:00 PM	5:20 PM	5:25 PM	5:31 PM	5:46 PM
5:30 PM	5:50 PM	5:55 PM	6:01 PM	6:16 PM
6:00 PM	6:20 PM	6:25 PM	6:31 PM	6:46 PM
6:30 PM	6:50 PM	6:54 PM	7:01 PM	7:14 PM
7:00 PM	7:20 PM	7:24 PM	7:31 PM	7:44 PM
7:30 PM	7:50 PM	7:54 PM	8:01 PM	8:14 PM
8:15 PM	8:35 PM	8:39 PM	8:46 PM	8:59 PM
9:00 PM	9:20 PM	9:24 PM	9:31 PM	9:44 PM
9:45 PM	10:05 PM	10:09 PM	10:16 PM	10:29 PM
10:30 PM	10:50 PM	10:54 PM	11:01 PM	11:14 PM
11:15 PM	11:35 PM	11:39 PM	11:46 PM	11:59 PM

Sunday Schedule

Route 2A Dunlop

Park Place (Depart)	Veterans at Essa	Dunlop at Ferndale	Downtown (Arrive)
777	662	271	1
9:30 AM	9:40 AM	9:49 AM	9:57 AM
10:30 AM	10:40 AM	10:49 AM	10:57 AM
11:30 AM	11:40 AM	11:49 AM	11:57 AM
12:30 PM	12:40 PM	12:49 PM	12:57 PM
1:30 PM	1:40 PM	1:49 PM	1:57 PM
2:30 PM	2:40 PM	2:49 PM	2:57 PM
3:30 PM	3:40 PM	3:49 PM	3:57 PM
4:30 PM	4:40 PM	4:49 PM	4:57 PM
5:30 PM	5:40 PM	5:49 PM	5:57 PM
6:30 PM	6:40 PM	6:49 PM	6:57 PM
7:30 PM	7:40 PM	7:49 PM	7:57 PM
8:30 PM	8:40 PM	8:49 PM	8:57 PM
9:30 PM	9:40 PM	9:49 PM	9:57 PM

Route 2B Park Place

Downtown (Depart)	Dunlop at Ferndale	Veterans at Essa	Park Place (Arrive)
1	893	847	777
9:00 AM	9:08 AM	9:17 AM	9:27 AM
10:00 AM	10:08 AM	10:17 AM	10:27 AM
11:00 AM	11:08 AM	11:17 AM	11:27 AM
12:00 PM	12:08 PM	12:17 PM	12:27 PM
1:00 PM	1:08 PM	1:17 PM	1:27 PM
2:00 PM	2:08 PM	2:17 PM	2:27 PM
3:00 PM	3:08 PM	3:17 PM	3:27 PM
4:00 PM	4:08 PM	4:17 PM	4:27 PM
5:00 PM	5:08 PM	5:17 PM	5:27 PM
6:00 PM	6:08 PM	6:17 PM	6:27 PM
7:00 PM	7:08 PM	7:17 PM	7:27 PM
8:00 PM	8:08 PM	8:17 PM	8:27 PM
9:00 PM	9:08 PM	9:17 PM	9:27 PM

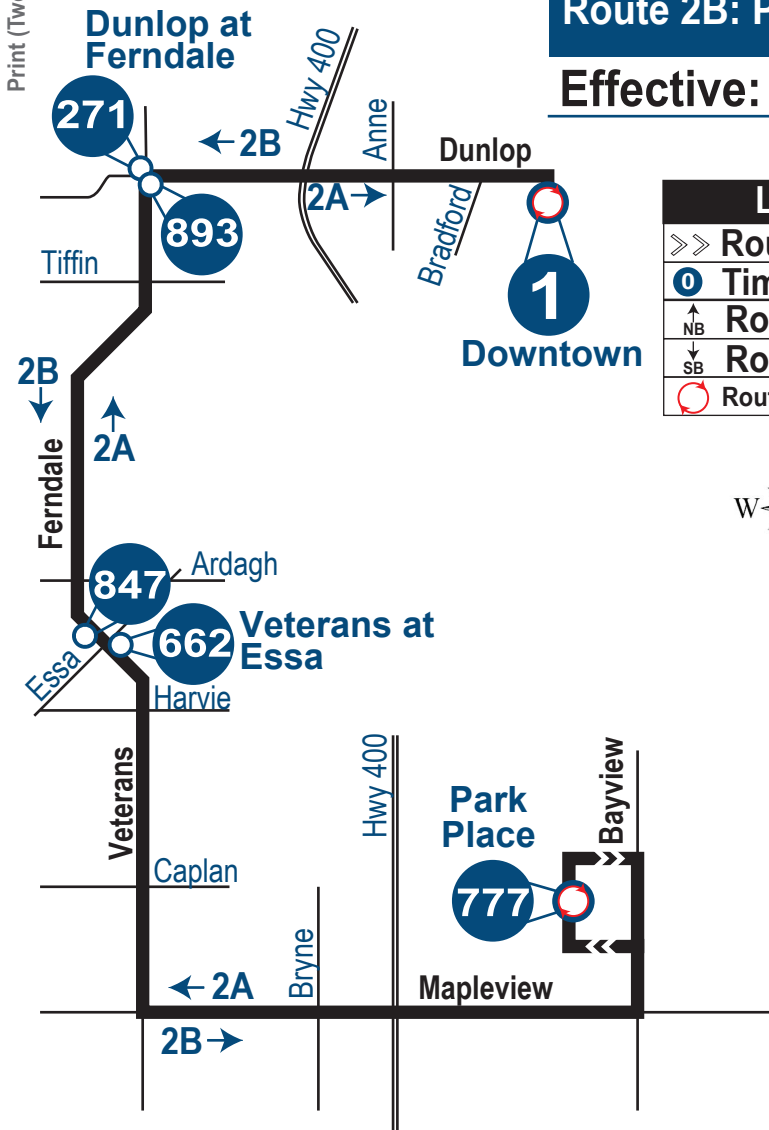
Frequently visit Barrie.ca/transit "Schedules & Maps"
for changes in the schedule

Times are approximate. Riders should arrive at the
bus stop at least 5 minutes before the scheduled time

Route 2

Route 2A: Dunlop
Route 2B: Park Place

Effective: July 8, 2018

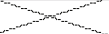


Legend	
>>	Route Direction
0	Time Point
NB	Route 2A
SB	Route 2B
↻	Route Letter Change

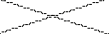


Weekday Schedule

Route 2A Dunlop

Park Place (Depart)	Veterans at Essa	Dunlop at Ferdale	Downtown (Arrive)
777	662	271	1
			
6:00 AM	6:10 AM	6:19 AM	6:27 AM
6:30 AM	6:40 AM	6:49 AM	6:57 AM
7:00 AM	7:10 AM	7:19 AM	7:27 AM
7:30 AM	7:40 AM	7:49 AM	7:57 AM
8:00 AM	8:10 AM	8:19 AM	8:27 AM
8:30 AM	8:40 AM	8:49 AM	8:57 AM
9:00 AM	9:10 AM	9:19 AM	9:27 AM
9:30 AM	9:40 AM	9:49 AM	9:57 AM
10:00 AM	10:10 AM	10:19 AM	10:27 AM
10:30 AM	10:40 AM	10:49 AM	10:57 AM
11:00 AM	11:10 AM	11:19 AM	11:27 AM
11:30 AM	11:40 AM	11:49 AM	11:57 AM
12:00 PM	12:10 PM	12:19 PM	12:27 PM
12:30 PM	12:40 PM	12:49 PM	12:57 PM
1:00 PM	1:10 PM	1:19 PM	1:27 PM
1:30 PM	1:40 PM	1:49 PM	1:57 PM
2:00 PM	2:10 PM	2:19 PM	2:27 PM
2:30 PM	2:40 PM	2:49 PM	2:57 PM
3:00 PM	3:10 PM	3:19 PM	3:27 PM
3:30 PM	3:40 PM	3:49 PM	3:57 PM
4:00 PM	4:10 PM	4:19 PM	4:27 PM
4:30 PM	4:40 PM	4:49 PM	4:57 PM
5:00 PM	5:10 PM	5:19 PM	5:27 PM
5:30 PM	5:40 PM	5:49 PM	5:57 PM
6:00 PM	6:10 PM	6:19 PM	6:27 PM
6:30 PM	6:40 PM	6:49 PM	6:57 PM
7:30 PM	7:40 PM	7:49 PM	7:57 PM
8:30 PM	8:40 PM	8:49 PM	8:57 PM
9:30 PM	9:40 PM	9:49 PM	9:57 PM
10:30 PM	10:40 PM	10:49 PM	10:57 PM

Route 2B Park Place

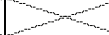
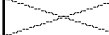
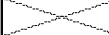
Downtown (Depart)	Dunlop at Ferdale	Veterans at Essa	Park Place (Arrive)
1	893	847	777
6:00 AM	6:08 AM	6:17 AM	6:27 AM
6:30 AM	6:38 AM	6:47 AM	6:57 AM
7:00 AM	7:08 AM	7:17 AM	7:27 AM
7:30 AM	7:38 AM	7:47 AM	7:57 AM
8:00 AM	8:08 AM	8:17 AM	8:27 AM
8:30 AM	8:38 AM	8:47 AM	8:57 AM
9:00 AM	9:08 AM	9:17 AM	9:27 AM
9:30 AM	9:38 AM	9:47 AM	9:57 AM
10:00 AM	10:08 AM	10:17 AM	10:27 AM
10:30 AM	10:38 AM	10:47 AM	10:57 AM
11:00 AM	11:08 AM	11:17 AM	11:27 AM
11:30 AM	11:38 AM	11:47 AM	11:57 AM
12:00 PM	12:08 PM	12:17 PM	12:27 PM
12:30 PM	12:38 PM	12:47 PM	12:57 PM
1:00 PM	1:08 PM	1:17 PM	1:27 PM
1:30 PM	1:38 PM	1:47 PM	1:57 PM
2:00 PM	2:08 PM	2:17 PM	2:27 PM
2:30 PM	2:38 PM	2:47 PM	2:57 PM
3:00 PM	3:08 PM	3:17 PM	3:27 PM
3:30 PM	3:38 PM	3:47 PM	3:57 PM
4:00 PM	4:08 PM	4:17 PM	4:27 PM
4:30 PM	4:38 PM	4:47 PM	4:57 PM
5:00 PM	5:08 PM	5:17 PM	5:27 PM
5:30 PM	5:38 PM	5:47 PM	5:57 PM
6:00 PM	6:08 PM	6:17 PM	6:27 PM
6:30 PM	6:38 PM	6:47 PM	6:57 PM
7:00 PM	7:08 PM	7:17 PM	7:27 PM
8:00 PM	8:08 PM	8:17 PM	8:27 PM
9:00 PM	9:08 PM	9:17 PM	9:27 PM
10:00 PM	10:08 PM	10:17 PM	10:27 PM
			

Saturday Schedule

Route 2A Dunlop

Park Place (Depart)	Veterans at Essa	Dunlop at Ferdale	Downtown (Arrive)
777	662	271	1
			
7:00 AM	7:10 AM	7:19 AM	7:27 AM
7:30 AM	7:40 AM	7:49 AM	7:57 AM
8:00 AM	8:10 AM	8:19 AM	8:27 AM
8:30 AM	8:40 AM	8:49 AM	8:57 AM
9:00 AM	9:10 AM	9:19 AM	9:27 AM
9:30 AM	9:40 AM	9:49 AM	9:57 AM
10:00 AM	10:10 AM	10:19 AM	10:27 AM
10:30 AM	10:40 AM	10:49 AM	10:57 AM
11:00 AM	11:10 AM	11:19 AM	11:27 AM
11:30 AM	11:40 AM	11:49 AM	11:57 AM
12:00 PM	12:10 PM	12:19 PM	12:27 PM
12:30 PM	12:40 PM	12:49 PM	12:57 PM
1:00 PM	1:10 PM	1:19 PM	1:27 PM
1:30 PM	1:40 PM	1:49 PM	1:57 PM
2:00 PM	2:10 PM	2:19 PM	2:27 PM
2:30 PM	2:40 PM	2:49 PM	2:57 PM
3:00 PM	3:10 PM	3:19 PM	3:27 PM
3:30 PM	3:40 PM	3:49 PM	3:57 PM
4:00 PM	4:10 PM	4:19 PM	4:27 PM
4:30 PM	4:40 PM	4:49 PM	4:57 PM
5:00 PM	5:10 PM	5:19 PM	5:27 PM
5:30 PM	5:40 PM	5:49 PM	5:57 PM
6:00 PM	6:10 PM	6:19 PM	6:27 PM
6:30 PM	6:40 PM	6:49 PM	6:57 PM
7:30 PM	7:40 PM	7:49 PM	7:57 PM
8:30 PM	8:40 PM	8:49 PM	8:57 PM
9:30 PM	9:40 PM	9:49 PM	9:57 PM
10:30 PM	10:40 PM	10:49 PM	10:57 PM

Route 2B Park Place

Downtown (Depart)	Dunlop at Ferdale	Veterans at Essa	Park Place (Arrive)
1	893	847	777
7:00 AM	7:08 AM	7:17 AM	7:27 AM
7:30 AM	7:38 AM	7:47 AM	7:57 AM
8:00 AM	8:08 AM	8:17 AM	8:27 AM
8:30 AM	8:38 AM	8:47 AM	8:57 AM
9:00 AM	9:08 AM	9:17 AM	9:27 AM
9:30 AM	9:38 AM	9:47 AM	9:57 AM
10:00 AM	10:08 AM	10:17 AM	10:27 AM
10:30 AM	10:38 AM	10:47 AM	10:57 AM
11:00 AM	11:08 AM	11:17 AM	11:27 AM
11:30 AM	11:38 AM	11:47 AM	11:57 AM
12:00 PM	12:08 PM	12:17 PM	12:27 PM
12:30 PM	12:38 PM	12:47 PM	12:57 PM
1:00 PM	1:08 PM	1:17 PM	1:27 PM
1:30 PM	1:38 PM	1:47 PM	1:57 PM
2:00 PM	2:08 PM	2:17 PM	2:27 PM
2:30 PM	2:38 PM	2:47 PM	2:57 PM
3:00 PM	3:08 PM	3:17 PM	3:27 PM
3:30 PM	3:38 PM	3:47 PM	3:57 PM
4:00 PM	4:08 PM	4:17 PM	4:27 PM
4:30 PM	4:38 PM	4:47 PM	4:57 PM
5:00 PM	5:08 PM	5:17 PM	5:27 PM
5:30 PM	5:38 PM	5:47 PM	5:57 PM
6:00 PM	6:08 PM	6:17 PM	6:27 PM
6:30 PM	6:38 PM	6:47 PM	6:57 PM
7:00 PM	7:08 PM	7:17 PM	7:27 PM
8:00 PM	8:08 PM	8:17 PM	8:27 PM
9:00 PM	9:08 PM	9:17 PM	9:27 PM
10:00 PM	10:08 PM	10:17 PM	10:27 PM
			

Sunday Schedule

Route 3A Georgian

Barrie South GO (Depart)	Park Place	Allandale Rec. Centre	Downtown (Depart)	Grove	RVH (Arrive)
725	777	2	1	939	612
8:45 AM	9:00 AM	9:06 AM	9:20 AM	9:33 AM	9:43 AM
9:45 AM	10:00 AM	10:06 AM	10:20 AM	10:33 AM	10:43 AM
10:45 AM	11:00 AM	11:06 AM	11:20 AM	11:33 AM	11:43 AM
11:45 AM	12:00 PM	12:06 PM	12:20 PM	12:33 PM	12:43 PM
12:45 PM	1:00 PM	1:06 PM	1:20 PM	1:33 PM	1:43 PM
1:45 PM	2:00 PM	2:06 PM	2:20 PM	2:33 PM	2:43 PM
2:45 PM	3:00 PM	3:06 PM	3:20 PM	3:33 PM	3:43 PM
3:45 PM	4:00 PM	4:06 PM	4:20 PM	4:33 PM	4:43 PM
4:45 PM	5:00 PM	5:06 PM	5:20 PM	5:33 PM	5:43 PM
5:45 PM	6:00 PM	6:06 PM	6:20 PM	6:33 PM	6:43 PM
6:45 PM	7:00 PM	7:06 PM	7:20 PM	7:33 PM	7:43 PM
7:45 PM	8:00 PM	8:06 PM	8:20 PM	8:33 PM	8:43 PM
8:45 PM	9:00 PM	9:06 PM	9:20 PM	9:33 PM	9:43 PM

Route 3B Painswick

RVH (Depart)	Grove	Downtown (Depart)	Allandale Rec. Centre	Park Place	Barrie South GO (Arrive)
612	938	1	2	777	725
8:45 AM	8:55 AM	9:10 AM	9:21 AM	9:27 AM	9:41 AM
9:45 AM	9:55 AM	10:10 AM	10:21 AM	10:27 AM	10:41 AM
10:45 AM	10:55 AM	11:10 AM	11:21 AM	11:27 AM	11:41 AM
11:45 AM	11:55 AM	12:10 PM	12:21 PM	12:27 PM	12:41 PM
12:45 PM	12:55 PM	1:10 PM	1:21 PM	1:27 PM	1:41 PM
1:45 PM	1:55 PM	2:10 PM	2:21 PM	2:27 PM	2:41 PM
2:45 PM	2:55 PM	3:10 PM	3:21 PM	3:27 PM	3:41 PM
3:45 PM	3:55 PM	4:10 PM	4:21 PM	4:27 PM	4:41 PM
4:45 PM	4:55 PM	5:10 PM	5:21 PM	5:27 PM	5:41 PM
5:45 PM	5:55 PM	6:10 PM	6:21 PM	6:27 PM	6:41 PM
6:45 PM	6:55 PM	7:10 PM	7:21 PM	7:27 PM	7:41 PM
7:45 PM	7:55 PM	8:10 PM	8:21 PM	8:27 PM	8:41 PM
8:45 PM	8:55 PM	9:10 PM	9:21 PM	9:27 PM	9:41 PM

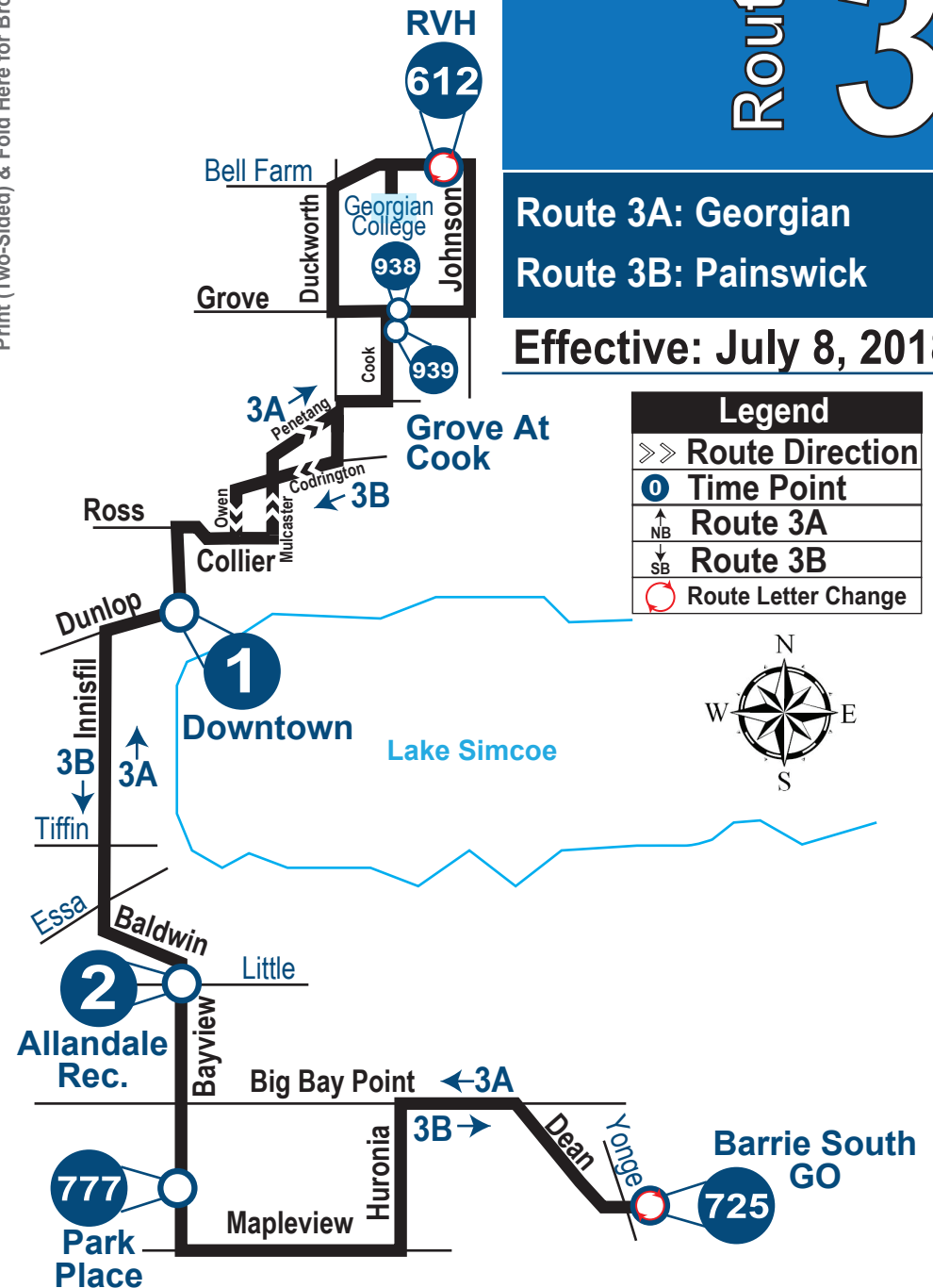
Frequently visit Barrie.ca/transit "Schedules & Maps" for changes in the schedule

Times are approximate. Riders should arrive at the bus stop at least 5 minutes before the scheduled time

Route 3

Route 3A: Georgian
Route 3B: Painswick

Effective: July 8, 2018



Weekday Schedule

Route 3A Georgian

Barrie South GO (Depart)	Park Place	Allandale Rec. Centre	Downtown (Depart)	Grove	RVH (Arrive)
725	777	2	1	939	612
6:15 AM	6:30 AM	6:36 AM	6:50 AM	7:03 AM	7:13 AM
6:45 AM	7:00 AM	7:06 AM	7:20 AM	7:33 AM	7:43 AM
7:15 AM	7:30 AM	7:36 AM	7:50 AM	8:03 AM	8:13 AM
7:45 AM	8:00 AM	8:06 AM	8:20 AM	8:33 AM	8:43 AM
8:15 AM	8:30 AM	8:36 AM	8:50 AM	9:03 AM	9:13 AM
8:45 AM	9:00 AM	9:06 AM	9:20 AM	9:33 AM	9:43 AM
9:15 AM	9:30 AM	9:36 AM	9:50 AM	10:03 AM	10:13 AM
9:45 AM	10:00 AM	10:06 AM	10:20 AM	10:33 AM	10:43 AM
10:15 AM	10:30 AM	10:36 AM	10:50 AM	11:03 AM	11:13 AM
10:45 AM	11:00 AM	11:06 AM	11:20 AM	11:33 AM	11:43 AM
11:15 AM	11:30 AM	11:36 AM	11:50 AM	12:03 PM	12:13 PM
11:45 AM	12:00 PM	12:06 PM	12:20 PM	12:33 PM	12:43 PM
12:15 PM	12:30 PM	12:36 PM	12:50 PM	1:03 PM	1:13 PM
12:45 PM	1:00 PM	1:06 PM	1:20 PM	1:33 PM	1:43 PM
1:15 PM	1:30 PM	1:36 PM	1:50 PM	2:03 PM	2:13 PM
1:45 PM	2:00 PM	2:06 PM	2:20 PM	2:33 PM	2:43 PM
2:15 PM	2:30 PM	2:36 PM	2:50 PM	3:03 PM	3:13 PM
2:45 PM	3:00 PM	3:06 PM	3:20 PM	3:33 PM	3:43 PM
3:15 PM	3:30 PM	3:36 PM	3:50 PM	4:03 PM	4:13 PM
3:45 PM	4:00 PM	4:06 PM	4:20 PM	4:33 PM	4:43 PM
4:15 PM	4:30 PM	4:36 PM	4:50 PM	5:03 PM	5:13 PM
4:45 PM	5:00 PM	5:06 PM	5:20 PM	5:33 PM	5:43 PM
5:15 PM	5:30 PM	5:36 PM	5:50 PM	6:03 PM	6:13 PM
5:45 PM	6:00 PM	6:06 PM	6:20 PM	6:33 PM	6:43 PM
6:15 PM	6:30 PM	6:36 PM	6:50 PM	7:03 PM	7:13 PM
6:45 PM	7:00 PM	7:06 PM	7:20 PM	7:33 PM	7:43 PM
7:45 PM	8:00 PM	8:06 PM	8:20 PM	8:33 PM	8:43 PM
8:45 PM	9:00 PM	9:06 PM	9:20 PM	9:33 PM	9:43 PM
9:45 PM	10:00 PM	10:06 PM	10:20 PM	10:33 PM	10:43 PM
10:45 PM	11:00 PM	11:06 PM	11:20 PM	11:33 PM	11:43 PM

Route 3B Painswick

RVH (Depart)	Grove	Downtown (Depart)	Allandale Rec. Centre	Park Place	Barrie South GO (Arrive)
612	938	1	2	777	725
6:15 AM	6:25 AM	6:40 AM	6:51 AM	6:57 AM	7:11 AM
6:45 AM	6:55 AM	7:10 AM	7:21 AM	7:27 AM	7:41 AM
7:15 AM	7:25 AM	7:40 AM	7:51 AM	7:57 AM	8:11 AM
7:45 AM	7:55 AM	8:10 AM	8:21 AM	8:27 AM	8:41 AM
8:15 AM	8:25 AM	8:40 AM	8:51 AM	8:57 AM	9:11 AM
8:45 AM	8:55 AM	9:10 AM	9:21 AM	9:27 AM	9:41 AM
9:15 AM	9:25 AM	9:40 AM	9:51 AM	9:57 AM	10:11 AM
9:45 AM	9:55 AM	10:10 AM	10:21 AM	10:27 AM	10:41 AM
10:15 AM	10:25 AM	10:40 AM	10:51 AM	10:57 AM	11:11 AM
10:45 AM	10:55 AM	11:10 AM	11:21 AM	11:27 AM	11:41 AM
11:15 AM	11:25 AM	11:40 AM	11:51 AM	11:57 AM	12:11 PM
11:45 AM	11:55 AM	12:10 PM	12:21 PM	12:27 PM	12:41 PM
12:15 PM	12:25 PM	12:40 PM	12:51 PM	12:57 PM	1:11 PM
12:45 PM	12:55 PM	1:10 PM	1:21 PM	1:27 PM	1:41 PM
1:15 PM	1:25 PM	1:40 PM	1:51 PM	1:57 PM	2:11 PM
1:45 PM	1:55 PM	2:10 PM	2:21 PM	2:27 PM	2:41 PM
2:15 PM	2:25 PM	2:40 PM	2:51 PM	2:57 PM	3:11 PM
2:45 PM	2:55 PM	3:10 PM	3:21 PM	3:27 PM	3:41 PM
3:15 PM	3:25 PM	3:40 PM	3:51 PM	3:57 PM	4:11 PM
3:45 PM	3:55 PM	4:10 PM	4:21 PM	4:27 PM	4:41 PM
4:15 PM	4:25 PM	4:40 PM	4:51 PM	4:57 PM	5:11 PM
4:45 PM	4:55 PM	5:10 PM	5:21 PM	5:27 PM	5:41 PM
5:15 PM	5:25 PM	5:40 PM	5:51 PM	5:57 PM	6:11 PM
5:45 PM	5:55 PM	6:10 PM	6:21 PM	6:27 PM	6:41 PM
6:15 PM	6:25 PM	6:40 PM	6:51 PM	6:57 PM	7:11 PM
6:45 PM	6:55 PM	7:10 PM	7:21 PM	7:27 PM	7:41 PM
7:45 PM	7:55 PM	8:10 PM	8:21 PM	8:27 PM	8:41 PM
8:45 PM	8:55 PM	9:10 PM	9:21 PM	9:27 PM	9:41 PM
9:45 PM	9:55 PM	10:10 PM	10:21 PM	10:27 PM	10:41 PM
10:45 PM	10:55 PM	11:10 PM	11:21 PM	11:27 PM	11:41 PM

Saturday Schedule

Route 3A Georgian

Barrie South GO (Depart)	Park Place	Allandale Rec. Centre	Downtown (Depart)	Grove	RVH (Arrive)
725	777	2	1	939	612
6:45 AM	7:00 AM	7:06 AM	7:20 AM	7:33 AM	7:43 AM
7:15 AM	7:30 AM	7:36 AM	7:50 AM	8:03 AM	8:13 AM
7:45 AM	8:00 AM	8:06 AM	8:20 AM	8:33 AM	8:43 AM
8:15 AM	8:30 AM	8:36 AM	8:50 AM	9:03 AM	9:13 AM
8:45 AM	9:00 AM	9:06 AM	9:20 AM	9:33 AM	9:43 AM
9:15 AM	9:30 AM	9:36 AM	9:50 AM	10:03 AM	10:13 AM
9:45 AM	10:00 AM	10:06 AM	10:20 AM	10:33 AM	10:43 AM
10:15 AM	10:30 AM	10:36 AM	10:50 AM	11:03 AM	11:13 AM
10:45 AM	11:00 AM	11:06 AM	11:20 AM	11:33 AM	11:43 AM
11:15 AM	11:30 AM	11:36 AM	11:50 AM	12:03 PM	12:13 PM
11:45 AM	12:00 PM	12:06 PM	12:20 PM	12:33 PM	12:43 PM
12:15 PM	12:30 PM	12:36 PM	12:50 PM	1:03 PM	1:13 PM
12:45 PM	1:00 PM	1:06 PM	1:20 PM	1:33 PM	1:43 PM
1:15 PM	1:30 PM	1:36 PM	1:50 PM	2:03 PM	2:13 PM
1:45 PM	2:00 PM	2:06 PM	2:20 PM	2:33 PM	2:43 PM
2:15 PM	2:30 PM	2:36 PM	2:50 PM	3:03 PM	3:13 PM
2:45 PM	3:00 PM	3:06 PM	3:20 PM	3:33 PM	3:43 PM
3:15 PM	3:30 PM	3:36 PM	3:50 PM	4:03 PM	4:13 PM
3:45 PM	4:00 PM	4:06 PM	4:20 PM	4:33 PM	4:43 PM
4:15 PM	4:30 PM	4:36 PM	4:50 PM	5:03 PM	5:13 PM
4:45 PM	5:00 PM	5:06 PM	5:20 PM	5:33 PM	5:43 PM
5:15 PM	5:30 PM	5:36 PM	5:50 PM	6:03 PM	6:13 PM
5:45 PM	6:00 PM	6:06 PM	6:20 PM	6:33 PM	6:43 PM
6:15 PM	6:30 PM	6:36 PM	6:50 PM	7:03 PM	7:13 PM
6:45 PM	7:00 PM	7:06 PM	7:20 PM	7:33 PM	7:43 PM
7:45 PM	8:00 PM	8:06 PM	8:20 PM	8:33 PM	8:43 PM
8:45 PM	9:00 PM	9:06 PM	9:20 PM	9:33 PM	9:43 PM
9:45 PM	10:00 PM	10:06 PM	10:20 PM	10:33 PM	10:43 PM
10:45 PM	11:00 PM	11:06 PM	11:20 PM	11:33 PM	11:43 PM

Route 3B Painswick

RVH (Depart)	Grove	Downtown (Depart)	Allandale Rec. Centre	Park Place	Barrie South GO (Arrive)
612	938	1	2	777	725
6:45 AM	6:55 AM	7:10 AM	7:21 AM	7:27 AM	7:41 AM
7:15 AM	7:25 AM	7:40 AM	7:51 AM	7:57 AM	8:11 AM
7:45 AM	7:55 AM	8:10 AM	8:21 AM	8:27 AM	8:41 AM
8:15 AM	8:25 AM	8:40 AM	8:51 AM	8:57 AM	9:11 AM
8:45 AM	8:55 AM	9:10 AM	9:21 AM	9:27 AM	9:41 AM
9:15 AM	9:25 AM	9:40 AM	9:51 AM	9:57 AM	10:11 AM
9:45 AM	9:55 AM	10:10 AM	10:21 AM	10:27 AM	10:41 AM
10:15 AM	10:25 AM	10:40 AM	10:51 AM	10:57 AM	11:11 AM
10:45 AM	10:55 AM	11:10 AM	11:21 AM	11:27 AM	11:41 AM
11:15 AM	11:25 AM	11:40 AM	11:51 AM	11:57 AM	12:11 PM
11:45 AM	11:55 AM	12:10 PM	12:21 PM	12:27 PM	12:41 PM
12:15 PM	12:25 PM	12:40 PM	12:51 PM	12:57 PM	1:11 PM
12:45 PM	12:55 PM	1:10 PM	1:21 PM	1:27 PM	1:41 PM
1:15 PM	1:25 PM	1:40 PM	1:51 PM	1:57 PM	2:11 PM
1:45 PM	1:55 PM	2:10 PM	2:21 PM	2:27 PM	2:41 PM
2:15 PM	2:25 PM	2:40 PM	2:51 PM	2:57 PM	3:11 PM
2:45 PM	2:55 PM	3:10 PM	3:21 PM	3:27 PM	3:41 PM
3:15 PM	3:25 PM	3:40 PM	3:51 PM	3:57 PM	4:11 PM
3:45 PM	3:55 PM	4:10 PM	4:21 PM	4:27 PM	4:41 PM
4:15 PM	4:25 PM	4:40 PM	4:51 PM	4:57 PM	5:11 PM
4:45 PM	4:55 PM	5:10 PM	5:21 PM	5:27 PM	5:41 PM
5:15 PM	5:25 PM	5:40 PM	5:51 PM	5:57 PM	6:11 PM
5:45 PM	5:55 PM	6:10 PM	6:21 PM	6:27 PM	6:41 PM
6:15 PM	6:25 PM	6:40 PM	6:51 PM	6:57 PM	7:11 PM
6:45 PM	6:55 PM	7:10 PM	7:21 PM	7:27 PM	7:41 PM
7:45 PM	7:55 PM	8:10 PM	8:21 PM	8:27 PM	8:41 PM
8:45 PM	8:55 PM	9:10 PM	9:21 PM	9:27 PM	9:41 PM
9:45 PM	9:55 PM	10:10 PM	10:21 PM	10:27 PM	10:41 PM
10:45 PM	10:55 PM	11:10 PM	11:21 PM	11:27 PM	11:41 PM

Sunday Schedule

Route 4A East Bayfield

Barrie South GO (Depart)	Painswick Library	Cox Mill & Hurst	Allandale GO Station	Downtown Terminal	Georgian Mall (Arrive)
725	764	370	732	1	77
9:15 AM	9:30 AM	9:39 AM	9:51 AM	9:58 AM	10:18 AM
10:20 AM	10:35 AM	10:44 AM	10:56 AM	11:03 AM	11:23 AM
11:25 AM	11:40 AM	11:49 AM	12:01 PM	12:08 PM	12:28 PM
12:30 PM	12:45 PM	12:54 PM	1:06 PM	1:13 PM	1:33 PM
1:35 PM	1:50 PM	1:59 PM	2:11 PM	2:18 PM	2:38 PM
2:40 PM	2:55 PM	3:04 PM	3:16 PM	3:23 PM	3:43 PM
3:45 PM	4:00 PM	4:09 PM	4:21 PM	4:28 PM	4:48 PM
4:50 PM	5:05 PM	5:14 PM	5:26 PM	5:33 PM	5:53 PM
5:55 PM	6:10 PM	6:19 PM	6:31 PM	6:38 PM	6:58 PM
7:00 PM	7:15 PM	7:24 PM	7:36 PM	7:43 PM	8:03 PM
8:05 PM	8:20 PM	8:29 PM	8:41 PM	8:48 PM	9:08 PM
9:10 PM	9:25 PM	9:34 PM	9:46 PM	9:53 PM	10:13 PM

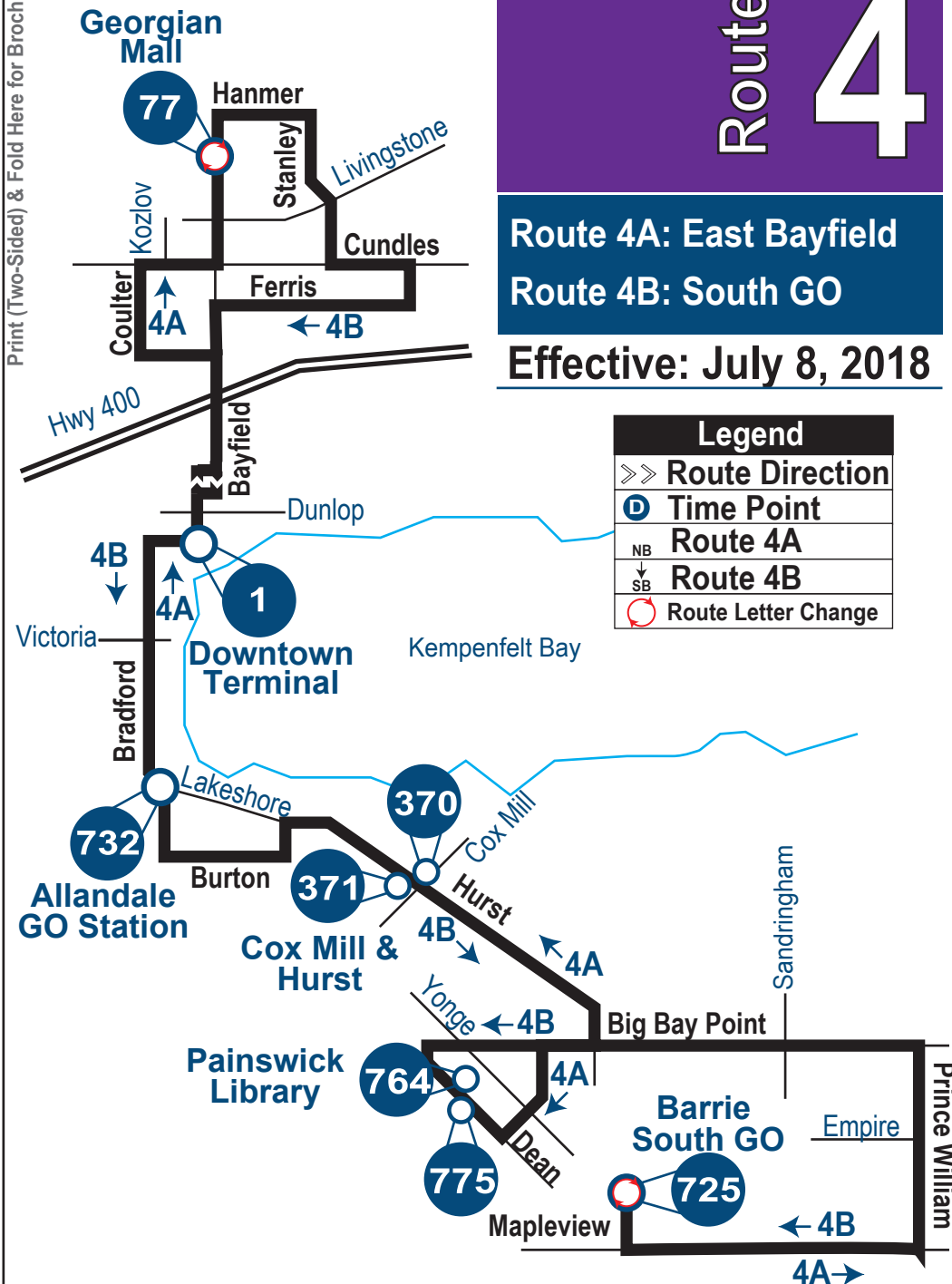
Route 4B South GO

Georgian Mall (Depart)	Downtown Terminal	Allandale GO Station	Cox Mill & Hurst	Painswick Library	Barrie South GO (Arrive)
77	1	732	371	775	725
9:17 AM	9:38 AM	9:45 AM	9:56 AM	10:05 AM	10:20 AM
10:22 AM	10:43 AM	10:50 AM	11:01 AM	11:10 AM	11:25 AM
11:27 AM	11:48 AM	11:55 AM	12:06 PM	12:15 PM	12:30 PM
12:32 PM	12:53 PM	1:00 PM	1:11 PM	1:20 PM	1:35 PM
1:37 PM	1:58 PM	2:05 PM	2:16 PM	2:25 PM	2:40 PM
2:42 PM	3:03 PM	3:10 PM	3:21 PM	3:30 PM	3:45 PM
3:47 PM	4:08 PM	4:15 PM	4:26 PM	4:35 PM	4:50 PM
4:52 PM	5:13 PM	5:20 PM	5:31 PM	5:40 PM	5:55 PM
5:57 PM	6:18 PM	6:25 PM	6:36 PM	6:45 PM	7:00 PM
7:02 PM	7:23 PM	7:30 PM	7:41 PM	7:50 PM	8:05 PM
8:07 PM	8:28 PM	8:35 PM	8:46 PM	8:55 PM	9:10 PM
9:12 PM	9:33 PM	9:40 PM	9:51 PM	10:00 PM	10:15 PM
10:17 PM	10:36 PM				

Frequently visit Barrie.ca/transit "Schedules & Maps" for changes in the schedule

Times are approximate. Riders should arrive at the bus stop at least 5 minutes before the scheduled time

Print (Two-Sided) & Fold Here for Brochure



Weekday Schedule

Route 4A East Bayfield

Barrie South GO (Depart)	Painwick Library	Cox Mill & Hurst	Allandale GO Station	Downtown Terminal	Georgian Mall (Arrive)
725	764	370	732	1	77
5:45 AM		5:58 AM	6:12 AM	6:20 AM	6:40 AM
6:15 AM		6:28 AM	6:42 AM	6:50 AM	7:10 AM
6:45 AM		6:58 AM	7:12 AM	7:20 AM	7:40 AM
7:20 AM	7:35 AM	7:44 AM	7:56 AM	8:03 AM	8:23 AM
7:55 AM	8:10 AM	8:19 AM	8:31 AM	8:38 AM	8:58 AM
8:30 AM	8:45 AM	8:54 AM	9:06 AM	9:13 AM	9:33 AM
9:05 AM	9:20 AM	9:29 AM	9:41 AM	9:48 AM	10:08 AM
9:40 AM	9:55 AM	10:04 AM	10:16 AM	10:23 AM	10:43 AM
10:15 AM	10:30 AM	10:39 AM	10:51 AM	10:58 AM	11:18 AM
10:50 AM	11:05 AM	11:14 AM	11:26 AM	11:33 AM	11:53 AM
11:25 AM	11:40 AM	11:49 AM	12:01 PM	12:08 PM	12:28 PM
12:00 PM	12:15 PM	12:24 PM	12:36 PM	12:43 PM	1:03 PM
12:35 PM	12:50 PM	12:59 PM	1:11 PM	1:18 PM	1:38 PM
1:10 PM	1:25 PM	1:34 PM	1:46 PM	1:53 PM	2:13 PM
1:45 PM	2:00 PM	2:09 PM	2:21 PM	2:28 PM	2:48 PM
2:20 PM	2:35 PM	2:44 PM	2:56 PM	3:03 PM	3:23 PM
2:55 PM	3:10 PM	3:19 PM	3:31 PM	3:38 PM	3:58 PM
3:30 PM	3:45 PM	3:54 PM	4:06 PM	4:13 PM	4:33 PM
4:05 PM	4:20 PM	4:29 PM	4:41 PM	4:48 PM	5:08 PM
4:40 PM	4:55 PM	5:04 PM	5:16 PM	5:23 PM	5:43 PM
5:15 PM	5:30 PM	5:39 PM	5:51 PM	5:58 PM	6:18 PM
5:50 PM	6:05 PM	6:14 PM	6:26 PM	6:33 PM	6:53 PM
6:25 PM	6:40 PM	6:49 PM	7:01 PM	7:08 PM	7:28 PM
7:00 PM	7:15 PM	7:24 PM	7:36 PM	7:43 PM	8:03 PM
8:05 PM	8:20 PM	8:29 PM	8:41 PM	8:48 PM	9:08 PM
9:10 PM	9:25 PM	9:34 PM	9:46 PM	9:53 PM	10:13 PM
10:15 PM	10:30 PM	10:39 PM	10:51 PM	10:58 PM	11:18 PM

Route 4B South GO

Georgian Mall (Depart)	Downtown Terminal	Allandale GO Station	Cox Mill & Hurst	Painwick Library	Barrie South GO (Arrive)
612	1	732	371	775	725
		5:15 AM	5:26 AM		5:40 AM
		5:45 AM	5:56 AM		6:10 AM
5:45 AM	6:05 AM	6:15 AM	6:26 AM		6:40 AM
6:15 AM	6:35 AM	6:45 AM	6:56 AM		7:10 AM
6:45 AM	7:05 AM	7:15 AM	7:26 AM		7:40 AM
7:22 AM	7:43 AM	7:50 AM	8:01 AM	8:10 AM	8:25 AM
7:57 AM	8:18 AM	8:25 AM	8:36 AM	8:45 AM	9:00 AM
8:32 AM	8:53 AM	9:00 AM	9:11 AM	9:20 AM	9:35 AM
9:07 AM	9:28 AM	9:35 AM	9:46 AM	9:55 AM	10:10 AM
9:42 AM	10:03 AM	10:10 AM	10:21 AM	10:30 AM	10:45 AM
10:17 AM	10:38 AM	10:45 AM	10:56 AM	11:05 AM	11:20 AM
10:52 AM	11:13 AM	11:20 AM	11:31 AM	11:40 AM	11:55 AM
11:27 AM	11:48 AM	11:55 AM	12:06 PM	12:15 PM	12:30 PM
12:02 PM	12:23 PM	12:30 PM	12:41 PM	12:50 PM	1:05 PM
12:37 PM	12:58 PM	1:05 PM	1:16 PM	1:25 PM	1:40 PM
1:12 PM	1:33 PM	1:40 PM	1:51 PM	2:00 PM	2:15 PM
1:47 PM	2:08 PM	2:15 PM	2:26 PM	2:35 PM	2:50 PM
2:22 PM	2:43 PM	2:50 PM	3:01 PM	3:10 PM	3:25 PM
2:57 PM	3:18 PM	3:25 PM	3:36 PM	3:45 PM	4:00 PM
3:32 PM	3:53 PM	4:00 PM	4:11 PM	4:20 PM	4:35 PM
4:07 PM	4:28 PM	4:35 PM	4:46 PM	4:55 PM	5:10 PM
4:42 PM	5:03 PM	5:10 PM	5:21 PM	5:30 PM	5:45 PM
5:17 PM	5:38 PM	5:45 PM	5:56 PM	6:05 PM	6:20 PM
5:52 PM	6:13 PM	6:20 PM	6:31 PM	6:40 PM	6:55 PM
6:27 PM	6:48 PM	6:55 PM	7:06 PM	7:15 PM	7:30 PM
7:02 PM	7:23 PM	7:30 PM	7:41 PM	7:50 PM	8:05 PM
7:32 PM	7:51 PM				
8:07 PM	8:28 PM	8:35 PM	8:46 PM	8:55 PM	9:10 PM
9:12 PM	9:33 PM	9:40 PM	9:51 PM	10:00 PM	10:15 PM
10:17 PM	10:38 PM	10:45 PM	10:56 PM	11:05 PM	11:20 PM
11:22 PM	11:41 PM				

Saturday Schedule

Route 4A East Bayfield

Barrie South GO (Depart)	Painwick Library	Cox Mill & Hurst	Allandale GO Station	Downtown Terminal	Georgian Mall (Arrive)
725	764	370	732	1	77
7:20 AM	7:35 AM	7:44 AM	7:56 AM	8:03 AM	8:23 AM
7:55 AM	8:10 AM	8:19 AM	8:31 AM	8:38 AM	8:58 AM
8:30 AM	8:45 AM	8:54 AM	9:06 AM	9:13 AM	9:33 AM
9:05 AM	9:20 AM	9:29 AM	9:41 AM	9:48 AM	10:08 AM
9:40 AM	9:55 AM	10:04 AM	10:16 AM	10:23 AM	10:43 AM
10:15 AM	10:30 AM	10:39 AM	10:51 AM	10:58 AM	11:18 AM
10:50 AM	11:05 AM	11:14 AM	11:26 AM	11:33 AM	11:53 AM
11:25 AM	11:40 AM	11:49 AM	12:01 PM	12:08 PM	12:28 PM
12:00 PM	12:15 PM	12:24 PM	12:36 PM	12:43 PM	1:03 PM
12:35 PM	12:50 PM	12:59 PM	1:11 PM	1:18 PM	1:38 PM
1:10 PM	1:25 PM	1:34 PM	1:46 PM	1:53 PM	2:13 PM
1:45 PM	2:00 PM	2:09 PM	2:21 PM	2:28 PM	2:48 PM
2:20 PM	2:35 PM	2:44 PM	2:56 PM	3:03 PM	3:23 PM
2:55 PM	3:10 PM	3:19 PM	3:31 PM	3:38 PM	3:58 PM
3:30 PM	3:45 PM	3:54 PM	4:06 PM	4:13 PM	4:33 PM
4:05 PM	4:20 PM	4:29 PM	4:41 PM	4:48 PM	5:08 PM
4:40 PM	4:55 PM	5:04 PM	5:16 PM	5:23 PM	5:43 PM
5:15 PM	5:30 PM	5:39 PM	5:51 PM	5:58 PM	6:18 PM
5:50 PM	6:05 PM	6:14 PM	6:26 PM	6:33 PM	6:53 PM
6:25 PM	6:40 PM	6:49 PM	7:01 PM	7:08 PM	7:28 PM
7:00 PM	7:15 PM	7:24 PM	7:36 PM	7:43 PM	8:03 PM
8:05 PM	8:20 PM	8:29 PM	8:41 PM	8:48 PM	9:08 PM
9:10 PM	9:25 PM	9:34 PM	9:46 PM	9:53 PM	10:13 PM
10:15 PM	10:30 PM	10:39 PM	10:51 PM	10:58 PM	11:18 PM

Route 4B South GO

Georgian Mall (Depart)	Downtown Terminal	Allandale GO Station	Cox Mill & Hurst	Painwick Library	Barrie South GO (Arrive)
612	1	732	371	775	725
7:22 AM	7:43 AM	7:50 AM	8:01 AM	8:10 AM	8:25 AM
7:57 AM	8:18 AM	8:25 AM	8:36 AM	8:45 AM	9:00 AM
8:32 AM	8:53 AM	9:00 AM	9:11 AM	9:20 AM	9:35 AM
9:07 AM	9:28 AM	9:35 AM	9:46 AM	9:55 AM	10:10 AM
9:42 AM	10:03 AM	10:10 AM	10:21 AM	10:30 AM	10:45 AM
10:17 AM	10:38 AM	10:45 AM	10:56 AM	11:05 AM	11:20 AM
10:52 AM	11:13 AM	11:20 AM	11:31 AM	11:40 AM	11:55 AM
11:27 AM	11:48 AM	11:55 AM	12:06 PM	12:15 PM	12:30 PM
12:02 PM	12:23 PM	12:30 PM	12:41 PM	12:50 PM	1:05 PM
12:37 PM	12:58 PM	1:05 PM	1:16 PM	1:25 PM	1:40 PM
1:12 PM	1:33 PM	1:40 PM	1:51 PM	2:00 PM	2:15 PM
1:47 PM	2:08 PM	2:15 PM	2:26 PM	2:35 PM	2:50 PM
2:22 PM	2:43 PM	2:50 PM	3:01 PM	3:10 PM	3:25 PM
2:57 PM	3:18 PM	3:25 PM	3:36 PM	3:45 PM	4:00 PM
3:32 PM	3:53 PM	4:00 PM	4:11 PM	4:20 PM	4:35 PM
4:07 PM	4:28 PM	4:35 PM	4:46 PM	4:55 PM	5:10 PM
4:42 PM	5:03 PM	5:10 PM	5:21 PM	5:30 PM	5:45 PM
5:17 PM	5:38 PM	5:45 PM	5:56 PM	6:05 PM	6:20 PM
5:52 PM	6:13 PM	6:20 PM	6:31 PM	6:40 PM	6:55 PM
6:27 PM	6:48 PM	6:55 PM	7:06 PM	7:15 PM	7:30 PM
7:02 PM	7:23 PM	7:30 PM	7:41 PM	7:50 PM	8:05 PM
7:32 PM	7:51 PM				
8:07 PM	8:28 PM	8:35 PM	8:46 PM	8:55 PM	9:10 PM
9:12 PM	9:33 PM	9:40 PM	9:51 PM	10:00 PM	10:15 PM
10:17 PM	10:38 PM	10:45 PM	10:56 PM	11:05 PM	11:20 PM
11:22 PM	11:41 PM				

Sunday Schedule

Route 6A Letitia

Downtown Terminal (Depart)	Cedar Pointe & Edgehill	Livingstone & Anne	Georgian College	Downtown Terminal (Arrive)
1	181	451	330	1
9:15 AM	9:25 AM	9:40 AM	9:59 AM	10:12 AM
10:15 AM	10:25 AM	10:40 AM	10:59 AM	11:12 AM
11:15 AM	11:25 AM	11:40 AM	11:59 AM	12:12 PM
12:15 PM	12:25 PM	12:40 PM	12:59 PM	1:12 PM
1:15 PM	1:25 PM	1:40 PM	1:59 PM	2:12 PM
2:15 PM	2:25 PM	2:40 PM	2:59 PM	3:12 PM
3:15 PM	3:25 PM	3:40 PM	3:59 PM	4:12 PM
4:15 PM	4:25 PM	4:40 PM	4:59 PM	5:12 PM
5:15 PM	5:25 PM	5:40 PM	5:59 PM	6:12 PM
6:15 PM	6:25 PM	6:40 PM	6:59 PM	7:12 PM
7:15 PM	7:25 PM	7:40 PM	7:59 PM	8:12 PM
8:15 PM	8:25 PM	8:40 PM	8:59 PM	9:12 PM
9:15 PM	9:25 PM	9:40 PM	9:59 PM	10:12 PM

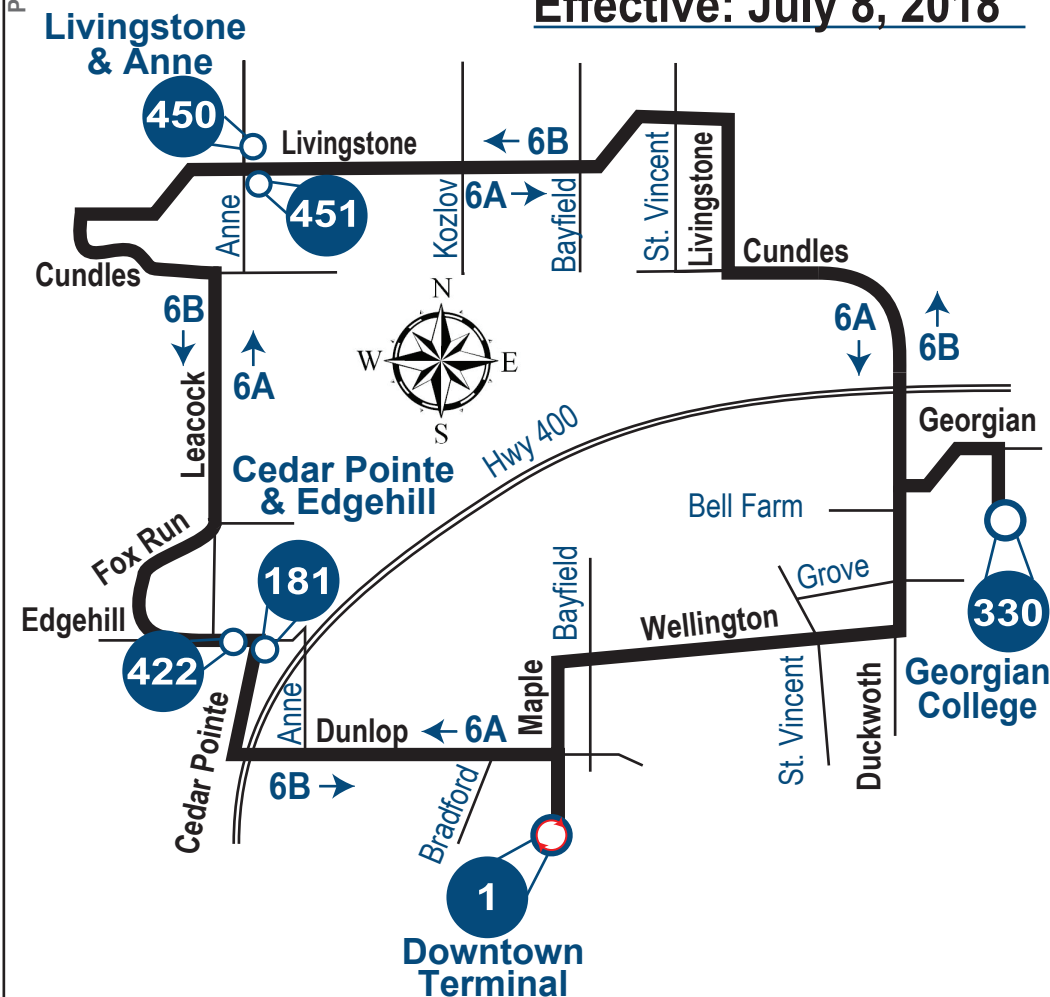
Route 6B College

Downtown Terminal (Depart)	Georgian College	Livingstone & Anne	Cedar Pointe & Edgehill	Downtown Terminal (Arrive)
1	330	450	422	1
9:00 AM	9:16 AM	9:34 AM	9:48 AM	9:57 AM
10:00 AM	10:16 AM	10:34 AM	10:48 AM	10:57 AM
11:00 AM	11:16 AM	11:34 AM	11:48 AM	11:57 AM
12:00 PM	12:16 PM	12:34 PM	12:48 PM	12:57 PM
1:00 PM	1:16 PM	1:34 PM	1:48 PM	1:57 PM
2:00 PM	2:16 PM	2:34 PM	2:48 PM	2:57 PM
3:00 PM	3:16 PM	3:34 PM	3:48 PM	3:57 PM
4:00 PM	4:16 PM	4:34 PM	4:48 PM	4:57 PM
5:00 PM	5:16 PM	5:34 PM	5:48 PM	5:57 PM
6:00 PM	6:16 PM	6:34 PM	6:48 PM	6:57 PM
7:00 PM	7:16 PM	7:34 PM	7:48 PM	7:57 PM
8:00 PM	8:16 PM	8:34 PM	8:48 PM	8:57 PM
9:00 PM	9:16 PM	9:34 PM	9:48 PM	9:57 PM

Frequently visit Barrie.ca/transit "Schedules & Maps" for changes in the schedule

Times are approximate. Riders should arrive at the bus stop at least 5 minutes before the scheduled time

Legend
>> Route Direction
D Time Point
NB Route 6A
SB Route 6B
Route Letter Change



Route 6

Route 6A: Letitia
Route 6B: College

Effective: July 8, 2018

Weekday Schedule

Route 6A Letitia

Downtown Terminal (Depart)	Cedar Pointe & Edgell	Livingstone & Anne	Georgian College	Downtown Terminal (Arrive)
1	181	451	330	1
5:45 AM	5:55 AM	6:10 AM	6:26 AM	6:42 AM
6:15 AM	6:25 AM	6:40 AM	6:56 AM	7:12 AM
6:45 AM	6:55 AM	7:10 AM	7:26 AM	7:42 AM
7:15 AM	7:25 AM	7:40 AM	7:56 AM	8:12 AM
7:45 AM	7:55 AM	8:10 AM	8:26 AM	8:42 AM
8:15 AM	8:25 AM	8:40 AM	8:56 AM	9:12 AM
8:45 AM	8:55 AM	9:10 AM	9:26 AM	9:42 AM
9:15 AM	9:25 AM	9:40 AM	9:56 AM	10:12 AM
9:45 AM	9:55 AM	10:10 AM	10:26 AM	10:42 AM
10:15 AM	10:25 AM	10:40 AM	10:56 AM	11:12 AM
10:45 AM	10:55 AM	11:10 AM	11:26 AM	11:42 AM
11:15 AM	11:25 AM	11:40 AM	11:56 AM	12:12 PM
11:45 AM	11:55 AM	12:10 PM	12:26 PM	12:42 PM
12:15 PM	12:25 PM	12:40 PM	12:56 PM	1:12 PM
12:45 PM	12:55 PM	1:10 PM	1:26 PM	1:42 PM
1:15 PM	1:25 PM	1:40 PM	1:56 PM	2:12 PM
1:45 PM	1:55 PM	2:10 PM	2:26 PM	2:42 PM
2:15 PM	2:25 PM	2:40 PM	2:56 PM	3:12 PM
2:45 PM	2:55 PM	3:10 PM	3:26 PM	3:42 PM
3:15 PM	3:25 PM	3:40 PM	3:56 PM	4:12 PM
3:45 PM	3:55 PM	4:10 PM	4:26 PM	4:42 PM
4:15 PM	4:25 PM	4:40 PM	4:56 PM	5:12 PM
4:45 PM	4:55 PM	5:10 PM	5:26 PM	5:42 PM
5:15 PM	5:25 PM	5:40 PM	5:56 PM	6:12 PM
5:45 PM	5:55 PM	6:10 PM	6:26 PM	6:42 PM
6:15 PM	6:25 PM	6:40 PM	6:56 PM	7:12 PM
7:15 PM	7:25 PM	7:40 PM	7:56 PM	8:12 PM
8:15 PM	8:25 PM	8:40 PM	8:56 PM	9:12 PM
9:15 PM	9:25 PM	9:40 PM	9:56 PM	10:12 PM
10:15 PM	10:25 PM	10:40 PM	10:56 PM	11:12 PM
11:15 PM	11:25 PM	11:40 PM	11:56 PM	12:12 AM

Route 6B College

Downtown Terminal (Depart)	Georgian College	Livingstone & Anne	Cedar Pointe & Edgell	Downtown Terminal (Arrive)
1	330	450	422	1
6:00 AM	6:16 AM	6:34 AM	6:48 AM	6:57 AM
6:30 AM	6:46 AM	7:04 AM	7:18 AM	7:27 AM
7:00 AM	7:16 AM	7:34 AM	7:48 AM	7:57 AM
7:30 AM	7:46 AM	8:04 AM	8:18 AM	8:27 AM
8:00 AM	8:16 AM	8:34 AM	8:48 AM	8:57 AM
8:30 AM	8:46 AM	9:04 AM	9:18 AM	9:27 AM
9:00 AM	9:16 AM	9:34 AM	9:48 AM	9:57 AM
9:30 AM	9:46 AM	10:04 AM	10:18 AM	10:27 AM
10:00 AM	10:16 AM	10:34 AM	10:48 AM	10:57 AM
10:30 AM	10:46 AM	11:04 AM	11:18 AM	11:27 AM
11:00 AM	11:16 AM	11:34 AM	11:48 AM	11:57 AM
11:30 AM	11:46 AM	12:04 PM	12:18 PM	12:27 PM
12:00 PM	12:16 PM	12:34 PM	12:48 PM	12:57 PM
12:30 PM	12:46 PM	1:04 PM	1:18 PM	1:27 PM
1:00 PM	1:16 PM	1:34 PM	1:48 PM	1:57 PM
1:30 PM	1:46 PM	2:04 PM	2:18 PM	2:27 PM
2:00 PM	2:16 PM	2:34 PM	2:48 PM	2:57 PM
2:30 PM	2:46 PM	3:04 PM	3:18 PM	3:27 PM
3:00 PM	3:16 PM	3:34 PM	3:48 PM	3:57 PM
3:30 PM	3:46 PM	4:04 PM	4:18 PM	4:27 PM
4:00 PM	4:16 PM	4:34 PM	4:48 PM	4:57 PM
4:30 PM	4:46 PM	5:04 PM	5:18 PM	5:27 PM
5:00 PM	5:16 PM	5:34 PM	5:48 PM	5:57 PM
5:30 PM	5:46 PM	6:04 PM	6:18 PM	6:27 PM
6:00 PM	6:16 PM	6:34 PM	6:48 PM	6:57 PM
6:30 PM	6:46 PM	7:04 PM	7:18 PM	7:27 PM
7:00 PM	7:16 PM	7:34 PM	7:48 PM	7:57 PM
8:00 PM	8:16 PM	8:34 PM	8:48 PM	8:57 PM
9:00 PM	9:16 PM	9:34 PM	9:48 PM	9:57 PM
10:00 PM	10:16 PM	10:34 PM	10:48 PM	10:57 PM
11:00 PM	11:16 PM	11:34 PM	11:48 PM	11:57 PM

Saturday Schedule

Route 6A Letitia

Downtown Terminal (Depart)	Cedar Pointe & Edgell	Livingstone & Anne	Georgian College	Downtown Terminal (Arrive)
1	181	451	330	1
7:15 AM	7:25 AM	7:40 AM	7:56 AM	8:12 AM
7:45 AM	7:55 AM	8:10 AM	8:26 AM	8:42 AM
8:15 AM	8:25 AM	8:40 AM	8:56 AM	9:12 AM
8:45 AM	8:55 AM	9:10 AM	9:26 AM	9:42 AM
9:15 AM	9:25 AM	9:40 AM	9:56 AM	10:12 AM
9:45 AM	9:55 AM	10:10 AM	10:26 AM	10:42 AM
10:15 AM	10:25 AM	10:40 AM	10:56 AM	11:12 AM
10:45 AM	10:55 AM	11:10 AM	11:26 AM	11:42 AM
11:15 AM	11:25 AM	11:40 AM	11:56 AM	12:12 PM
11:45 AM	11:55 AM	12:10 PM	12:26 PM	12:42 PM
12:15 PM	12:25 PM	12:40 PM	12:56 PM	1:12 PM
12:45 PM	12:55 PM	1:10 PM	1:26 PM	1:42 PM
1:15 PM	1:25 PM	1:40 PM	1:56 PM	2:12 PM
1:45 PM	1:55 PM	2:10 PM	2:26 PM	2:42 PM
2:15 PM	2:25 PM	2:40 PM	2:56 PM	3:12 PM
2:45 PM	2:55 PM	3:10 PM	3:26 PM	3:42 PM
3:15 PM	3:25 PM	3:40 PM	3:56 PM	4:12 PM
3:45 PM	3:55 PM	4:10 PM	4:26 PM	4:42 PM
4:15 PM	4:25 PM	4:40 PM	4:56 PM	5:12 PM
4:45 PM	4:55 PM	5:10 PM	5:26 PM	5:42 PM
5:15 PM	5:25 PM	5:40 PM	5:56 PM	6:12 PM
5:45 PM	5:55 PM	6:10 PM	6:26 PM	6:42 PM
6:15 PM	6:25 PM	6:40 PM	6:56 PM	7:12 PM
7:15 PM	7:25 PM	7:40 PM	7:56 PM	8:12 PM
8:15 PM	8:25 PM	8:40 PM	8:56 PM	9:12 PM
9:15 PM	9:25 PM	9:40 PM	9:56 PM	10:12 PM
10:15 PM	10:25 PM	10:40 PM	10:56 PM	11:12 PM
11:15 PM	11:25 PM	11:40 PM	11:56 PM	12:12 AM

Route 6B College

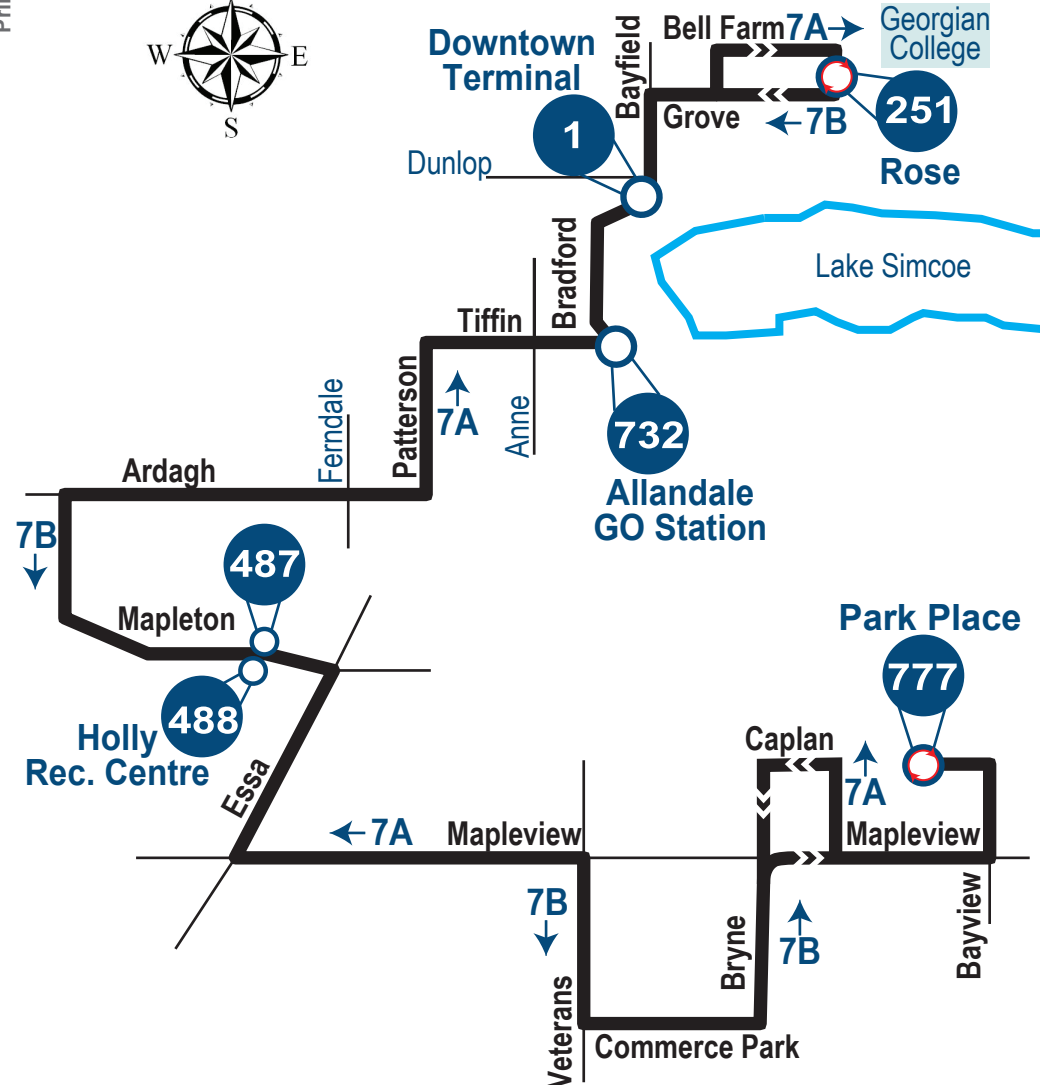
Downtown Terminal (Depart)	Georgian College	Livingstone & Anne	Cedar Pointe & Edgell	Downtown Terminal (Arrive)
1	330	450	422	1
7:30 AM	7:46 AM	8:04 AM	8:18 AM	8:27 AM
8:00 AM	8:16 AM	8:34 AM	8:48 AM	8:57 AM
8:30 AM	8:46 AM	9:04 AM	9:18 AM	9:27 AM
9:00 AM	9:16 AM	9:34 AM	9:48 AM	9:57 AM
9:30 AM	9:46 AM	10:04 AM	10:18 AM	10:27 AM
10:00 AM	10:16 AM	10:34 AM	10:48 AM	10:57 AM
10:30 AM	10:46 AM	11:04 AM	11:18 AM	11:27 AM
11:00 AM	11:16 AM	11:34 AM	11:48 AM	11:57 AM
11:30 AM	11:46 AM	12:04 PM	12:18 PM	12:27 PM
12:00 PM	12:16 PM	12:34 PM	12:48 PM	12:57 PM
12:30 PM	12:46 PM	1:04 PM	1:18 PM	1:27 PM
1:00 PM	1:16 PM	1:34 PM	1:48 PM	1:57 PM
1:30 PM	1:46 PM	2:04 PM	2:18 PM	2:27 PM
2:00 PM	2:16 PM	2:34 PM	2:48 PM	2:57 PM
2:30 PM	2:46 PM	3:04 PM	3:18 PM	3:27 PM
3:00 PM	3:16 PM	3:34 PM	3:48 PM	3:57 PM
3:30 PM	3:46 PM	4:04 PM	4:18 PM	4:27 PM
4:00 PM	4:16 PM	4:34 PM	4:48 PM	4:57 PM
4:30 PM	4:46 PM	5:04 PM	5:18 PM	5:27 PM
5:00 PM	5:16 PM	5:34 PM	5:48 PM	5:57 PM
5:30 PM	5:46 PM	6:04 PM	6:18 PM	6:27 PM
6:00 PM	6:16 PM	6:34 PM	6:48 PM	6:57 PM
6:30 PM	6:46 PM	7:04 PM	7:18 PM	7:27 PM
7:00 PM	7:16 PM	7:34 PM	7:48 PM	7:57 PM
8:00 PM	8:16 PM	8:34 PM	8:48 PM	8:57 PM
9:00 PM	9:16 PM	9:34 PM	9:48 PM	9:57 PM
10:00 PM	10:16 PM	10:34 PM	10:48 PM	10:57 PM
11:00 PM	11:16 PM	11:34 PM	11:48 PM	11:57 PM

Sunday Schedule									
Route 7A Bell Farm					Route 7B Bear Creek				
Park Place (Depart)	Holly Rec. Centre	Allandale GO Station	Downtown Terminal	Rose (Arrive)	Rose (Depart)	Downtown Terminal	Allandale GO Station	Holly Rec. Centre	Park Plac (Arrive)
777	487	732	1	251	251	1	732	488	777
X	X	X	X	X	9:30 AM	9:45 AM	9:52 AM	10:08 AM	10:23 AM
9:25 AM	9:50 AM	10:07 AM	10:15 AM	10:28 AM	10:30 AM	10:45 AM	10:52 AM	11:08 AM	11:23 AM
10:25 AM	10:50 AM	11:07 AM	11:15 AM	11:28 AM	11:30 AM	11:45 AM	11:52 AM	12:08 PM	12:23 PM
11:25 AM	11:50 AM	12:07 PM	12:15 PM	12:28 PM	12:30 PM	12:45 PM	12:52 PM	1:08 PM	1:23 PM
12:25 PM	12:50 PM	1:07 PM	1:15 PM	1:28 PM	1:30 PM	1:45 PM	1:52 PM	2:08 PM	2:23 PM
1:25 PM	1:50 PM	2:07 PM	2:15 PM	2:28 PM	2:30 PM	2:45 PM	2:52 PM	3:08 PM	3:23 PM
2:25 PM	2:50 PM	3:07 PM	3:15 PM	3:28 PM	3:30 PM	3:45 PM	3:52 PM	4:08 PM	4:23 PM
3:25 PM	3:50 PM	4:07 PM	4:15 PM	4:28 PM	4:30 PM	4:45 PM	4:52 PM	5:08 PM	5:23 PM
4:25 PM	4:50 PM	5:07 PM	5:15 PM	5:28 PM	5:30 PM	5:45 PM	5:52 PM	6:08 PM	6:23 PM
5:25 PM	5:50 PM	6:07 PM	6:15 PM	6:28 PM	6:30 PM	6:45 PM	6:52 PM	7:08 PM	7:23 PM
6:25 PM	6:50 PM	7:07 PM	7:15 PM	7:28 PM	7:30 PM	7:45 PM	7:52 PM	8:08 PM	8:23 PM
7:25 PM	7:50 PM	8:07 PM	8:15 PM	8:28 PM	8:30 PM	8:45 PM	8:52 PM	9:08 PM	9:23 PM
8:25 PM	8:50 PM	9:07 PM	9:15 PM	9:28 PM	9:30 PM	9:43 PM	X	X	X
9:25 PM	9:50 PM	10:07 PM	10:12 PM	X	X	X	X	X	X

Frequently visit Barrie.ca/transit “Schedules & Maps” for changes in the schedule

Times are approximate. Riders should arrive at the bus stop at least 5 minutes before the scheduled time

Legend	
>>	Route Direction
D	Time Point
↑ NB	Route 7A
↓ SB	Route 7B
↻	Route Letter Change



Weekday Schedule

Route 7A Bell Farm

Park Place (Depart)	Holly Rec. Centre	Allandale GO Station	Downtown Terminal	Rose (Arrive)
777	487	732	1	251
5:25 AM	5:50 AM	6:07 AM	6:15 AM	6:28 AM
5:55 AM	6:20 AM	6:37 AM	6:45 AM	6:58 AM
6:25 AM	6:50 AM	7:07 AM	7:15 AM	7:28 AM
6:55 AM	7:20 AM	7:37 AM	7:45 AM	7:58 AM
7:25 AM	7:50 AM	8:07 AM	8:15 AM	8:28 AM
7:55 AM	8:20 AM	8:37 AM	8:45 AM	8:58 AM
8:25 AM	8:50 AM	9:07 AM	9:15 AM	9:28 AM
8:55 AM	9:20 AM	9:37 AM	9:45 AM	9:58 AM
9:25 AM	9:50 AM	10:07 AM	10:15 AM	10:28 AM
9:55 AM	10:20 AM	10:37 AM	10:45 AM	10:58 AM
10:25 AM	10:50 AM	11:07 AM	11:15 AM	11:28 AM
10:55 AM	11:20 AM	11:37 AM	11:45 AM	11:58 AM
11:25 AM	11:50 AM	12:07 PM	12:15 PM	12:28 PM
11:55 AM	12:20 PM	12:37 PM	12:45 PM	12:58 PM
12:25 PM	12:50 PM	1:07 PM	1:15 PM	1:28 PM
12:55 PM	1:20 PM	1:37 PM	1:45 PM	1:58 PM
1:25 PM	1:50 PM	2:07 PM	2:15 PM	2:28 PM
1:55 PM	2:20 PM	2:37 PM	2:45 PM	2:58 PM
2:25 PM	2:50 PM	3:07 PM	3:15 PM	3:28 PM
2:55 PM	3:20 PM	3:37 PM	3:45 PM	3:58 PM
3:25 PM	3:50 PM	4:07 PM	4:15 PM	4:28 PM
3:55 PM	4:20 PM	4:37 PM	4:45 PM	4:58 PM
4:25 PM	4:50 PM	5:07 PM	5:15 PM	5:28 PM
4:55 PM	5:20 PM	5:37 PM	5:45 PM	5:58 PM
5:25 PM	5:50 PM	6:07 PM	6:15 PM	6:28 PM
5:55 PM	6:20 PM	6:37 PM	6:45 PM	6:58 PM
6:25 PM	6:50 PM	7:07 PM	7:15 PM	7:28 PM
7:25 PM	7:50 PM	8:07 PM	8:15 PM	8:28 PM
8:25 PM	8:50 PM	9:07 PM	9:15 PM	9:28 PM
9:25 PM	9:50 PM	10:07 PM	10:15 PM	10:28 PM
10:25 PM	10:50 PM	11:07 PM	11:15 PM	11:28 PM
11:25 PM	11:50 PM	12:07 AM	12:12 AM	

Route 7B Bear Creek

Rose (Depart)	Downtown Terminal	Allandale GO Station	Holly Rec. Centre	Park Plac (Arrive)
251	1	732	488	777
6:00 AM	6:15 AM	6:22 AM	6:38 AM	6:53 AM
6:30 AM	6:45 AM	6:52 AM	7:08 AM	7:23 AM
7:00 AM	7:15 AM	7:22 AM	7:38 AM	7:53 AM
7:30 AM	7:45 AM	7:52 AM	8:08 AM	8:23 AM
8:00 AM	8:15 AM	8:22 AM	8:38 AM	8:53 AM
8:30 AM	8:45 AM	8:52 AM	9:08 AM	9:23 AM
9:00 AM	9:15 AM	9:22 AM	9:38 AM	9:53 AM
9:30 AM	9:45 AM	9:52 AM	10:08 AM	10:23 AM
10:00 AM	10:15 AM	10:22 AM	10:38 AM	10:53 AM
10:30 AM	10:45 AM	10:52 AM	11:08 AM	11:23 AM
11:00 AM	11:15 AM	11:22 AM	11:38 AM	11:53 AM
11:30 AM	11:45 AM	11:52 AM	12:08 PM	12:23 PM
12:00 PM	12:15 PM	12:22 PM	12:38 PM	12:53 PM
12:30 PM	12:45 PM	12:52 PM	1:08 PM	1:23 PM
1:00 PM	1:15 PM	1:22 PM	1:38 PM	1:53 PM
1:30 PM	1:45 PM	1:52 PM	2:08 PM	2:23 PM
2:00 PM	2:15 PM	2:22 PM	2:38 PM	2:53 PM
2:30 PM	2:45 PM	2:52 PM	3:08 PM	3:23 PM
3:00 PM	3:15 PM	3:22 PM	3:38 PM	3:53 PM
3:30 PM	3:45 PM	3:52 PM	4:08 PM	4:23 PM
4:00 PM	4:15 PM	4:22 PM	4:38 PM	4:53 PM
4:30 PM	4:45 PM	4:52 PM	5:08 PM	5:23 PM
5:00 PM	5:15 PM	5:22 PM	5:38 PM	5:53 PM
5:30 PM	5:45 PM	5:52 PM	6:08 PM	6:23 PM
6:00 PM	6:15 PM	6:22 PM	6:38 PM	6:53 PM
6:30 PM	6:45 PM	6:52 PM	7:08 PM	7:23 PM
7:00 PM	7:13 PM			
7:30 PM	7:45 PM	7:52 PM	8:08 PM	8:23 PM
8:30 PM	8:45 PM	8:52 PM	9:08 PM	9:23 PM
9:30 PM	9:45 PM	9:52 PM	10:08 PM	10:23 PM
10:30 PM	10:45 PM	10:52 PM	11:08 PM	11:23 PM
11:30 PM	11:43 PM			

Saturday Schedule

Route 7A Bell Farm

Park Place (Depart)	Holly Rec. Centre	Allandale GO Station	Downtown Terminal	Rose (Arrive)
777	487	732	1	251
6:55 AM	7:20 AM	7:37 AM	7:45 AM	7:58 AM
7:25 AM	7:50 AM	8:07 AM	8:15 AM	8:28 AM
7:55 AM	8:20 AM	8:37 AM	8:45 AM	8:58 AM
8:25 AM	8:50 AM	9:07 AM	9:15 AM	9:28 AM
8:55 AM	9:20 AM	9:37 AM	9:45 AM	9:58 AM
9:25 AM	9:50 AM	10:07 AM	10:15 AM	10:28 AM
9:55 AM	10:20 AM	10:37 AM	10:45 AM	10:58 AM
10:25 AM	10:50 AM	11:07 AM	11:15 AM	11:28 AM
10:55 AM	11:20 AM	11:37 AM	11:45 AM	11:58 AM
11:25 AM	11:50 AM	12:07 PM	12:15 PM	12:28 PM
11:55 AM	12:20 PM	12:37 PM	12:45 PM	12:58 PM
12:25 PM	12:50 PM	1:07 PM	1:15 PM	1:28 PM
12:55 PM	1:20 PM	1:37 PM	1:45 PM	1:58 PM
1:25 PM	1:50 PM	2:07 PM	2:15 PM	2:28 PM
1:55 PM	2:20 PM	2:37 PM	2:45 PM	2:58 PM
2:25 PM	2:50 PM	3:07 PM	3:15 PM	3:28 PM
2:55 PM	3:20 PM	3:37 PM	3:45 PM	3:58 PM
3:25 PM	3:50 PM	4:07 PM	4:15 PM	4:28 PM
3:55 PM	4:20 PM	4:37 PM	4:45 PM	4:58 PM
4:25 PM	4:50 PM	5:07 PM	5:15 PM	5:28 PM
4:55 PM	5:20 PM	5:37 PM	5:45 PM	5:58 PM
5:25 PM	5:50 PM	6:07 PM	6:15 PM	6:28 PM
5:55 PM	6:20 PM	6:37 PM	6:45 PM	6:58 PM
6:25 PM	6:50 PM	7:07 PM	7:15 PM	7:28 PM
7:25 PM	7:50 PM	8:07 PM	8:15 PM	8:28 PM
8:25 PM	8:50 PM	9:07 PM	9:15 PM	9:28 PM
9:25 PM	9:50 PM	10:07 PM	10:15 PM	10:28 PM
10:25 PM	10:50 PM	11:07 PM	11:15 PM	11:28 PM
11:25 PM	11:50 PM	12:07 AM	12:12 AM	

Route 7B Bear Creek

Rose (Depart)	Downtown Terminal	Allandale GO Station	Holly Rec. Centre	Park Plac (Arrive)
251	1	732	488	777
7:00 AM	7:15 AM	7:22 AM	7:38 AM	7:53 AM
7:30 AM	7:45 AM	7:52 AM	8:08 AM	8:23 AM
8:00 AM	8:15 AM	8:22 AM	8:38 AM	8:53 AM
8:30 AM	8:45 AM	8:52 AM	9:08 AM	9:23 AM
9:00 AM	9:15 AM	9:22 AM	9:38 AM	9:53 AM
9:30 AM	9:45 AM	9:52 AM	10:08 AM	10:23 AM
10:00 AM	10:15 AM	10:22 AM	10:38 AM	10:53 AM
10:30 AM	10:45 AM	10:52 AM	11:08 AM	11:23 AM
11:00 AM	11:15 AM	11:22 AM	11:38 AM	11:53 AM
11:30 AM	11:45 AM	11:52 AM	12:08 PM	12:23 PM
12:00 PM	12:15 PM	12:22 PM	12:38 PM	12:53 PM
12:30 PM	12:45 PM	12:52 PM	1:08 PM	1:23 PM
1:00 PM	1:15 PM	1:22 PM	1:38 PM	1:53 PM
1:30 PM	1:45 PM	1:52 PM	2:08 PM	2:23 PM
2:00 PM	2:15 PM	2:22 PM	2:38 PM	2:53 PM
2:30 PM	2:45 PM	2:52 PM	3:08 PM	3:23 PM
3:00 PM	3:15 PM	3:22 PM	3:38 PM	3:53 PM
3:30 PM	3:45 PM	3:52 PM	4:08 PM	4:23 PM
4:00 PM	4:15 PM	4:22 PM	4:38 PM	4:53 PM
4:30 PM	4:45 PM	4:52 PM	5:08 PM	5:23 PM
5:00 PM	5:15 PM	5:22 PM	5:38 PM	5:53 PM
5:30 PM	5:45 PM	5:52 PM	6:08 PM	6:23 PM
6:00 PM	6:15 PM	6:22 PM	6:38 PM	6:53 PM
6:30 PM	6:45 PM	6:52 PM	7:08 PM	7:23 PM
7:00 PM	7:13 PM			
7:30 PM	7:45 PM	7:52 PM	8:08 PM	8:23 PM
8:30 PM	8:45 PM	8:52 PM	9:08 PM	9:23 PM
9:30 PM	9:45 PM	9:52 PM	10:08 PM	10:23 PM
10:30 PM	10:45 PM	10:52 PM	11:08 PM	11:23 PM
11:30 PM	11:43 PM			

Sunday Schedule									
Route 8A-SB Park Place					Route 8A-NB RVH				
Georgian College (Depart)	Livingstone at Bayfield	Downtown Terminal	Barrie South GO Station	Park Plac (Arrive)	Park Place (Depart)	Holly Rec. Centre	Downtown Terminal	Georgian College (Arrive)	
330	442	1	725	777	777	487	1	330	
					8:35 AM	8:55 AM	8:50 AM	9:13 AM	
							9:20 AM		
							9:50 AM	10:13 AM	
					9:35 AM	9:55 AM	10:20 AM		
							10:50 AM	11:13 AM	
9:15 AM	9:31 AM	9:55 AM	10:22 AM	10:33 AM	10:35 AM	10:55 AM	11:20 AM		
							11:50 AM	12:13 PM	
10:15 AM	10:31 AM	10:55 AM	11:22 AM	11:33 AM	11:35 AM	11:55 AM	12:20 PM		
							12:50 PM	1:13 PM	
11:15 AM	11:31 AM	11:55 AM	12:22 PM	12:33 PM	12:35 PM	12:55 PM	1:20 PM		
							1:50 PM	2:13 PM	
12:15 PM	12:31 PM	12:55 PM	1:22 PM	1:33 PM	1:35 PM	1:55 PM	2:20 PM		
							2:50 PM	3:13 PM	
1:15 PM	1:31 PM	1:55 PM	2:22 PM	2:33 PM	2:35 PM	2:55 PM	3:20 PM		
							3:50 PM	4:13 PM	
2:15 PM	2:31 PM	2:55 PM	3:22 PM	3:33 PM	3:35 PM	3:55 PM	4:20 PM		
							4:50 PM	5:13 PM	
3:15 PM	3:31 PM	3:55 PM	4:22 PM	4:33 PM	4:35 PM	4:55 PM	5:20 PM		
							5:50 PM	6:13 PM	
4:15 PM	4:31 PM	4:55 PM	5:22 PM	5:33 PM	5:35 PM	5:55 PM	6:20 PM		
							6:50 PM	7:13 PM	
5:15 PM	5:31 PM	5:55 PM	6:22 PM	6:33 PM	6:35 PM	6:55 PM	7:20 PM		
							7:50 PM	8:13 PM	
6:15 PM	6:31 PM	6:55 PM	7:22 PM	7:33 PM	7:35 PM	7:55 PM	8:20 PM		
							8:50 PM	9:13 PM	
7:15 PM	7:31 PM	7:55 PM	8:22 PM	8:33 PM	8:35 PM	8:55 PM	9:20 PM		
8:15 PM	8:31 PM	8:55 PM	9:22 PM	9:33 PM	9:35 PM	9:55 PM	10:16 PM		
9:15 PM	9:31 PM	9:50 PM							



Route 8A

Route 8A-NB
Route 8A-SB } RVH/YONGE



Weekday Schedule

Route 8A-SB Park Place

Georgian College (Depart)	Livingstone at Bayfield	Downtown Terminal	Barrie South GO Station	Park Plac (Arrive)
330	442	1	725	777
		4:55 AM	5:22 AM	5:33 AM
		5:25 AM	5:52 AM	6:03 AM
		5:55 AM	6:22 AM	6:33 AM
		6:25 AM	6:52 AM	7:03 AM
6:15 AM	6:31 AM	6:55 AM	7:22 AM	7:33 AM
6:45 AM	7:01 AM	7:25 AM	7:52 AM	8:03 AM
7:15 AM	7:31 AM	7:55 AM	8:22 AM	8:33 AM
7:45 AM	8:01 AM	8:25 AM	8:52 AM	9:03 AM
8:15 AM	8:31 AM	8:55 AM	9:22 AM	9:33 AM
Every 30 Minutes				
3:45 PM	4:01 PM	4:25 PM	4:52 PM	5:03 PM
4:15 PM	4:31 PM	4:55 PM	5:22 PM	5:33 PM
4:45 PM	5:01 PM	5:25 PM	5:52 PM	6:03 PM
5:15 PM	5:31 PM	5:55 PM	6:22 PM	6:33 PM
5:45 PM	6:01 PM	6:25 PM	6:52 PM	7:03 PM
6:15 PM	6:31 PM	6:55 PM	7:22 PM	7:33 PM
6:45 PM	7:01 PM	7:20 PM		
7:15 PM	7:31 PM	7:55 PM	8:22 PM	8:33 PM
8:15 PM	8:31 PM	8:55 PM	9:22 PM	9:33 PM
9:15 PM	9:31 PM	9:55 PM	10:22 PM	10:33 PM
10:15 PM	10:31 PM	10:55 PM	11:22 PM	11:33 PM
11:15 PM	11:31 PM	11:50 PM		
12:15 AM	12:31 AM	12:50 AM		
2:15 AM	2:31 AM	2:50 AM		

Route 8A-NB RVH

Park Place (Depart)	Holly Rec. Centre	Downtown Terminal	Georgian College (Arrive)
777	487	1	330
		5:50 AM	6:13 AM
5:35 AM	5:55 AM	6:20 AM	6:43 AM
6:05 AM	6:25 AM	6:50 AM	7:13 AM
6:35 AM	6:55 AM	7:20 AM	7:43 AM
7:05 AM	7:25 AM	7:50 AM	8:13 AM
7:35 AM	7:55 AM	8:20 AM	8:43 AM
8:05 AM	8:25 AM	8:50 AM	9:13 AM
8:35 AM	8:55 AM	9:20 AM	9:43 AM
9:05 AM	9:25 AM	9:50 AM	10:13 AM
9:35 AM	9:55 AM	10:20 AM	10:43 AM
Every 30 Minutes			
5:05 PM	5:25 PM	5:50 PM	6:13 PM
5:35 PM	5:55 PM	6:20 PM	6:43 PM
6:05 PM	6:25 PM	6:50 PM	7:13 PM
6:35 PM	6:55 PM		
7:05 PM	7:25 PM	7:50 PM	8:13 PM
7:35 PM	7:55 PM	8:20 PM	
		8:50 PM	9:13 PM
8:35 PM	8:55 PM	9:16 PM	
		9:50 PM	10:13 PM
9:35 PM	9:55 PM	10:16 PM	
		10:50 PM	11:13 PM
10:35 PM	10:55 PM	11:16 PM	
		11:50 PM	12:13 AM
11:35 PM	11:55 PM	12:16 AM	
		1:50 AM	2:13 AM

Route Change Note:

to 8B-NB:



from 8B-NB:



Saturday Schedule

Route 8A-SB Park Place

Georgian College (Depart)	Livingstone at Bayfield	Downtown Terminal	Barrie South GO Station	Park Plac (Arrive)
330	442	1	725	777
		6:55 AM	7:22 AM	7:33 AM
		7:25 AM	7:52 AM	8:03 AM
7:15 AM	7:31 AM	7:55 AM	8:22 AM	8:33 AM
7:45 AM	8:01 AM	8:25 AM	8:52 AM	9:03 AM
8:15 AM	8:31 AM	8:55 AM	9:22 AM	9:33 AM
Every 30 Minutes				
3:45 PM	4:01 PM	4:25 PM	4:52 PM	5:03 PM
4:15 PM	4:31 PM	4:55 PM	5:22 PM	5:33 PM
4:45 PM	5:01 PM	5:25 PM	5:52 PM	6:03 PM
5:15 PM	5:31 PM	5:55 PM	6:22 PM	6:33 PM
5:45 PM	6:01 PM	6:25 PM	6:52 PM	7:03 PM
6:15 PM	6:31 PM	6:55 PM	7:22 PM	7:33 PM
6:45 PM	7:01 PM	7:20 PM		
7:15 PM	7:31 PM	7:55 PM	8:22 PM	8:33 PM
8:15 PM	8:31 PM	8:55 PM	9:22 PM	9:33 PM
9:15 PM	9:31 PM	9:55 PM	10:22 PM	10:33 PM
10:15 PM	10:31 PM	10:55 PM	11:22 PM	11:33 PM
11:15 PM	11:31 PM	11:50 PM		
12:15 AM	12:31 AM	12:50 AM		
2:15 AM	2:31 AM	2:50 AM		

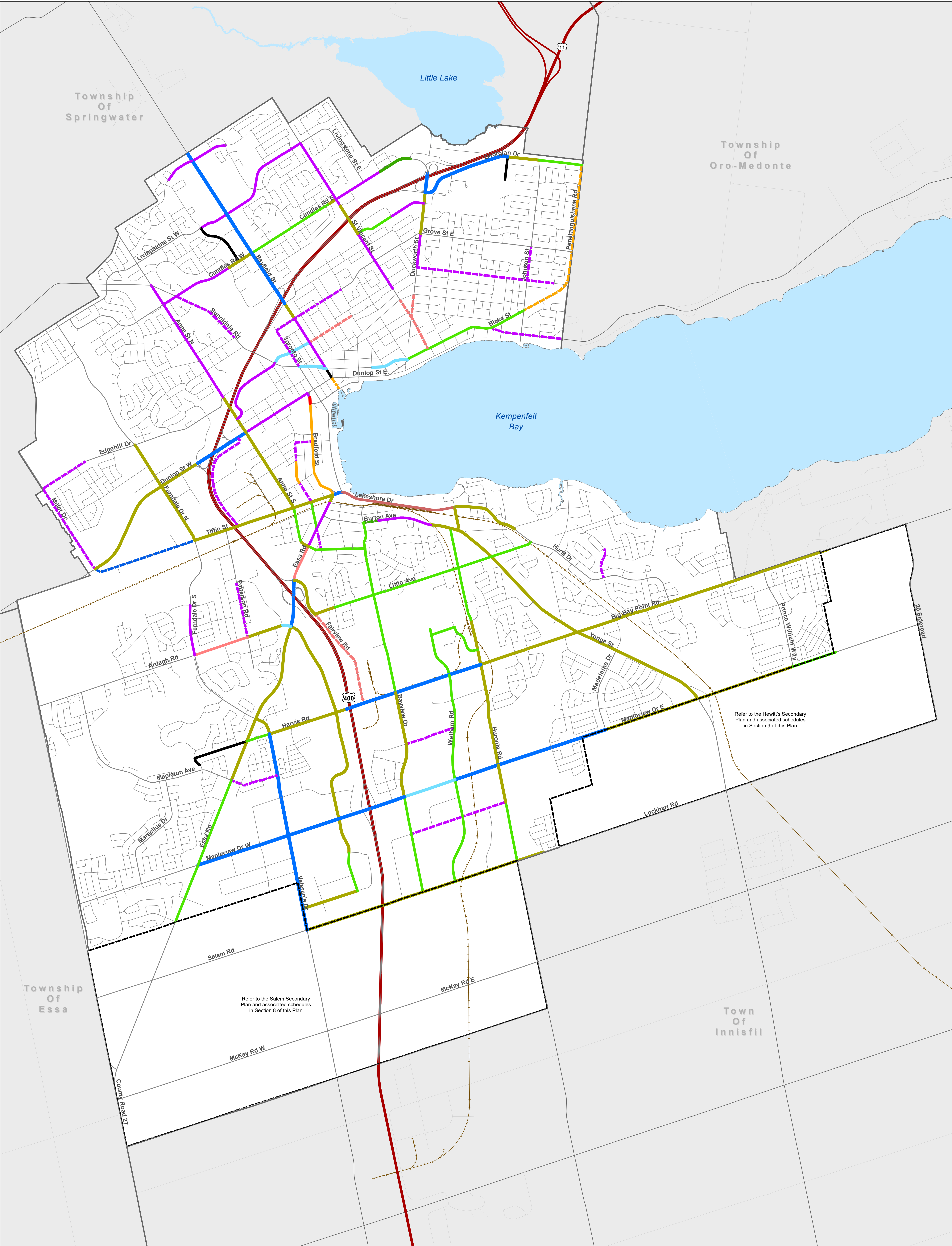
Route 8A-NB RVH

Park Place (Depart)	Holly Rec. Centre	Downtown Terminal	Georgian College (Arrive)
777	487	1	330
7:05 AM	7:25 AM	7:50 AM	8:13 AM
7:35 AM	7:55 AM	8:20 AM	8:43 AM
8:05 AM	8:25 AM	8:50 AM	9:13 AM
8:35 AM	8:55 AM	9:20 AM	9:43 AM
9:05 AM	9:25 AM	9:50 AM	10:13 AM
9:35 AM	9:55 AM	10:20 AM	10:43 AM
Every 30 Minutes			
5:05 PM	5:25 PM	5:50 PM	6:13 PM
5:35 PM	5:55 PM	6:20 PM	6:43 PM
6:05 PM	6:25 PM	6:50 PM	7:13 PM
6:35 PM	6:55 PM		
7:05 PM	7:25 PM	7:50 PM	8:13 PM
7:35 PM	7:55 PM	8:20 PM	
		8:50 PM	9:13 PM
8:35 PM	8:55 PM	9:20 PM	
		9:50 PM	10:13 PM
9:35 PM	9:55 PM	10:20 PM	
		10:50 PM	11:13 PM
10:35 PM	10:55 PM	11:20 PM	
		11:50 PM	12:13 AM
11:35 PM	11:55 PM	12:16 AM	
		1:50 AM	2:13 AM

Late Night Loop:

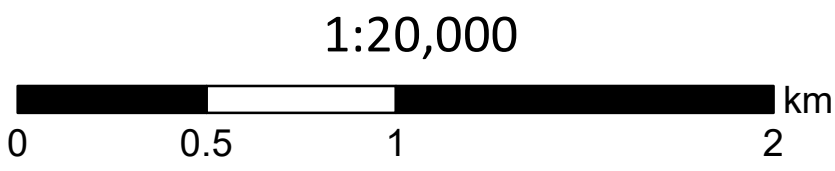
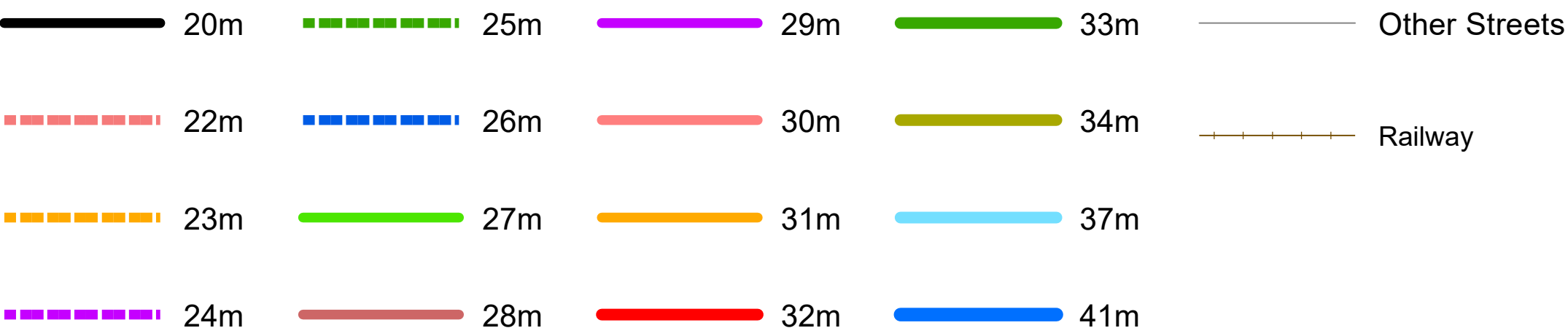


(Friday & Saturday Nights Only)



OFFICIAL PLAN
Schedule E
Road Widening Plan
Office Consolidation
January 2018

Road Right of Way Width



The City of Barrie does not warrant the accuracy, completeness, content, or currency of the information provided.
This is not a legal Plan of Survey
Copyright ©City of Barrie 2017
Produced (in part) under license from:
© Queens Printer, Ontario Ministry of Natural Resources. All rights reserved;
© Her Majesty the Queen in Right of Canada, Department of Natural Resources. All rights reserved;
© Members of the Ontario Geospatial Data Exchange. All rights reserved.
For information please contact Service Barrie at 705-726-4242 or ServiceBarrie@barrie.ca

APPENDIX C

Traffic Data



Turning Movement Count (1 . BRADFORD ST & SIMCOE ST)

Start Time	N Approach BRADFORD ST					E Approach SIMCOE ST					S Approach BRADFORD ST					Int. Total (15 min)		Int. Total (1 hr)	
	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	U-Turn S:S	Peds S:	Approach Total				
07:00:00	25	1	0	0	26	1	32	0	3	33	23	37	0	0	60	119			
07:15:00	26	2	0	0	28	5	53	0	0	58	19	27	0	0	46	132			
07:30:00	35	4	0	0	39	3	43	0	1	46	34	42	0	1	76	161			
07:45:00	41	6	0	1	47	2	55	0	1	57	44	43	0	0	87	191		603	
08:00:00	30	5	0	0	35	7	45	0	2	52	47	60	0	0	107	194		678	
08:15:00	40	2	0	0	42	6	50	0	1	56	52	65	0	0	117	215		761	
08:30:00	46	6	0	2	52	11	53	0	3	64	51	45	0	0	96	212		812	
08:45:00	51	11	0	2	62	12	54	0	4	66	71	63	0	1	134	262		883	
09:00:00	32	11	0	0	43	10	63	0	5	73	48	62	0	1	110	226		915	
09:15:00	39	14	0	1	53	8	50	0	4	58	41	68	0	1	109	220		920	
09:30:00	47	11	0	0	58	6	42	0	7	48	31	63	0	0	94	200		908	
09:45:00	42	8	0	2	50	6	46	0	5	52	46	59	0	1	105	207		853	
BREAK																			
15:00:00	49	7	0	0	56	10	63	0	6	73	50	84	0	3	134	263			
15:15:00	39	6	0	2	45	12	59	0	4	71	48	71	0	1	119	235			
15:30:00	60	6	0	1	66	14	64	0	0	78	57	71	0	0	128	272			
15:45:00	56	17	0	4	73	12	76	0	5	88	54	70	0	0	124	285		1055	
16:00:00	40	19	0	0	59	10	65	0	7	75	77	104	0	1	181	315		1107	
16:15:00	56	11	0	1	67	7	125	0	6	132	73	101	0	2	174	373		1245	
16:30:00	72	9	0	0	81	13	76	0	7	89	67	90	0	2	157	327		1300	
16:45:00	71	12	0	1	83	4	90	0	4	94	65	87	0	2	152	329		1344	
17:00:00	66	7	0	1	73	16	100	0	5	116	85	87	0	0	172	361		1390	
17:15:00	76	12	0	8	88	11	87	0	10	98	64	78	0	3	142	328		1345	
17:30:00	48	7	0	3	55	12	94	0	7	106	78	82	0	1	160	321		1339	



17:45:00	39	7	0	2	46	12	71	0	8	83	43	68	0	1	111	240	1250
18:00:00	45	15	0	2	60	13	45	0	4	58	45	64	0	0	109	227	1116
18:15:00	41	6	0	2	47	7	47	0	5	54	39	63	0	1	102	203	991
18:30:00	28	2	0	0	30	7	30	0	8	37	42	66	0	2	108	175	845
18:45:00	39	6	0	0	45	6	69	0	5	75	46	63	0	1	109	229	834
Grand Total	1279	230	0	35	1509	243	1747	0	127	1990	1440	1883	0	25	3323	6822	-
Approach%	84.8%	15.2%	0%	-	-	12.2%	87.8%	0%	-	-	43.3%	56.7%	0%	-	-	-	-
Totals %	18.7%	3.4%	0%	22.1%	-	3.6%	25.6%	0%	29.2%	-	21.1%	27.6%	0%	48.7%	-	-	-
Heavy	1	1	0	-	-	0	1	0	-	-	0	2	0	-	-	-	-
Heavy %	0.1%	0.4%	0%	-	-	0%	0.1%	0%	-	-	0%	0.1%	0%	-	-	-	-
Bicycles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycle %	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Peak Hour: 08:30 AM - 09:30 AM Weather: Scattered Clouds (0.78 °C)

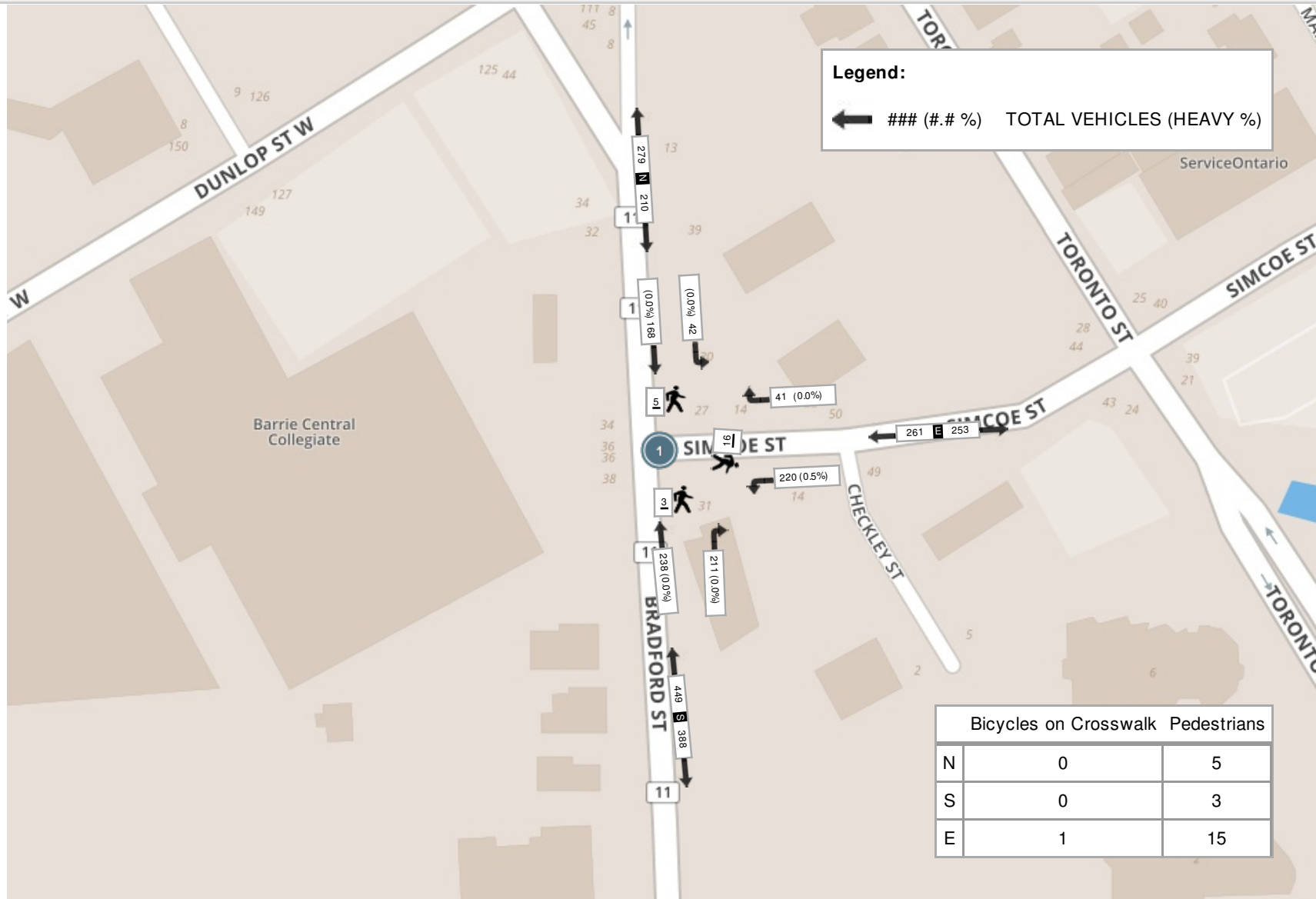
Start Time	N Approach BRADFORD ST					E Approach SIMCOE ST					S Approach BRADFORD ST					Int. Total (15 min)
	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	Right	Thru	U-Turn	Peds	Approach Total	
08:30:00	46	6	0	2	52	11	53	0	3	64	51	45	0	0	96	212
08:45:00	51	11	0	2	62	12	54	0	4	66	71	63	0	1	134	262
09:00:00	32	11	0	0	43	10	63	0	5	73	48	62	0	1	110	226
09:15:00	39	14	0	1	53	8	50	0	4	58	41	68	0	1	109	220
Grand Total	168	42	0	5	210	41	220	0	16	261	211	238	0	3	449	920
Approach%	80%	20%	0%		-	15.7%	84.3%	0%		-	47%	53%	0%		-	-
Totals %	18.3%	4.6%	0%		22.8%	4.5%	23.9%	0%		28.4%	22.9%	25.9%	0%		48.8%	-
PHF	0.82	0.75	0		0.85	0.85	0.87	0		0.89	0.74	0.88	0		0.84	-
Heavy	0	0	0		0	0	1	0		1	0	0	0		0	-
Heavy %	0%	0%	0%		0%	0%	0.5%	0%		0.4%	0%	0%	0%		0%	-
Lights	164	41	0		205	40	208	0		248	198	230	0		428	-
Lights %	97.6%	97.6%	0%		97.6%	97.6%	94.5%	0%		95%	93.8%	96.6%	0%		95.3%	-
Mediums	4	1	0		5	1	11	0		12	13	8	0		21	-
Mediums %	2.4%	2.4%	0%		2.4%	2.4%	5%	0%		4.6%	6.2%	3.4%	0%		4.7%	-
Articulated Trucks	0	0	0		0	0	1	0		1	0	0	0		0	-
Articulated Trucks %	0%	0%	0%		0%	0%	0.5%	0%		0.4%	0%	0%	0%		0%	-
Pedestrians	-	-	-	5	-	-	-	-	15	-	-	-	-	3	-	-
Pedestrians%	-	-	-	20.8%	-	-	-	-	62.5%	-	-	-	-	12.5%	-	-
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	0%	-	-	-	-	4.2%	-	-	-	-	0%	-	-



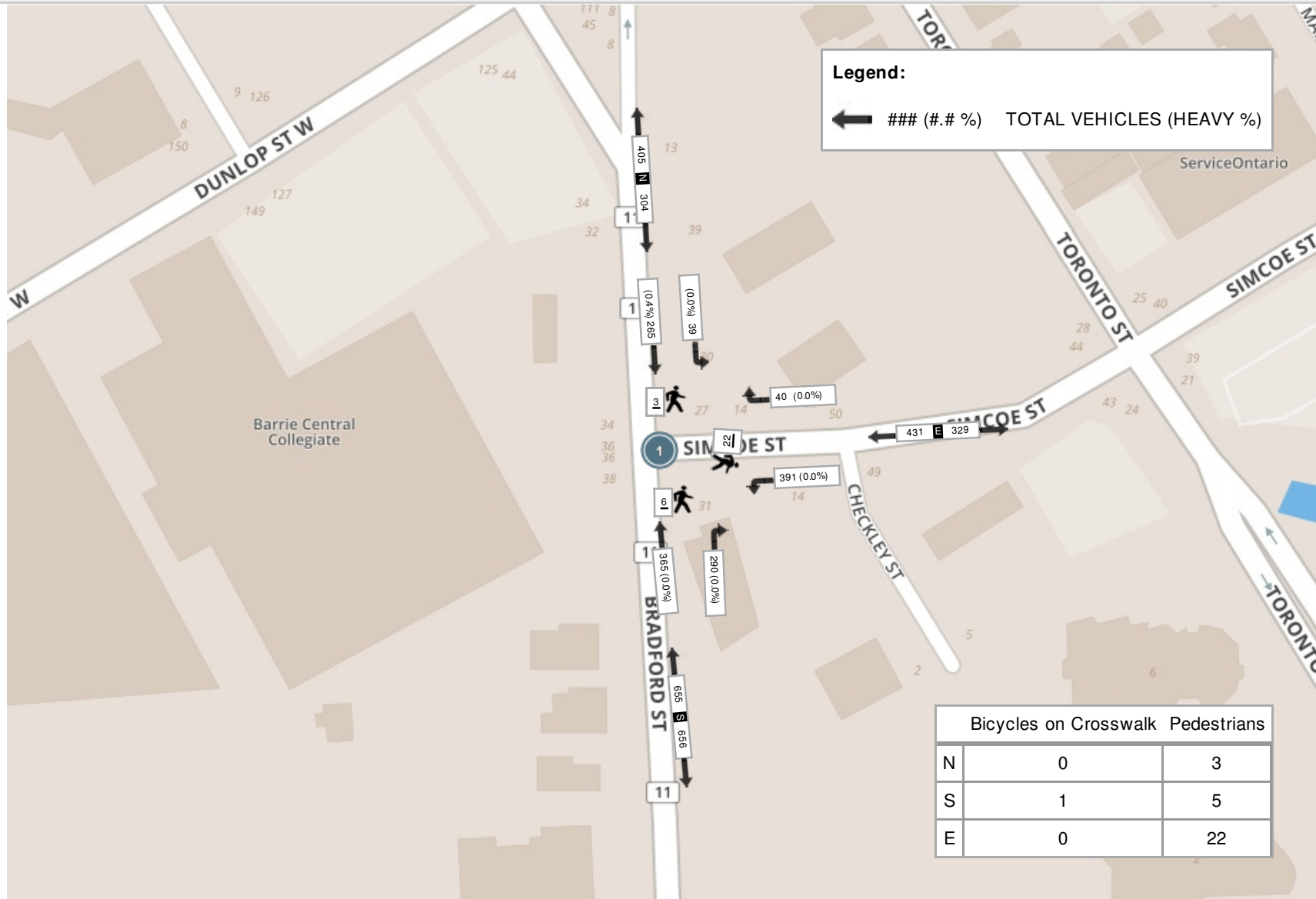
Peak Hour: 04:15 PM - 05:15 PM Weather: Clear Sky (16.45 °C)

Start Time	N Approach BRADFORD ST					E Approach SIMCOE ST					S Approach BRADFORD ST					Int. Total (15 min)
	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	Right	Thru	U-Turn	Peds	Approach Total	
16:15:00	56	11	0	1	67	7	125	0	6	132	73	101	0	2	174	373
16:30:00	72	9	0	0	81	13	76	0	7	89	67	90	0	2	157	327
16:45:00	71	12	0	1	83	4	90	0	4	94	65	87	0	2	152	329
17:00:00	66	7	0	1	73	16	100	0	5	116	85	87	0	0	172	361
Grand Total	265	39	0	3	304	40	391	0	22	431	290	365	0	6	655	1390
Approach%	87.2%	12.8%	0%		-	9.3%	90.7%	0%		-	44.3%	55.7%	0%		-	-
Totals %	19.1%	2.8%	0%		21.9%	2.9%	28.1%	0%		31%	20.9%	26.3%	0%		47.1%	-
PHF	0.92	0.81	0		0.92	0.63	0.78	0		0.82	0.85	0.9	0		0.94	-
Heavy	1	0	0		1	0	0	0		0	0	0	0		0	-
Heavy %	0.4%	0%	0%		0.3%	0%	0%	0%		0%	0%	0%	0%		0%	-
Lights	263	38	0		301	40	376	0		416	283	364	0		647	-
Lights %	99.2%	97.4%	0%		99%	100%	96.2%	0%		96.5%	97.6%	99.7%	0%		98.8%	-
Mediums	1	1	0		2	0	15	0		15	7	1	0		8	-
Mediums %	0.4%	2.6%	0%		0.7%	0%	3.8%	0%		3.5%	2.4%	0.3%	0%		1.2%	-
Articulated Trucks	1	0	0		1	0	0	0		0	0	0	0		0	-
Articulated Trucks %	0.4%	0%	0%		0.3%	0%	0%	0%		0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	3	-	-	-	-	22	-	-	-	-	5	-	-
Pedestrians%	-	-	-	9.7%	-	-	-	-	71%	-	-	-	-	16.1%	-	-
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-
Bicycles on Crosswalk%	-	-	-	0%	-	-	-	-	0%	-	-	-	-	3.2%	-	-

Peak Hour: 08:30 AM - 09:30 AM Weather: Scattered Clouds (0.78 °C)



Peak Hour: 04:15 PM - 05:15 PM Weather: Clear Sky (16.45 °C)





Turning Movement Count (2 . DUNLOP ST & ECCLES ST)

Start Time	N Approach ECCLES ST						E Approach DUNLOP ST						S Approach ECCLES ST						W Approach DUNLOP ST						Int. Total (15 min)	Int. Total (1 hr)	
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total			
07:00:00	14	21	0	0	1	35	2	52	6	0	1	60	5	11	0	0	3	16	3	34	3	0	1	40	151		
07:15:00	12	28	3	0	0	43	2	40	11	0	0	53	5	8	2	0	2	15	2	34	3	0	1	39	150		
07:30:00	10	38	10	0	2	58	3	62	8	0	0	73	7	21	4	0	1	32	1	48	2	0	0	51	214		
07:45:00	15	33	5	0	0	53	4	59	6	0	0	69	7	24	2	0	1	33	2	57	3	0	0	62	217	732	
08:00:00	10	33	4	0	2	47	4	60	15	0	0	79	8	11	4	0	1	23	6	72	4	0	0	82	231	812	
08:15:00	5	23	4	0	2	32	7	58	5	0	1	70	8	12	5	0	0	25	4	64	2	0	0	70	197	859	
08:30:00	8	28	6	0	1	42	6	64	12	0	0	82	9	27	2	0	4	38	2	73	10	0	0	85	247	892	
08:45:00	14	29	2	0	0	45	4	67	7	0	0	78	8	30	2	0	1	40	5	121	12	0	0	138	301	976	
09:00:00	12	29	9	0	2	50	13	59	13	0	1	85	11	33	2	0	2	46	4	93	5	0	0	102	283	1028	
09:15:00	8	20	11	0	0	39	6	81	8	0	1	95	10	25	1	0	1	36	0	86	8	0	0	94	264	1095	
09:30:00	8	35	8	0	1	51	4	73	13	0	0	90	6	26	6	0	4	38	2	74	4	0	0	80	259	1107	
09:45:00	14	33	12	0	1	59	7	59	9	0	1	75	13	29	3	0	2	45	6	66	6	0	5	78	257	1063	
BREAK																											
15:00:00	15	32	9	0	4	56	13	96	14	0	3	123	14	52	8	0	2	74	9	98	8	0	1	115	368		
15:15:00	8	43	12	0	4	63	6	90	17	0	1	113	12	43	6	0	4	61	7	82	9	0	2	98	335		
15:30:00	18	40	11	0	2	69	10	98	10	0	0	118	14	48	14	0	6	76	10	78	13	0	1	101	364		
15:45:00	12	29	10	0	3	51	8	103	9	0	0	120	16	50	5	0	2	71	8	108	14	0	1	130	372	1439	
16:00:00	12	53	12	0	2	77	9	98	16	0	1	123	16	43	8	0	5	67	5	105	12	0	2	122	389	1460	
16:15:00	8	49	13	0	5	70	13	91	12	0	3	116	24	60	2	0	4	86	4	94	15	0	1	113	385	1510	
16:30:00	11	47	8	0	1	66	6	115	11	0	1	132	21	76	9	0	4	106	5	103	21	0	0	129	433	1579	
16:45:00	9	45	11	0	0	65	12	85	13	0	1	110	15	59	6	0	5	80	5	111	14	0	2	130	385	1592	
17:00:00	14	43	8	0	3	65	8	114	15	0	0	137	22	52	5	0	2	79	3	100	14	0	0	117	398	1601	
17:15:00	11	48	13	0	13	72	10	92	18	0	2	120	18	42	9	0	2	69	5	96	14	0	0	115	376	1592	
17:30:00	7	29	12	0	5	48	8	89	7	0	4	104	12	30	10	0	8	52	4	95	10	0	0	109	313	1472	
17:45:00	7	20	8	0	5	35	5	90	6	0	2	101	10	27	2	0	8	39	2	85	6	0	1	93	268	1355	
18:00:00	11	19	16	0	3	46	3	83	6	0	2	92	12	24	7	0	6	43	4	82	9	0	0	95	276	1233	
18:15:00	7	17	9	0	4	33	8	66	14	0	0	88	7	19	3	0	4	29	0	98	13	0	1	111	261	1118	
18:30:00	7	28	7	0	3	42	9	79	11	0	0	99	5	33	3	0	1	41	3	74	12	1	0	90	272	1077	
18:45:00	5	24	5	0	3	34	7	75	6	0	1	88	6	22	3	0	1	31	3	89	2	0	1	94	247	1056	
Grand Total	292	916	238	0	72	1446	197	2198	298	0	26	2693	321	937	133	0	86	1391	114	2320	248	1	20	2683	8213	-	
Approach%	20.2%	63.3%	16.5%	0%		-	7.3%	81.6%	11.1%	0%		-	23.1%	67.4%	9.6%	0%		-	4.2%	86.5%	9.2%	0%		-	-	-	



Turning Movement Count
Location Name: DUNLOP ST & ECCLES ST
Date: Thu, Apr 25, 2019 Deployment Lead: David Chu

Crozier & Associates

Totals %	3.6%	11.2%	2.9%	0%	17.6%	2.4%	26.8%	3.6%	0%	32.8%	3.9%	11.4%	1.6%	0%	16.9%	1.4%	28.2%	3%	0%	32.7%	-	-
Heavy	1	2	0	0	-	0	5	0	0	-	0	1	2	0	-	2	5	0	0	-	-	-
Heavy %	0.3%	0.2%	0%	0%	-	0%	0.2%	0%	0%	-	0%	0.1%	1.5%	0%	-	1.8%	0.2%	0%	0%	-	-	-
Bicycles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycle %	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Peak Hour: 08:45 AM - 09:45 AM Weather: Scattered Clouds (0.78 °C)

Start Time	N Approach ECCLES ST						E Approach DUNLOP ST						S Approach ECCLES ST						W Approach DUNLOP ST						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
08:45:00	14	29	2	0	0	45	4	67	7	0	0	78	8	30	2	0	1	40	5	121	12	0	0	138	301
09:00:00	12	29	9	0	2	50	13	59	13	0	1	85	11	33	2	0	2	46	4	93	5	0	0	102	283
09:15:00	8	20	11	0	0	39	6	81	8	0	1	95	10	25	1	0	1	36	0	86	8	0	0	94	264
09:30:00	8	35	8	0	1	51	4	73	13	0	0	90	6	26	6	0	4	38	2	74	4	0	0	80	259
Grand Total	42	113	30	0	3	185	27	280	41	0	2	348	35	114	11	0	8	160	11	374	29	0	0	414	1107
Approach%	22.7%	61.1%	16.2%	0%		-	7.8%	80.5%	11.8%	0%		-	21.9%	71.3%	6.9%	0%		-	2.7%	90.3%	7%	0%		-	-
Totals %	3.8%	10.2%	2.7%	0%		16.7%	2.4%	25.3%	3.7%	0%		31.4%	3.2%	10.3%	1%	0%		14.5%	1%	33.8%	2.6%	0%		37.4%	-
PHF	0.75	0.81	0.68	0		0.91	0.52	0.86	0.79	0		0.92	0.8	0.86	0.46	0		0.87	0.55	0.77	0.6	0		0.75	-
Heavy	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	0	2	0	0		2	-
Heavy %	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.3%	0%	0%	0%	0%		0%	0%	0.5%	0%	0%		0.5%	-
Lights	41	113	30	0		184	27	268	38	0		333	31	111	11	0		153	11	362	29	0		402	-
Lights %	97.6%	100%	100%	0%		99.5%	100%	95.7%	92.7%	0%		95.7%	88.6%	97.4%	100%	0%		95.6%	100%	96.8%	100%	0%		97.1%	-
Mediums	1	0	0	0		1	0	11	3	0		14	4	3	0	0		7	0	10	0	0		10	-
Mediums %	2.4%	0%	0%	0%		0.5%	0%	3.9%	7.3%	0%		4%	11.4%	2.6%	0%	0%		4.4%	0%	2.7%	0%	0%		2.4%	-
Articulated Trucks	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	0	2	0	0		2	-
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.3%	0%	0%	0%	0%		0%	0%	0.5%	0%	0%		0.5%	-
Pedestrians	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	8	-	-	-	-	-	0	-	-
Pedestrians%	-	-	-	-	23.1%	-	-	-	-	-	15.4%	-	-	-	-	-	61.5%	-	-	-	-	-	0%	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-



Peak Hour: 04:15 PM - 05:15 PM Weather: Clear Sky (16.45 °C)

Start Time	N Approach ECCLES ST						E Approach DUNLOP ST						S Approach ECCLES ST						W Approach DUNLOP ST						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
16:15:00	8	49	13	0	5	70	13	91	12	0	3	116	24	60	2	0	4	86	4	94	15	0	1	113	385
16:30:00	11	47	8	0	1	66	6	115	11	0	1	132	21	76	9	0	4	106	5	103	21	0	0	129	433
16:45:00	9	45	11	0	0	65	12	85	13	0	1	110	15	59	6	0	5	80	5	111	14	0	2	130	385
17:00:00	14	43	8	0	3	65	8	114	15	0	0	137	22	52	5	0	2	79	3	100	14	0	0	117	398
Grand Total	42	184	40	0	9	266	39	405	51	0	5	495	82	247	22	0	15	351	17	408	64	0	3	489	1601
Approach%	15.8%	69.2%	15%	0%		-	7.9%	81.8%	10.3%	0%		-	23.4%	70.4%	6.3%	0%		-	3.5%	83.4%	13.1%	0%		-	-
Totals %	2.6%	11.5%	2.5%	0%		16.6%	2.4%	25.3%	3.2%	0%		30.9%	5.1%	15.4%	1.4%	0%		21.9%	1.1%	25.5%	4%	0%		30.5%	-
PHF	0.75	0.94	0.77	0		0.95	0.75	0.88	0.85	0		0.9	0.85	0.81	0.61	0		0.83	0.85	0.92	0.76	0		0.94	-
Heavy	1	0	0	0		1	0	1	0	0		1	0	0	1	0		1	0	0	0	0		0	-
Heavy %	2.4%	0%	0%	0%		0.4%	0%	0.2%	0%	0%		0.2%	0%	0%	4.5%	0%		0.3%	0%	0%	0%	0%		0%	-
Lights	41	181	40	0		262	39	389	49	0		477	78	244	21	0		343	16	399	64	0		479	-
Lights %	97.6%	98.4%	100%	0%		98.5%	100%	96%	96.1%	0%		96.4%	95.1%	98.8%	95.5%	0%		97.7%	94.1%	97.8%	100%	0%		98%	-
Mediums	0	3	0	0		3	0	15	2	0		17	4	3	0	0		7	1	9	0	0		10	-
Mediums %	0%	1.6%	0%	0%		1.1%	0%	3.7%	3.9%	0%		3.4%	4.9%	1.2%	0%	0%		2%	5.9%	2.2%	0%	0%		2%	-
Articulated Trucks	1	0	0	0		1	0	1	0	0		1	0	0	1	0		1	0	0	0	0		0	-
Articulated Trucks %	2.4%	0%	0%	0%		0.4%	0%	0.2%	0%	0%		0.2%	0%	0%	4.5%	0%		0.3%	0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	-	8	-	-	-	-	-	5	-	-	-	-	-	13	-	-	-	-	-	3	-	-
Pedestrians%	-	-	-	-	25%	-	-	-	-	-	15.6%	-	-	-	-	-	40.6%	-	-	-	-	-	9.4%	-	-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	-	3.1%	-	-	-	-	-	0%	-	-	-	-	-	6.3%	-	-	-	-	-	0%	-	-

Peak Hour: 08:45 AM - 09:45 AM Weather: Scattered Clouds (0.78 °C)



Peak Hour: 04:15 PM - 05:15 PM Weather: Clear Sky (16.45 °C)





Turning Movement Count (3 . DUNLOP ST & HIGH ST / BRADFORD ST)

Start Time	N Approach HIGH ST						E Approach DUNLOP ST						S Approach BRADFORD ST						W Approach DUNLOP ST						Int. Total (15 min)	Int. Total (1 hr)	
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total			
07:00:00	1	3	0	0	2	4	4	47	14	0	5	65	24	5	10	0	5	39	13	27	3	0	0	43	151		
07:15:00	4	2	3	0	3	9	0	35	16	0	3	51	18	3	7	0	3	28	15	30	5	0	2	50	138		
07:30:00	2	7	3	0	2	12	2	56	16	0	3	74	22	7	16	0	4	45	18	46	1	0	1	65	196		
07:45:00	2	9	3	0	2	14	4	63	20	0	5	87	24	10	11	0	6	45	20	59	2	0	0	81	227	712	
08:00:00	4	9	2	0	5	15	3	48	12	0	2	63	32	11	18	0	3	61	20	64	3	0	3	87	226	787	
08:15:00	2	8	2	0	5	12	2	48	17	0	4	67	34	16	17	0	2	67	22	73	2	0	4	97	243	892	
08:30:00	3	8	1	0	2	12	2	59	26	0	5	87	30	15	16	0	3	61	25	66	4	0	6	95	255	951	
08:45:00	4	9	1	0	6	14	3	57	23	0	5	83	41	13	17	0	6	71	38	86	4	0	3	128	296	1020	
09:00:00	1	9	5	0	2	15	6	63	16	0	3	85	31	14	23	0	2	68	27	92	4	0	4	123	291	1085	
09:15:00	1	8	2	0	2	11	3	64	17	0	5	84	29	15	25	0	5	69	32	75	4	0	8	111	275	1117	
09:30:00	1	14	1	0	6	16	3	69	15	0	5	87	34	16	15	0	4	65	31	62	4	0	5	97	265	1127	
09:45:00	1	13	2	0	6	16	1	57	23	0	5	81	28	6	20	0	6	54	18	75	4	0	6	97	248	1079	
BREAK																											
15:00:00	1	12	2	0	2	15	6	80	24	0	5	110	39	23	35	0	4	97	22	100	3	0	3	125	347		
15:15:00	6	14	5	0	8	25	8	85	16	0	4	109	33	22	23	0	7	78	21	86	2	0	3	109	321		
15:30:00	4	15	3	0	5	22	2	85	32	0	1	119	42	17	30	0	4	89	17	93	2	0	4	112	342		
15:45:00	1	12	2	0	6	15	7	89	30	0	4	126	38	14	30	0	8	82	28	110	0	0	3	138	361	1371	
16:00:00	3	12	3	0	9	18	1	71	27	0	6	99	44	27	41	0	5	112	23	102	2	0	6	127	356	1380	
16:15:00	5	13	7	0	11	25	6	76	21	0	2	103	47	31	36	0	5	114	24	107	2	0	5	133	375	1434	
16:30:00	2	22	1	0	5	25	5	82	31	0	3	118	35	28	39	0	11	102	25	94	0	0	2	119	364	1456	
16:45:00	3	21	4	0	14	28	5	68	37	0	2	110	44	26	27	0	6	97	26	123	4	0	7	153	388	1483	
17:00:00	5	26	1	0	9	32	7	102	25	0	0	134	40	25	45	0	3	110	21	102	0	0	10	123	399	1526	
17:15:00	3	25	1	0	7	29	2	77	27	0	4	106	41	22	29	0	6	92	32	92	2	0	4	126	353	1504	
17:30:00	4	10	4	0	11	18	6	64	22	0	0	92	42	18	31	0	4	91	21	98	7	0	2	126	327	1467	
17:45:00	1	11	5	0	6	17	3	83	11	0	2	97	36	25	24	0	14	85	20	96	1	0	6	117	316	1395	
18:00:00	7	7	3	0	5	17	7	58	24	0	3	89	32	13	30	0	4	75	25	79	4	0	3	108	289	1285	
18:15:00	6	5	3	0	6	14	1	56	17	0	4	74	29	14	27	0	2	70	24	97	1	0	2	122	280	1212	
18:30:00	4	5	1	0	5	10	8	69	14	0	1	91	33	19	17	0	1	69	11	78	5	0	3	94	264	1149	
18:45:00	3	9	2	0	6	14	8	69	17	0	1	94	25	19	21	0	2	65	15	77	3	0	4	95	268	1101	
Grand Total	84	318	72	0	158	474	115	1880	590	0	92	2585	947	474	680	0	135	2101	634	2289	78	0	109	3001	8161	-	
Approach%	17.7%	67.1%	15.2%	0%	-	-	4.4%	72.7%	22.8%	0%	-	-	45.1%	22.6%	32.4%	0%	-	-	21.1%	76.3%	2.6%	0%	-	-	-	-	



Turning Movement Count
Location Name: DUNLOP ST & HIGH ST / BRADFORD ST
Date: Thu, Apr 25, 2019 Deployment Lead: David Chu

Crozier & Associates

Totals %	1%	3.9%	0.9%	0%	5.8%	1.4%	23%	7.2%	0%	31.7%	11.6%	5.8%	8.3%	0%	25.7%	7.8%	28%	1%	0%	36.8%	-	-
Heavy	0	0	0	0	-	0	6	2	0	-	1	0	0	0	-	0	3	0	0	-	-	-
Heavy %	0%	0%	0%	0%	-	0%	0.3%	0.3%	0%	-	0.1%	0%	0%	0%	-	0%	0.1%	0%	0%	-	-	-
Bicycles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycle %	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Peak Hour: 08:45 AM - 09:45 AM Weather: Scattered Clouds (0.78 °C)

Start Time	N Approach HIGH ST						E Approach DUNLOP ST						S Approach BRADFORD ST						W Approach DUNLOP ST						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
08:45:00	4	9	1	0	6	14	3	57	23	0	5	83	41	13	17	0	6	71	38	86	4	0	3	128	296
09:00:00	1	9	5	0	2	15	6	63	16	0	3	85	31	14	23	0	2	68	27	92	4	0	4	123	291
09:15:00	1	8	2	0	2	11	3	64	17	0	5	84	29	15	25	0	5	69	32	75	4	0	8	111	275
09:30:00	1	14	1	0	6	16	3	69	15	0	5	87	34	16	15	0	4	65	31	62	4	0	5	97	265
Grand Total	7	40	9	0	16	56	15	253	71	0	18	339	135	58	80	0	17	273	128	315	16	0	20	459	1127
Approach%	12.5%	71.4%	16.1%	0%	-	-	4.4%	74.6%	20.9%	0%	-	-	49.5%	21.2%	29.3%	0%	-	-	27.9%	68.6%	3.5%	0%	-	-	-
Totals %	0.6%	3.5%	0.8%	0%	5%	5%	1.3%	22.4%	6.3%	0%	30.1%	30.1%	12%	5.1%	7.1%	0%	24.2%	24.2%	11.4%	28%	1.4%	0%	40.7%	40.7%	-
PHF	0.44	0.71	0.45	0	0.88	0.88	0.63	0.92	0.77	0	0.97	0.97	0.82	0.91	0.8	0	0.96	0.96	0.84	0.86	1	0	0.9	0.9	-
Heavy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	-
Heavy %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.6%	0%	0%	0%	0.4%	-
Lights	7	40	9	0	56	56	14	240	67	0	321	321	132	58	77	0	267	267	126	298	16	0	440	440	-
Lights %	100%	100%	100%	0%	100%	100%	93.3%	94.9%	94.4%	0%	94.7%	94.7%	97.8%	100%	96.3%	0%	97.8%	97.8%	98.4%	94.6%	100%	0%	95.9%	95.9%	-
Mediums	0	0	0	0	0	0	1	13	4	0	18	18	3	0	3	0	6	6	2	15	0	0	17	17	-
Mediums %	0%	0%	0%	0%	0%	0%	6.7%	5.1%	5.6%	0%	5.3%	5.3%	2.2%	0%	3.8%	0%	2.2%	2.2%	1.6%	4.8%	0%	0%	3.7%	3.7%	-
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2	-
Articulated Trucks %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.6%	0%	0%	0%	0.4%	-
Pedestrians	-	-	-	-	16	-	-	-	-	-	18	-	-	-	-	-	17	-	-	-	-	-	20	-	-
Pedestrians%	-	-	-	-	22.5%	-	-	-	-	-	25.4%	-	-	-	-	-	23.9%	-	-	-	-	-	28.2%	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-



Peak Hour: 04:15 PM - 05:15 PM Weather: Clear Sky (16.45 °C)

Start Time	N Approach HIGH ST						E Approach DUNLOP ST						S Approach BRADFORD ST						W Approach DUNLOP ST						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
16:15:00	5	13	7	0	11	25	6	76	21	0	2	103	47	31	36	0	5	114	24	107	2	0	5	133	375
16:30:00	2	22	1	0	5	25	5	82	31	0	3	118	35	28	39	0	11	102	25	94	0	0	2	119	364
16:45:00	3	21	4	0	14	28	5	68	37	0	2	110	44	26	27	0	6	97	26	123	4	0	7	153	388
17:00:00	5	26	1	0	9	32	7	102	25	0	0	134	40	25	45	0	3	110	21	102	0	0	10	123	399
Grand Total	15	82	13	0	39	110	23	328	114	0	7	465	166	110	147	0	25	423	96	426	6	0	24	528	1526
Approach%	13.6%	74.5%	11.8%	0%	-	-	4.9%	70.5%	24.5%	0%	-	-	39.2%	26%	34.8%	0%	-	-	18.2%	80.7%	1.1%	0%	-	-	-
Totals %	1%	5.4%	0.9%	0%	7.2%	1.5%	21.5%	7.5%	0%	30.5%	10.9%	7.2%	9.6%	0%	27.7%	6.3%	27.9%	0.4%	0%	34.6%	-	-	-	-	-
PHF	0.75	0.79	0.46	0	0.86	0.82	0.8	0.77	0	0.87	0.88	0.89	0.82	0	0.93	0.92	0.87	0.38	0	0.86	-	-	-	-	-
Heavy	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Heavy %	0%	0%	0%	0%	0%	0%	0%	0.3%	0.9%	0%	0.4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Lights	15	82	13	0	110	23	312	113	0	448	166	109	147	0	422	94	415	6	0	515	-	-	-	-	-
Lights %	100%	100%	100%	0%	100%	100%	95.1%	99.1%	0%	96.3%	100%	99.1%	100%	0%	99.8%	97.9%	97.4%	100%	0%	97.5%	-	-	-	-	-
Mediums	0	0	0	0	0	0	0	15	0	0	15	0	1	0	0	1	2	11	0	0	13	-	-	-	-
Mediums %	0%	0%	0%	0%	0%	0%	0%	4.6%	0%	0%	3.2%	0%	0.9%	0%	0%	0.2%	2.1%	2.6%	0%	0%	2.5%	-	-	-	-
Articulated Trucks	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Articulated Trucks %	0%	0%	0%	0%	0%	0%	0%	0.3%	0.9%	0%	0.4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Pedestrians	-	-	-	-	39	-	-	-	-	7	-	-	-	-	25	-	-	-	-	24	-	-	-	-	-
Pedestrians%	-	-	-	-	41.1%	-	-	-	-	7.4%	-	-	-	-	26.3%	-	-	-	-	25.3%	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-
Bicycles on Crosswalk%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-

Peak Hour: 08:45 AM - 09:45 AM Weather: Scattered Clouds (0.78 °C)



Peak Hour: 04:15 PM - 05:15 PM Weather: Clear Sky (16.45 °C)



May 16, 2019

File: T07-SI

Peter Apasnore
C.F. Crozier & Associates Consulting Engineers
2800 High Point Drive, Suite 100
Milton, ON L9T 6P4

Dear Mr. Apasnore,

RE: Traffic Signal Timings

With respect to your inquiry on April 30, 2019, attached are the Signal Timings for the following intersections:

- Bradford Street and Simcoe Street
- Dunlop Street and Eccles Street
- Dunlop Street and High Street

The side street phases are actuated; meaning a vehicle or pedestrian must be present on the side street before the side street is given a green indication. Actuation at this intersection occurs in two ways: first, for vehicles a loop detector is imbedded into the roadway at the painted stop bar; and secondly, pushbuttons are located on all corners for pedestrians to activate their movement. Vehicle presence only on the side street would result in a possible green time of between the minimum and maximum times noted below, depending on demand.

Pedestrian "Walk" and "Flashing Don't Walk" times on the side street as noted would be used in the event that the pedestrian push button was activated. Should there be no demand on the actuated phases; the signals would rest in a green indication for the main street.

If you require any further information please feel free to contact me at (705) 739-4220 ext. 4937.

Sincerely,

THE CITY OF BARRIE



Stephen Salis, C.E.T.
Transportation Systems Technologist

Bradford Street & Simcoe Street – FREE PLAN (NO COORDINATION)

Roadway	Direction	Vehicular Indications				Pedestrian Indications	
		Minimum Green	Maximum Green	Amber	All Red	Walk	Flashing Don't Walk
Bradford Street (main street)	Northbound	30	30	4	2	16	14
Bradford Street (main street)	Southbound	30	30	4	2	16	14
Simcoe Street (side street)	Westbound	10	30	4	2	10	15

NOTE: All times are recorded in seconds, based on full demand.

Dunlop Street West & Eccles Street – FREE PLAN (NO COORDINATION)

Roadway	Direction	Vehicular Indications				Pedestrian Indications	
		Minimum Green	Maximum Green	Amber	All Red	Walk	Flashing Don't Walk
Dunlop Street West (main street)	Advanced Eastbound Left Turn	7	7	3	1	N/A	N/A
Dunlop Street West (main street)	Advanced Westbound Left Turn	7	7	3	1	N/A	N/A
Dunlop Street West (main street)	Eastbound	44	44	4	2	28	16
Dunlop Street West (main street)	Westbound	44	44	4	2	28	16
Eccles Street (side street)	Northbound	10	26	4	2	10	16
Eccles Street (side street)	Southbound	10	26	4	2	10	16

NOTE: All times are recorded in seconds, based on full demand.

Dunlop Street West & High Street– FREE PLAN (NO COORDINATION)

Roadway	Direction	Vehicular Indications				Pedestrian Indications	
		Minimum Green	Maximum Green	Amber	All Red	Walk	Flashing Don't Walk
Dunlop Street West (main street)	Advanced Westbound left turn	7	7	3	1	N/A	N/A
Dunlop Street West (main street)	Eastbound	24	24	4	2	12	12
Dunlop Street West (main street)	Westbound	24	24	4	2	12	12
High Street (side street)	Advanced Northbound left turn	7	7	3	1	N/A	N/A
High Street (side street)	Northbound	10	24	4	2	9	12
High Street (side street)	Southbound	10	24	4	2	9	12

NOTE: All times are recorded in seconds, based on full demand.

Dunlop Street West & High Street – AM WEEKDAY PLAN (6:30AM – 9:00AM)

Roadway	Direction	Split Timings (Including Amber + All Red)
Dunlop Street West (main street)	Advanced Westbound left turn	10
Dunlop Street West (main street)	Eastbound	32
Dunlop Street West (main street)	Westbound	42
High Street (side street)	Advanced Northbound left turn	10
High Street (side street)	Northbound	33
High Street (side street)	Southbound	23
Total Cycle Length		75

NOTE: All times are recorded in seconds, based on full demand.

Refer to the FREE PLAN for the Walk and Flashing Don't Walk Timings

Dunlop Street West & High Street – NOON WEEKDAY PLAN (9:00AM – 3:30PM)

Roadway	Direction	Split Timings (Including Amber + All Red)
Dunlop Street West (main street)	Advanced Westbound left turn	20
Dunlop Street West (main street)	Eastbound	36
Dunlop Street West (main street)	Westbound	56
High Street (side street)	Advanced Northbound left turn	11
High Street (side street)	Northbound	34
High Street (side street)	Southbound	23
Total Cycle Length		90

NOTE: All times are recorded in seconds, based on full demand.

Refer to the FREE PLAN for the Walk and Flashing Don't Walk Timings

Dunlop Street West & High Street – PM WEEKDAY PLAN (3:30PM – 9:30PM)

Roadway	Direction	Split Timings (Including Amber + All Red)
Dunlop Street West (main street)	Advanced Westbound left turn	20
Dunlop Street West (main street)	Eastbound	37
Dunlop Street West (main street)	Westbound	57
High Street (side street)	Advanced Northbound left turn	10
High Street (side street)	Northbound	33
High Street (side street)	Southbound	23
Total Cycle Length		90

NOTE: All times are recorded in seconds, based on full demand.

Refer to the FREE PLAN for the Walk and Flashing Don't Walk Timings

Tue Apr 30 2019 13:21:20 GMT-0400 (Eastern Daylight Time) - Run Time: 1709ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of origin - pd_orig

Column: Primary travel mode of trip - mode_prime

Filters:

(2006 GTA zone of origin - gta06_orig In 8501)

Trip 2016

Table:

Travel Mode	Barrie	Distribution
Transit excluding GO rail	494	3%
Cycle	284	2%
Auto driver	13727	80%
GO rail only	19	0%
Joint GO rail and local trans	10	0%
Motorcycle	41	0%
Other	4	0%
Auto passenger	2247	13%
School bus	20	0%
Taxi passenger	44	0%
Walk	360	2%
Total	17250	100%

Tue Apr 30 2019 13:34:00 GMT-0400 (Eastern Daylight Time) - Run Time: 2122ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of destination - pd_dest

Column: Primary travel mode of trip - mode_prime

Filters:

(2006 GTA zone of origin - gta06_orig In 8501

and

Primary travel mode of trip - mode_prime In D

and

Start time of trip - start_time In 700-1000)

Trip 2016

Table:

	Auto driver	Distribution
PD 1 of Toronto	9	1%
Scugog	10	1%
Vaughan	52	4%
Hamilton	8	1%
Barrie	1012	77%
Innisfil	31	2%
New Tecumseth	19	1%
Adjala-Tosorontio	9	1%
Springwater	75	6%
Muskoka	7	1%
Grey	21	2%
Penetanguishene	18	1%
Orillia	44	3%
Total	1315	100%

Tue Apr 30 2019 13:31:34 GMT-0400 (Eastern Daylight Time) - Run Time: 2429ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of origin - pd_orig

Column: Primary travel mode of trip - mode_prime

Filters:

(2006 GTA zone of destination - gta06_dest In 8501

and

Primary travel mode of trip - mode_prime In D

and

Start time of trip - start_time In 700-1000)

Trip 2016

Table:

	Auto driver	Distribution
PD 1 of Toronto	19	0%
PD 6 of Toronto	51	1%
Uxbridge	17	0%
Newmarket	32	1%
Aurora	22	0%
Richmond Hill	40	1%
Cambridge	32	1%
Barrie	2816	55%
Innisfil	309	6%
New Tecumseth	23	0%
Essa	277	5%
Springwater	405	8%
Collingwood	28	1%
Wasaga Beach	121	2%
Tiny	209	4%
Midland	58	1%
Tay	14	0%
Oro-Medonte	282	5%
Severn	61	1%
Ramara	31	1%
Orillia	170	3%
Shelburne	108	2%
Mono	12	0%
Total	5137	100%

Tue Apr 30 2019 13:33:28 GMT-0400 (Eastern Daylight Time) - Run Time: 2046ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of destination - pd_dest

Column: Primary travel mode of trip - mode_prime

Filters:

(2006 GTA zone of origin - gta06_orig In 8501

and

Primary travel mode of trip - mode_prime In D

and

Start time of trip - start_time In 1500-1900)

Trip 2016

Table:

	Auto driver	Distribution
PD 2 of Toronto	25	0%
PD 4 of Toronto	15	0%
PD 5 of Toronto	33	1%
Uxbridge	17	0%
Scugog	9	0%
Whitby	11	0%
East Gwillimbury	28	0%
Newmarket	32	1%
Aurora	22	0%
Richmond Hill	40	1%
Brampton	12	0%
Mississauga	106	2%
Glanbrook	24	0%
Orangeville	14	0%
Barrie	3779	60%
Innisfil	347	5%
Bradford-West Gwillimbury	5	0%
New Tecumseth	27	0%
Essa	319	5%
Clearview	65	1%
Springwater	371	6%
Kawartha Lakes	20	0%
Collingwood	34	1%
Wasaga Beach	139	2%
Tiny	14	0%
Midland	66	1%
Tay	4	0%
Oro-Medonte	399	6%
Severn	31	0%
Ramara	9	0%
Orillia	193	3%
Grand Valley	108	2%
Total	6318	100%

Tue Apr 30 2019 13:32:33 GMT-0400 (Eastern Daylight Time) - Run Time: 2086ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of origin - pd_orig

Column: Primary travel mode of trip - mode_prime

Filters:

(2006 GTA zone of destination - gta06_dest In 8501

and

Primary travel mode of trip - mode_prime In D

and

Start time of trip - start_time In 1500-1900)

Trip 2016

Table:

	Auto driver	Distribution
PD 1 of Toronto	14	0%
PD 10 of Toronto	45	1%
PD 16 of Toronto	14	0%
Newmarket	11	0%
Richmond Hill	19	1%
Markham	69	2%
Brampton	12	0%
Mississauga	22	1%
Orangeville	62	2%
Barrie	2682	75%
Innisfil	115	3%
Bradford-West Gwillimbury	11	0%
New Tecumseth	41	1%
Adjala-Tosorontio	51	1%
Springwater	114	3%
Grey	21	1%
Wasaga Beach	73	2%
Tiny	10	0%
Penetanguishene	18	1%
Oro-Medonte	7	0%
Severn	12	0%
Orillia	124	3%
External	9	0%
Total	3556	100%

APPENDIX D

Levels of Service (LOS) Definitions

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

APPENDIX E

Detailed Capacity Analysis

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2019 Existing AM
06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	374	11	41	280	27	11	114	35	30	113	42
Future Volume (vph)	29	374	11	41	280	27	11	114	35	30	113	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	20.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	25.0			20.0			12.0			20.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	1.00				0.99	1.00		
Frt		0.996			0.987				0.850		0.959	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3558	0	1805	3555	0	1805	1900	1615	1805	1822	0
Flt Permitted	0.548			0.477			0.650			0.677		
Satd. Flow (perm)	1037	3558	0	900	3555	0	1235	1900	1592	1284	1822	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			12				77		22	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		265.2			577.2			197.2			142.8	
Travel Time (s)		19.1			41.6			14.2			10.3	
Confl. Peds. (#/hr)	3		8	8		3			2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	32	407	12	45	304	29	12	124	38	33	123	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	419	0	45	333	0	12	124	38	33	169	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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	

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2019 Existing AM
06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	7.0	38.0		7.0	38.0		10.0	10.0	10.0	38.0	38.0	
Minimum Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (%)	11.6%	44.2%		11.6%	44.2%		32.2%	32.2%	32.2%	44.2%	44.2%	
Maximum Green (s)	7.5	38.0		7.5	38.0		26.0	26.0	26.0	38.0	38.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)		16.0			10.0		10.0	10.0	10.0	16.0	16.0	
Flash Dont Walk (s)		16.0			16.0		16.0	16.0	16.0	16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	
Act Effect Green (s)	44.3	38.1		44.4	38.2		38.1	38.1	38.1	38.1	38.1	
Actuated g/C Ratio	0.47	0.40		0.47	0.40		0.40	0.40	0.40	0.40	0.40	
v/c Ratio	0.06	0.29		0.09	0.23		0.02	0.16	0.06	0.06	0.23	
Control Delay	12.3	20.5		12.7	19.3		19.5	20.1	1.0	19.6	18.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	12.3	20.5		12.7	19.3		19.5	20.1	1.0	19.6	18.1	
LOS	B	C		B	B		B	C	A	B	B	
Approach Delay		19.9			18.5			15.9			18.4	
Approach LOS		B			B			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 99.5

Actuated Cycle Length: 94.8

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.29

Intersection Signal Delay: 18.6

Intersection LOS: B

Intersection Capacity Utilization 100.0%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: Eccles Street & Dunlop Street



Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2019 Existing AM
06-03-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔↔		↔	↔	↔	↔	↔	↔		↔↔	
Traffic Volume (vph)	16	315	128	71	253	15	80	58	135	9	40	7
Future Volume (vph)	16	315	128	71	253	15	80	58	135	9	40	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	35.0		20.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		1	1		1	0		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.99		0.96	0.98				0.99	
Frt		0.958				0.850			0.850		0.982	
Flt Protected		0.998		0.950			0.950				0.992	
Satd. Flow (prot)	0	3401	0	1805	1900	1615	1805	1900	1615	0	1842	0
Flt Permitted		0.941		0.420			0.659				0.928	
Satd. Flow (perm)	0	3205	0	792	1900	1543	1230	1900	1615	0	1718	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		83				102			147		8	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		577.2			373.1			121.3			143.3	
Travel Time (s)		41.6			26.9			8.7			10.3	
Confl. Peds. (#/hr)	16		17	17		16	20			18		20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)												0
Adj. Flow (vph)	17	342	139	77	275	16	87	63	147	10	43	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	498	0	77	275	16	87	63	147	0	61	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		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	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2019 Existing AM
06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8		8	4		
Detector Phase	2	2		1	6	6	3	8	8	4	4	
Switch Phase												
Minimum Initial (s)	24.0	24.0		5.0	24.0	24.0	5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	30.0	30.0		9.0	30.0	30.0	9.0	31.0	31.0	16.0	16.0	
Total Split (s)	32.0	32.0		10.0	42.0	42.0	10.0	33.0	33.0	23.0	23.0	
Total Split (%)	42.7%	42.7%		13.3%	56.0%	56.0%	13.3%	44.0%	44.0%	30.7%	30.7%	
Maximum Green (s)	26.0	26.0		6.0	36.0	36.0	6.0	27.0	27.0	17.0	17.0	
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.0		4.0	6.0	6.0	4.0	6.0	6.0		6.0	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None	None	None	None	
Walk Time (s)	12.0	12.0			12.0	12.0		9.0	9.0			
Flash Dont Walk (s)	12.0	12.0			12.0	12.0		12.0	12.0			
Pedestrian Calls (#/hr)	0	0			0	0		0	0			
Act Effect Green (s)		35.3		41.6	40.9	40.9	16.3	15.7	15.7		10.1	
Actuated g/C Ratio		0.55		0.65	0.64	0.64	0.26	0.25	0.25		0.16	
v/c Ratio		0.27		0.13	0.23	0.02	0.24	0.13	0.29		0.22	
Control Delay		10.7		7.1	8.3	0.0	18.6	18.7	5.4		25.0	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay		10.7		7.1	8.3	0.0	18.6	18.7	5.4		25.0	
LOS		B		A	A	A	B	B	A		C	
Approach Delay		10.7			7.7			12.1			25.0	
Approach LOS		B			A			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 63.8

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.29

Intersection Signal Delay: 10.9

Intersection LOS: B

Intersection Capacity Utilization 66.1%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Bradford Street/High Stree & Dunlop Street

 Ø1	 Ø2	 Ø3	 Ø4
10 s	32 s	10 s	23 s
 Ø6		 Ø8	
42 s		33 s	

Lanes, Volumes, Timings
3: Simcoe Street & Bradford Street

2019 Existing AM
06-03-2019

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	220	41	238	211	42	168
Future Volume (vph)	220	41	238	211	42	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		9.0	0.0	
Storage Lanes	1	1		1	0	
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.98		0.96		1.00
Frt		0.850		0.850		
Flt Protected	0.950					0.990
Satd. Flow (prot)	1787	1615	3610	1615	0	3574
Flt Permitted	0.950					0.851
Satd. Flow (perm)	1782	1589	3610	1552	0	3064
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		45		229		
Link Speed (k/h)	50		50			50
Link Distance (m)	431.6		232.2			276.1
Travel Time (s)	31.1		16.7			19.9
Confl. Peds. (#/hr)	3	5		16	16	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%
Adj. Flow (vph)	239	45	259	229	46	183
Shared Lane Traffic (%)						
Lane Group Flow (vph)	239	45	259	229	0	229
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	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
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0

Lanes, Volumes, Timings
3: Simcoe Street & Bradford Street

2019 Existing AM
06-03-2019

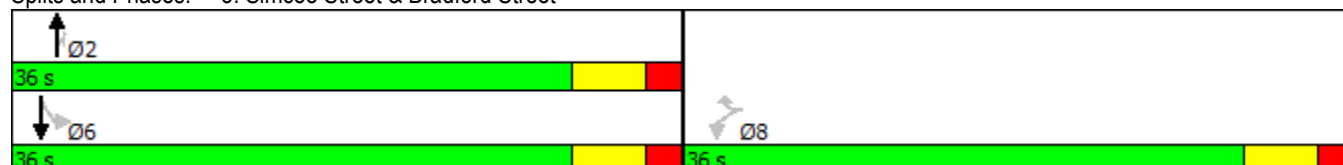
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			6
Permitted Phases	8	8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	30.0	30.0	30.0	30.0	30.0	30.0
Minimum Split (s)	36.0	36.0	36.0	36.0	36.0	36.0
Total Split (s)	36.0	36.0	36.0	36.0	36.0	36.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0	30.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0		6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max
Walk Time (s)	10.0	10.0	16.0	16.0	16.0	16.0
Flash Dont Walk (s)	15.0	15.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effect Green (s)	30.0	30.0	30.6	30.6		30.6
Actuated g/C Ratio	0.41	0.41	0.42	0.42		0.42
v/c Ratio	0.32	0.07	0.17	0.29		0.18
Control Delay	15.8	4.7	13.5	3.2		13.7
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	15.8	4.7	13.5	3.2		13.7
LOS	B	A	B	A		B
Approach Delay	14.1		8.7			13.7
Approach LOS	B		A			B

Intersection Summary

Area Type: Other
Cycle Length: 72
Actuated Cycle Length: 72.6
Natural Cycle: 75
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.32
Intersection Signal Delay: 11.4
Intersection Capacity Utilization 70.2%
Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service C

Splits and Phases: 3: Simcoe Street & Bradford Street



Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2019 Existing PM
06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	408	17	51	405	39	22	247	82	40	184	42
Future Volume (vph)	64	408	17	51	405	39	22	247	82	40	184	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	20.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	25.0			20.0			12.0			20.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		0.99	1.00		1.00		0.98	1.00	1.00	
Frt		0.994			0.987				0.850		0.972	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3582	0	1805	3552	0	1719	1900	1615	1805	1835	0
Flt Permitted	0.429			0.444			0.551			0.524		
Satd. Flow (perm)	808	3582	0	834	3552	0	995	1900	1587	992	1835	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			12				89		13	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		265.2			577.2			197.2			142.8	
Travel Time (s)		19.1			41.6			14.2			10.3	
Confl. Peds. (#/hr)	9		15	15		9	3		5	5		3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	2%
Adj. Flow (vph)	70	443	18	55	440	42	24	268	89	43	200	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	70	461	0	55	482	0	24	268	89	43	246	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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	

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2019 Existing PM
06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	7.0	38.0		7.0	38.0		10.0	10.0	10.0	38.0	38.0	
Minimum Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (%)	11.6%	44.2%		11.6%	44.2%		32.2%	32.2%	32.2%	44.2%	44.2%	
Maximum Green (s)	7.5	38.0		7.5	38.0		26.0	26.0	26.0	38.0	38.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)		16.0			10.0		10.0	10.0	10.0	16.0	16.0	
Flash Dont Walk (s)		16.0			16.0		16.0	16.0	16.0	16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	
Act Effect Green (s)	45.9	38.2		45.8	38.1		38.1	38.1	38.1	38.1	38.1	
Actuated g/C Ratio	0.47	0.39		0.47	0.39		0.39	0.39	0.39	0.39	0.39	
v/c Ratio	0.15	0.33		0.12	0.34		0.06	0.36	0.13	0.11	0.34	
Control Delay	13.0	21.6		12.7	21.6		20.2	23.3	5.0	20.9	21.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	13.0	21.6		12.7	21.6		20.2	23.3	5.0	20.9	21.9	
LOS	B	C		B	C		C	C	A	C	C	
Approach Delay		20.5			20.7			18.9			21.7	
Approach LOS		C			C			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 99.5

Actuated Cycle Length: 97.1

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.36

Intersection Signal Delay: 20.4

Intersection LOS: C

Intersection Capacity Utilization 100.0%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: Eccles Street & Dunlop Street



Lanes, Volumes, Timings
2: Bradford Street/High Street & Dunlop Street

2019 Existing PM
06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	426	96	114	328	23	147	110	166	13	82	15
Future Volume (vph)	6	426	96	114	328	23	147	110	166	13	82	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	35.0		20.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		1	1		1	0		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.99		0.91	0.98				0.99	
Frt		0.973				0.850			0.850		0.982	
Flt Protected		0.999		0.950			0.950				0.994	
Satd. Flow (prot)	0	3484	0	1787	1900	1615	1805	1900	1615	0	1842	0
Flt Permitted		0.951		0.372			0.470				0.938	
Satd. Flow (perm)	0	3315	0	693	1900	1467	874	1900	1615	0	1737	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		32				85			180		8	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		577.2			373.1			96.3			143.3	
Travel Time (s)		41.6			26.9			6.9			10.3	
Confl. Peds. (#/hr)	39		25	25		39	24			7		24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)												0
Adj. Flow (vph)	7	463	104	124	357	25	160	120	180	14	89	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	574	0	124	357	25	160	120	180	0	119	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		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	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2019 Existing PM
06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8		8	4		
Detector Phase	2	2		1	6	6	3	8	8	4	4	
Switch Phase												
Minimum Initial (s)	24.0	24.0		5.0	24.0	24.0	5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	30.0	30.0		9.0	30.0	30.0	9.0	31.0	31.0	16.0	16.0	
Total Split (s)	37.0	37.0		20.0	57.0	57.0	10.0	33.0	33.0	23.0	23.0	
Total Split (%)	41.1%	41.1%		22.2%	63.3%	63.3%	11.1%	36.7%	36.7%	25.6%	25.6%	
Maximum Green (s)	31.0	31.0		16.0	51.0	51.0	6.0	27.0	27.0	17.0	17.0	
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.0		4.0	6.0	6.0	4.0	6.0	6.0		6.0	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None	None	None	None	
Walk Time (s)	12.0	12.0			12.0	12.0		9.0	9.0			
Flash Dont Walk (s)	12.0	12.0			12.0	12.0		12.0	12.0			
Pedestrian Calls (#/hr)	0	0			0	0		0	0			
Act Effct Green (s)		41.6		53.2	51.2	51.2	21.3	19.3	19.3		11.5	
Actuated g/C Ratio		0.50		0.64	0.62	0.62	0.26	0.23	0.23		0.14	
v/c Ratio		0.34		0.23	0.30	0.03	0.52	0.27	0.35		0.48	
Control Delay		14.2		7.6	9.0	0.0	31.1	26.9	6.1		38.0	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay		14.2		7.6	9.0	0.0	31.1	26.9	6.1		38.0	
LOS		B		A	A	A	C	C	A		D	
Approach Delay		14.2			8.2			20.2			38.0	
Approach LOS		B			A			C			D	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 82.6

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 15.8

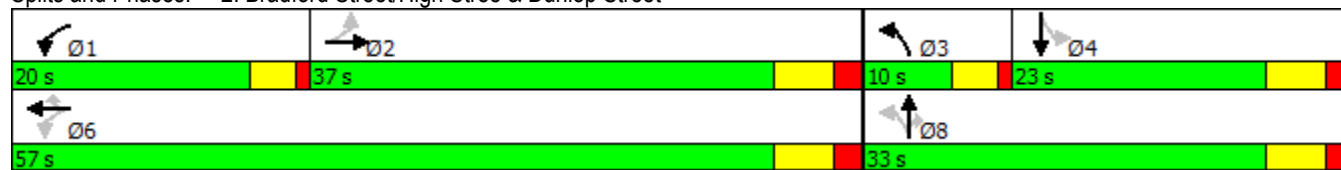
Intersection LOS: B

Intersection Capacity Utilization 69.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Bradford Street/High Stree & Dunlop Street



Lanes, Volumes, Timings
3: Simcoe Street & Bradford Street

2019 Existing PM
06-03-2019

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	391	40	365	290	39	265
Future Volume (vph)	391	40	365	290	39	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		9.0	0.0	
Storage Lanes	1	0		1	0	
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99			0.95		1.00
Frt	0.988			0.850		
Flt Protected	0.957					0.994
Satd. Flow (prot)	1794	0	3610	1615	0	3588
Flt Permitted	0.957					0.863
Satd. Flow (perm)	1786	0	3610	1541	0	3109
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	9			275		
Link Speed (k/h)	50		50			50
Link Distance (m)	431.6		220.0			301.1
Travel Time (s)	31.1		15.8			21.7
Confl. Peds. (#/hr)	6	3		22	22	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	425	43	397	315	42	288
Shared Lane Traffic (%)						
Lane Group Flow (vph)	468	0	397	315	0	330
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (m)	2.0		10.0	2.0	2.0	10.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0		0.6	2.0	2.0	0.6
Detector 1 Type	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
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0

Lanes, Volumes, Timings
3: Simcoe Street & Bradford Street

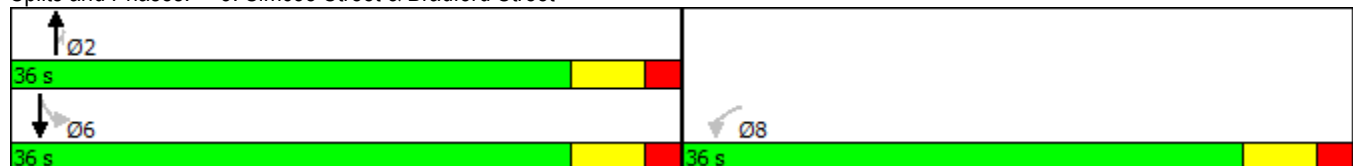
2019 Existing PM
06-03-2019

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Turn Type	Perm		NA	Perm	Perm	NA
Protected Phases			2			6
Permitted Phases	8			2	6	
Detector Phase	8		2	2	6	6
Switch Phase						
Minimum Initial (s)	30.0		30.0	30.0	30.0	30.0
Minimum Split (s)	36.0		36.0	36.0	36.0	36.0
Total Split (s)	36.0		36.0	36.0	36.0	36.0
Total Split (%)	50.0%		50.0%	50.0%	50.0%	50.0%
Maximum Green (s)	30.0		30.0	30.0	30.0	30.0
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0		0.0
Total Lost Time (s)	6.0		6.0	6.0		6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Max	Max	Max	Max
Walk Time (s)	10.0		16.0	16.0	16.0	16.0
Flash Dont Walk (s)	15.0		14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effct Green (s)	30.0		30.0	30.0		30.0
Actuated g/C Ratio	0.42		0.42	0.42		0.42
v/c Ratio	0.62		0.26	0.39		0.25
Control Delay	20.8		14.4	4.5		14.4
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	20.8		14.4	4.5		14.4
LOS	C		B	A		B
Approach Delay	20.8		10.0			14.4
Approach LOS	C		B			B

Intersection Summary

Area Type: Other
 Cycle Length: 72
 Actuated Cycle Length: 72
 Natural Cycle: 75
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.62
 Intersection Signal Delay: 14.3
 Intersection LOS: B
 Intersection Capacity Utilization 72.7%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 3: Simcoe Street & Bradford Street



Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2023 Future Background AM

06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	429	11	43	348	28	11	119	36	31	118	44
Future Volume (vph)	30	429	11	43	348	28	11	119	36	31	118	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	20.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	25.0			20.0			12.0			20.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	1.00				0.99	1.00		
Frt		0.996			0.989				0.850		0.959	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3558	0	1805	3564	0	1805	1900	1615	1805	1822	0
Flt Permitted	0.488			0.434			0.641			0.674		
Satd. Flow (perm)	924	3558	0	820	3564	0	1218	1900	1592	1278	1822	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			9				77		22	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		265.2			577.2			197.2			142.8	
Travel Time (s)		19.1			41.6			14.2			10.3	
Confl. Peds. (#/hr)	3		8	8		3			2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	33	466	12	47	378	30	12	129	39	34	128	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	478	0	47	408	0	12	129	39	34	176	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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	

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2023 Future Background AM

06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8				4
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		8	8	8	4		4
Switch Phase												
Minimum Initial (s)	7.0	38.0		7.0	38.0		10.0	10.0	10.0	38.0		38.0
Minimum Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0		44.0
Total Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0		44.0
Total Split (%)	11.6%	44.2%		11.6%	44.2%		32.2%	32.2%	32.2%	44.2%		44.2%
Maximum Green (s)	7.5	38.0		7.5	38.0		26.0	26.0	26.0	38.0		38.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0		4.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0		2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0		6.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None		None	None		Max	Max	Max	Max		Max
Walk Time (s)		16.0			10.0		10.0	10.0	10.0	16.0		16.0
Flash Dont Walk (s)		16.0			16.0		16.0	16.0	16.0	16.0		16.0
Pedestrian Calls (#/hr)		0			0		0	0	0	0		0
Act Effect Green (s)	44.3	38.1		44.4	38.2		38.1	38.1	38.1	38.1		38.1
Actuated g/C Ratio	0.47	0.40		0.47	0.40		0.40	0.40	0.40	0.40		0.40
v/c Ratio	0.07	0.33		0.10	0.28		0.02	0.17	0.06	0.07		0.24
Control Delay	12.4	21.0		12.7	20.0		19.5	20.2	1.1	19.7		18.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Total Delay	12.4	21.0		12.7	20.0		19.5	20.2	1.1	19.7		18.3
LOS	B	C		B	C		B	C	A	B		B
Approach Delay		20.5			19.3			16.0				18.6
Approach LOS		C			B			B				B

Intersection Summary

Area Type: Other

Cycle Length: 99.5

Actuated Cycle Length: 94.8

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.33

Intersection Signal Delay: 19.2

Intersection LOS: B

Intersection Capacity Utilization 100.0%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: Eccles Street & Dunlop Street



Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2023 Future Background AM

06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	363	133	74	318	16	83	60	140	9	42	7
Future Volume (vph)	17	363	133	74	318	16	83	60	140	9	42	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	35.0		20.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		1	1		1	0		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.99		0.96	0.98				0.99	
Frt		0.961				0.850			0.850		0.983	
Flt Protected		0.998		0.950			0.950				0.992	
Satd. Flow (prot)	0	3413	0	1805	1900	1615	1805	1900	1615	0	1844	0
Flt Permitted		0.939		0.387			0.643				0.931	
Satd. Flow (perm)	0	3210	0	731	1900	1543	1200	1900	1615	0	1726	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		71				102			152		8	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		577.2			373.1			121.3			143.3	
Travel Time (s)		41.6			26.9			8.7			10.3	
Confl. Peds. (#/hr)	16		17	17		16	20			18		20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)												0
Adj. Flow (vph)	18	395	145	80	346	17	90	65	152	10	46	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	558	0	80	346	17	90	65	152	0	64	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		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	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2023 Future Background AM

06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases		2		1	6		3	8		Perm		4
Permitted Phases	2			6		6	8		8	4		
Detector Phase	2	2		1	6	6	3	8	8	4	4	
Switch Phase												
Minimum Initial (s)	24.0	24.0		5.0	24.0	24.0	5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	30.0	30.0		9.0	30.0	30.0	9.0	31.0	31.0	16.0	16.0	
Total Split (s)	32.0	32.0		10.0	42.0	42.0	10.0	33.0	33.0	23.0	23.0	
Total Split (%)	42.7%	42.7%		13.3%	56.0%	56.0%	13.3%	44.0%	44.0%	30.7%	30.7%	
Maximum Green (s)	26.0	26.0		6.0	36.0	36.0	6.0	27.0	27.0	17.0	17.0	
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.0		4.0	6.0	6.0	4.0	6.0	6.0		6.0	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None	None	None	None	
Walk Time (s)	12.0	12.0			12.0	12.0		9.0	9.0			
Flash Dont Walk (s)	12.0	12.0			12.0	12.0		12.0	12.0			
Pedestrian Calls (#/hr)	0	0			0	0		0	0			
Act Effect Green (s)		35.3		41.6	40.9	40.9	16.3	15.7	15.7		10.1	
Actuated g/C Ratio		0.55		0.65	0.64	0.64	0.26	0.25	0.25		0.16	
v/c Ratio		0.31		0.14	0.28	0.02	0.24	0.14	0.30		0.23	
Control Delay		11.4		7.2	8.7	0.0	18.6	18.8	5.4		25.2	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay		11.4		7.2	8.7	0.0	18.6	18.8	5.4		25.2	
LOS		B		A	A	A	B	B	A		C	
Approach Delay		11.4			8.1			12.1			25.2	
Approach LOS		B			A			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 63.8

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.31

Intersection Signal Delay: 11.2

Intersection LOS: B

Intersection Capacity Utilization 66.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Bradford Street/High Stree & Dunlop Street



Lanes, Volumes, Timings
3: Simcoe Street & Bradford Street

2023 Future Background AM

06-03-2019

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	229	43	248	220	44	175
Future Volume (vph)	229	43	248	220	44	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		9.0	0.0	
Storage Lanes	1	1		1	0	
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.98		0.96		1.00
Frt		0.850		0.850		
Flt Protected	0.950					0.990
Satd. Flow (prot)	1787	1615	3610	1615	0	3574
Flt Permitted	0.950					0.846
Satd. Flow (perm)	1782	1589	3610	1552	0	3046
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		47		239		
Link Speed (k/h)	50		50			50
Link Distance (m)	431.6		232.2			276.1
Travel Time (s)	31.1		16.7			19.9
Confl. Peds. (#/hr)	3	5		16	16	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%
Adj. Flow (vph)	249	47	270	239	48	190
Shared Lane Traffic (%)						
Lane Group Flow (vph)	249	47	270	239	0	238
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	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
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0

Lanes, Volumes, Timings
3: Simcoe Street & Bradford Street

2023 Future Background AM

06-03-2019

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			6
Permitted Phases	8	8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	30.0	30.0	30.0	30.0	30.0	30.0
Minimum Split (s)	36.0	36.0	36.0	36.0	36.0	36.0
Total Split (s)	36.0	36.0	36.0	36.0	36.0	36.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0	30.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0		6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max
Walk Time (s)	10.0	10.0	16.0	16.0	16.0	16.0
Flash Dont Walk (s)	15.0	15.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effect Green (s)	30.0	30.0	30.3	30.3		30.3
Actuated g/C Ratio	0.41	0.41	0.42	0.42		0.42
v/c Ratio	0.34	0.07	0.18	0.30		0.19
Control Delay	15.9	4.6	13.6	3.2		13.8
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	15.9	4.6	13.6	3.2		13.8
LOS	B	A	B	A		B
Approach Delay	14.1		8.7			13.8
Approach LOS	B		A			B

Intersection Summary

Area Type: Other

Cycle Length: 72

Actuated Cycle Length: 72.3

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.34

Intersection Signal Delay: 11.4

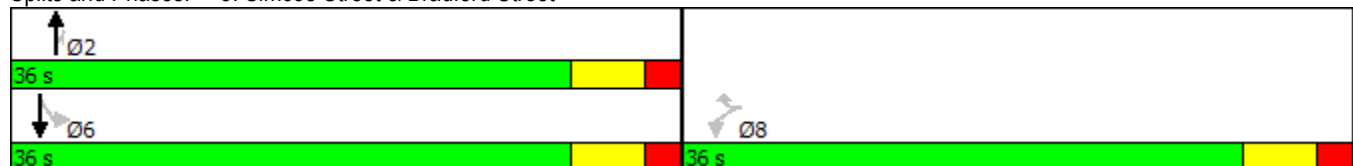
Intersection LOS: B

Intersection Capacity Utilization 71.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Simcoe Street & Bradford Street



Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2023 Future Background PM

06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	494	18	53	472	41	23	257	85	42	191	44
Future Volume (vph)	67	494	18	53	472	41	23	257	85	42	191	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	20.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	25.0			20.0			12.0			20.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		0.99	1.00		1.00		0.98	1.00	1.00	
Frt		0.995			0.988				0.850		0.972	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3586	0	1805	3556	0	1719	1900	1615	1805	1835	0
Flt Permitted	0.376			0.379			0.539			0.511		
Satd. Flow (perm)	709	3586	0	713	3556	0	974	1900	1587	968	1835	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			11				92		14	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		265.2			577.2			197.2			142.8	
Travel Time (s)		19.1			41.6			14.2			10.3	
Confl. Peds. (#/hr)	9		15	15		9	3		5	5		3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	2%
Adj. Flow (vph)	73	537	20	58	513	45	25	279	92	46	208	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	557	0	58	558	0	25	279	92	46	256	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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	

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2023 Future Background PM
06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8				4
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		8	8	8	4		4
Switch Phase												
Minimum Initial (s)	7.0	38.0		7.0	38.0		10.0	10.0	10.0	38.0	38.0	
Minimum Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (%)	11.6%	44.2%		11.6%	44.2%		32.2%	32.2%	32.2%	44.2%	44.2%	
Maximum Green (s)	7.5	38.0		7.5	38.0		26.0	26.0	26.0	38.0	38.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)		16.0			10.0		10.0	10.0	10.0	16.0	16.0	
Flash Dont Walk (s)		16.0			16.0		16.0	16.0	16.0	16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	
Act Effect Green (s)	46.0	38.2		45.8	38.1		38.1	38.1	38.1	38.1	38.1	
Actuated g/C Ratio	0.47	0.39		0.47	0.39		0.39	0.39	0.39	0.39	0.39	
v/c Ratio	0.17	0.39		0.14	0.40		0.07	0.37	0.14	0.12	0.35	
Control Delay	13.3	22.6		12.9	22.4		20.3	23.6	4.9	21.1	22.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	13.3	22.6		12.9	22.4		20.3	23.6	4.9	21.1	22.0	
LOS	B	C		B	C		C	C	A	C	C	
Approach Delay		21.5			21.5			19.0			21.9	
Approach LOS		C			C			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 99.5

Actuated Cycle Length: 97.1

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.40

Intersection Signal Delay: 21.1

Intersection LOS: C

Intersection Capacity Utilization 100.0%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: Eccles Street & Dunlop Street



Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2023 Future Background PM

06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	514	100	119	385	24	153	114	173	14	85	16
Future Volume (vph)	6	514	100	119	385	24	153	114	173	14	85	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	35.0		20.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		1	1		1	0		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.99		0.91	0.98				0.99	
Frt		0.976				0.850			0.850		0.981	
Flt Protected		0.999		0.950			0.950				0.994	
Satd. Flow (prot)	0	3497	0	1787	1900	1615	1805	1900	1615	0	1840	0
Flt Permitted		0.951		0.310			0.504				0.944	
Satd. Flow (perm)	0	3328	0	578	1900	1467	937	1900	1615	0	1746	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27				85			188			8
Link Speed (k/h)		50			50			50				50
Link Distance (m)		577.2			373.1			96.3				143.3
Travel Time (s)		41.6			26.9			6.9				10.3
Confl. Peds. (#/hr)	39		25	25		39	24			7		24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)												0
Adj. Flow (vph)	7	559	109	129	418	26	166	124	188	15	92	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	675	0	129	418	26	166	124	188	0	124	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		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	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2023 Future Background PM

06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Perm		NA
Protected Phases		2		1	6		3	8				4
Permitted Phases	2			6		6	8		8	4		
Detector Phase	2	2		1	6	6	3	8	8	4		4
Switch Phase												
Minimum Initial (s)	24.0	24.0		5.0	24.0	24.0	5.0	10.0	10.0	10.0		10.0
Minimum Split (s)	30.0	30.0		9.0	30.0	30.0	9.0	31.0	31.0	16.0		16.0
Total Split (s)	37.0	37.0		20.0	57.0	57.0	10.0	33.0	33.0	23.0		23.0
Total Split (%)	41.1%	41.1%		22.2%	63.3%	63.3%	11.1%	36.7%	36.7%	25.6%		25.6%
Maximum Green (s)	31.0	31.0		16.0	51.0	51.0	6.0	27.0	27.0	17.0		17.0
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	4.0		4.0
All-Red Time (s)	2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	2.0		2.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0			0.0
Total Lost Time (s)		6.0		4.0	6.0	6.0	4.0	6.0	6.0			6.0
Lead/Lag	Lag	Lag		Lead			Lead			Lag		Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max		None	Max	Max	None	None	None	None		None
Walk Time (s)	12.0	12.0			12.0	12.0		9.0	9.0			
Flash Dont Walk (s)	12.0	12.0			12.0	12.0		12.0	12.0			
Pedestrian Calls (#/hr)	0	0			0	0		0	0			
Act Effect Green (s)		39.0		53.0	51.0	51.0	23.8	21.8	21.8			11.8
Actuated g/C Ratio		0.46		0.62	0.60	0.60	0.28	0.26	0.26			0.14
v/c Ratio		0.44		0.27	0.37	0.03	0.51	0.25	0.34			0.50
Control Delay		16.5		8.3	10.1	0.0	30.5	26.5	5.8			38.8
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0			0.0
Total Delay		16.5		8.3	10.1	0.0	30.5	26.5	5.8			38.8
LOS		B		A	B	A	C	C	A			D
Approach Delay		16.5			9.2			19.7				38.8
Approach LOS		B			A			B				D

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 84.8

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.51

Intersection Signal Delay: 16.6

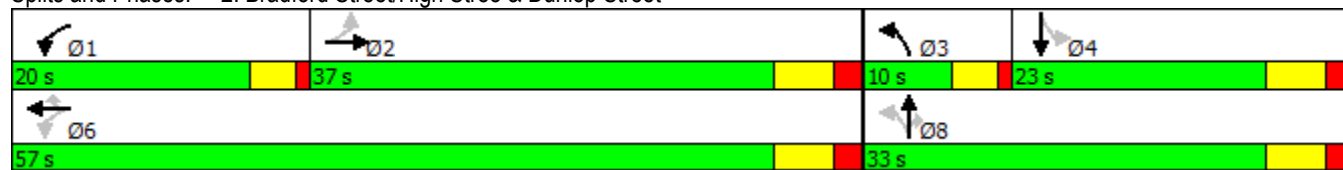
Intersection LOS: B

Intersection Capacity Utilization 70.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Bradford Street/High Stree & Dunlop Street



Lanes, Volumes, Timings
3: Simcoe Street & Bradford Street

2023 Future Background PM

06-03-2019

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	407	42	380	302	41	276
Future Volume (vph)	407	42	380	302	41	276
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		9.0	0.0	
Storage Lanes	1	0		1	0	
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99			0.95		1.00
Frt	0.987			0.850		
Flt Protected	0.957					0.994
Satd. Flow (prot)	1792	0	3610	1615	0	3588
Flt Permitted	0.957					0.855
Satd. Flow (perm)	1784	0	3610	1541	0	3081
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	9			275		
Link Speed (k/h)	50		50			50
Link Distance (m)	431.6		220.0			301.1
Travel Time (s)	31.1		15.8			21.7
Confl. Peds. (#/hr)	6	3		22	22	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	442	46	413	328	45	300
Shared Lane Traffic (%)						
Lane Group Flow (vph)	488	0	413	328	0	345
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Number of Detectors	1		2	1	1	2
Detector Template	Left		Thru	Right	Left	Thru
Leading Detector (m)	2.0		10.0	2.0	2.0	10.0
Trailing Detector (m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0		0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0		0.6	2.0	2.0	0.6
Detector 1 Type	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
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0

Lanes, Volumes, Timings

3: Simcoe Street & Bradford Street

2023 Future Background PM

06-03-2019

	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Turn Type	Perm		NA	Perm	Perm	NA
Protected Phases			2			6
Permitted Phases	8			2	6	
Detector Phase	8		2	2	6	6
Switch Phase						
Minimum Initial (s)	30.0		30.0	30.0	30.0	30.0
Minimum Split (s)	36.0		36.0	36.0	36.0	36.0
Total Split (s)	36.0		36.0	36.0	36.0	36.0
Total Split (%)	50.0%		50.0%	50.0%	50.0%	50.0%
Maximum Green (s)	30.0		30.0	30.0	30.0	30.0
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0		0.0
Total Lost Time (s)	6.0		6.0	6.0		6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Max	Max	Max	Max
Walk Time (s)	10.0		16.0	16.0	16.0	16.0
Flash Dont Walk (s)	15.0		14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effect Green (s)	30.0		30.0	30.0		30.0
Actuated g/C Ratio	0.42		0.42	0.42		0.42
v/c Ratio	0.65		0.27	0.41		0.27
Control Delay	21.6		14.5	4.9		14.5
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	21.6		14.5	4.9		14.5
LOS	C		B	A		B
Approach Delay	21.6		10.2			14.5
Approach LOS	C		B			B

Intersection Summary

Area Type: Other

Cycle Length: 72

Actuated Cycle Length: 72

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 14.7

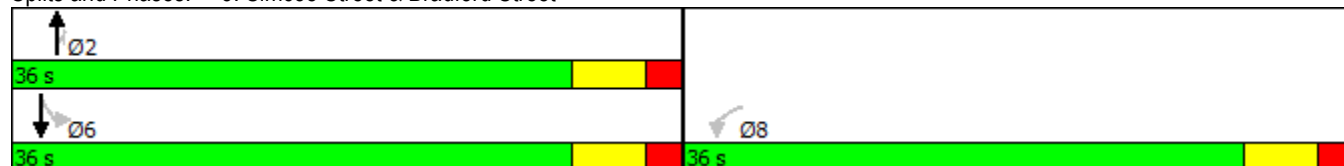
Intersection LOS: B

Intersection Capacity Utilization 74.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Simcoe Street & Bradford Street



Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2023 Total AM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	464	11	43	399	35	11	119	36	43	118	44
Future Volume (vph)	30	464	11	43	399	35	11	119	36	43	118	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	20.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	25.0			20.0			12.0			20.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	1.00				0.99	1.00		
Frt		0.997			0.988				0.850		0.959	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3562	0	1805	3559	0	1805	1900	1615	1805	1822	0
Flt Permitted	0.441			0.408			0.641			0.674		
Satd. Flow (perm)	836	3562	0	771	3559	0	1218	1900	1592	1278	1822	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			11				77		22	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		265.2			577.2			197.2			142.8	
Travel Time (s)		19.1			41.6			14.2			10.3	
Confl. Peds. (#/hr)	3		8	8		3			2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	33	504	12	47	434	38	12	129	39	47	128	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	516	0	47	472	0	12	129	39	47	176	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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	

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2023 Total AM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8				4
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		8	8	8	4		4
Switch Phase												
Minimum Initial (s)	7.0	38.0		7.0	38.0		10.0	10.0	10.0	38.0	38.0	
Minimum Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (%)	11.6%	44.2%		11.6%	44.2%		32.2%	32.2%	32.2%	44.2%	44.2%	
Maximum Green (s)	7.5	38.0		7.5	38.0		26.0	26.0	26.0	38.0	38.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)		16.0			10.0		10.0	10.0	10.0	16.0	16.0	
Flash Dont Walk (s)		16.0			16.0		16.0	16.0	16.0	16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	
Act Effect Green (s)	44.3	38.1		44.4	38.2		38.1	38.1	38.1	38.1	38.1	
Actuated g/C Ratio	0.47	0.40		0.47	0.40		0.40	0.40	0.40	0.40	0.40	
v/c Ratio	0.07	0.36		0.11	0.33		0.02	0.17	0.06	0.09	0.24	
Control Delay	12.4	21.3		12.8	20.5		19.5	20.2	1.1	20.0	18.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	12.4	21.3		12.8	20.5		19.5	20.2	1.1	20.0	18.3	
LOS	B	C		B	C		B	C	A	B	B	
Approach Delay		20.8			19.8			16.0			18.7	
Approach LOS		C			B			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 99.5

Actuated Cycle Length: 94.8

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.36

Intersection Signal Delay: 19.5

Intersection LOS: B

Intersection Capacity Utilization 100.0%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: Eccles Street & Dunlop Street



Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2023 Total AM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	363	180	95	318	16	141	66	157	9	47	7
Future Volume (vph)	17	363	180	95	318	16	141	66	157	9	47	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	35.0		20.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		1	1		1	0		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.99		0.96	0.98				0.99	
Frt		0.952				0.850			0.850		0.984	
Flt Protected		0.999		0.950			0.950				0.993	
Satd. Flow (prot)	0	3381	0	1805	1900	1615	1805	1900	1615	0	1848	0
Flt Permitted		0.939		0.339			0.654				0.934	
Satd. Flow (perm)	0	3176	0	640	1900	1543	1221	1900	1615	0	1734	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		115				102			171		8	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		577.2			373.1			114.5			143.3	
Travel Time (s)		41.6			26.9			8.2			10.3	
Confl. Peds. (#/hr)	16		17	17		16	20			18		20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)												0
Adj. Flow (vph)	18	395	196	103	346	17	153	72	171	10	51	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	609	0	103	346	17	153	72	171	0	69	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		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	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2023 Total AM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8		8	4		
Detector Phase	2	2		1	6	6	3	8	8	4	4	
Switch Phase												
Minimum Initial (s)	24.0	24.0		5.0	24.0	24.0	5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	30.0	30.0		9.0	30.0	30.0	9.0	31.0	31.0	16.0	16.0	
Total Split (s)	32.0	32.0		10.0	42.0	42.0	10.0	33.0	33.0	23.0	23.0	
Total Split (%)	42.7%	42.7%		13.3%	56.0%	56.0%	13.3%	44.0%	44.0%	30.7%	30.7%	
Maximum Green (s)	26.0	26.0		6.0	36.0	36.0	6.0	27.0	27.0	17.0	17.0	
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.0		4.0	6.0	6.0	4.0	6.0	6.0		6.0	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None	None	None	None	
Walk Time (s)	12.0	12.0			12.0	12.0		9.0	9.0			
Flash Dont Walk (s)	12.0	12.0			12.0	12.0		12.0	12.0			
Pedestrian Calls (#/hr)	0	0			0	0		0	0			
Act Effect Green (s)		28.6		38.5	36.4	36.4	17.8	15.8	15.8		10.1	
Actuated g/C Ratio		0.44		0.60	0.57	0.57	0.28	0.25	0.25		0.16	
v/c Ratio		0.41		0.21	0.32	0.02	0.38	0.15	0.33		0.25	
Control Delay		12.3		7.8	9.4	0.1	20.6	18.9	5.4		25.5	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay		12.3		7.8	9.4	0.1	20.6	18.9	5.4		25.5	
LOS		B		A	A	A	C	B	A		C	
Approach Delay		12.3			8.7			13.7			25.5	
Approach LOS		B			A			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 64.3

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.41

Intersection Signal Delay: 12.2

Intersection LOS: B

Intersection Capacity Utilization 69.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Bradford Street/High Stree & Dunlop Street

 Ø1	 Ø2	 Ø3	 Ø4
10 s	32 s	10 s	23 s
 Ø6		 Ø8	
42 s		33 s	

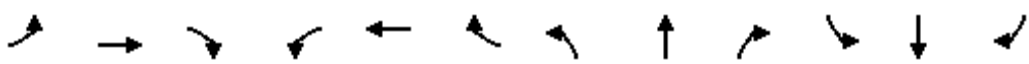
Lanes, Volumes, Timings
3: Site Access (Simcoe)/Simcoe Street & Bradford Street

2023 Total AM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	5	8	230	7	43	17	299	222	44	189	59
Future Volume (vph)	30	5	8	230	7	43	17	299	222	44	189	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		9.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	0.95
Ped Bike Factor		0.99		1.00	0.99				0.96		1.00	
Frt		0.974			0.872				0.850		0.970	
Flt Protected		0.966		0.950				0.997			0.992	
Satd. Flow (prot)	0	1783	0	1787	1634	0	0	3599	1615	0	3474	0
Flt Permitted		0.833		0.726				0.929			0.854	
Satd. Flow (perm)	0	1533	0	1362	1634	0	0	3354	1552	0	2985	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			47				241			53
Link Speed (k/h)		50			50			50				50
Link Distance (m)		288.6			431.6			191.9				282.9
Travel Time (s)		20.8			31.1			13.8				20.4
Confl. Peds. (#/hr)	5		3	3		5			16	16		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	33	5	9	250	8	47	18	325	241	48	205	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	47	0	250	55	0	0	343	241	0	317	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)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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	

Lanes, Volumes, Timings
3: Site Access (Simcoe)/Simcoe Street & Bradford Street

2023 Total AM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		16.0	16.0	16.0	16.0	16.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		14.0	14.0	14.0	14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effect Green (s)		30.0		30.0	30.0			30.2	30.2		30.2	
Actuated g/C Ratio		0.42		0.42	0.42			0.42	0.42		0.42	
v/c Ratio		0.07		0.44	0.08			0.24	0.31		0.25	
Control Delay		11.2		18.2	5.5			14.2	3.2		11.9	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		11.2		18.2	5.5			14.2	3.2		11.9	
LOS		B		B	A			B	A		B	
Approach Delay		11.2			15.9			9.7			11.9	
Approach LOS		B			B			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 72

Actuated Cycle Length: 72.2

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.44

Intersection Signal Delay: 11.8

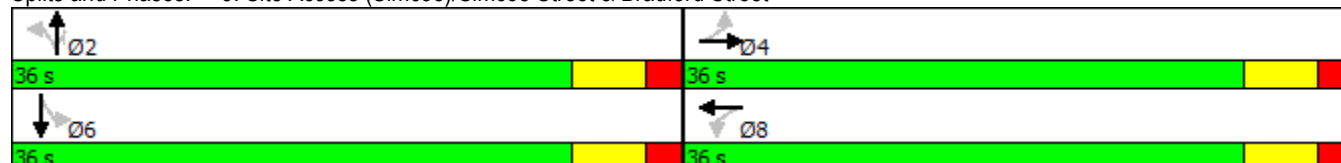
Intersection LOS: B

Intersection Capacity Utilization 90.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street



Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	53	3	2	484	412	15
Future Vol, veh/h	53	3	2	484	412	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	58	3	2	526	448	16
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	723	232	464	0	-	0
Stage 1	456	-	-	-	-	-
Stage 2	267	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	365	776	1108	-	-	-
Stage 1	611	-	-	-	-	-
Stage 2	760	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	364	776	1108	-	-	-
Mov Cap-2 Maneuver	364	-	-	-	-	-
Stage 1	609	-	-	-	-	-
Stage 2	760	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	16.5	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1108	-	375	-	-	
HCM Lane V/C Ratio	0.002	-	0.162	-	-	
HCM Control Delay (s)	8.3	0	16.5	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0	-	0.6	-	-	

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2023 Total PM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	550	18	53	513	53	23	257	85	54	191	44
Future Volume (vph)	67	550	18	53	513	53	23	257	85	54	191	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	20.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	25.0			20.0			12.0			20.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		0.99	1.00		1.00		0.98	1.00	1.00	
Frt		0.995			0.986				0.850		0.972	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3587	0	1805	3547	0	1719	1900	1615	1805	1835	0
Flt Permitted	0.339			0.340			0.539			0.511		
Satd. Flow (perm)	640	3587	0	640	3547	0	974	1900	1587	968	1835	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			13				92		14	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		265.2			577.2			197.2			142.8	
Travel Time (s)		19.1			41.6			14.2			10.3	
Confl. Peds. (#/hr)	9		15	15		9	3		5	5		3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	2%
Adj. Flow (vph)	73	598	20	58	558	58	25	279	92	59	208	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	618	0	58	616	0	25	279	92	59	256	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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	

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2023 Total PM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	7.0	38.0		7.0	38.0		10.0	10.0	10.0	38.0	38.0	
Minimum Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (%)	11.6%	44.2%		11.6%	44.2%		32.2%	32.2%	32.2%	44.2%	44.2%	
Maximum Green (s)	7.5	38.0		7.5	38.0		26.0	26.0	26.0	38.0	38.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)		16.0			10.0		10.0	10.0	10.0	16.0	16.0	
Flash Dont Walk (s)		16.0			16.0		16.0	16.0	16.0	16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	
Act Effect Green (s)	46.0	38.2		45.8	38.1		38.1	38.1	38.1	38.1	38.1	
Actuated g/C Ratio	0.47	0.39		0.47	0.39		0.39	0.39	0.39	0.39	0.39	
v/c Ratio	0.19	0.44		0.15	0.44		0.07	0.37	0.14	0.16	0.35	
Control Delay	13.4	23.2		13.1	22.9		20.3	23.6	4.9	21.7	22.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	13.4	23.2		13.1	22.9		20.3	23.6	4.9	21.7	22.0	
LOS	B	C		B	C		C	C	A	C	C	
Approach Delay		22.2			22.1			19.0			22.0	
Approach LOS		C			C			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 99.5

Actuated Cycle Length: 97.1

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.44

Intersection Signal Delay: 21.5

Intersection LOS: C

Intersection Capacity Utilization 100.0%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: Eccles Street & Dunlop Street



Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2023 Total PM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	514	168	143	385	24	206	123	197	14	94	16
Future Volume (vph)	6	514	168	143	385	24	206	123	197	14	94	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	35.0		20.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		1	1		1	0		0
Taper Length (m)	7.5			25.0			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.99		0.91	0.98				0.99	
Frt		0.963				0.850			0.850		0.983	
Flt Protected				0.950			0.950				0.994	
Satd. Flow (prot)	0	3443	0	1787	1900	1615	1805	1900	1615	0	1845	0
Flt Permitted		0.951		0.271			0.481				0.947	
Satd. Flow (perm)	0	3273	0	506	1900	1467	895	1900	1615	0	1756	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		53				85			214		7	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		577.2			373.1			114.5			143.3	
Travel Time (s)		41.6			26.9			8.2			10.3	
Confl. Peds. (#/hr)	39		25	25		39	24			7		24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)												0
Adj. Flow (vph)	7	559	183	155	418	26	224	134	214	15	102	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	749	0	155	418	26	224	134	214	0	134	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		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	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2023 Total PM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8		8	4		
Detector Phase	2	2		1	6	6	3	8	8	4	4	
Switch Phase												
Minimum Initial (s)	24.0	24.0		5.0	24.0	24.0	5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	30.0	30.0		9.0	30.0	30.0	9.0	31.0	31.0	16.0	16.0	
Total Split (s)	37.0	37.0		20.0	57.0	57.0	10.0	33.0	33.0	23.0	23.0	
Total Split (%)	41.1%	41.1%		22.2%	63.3%	63.3%	11.1%	36.7%	36.7%	25.6%	25.6%	
Maximum Green (s)	31.0	31.0		16.0	51.0	51.0	6.0	27.0	27.0	17.0	17.0	
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.0		4.0	6.0	6.0	4.0	6.0	6.0		6.0	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None	None	None	None	
Walk Time (s)	12.0	12.0			12.0	12.0		9.0	9.0			
Flash Dont Walk (s)	12.0	12.0			12.0	12.0		12.0	12.0			
Pedestrian Calls (#/hr)	0	0			0	0		0	0			
Act Effect Green (s)		38.4		53.1	51.1	51.1	24.1	22.1	22.1		12.1	
Actuated g/C Ratio		0.45		0.62	0.60	0.60	0.28	0.26	0.26		0.14	
v/c Ratio		0.50		0.35	0.37	0.03	0.71	0.27	0.37		0.53	
Control Delay		17.4		9.3	10.3	0.0	39.0	26.6	5.7		39.8	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay		17.4		9.3	10.3	0.0	39.0	26.6	5.7		39.8	
LOS		B		A	B	A	D	C	A		D	
Approach Delay		17.4			9.6			23.6			39.8	
Approach LOS		B			A			C			D	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 85.2

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 18.3

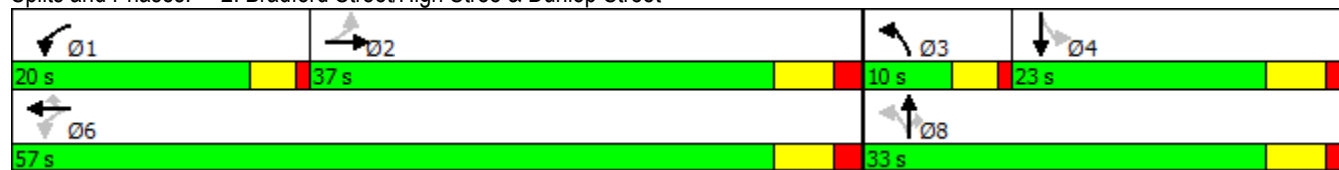
Intersection LOS: B

Intersection Capacity Utilization 73.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 2: Bradford Street/High Stree & Dunlop Street



Lanes, Volumes, Timings
3: Site Access (Simcoe)/Simcoe Street & Bradford Street

2023 Total PM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	11	18	409	6	42	15	408	303	41	321	56
Future Volume (vph)	58	11	18	409	6	42	15	408	303	41	321	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		9.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	0.95
Ped Bike Factor		0.99		1.00	0.99				0.95		1.00	
Frt		0.972			0.870				0.850		0.980	
Flt Protected		0.968		0.950				0.998			0.995	
Satd. Flow (prot)	0	1781	0	1805	1632	0	0	3603	1615	0	3520	0
Flt Permitted		0.807		0.695				0.932			0.868	
Satd. Flow (perm)	0	1483	0	1315	1632	0	0	3365	1541	0	3067	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			46				248			29
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		288.6			431.6			191.9			282.9	
Travel Time (s)		20.8			31.1			13.8			20.4	
Confl. Peds. (#/hr)	3		6	6		3			22	22		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	63	12	20	445	7	46	16	443	329	45	349	61
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	95	0	445	53	0	0	459	329	0	455	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)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		16.0	16.0	16.0	16.0	16.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		14.0	14.0	14.0	14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effect Green (s)		30.0		30.0	30.0			30.0	30.0		30.0	
Actuated g/C Ratio		0.42		0.42	0.42			0.42	0.42		0.42	
v/c Ratio		0.15		0.81	0.08			0.33	0.42		0.35	
Control Delay		11.4		33.1	5.4			15.0	5.9		14.3	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		11.4		33.1	5.4			15.0	5.9		14.3	
LOS		B		C	A			B	A		B	
Approach Delay		11.4			30.1			11.2			14.3	
Approach LOS		B			C			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 72

Actuated Cycle Length: 72

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 17.1

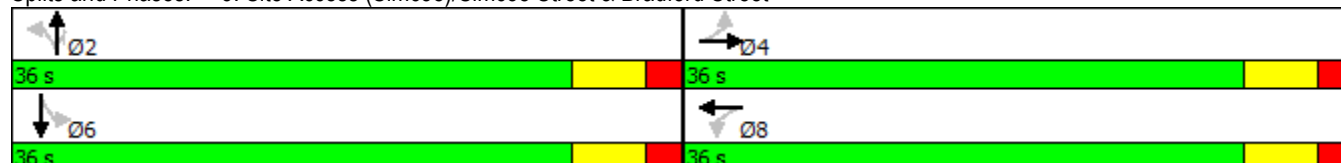
Intersection LOS: B

Intersection Capacity Utilization 90.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street



Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	29	3	2	697	701	47
Future Vol, veh/h	29	3	2	697	701	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	32	3	2	758	762	51

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1171	407	813	0	-	0
Stage 1	788	-	-	-	-	-
Stage 2	383	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	189	599	823	-	-	-
Stage 1	414	-	-	-	-	-
Stage 2	665	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	188	599	823	-	-	-
Mov Cap-2 Maneuver	188	-	-	-	-	-
Stage 1	412	-	-	-	-	-
Stage 2	665	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	26.6	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	823	-	201	-	-
HCM Lane V/C Ratio	0.003	-	0.173	-	-
HCM Control Delay (s)	9.4	0	26.6	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

Intersection: 1: Eccles Street & Dunlop Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (m)	17.1	48.4	40.4	18.5	30.6	32.8	13.3	28.4	16.1	17.2	41.1
Average Queue (m)	5.3	26.9	18.8	6.4	13.3	15.5	2.1	12.5	5.1	5.1	18.2
95th Queue (m)	13.6	42.5	34.3	15.5	24.5	29.0	8.6	26.2	13.2	15.0	34.4
Link Distance (m)		255.0	255.0		549.6	549.6		183.4	183.4		129.0
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	25.0			25.0			20.0			40.0	
Storage Blk Time (%)	0	10		0	1		0	3			0
Queuing Penalty (veh)	0	3		0	0		0	0			0

Intersection: 2: Bradford Street/High Stree & Dunlop Street

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	R	L	T	LTR
Maximum Queue (m)	42.1	50.6	22.0	36.5	22.1	28.6	23.9	25.2
Average Queue (m)	17.2	21.6	9.6	17.3	1.8	13.4	9.3	11.3
95th Queue (m)	34.5	41.5	18.4	32.2	10.6	25.8	20.2	21.2
Link Distance (m)	549.6	549.6		362.7		98.9	98.9	129.6
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			35.0		20.0			
Storage Blk Time (%)				4				
Queuing Penalty (veh)				4				

Intersection: 3: Simcoe Street & Bradford Street

Movement	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	R	T	T	R	LT	T
Maximum Queue (m)	50.8	12.6	25.4	48.8	18.0	28.8	28.5
Average Queue (m)	23.3	3.7	10.6	21.1	15.2	12.6	13.3
95th Queue (m)	41.8	9.6	21.9	39.3	21.6	23.6	23.7
Link Distance (m)	415.7	415.7	222.0	222.0		257.5	257.5
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)					9.0		
Storage Blk Time (%)				28	14		
Queuing Penalty (veh)				58	17		

Network Summary

Network wide Queuing Penalty: 82

Intersection: 1: Eccles Street & Dunlop Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (m)	29.9	53.3	45.1	27.7	37.2	46.0	27.7	61.5	16.0	20.6	53.8
Average Queue (m)	10.1	29.6	22.6	7.8	19.8	23.8	6.6	29.9	7.4	8.1	27.5
95th Queue (m)	21.4	46.6	39.3	18.5	34.1	41.0	20.2	50.7	15.7	18.1	48.3
Link Distance (m)		255.0	255.0		549.7	549.7		183.4	183.4		129.0
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	25.0			25.0			20.0			40.0	
Storage Blk Time (%)	0	12		0	4		1	18			3
Queuing Penalty (veh)	0	8		0	2		2	4			1

Intersection: 2: Bradford Street/High Stree & Dunlop Street

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	R	L	T	LTR
Maximum Queue (m)	59.6	68.4	25.1	47.0	24.6	44.0	39.6	38.1
Average Queue (m)	21.4	26.2	12.1	20.7	2.2	23.1	18.1	18.8
95th Queue (m)	43.9	52.8	21.9	40.6	11.5	38.2	33.6	33.7
Link Distance (m)	549.7	549.7		362.6		73.9	73.9	129.6
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			35.0		20.0			
Storage Blk Time (%)				7	0			
Queuing Penalty (veh)				10	0			

Intersection: 3: Simcoe Street & Bradford Street

Movement	WB	NB	NB	NB	SB	SB
Directions Served	LR	T	T	R	LT	T
Maximum Queue (m)	81.2	44.4	61.1	18.0	33.0	29.9
Average Queue (m)	47.0	15.3	30.6	16.7	16.9	16.1
95th Queue (m)	72.6	30.5	54.5	19.8	28.8	27.5
Link Distance (m)	415.4	209.8	209.8		286.1	286.1
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)				9.0		
Storage Blk Time (%)			35	19		
Queuing Penalty (veh)			102	34		

Network Summary

Network wide Queuing Penalty: 162

Intersection: 1: Eccles Street & Dunlop Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (m)	33.7	53.1	45.4	14.1	38.4	43.0	14.0	33.1	12.6	17.0	40.0
Average Queue (m)	6.7	31.0	20.6	6.3	17.1	19.9	1.9	15.4	5.1	5.7	18.4
95th Queue (m)	19.5	48.0	38.6	13.7	31.2	36.8	9.1	28.1	12.9	14.7	34.3
Link Distance (m)		255.0	255.0		549.6	549.6		183.4	183.4		129.0
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	25.0			25.0			20.0			40.0	
Storage Blk Time (%)	0	14			3		0	4			0
Queuing Penalty (veh)	0	4			1		0	0			0

Intersection: 2: Bradford Street/High Stree & Dunlop Street

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	R	L	T	LTR
Maximum Queue (m)	42.5	55.0	19.8	47.9	16.2	37.9	28.2	22.0
Average Queue (m)	20.2	24.8	9.1	20.6	2.0	15.2	9.9	9.9
95th Queue (m)	38.8	46.7	17.4	37.6	9.7	29.5	22.0	19.7
Link Distance (m)	549.6	549.6		362.7		98.9	98.9	129.6
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			35.0		20.0			
Storage Blk Time (%)				6				
Queuing Penalty (veh)				6				

Intersection: 3: Simcoe Street & Bradford Street

Movement	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	R	T	T	R	LT	T
Maximum Queue (m)	50.4	9.6	26.8	48.4	18.0	30.8	34.6
Average Queue (m)	23.4	3.5	11.4	20.8	15.1	14.1	14.9
95th Queue (m)	41.4	8.9	23.0	39.7	19.9	26.6	28.5
Link Distance (m)	415.7	415.7	222.0	222.0		257.5	257.5
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)					9.0		
Storage Blk Time (%)				29	13		
Queuing Penalty (veh)				63	16		

Network Summary

Network wide Queuing Penalty: 92

Intersection: 1: Eccles Street & Dunlop Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (m)	49.2	58.3	52.3	25.2	47.7	53.1	26.1	63.6	22.0	29.3	61.2
Average Queue (m)	12.8	34.5	26.7	7.2	24.8	28.1	5.6	30.4	8.9	9.4	27.4
95th Queue (m)	30.5	53.8	48.2	18.0	41.4	45.9	18.1	54.5	17.9	22.0	49.4
Link Distance (m)		255.0	255.0		549.7	549.7		183.4	183.4		129.0
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	25.0			25.0			20.0			40.0	
Storage Blk Time (%)	0	17		0	8		0	19			2
Queuing Penalty (veh)	1	11		0	4		1	4			1

Intersection: 2: Bradford Street/High Stree & Dunlop Street

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	R	L	T	LTR
Maximum Queue (m)	63.4	68.8	37.5	52.4	29.1	46.6	39.2	37.0
Average Queue (m)	27.3	30.7	13.7	26.2	2.4	23.9	18.0	18.3
95th Queue (m)	54.4	62.2	26.4	46.3	12.7	39.9	32.4	32.4
Link Distance (m)	549.7	549.7		362.6		73.9	73.9	129.6
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			35.0		20.0			
Storage Blk Time (%)			0	10				
Queuing Penalty (veh)			0	15				

Intersection: 3: Simcoe Street & Bradford Street

Movement	WB	NB	NB	NB	SB	SB
Directions Served	LR	T	T	R	LT	T
Maximum Queue (m)	80.6	51.3	72.7	18.0	31.6	36.1
Average Queue (m)	44.9	17.3	31.3	16.7	17.3	18.4
95th Queue (m)	72.0	34.9	58.9	20.7	29.2	29.5
Link Distance (m)	415.4	209.8	209.8		286.1	286.1
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)				9.0		
Storage Blk Time (%)			35	18		
Queuing Penalty (veh)			104	34		

Network Summary

Network wide Queuing Penalty: 176

Intersection: 1: Eccles Street & Dunlop Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (m)	25.0	52.1	47.3	23.9	39.0	47.1	16.7	39.8	12.2	21.5	42.4
Average Queue (m)	6.1	30.1	23.0	6.7	19.8	23.0	2.9	16.8	4.6	7.6	18.5
95th Queue (m)	16.9	48.4	41.2	15.6	33.2	38.7	10.8	30.9	12.2	18.5	35.0
Link Distance (m)		255.0	255.0		549.6	549.6		183.4	183.4		129.0
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	25.0			25.0			20.0			40.0	
Storage Blk Time (%)	0	13		0	4		0	6			0
Queuing Penalty (veh)	0	4		0	2		0	1			0

Intersection: 2: Bradford Street/High Stree & Dunlop Street

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	R	L	T	LTR
Maximum Queue (m)	46.0	58.0	23.7	45.7	22.7	40.9	28.1	25.0
Average Queue (m)	22.6	28.0	10.7	22.7	2.2	19.9	10.1	11.3
95th Queue (m)	43.8	51.1	19.0	40.5	11.5	34.2	21.8	21.2
Link Distance (m)	549.6	549.6		362.8		92.2	92.2	129.6
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			35.0		20.0			
Storage Blk Time (%)				7	0			
Queuing Penalty (veh)				8	0			

Intersection: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street

Movement	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LTR	L	TR	LT	T	R	LT	TR
Maximum Queue (m)	21.6	60.9	14.3	32.8	54.8	18.0	30.0	36.2
Average Queue (m)	5.7	25.9	4.4	15.7	21.3	15.9	15.5	17.9
95th Queue (m)	15.5	47.0	10.3	27.7	41.7	20.4	26.3	30.8
Link Distance (m)	276.6	415.7	415.7	171.5	171.5		264.3	264.3
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)						9.0		
Storage Blk Time (%)					28	16		
Queuing Penalty (veh)					62	23		

Intersection: 5: Bradford Street & South Site Acss

Movement	EB
Directions Served	LR
Maximum Queue (m)	15.8
Average Queue (m)	7.7
95th Queue (m)	15.4
Link Distance (m)	180.4
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 100

Intersection: 1: Eccles Street & Dunlop Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (m)	40.4	68.5	57.4	26.7	47.8	64.5	27.7	68.3	21.2	42.6	65.9
Average Queue (m)	11.9	38.0	29.8	8.3	26.9	31.6	5.3	33.6	9.0	11.2	29.1
95th Queue (m)	26.1	56.9	50.6	18.7	43.1	52.0	18.6	57.9	17.6	26.2	53.2
Link Distance (m)		255.0	255.0		549.6	549.6		183.4	183.4		129.0
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	25.0			25.0			20.0			40.0	
Storage Blk Time (%)	0	21		0	10		0	23			3
Queuing Penalty (veh)	1	14		0	5		1	5			2

Intersection: 2: Bradford Street/High Stree & Dunlop Street

Movement	EB	EB	WB	WB	WB	NB	NB	B4	SB
Directions Served	LT	TR	L	T	R	L	T	T	LTR
Maximum Queue (m)	63.4	73.4	51.7	73.8	30.0	63.8	40.9	2.8	41.2
Average Queue (m)	29.0	35.8	17.4	27.5	3.2	34.2	18.6	0.1	21.7
95th Queue (m)	56.2	66.7	33.4	53.0	15.1	57.4	33.2	1.8	36.1
Link Distance (m)	549.6	549.6		362.8		92.2	92.2	264.3	129.6
Upstream Blk Time (%)						0			
Queuing Penalty (veh)						0			
Storage Bay Dist (m)			35.0		20.0				
Storage Blk Time (%)			0	11	0				
Queuing Penalty (veh)			1	18	0				

Intersection: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street

Movement	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LTR	L	TR	LT	T	R	LT	TR
Maximum Queue (m)	21.8	73.5	10.9	43.9	72.8	18.0	36.4	39.5
Average Queue (m)	9.4	44.0	3.7	22.5	35.3	16.9	19.3	21.6
95th Queue (m)	19.6	67.3	10.0	37.9	61.7	20.9	30.8	34.4
Link Distance (m)	276.6	415.7	415.7	171.5	171.5		264.3	264.3
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)						9.0		
Storage Blk Time (%)					34	20		
Queuing Penalty (veh)					102	41		

Intersection: 5: Bradford Street & South Site Acess

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (m)	16.7	6.1
Average Queue (m)	6.5	0.2
95th Queue (m)	14.9	2.9
Link Distance (m)	180.4	144.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 189

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2024 Future Background AM

06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	426	25	43	358	28	12	120	33	32	119	44
Future Volume (vph)	30	426	25	43	358	28	12	120	33	32	119	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	20.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	25.0			20.0			12.0			20.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	1.00				0.99	1.00		
Frt		0.992			0.989				0.850		0.959	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3541	0	1805	3564	0	1805	1900	1615	1805	1822	0
Flt Permitted	0.480			0.426			0.639			0.674		
Satd. Flow (perm)	909	3541	0	805	3564	0	1214	1900	1592	1278	1822	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			9				77		22	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		265.2			577.2			394.4			142.8	
Travel Time (s)		19.1			41.6			28.4			10.3	
Confl. Peds. (#/hr)	3		8	8		3			2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	33	463	27	47	389	30	13	130	36	35	129	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	490	0	47	419	0	13	130	36	35	177	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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	

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2024 Future Background AM

06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	7.0	38.0		7.0	38.0		10.0	10.0	10.0	38.0	38.0	
Minimum Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (%)	11.6%	44.2%		11.6%	44.2%		32.2%	32.2%	32.2%	44.2%	44.2%	
Maximum Green (s)	7.5	38.0		7.5	38.0		26.0	26.0	26.0	38.0	38.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)		16.0			10.0		10.0	10.0	10.0	16.0	16.0	
Flash Dont Walk (s)		16.0			16.0		16.0	16.0	16.0	16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	
Act Effect Green (s)	44.3	38.1		44.4	38.2		38.1	38.1	38.1	38.1	38.1	
Actuated g/C Ratio	0.47	0.40		0.47	0.40		0.40	0.40	0.40	0.40	0.40	
v/c Ratio	0.07	0.34		0.10	0.29		0.03	0.17	0.05	0.07	0.24	
Control Delay	12.4	20.9		12.8	20.1		19.5	20.1	0.6	19.7	18.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	12.4	20.9		12.8	20.1		19.5	20.1	0.6	19.7	18.4	
LOS	B	C		B	C		B	C	A	B	B	
Approach Delay		20.4			19.4			16.2			18.6	
Approach LOS		C			B			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 99.5

Actuated Cycle Length: 94.8

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.34

Intersection Signal Delay: 19.2

Intersection LOS: B

Intersection Capacity Utilization 100.0%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: Eccles Street & Dunlop Street



Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2024 Future Background AM

06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	369	121	75	326	16	80	61	145	9	42	7
Future Volume (vph)	17	369	121	75	326	16	80	61	145	9	42	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		20.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		1	1		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00	0.96	0.98				0.99	
Frt		0.964				0.850			0.850		0.983	
Flt Protected		0.998			0.991		0.950				0.992	
Satd. Flow (prot)	0	3425	0	0	3578	1615	1805	1900	1615	0	1844	0
Flt Permitted		0.936			0.774		0.657				0.931	
Satd. Flow (perm)	0	3211	0	0	2791	1543	1226	1900	1615	0	1726	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		61				102			158			8
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		577.2			373.1			107.1			143.3	
Travel Time (s)		41.6			26.9			7.7			10.3	
Confl. Peds. (#/hr)	16		17	17		16	20			18		20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)												0
Adj. Flow (vph)	18	401	132	82	354	17	87	66	158	10	46	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	551	0	0	436	17	87	66	158	0	64	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		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	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2024 Future Background AM

06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8		8	4		
Detector Phase	2	2		1	6	6	3	8	8	4	4	
Switch Phase												
Minimum Initial (s)	24.0	24.0		5.0	24.0	24.0	5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	30.0	30.0		9.0	30.0	30.0	9.0	31.0	31.0	16.0	16.0	
Total Split (s)	32.0	32.0		10.0	42.0	42.0	10.0	33.0	33.0	23.0	23.0	
Total Split (%)	42.7%	42.7%		13.3%	56.0%	56.0%	13.3%	44.0%	44.0%	30.7%	30.7%	
Maximum Green (s)	26.0	26.0		6.0	36.0	36.0	6.0	27.0	27.0	17.0	17.0	
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.0			6.0	6.0	4.0	6.0	6.0		6.0	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None	None	None	None	
Walk Time (s)	12.0	12.0			12.0	12.0		9.0	9.0			
Flash Dont Walk (s)	12.0	12.0			12.0	12.0		12.0	12.0			
Pedestrian Calls (#/hr)	0	0			0	0		0	0			
Act Effct Green (s)		40.9			40.9	40.9	16.3	15.7	15.7		10.1	
Actuated g/C Ratio		0.64			0.64	0.64	0.26	0.25	0.25		0.16	
v/c Ratio		0.26			0.24	0.02	0.24	0.14	0.31		0.23	
Control Delay		7.1			8.0	0.0	18.6	18.8	5.4		25.2	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay		7.1			8.0	0.0	18.6	18.8	5.4		25.2	
LOS		A			A	A	B	B	A		C	
Approach Delay		7.1			7.7			11.9			25.2	
Approach LOS		A			A			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 63.8

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.31

Intersection Signal Delay: 9.2

Intersection LOS: A

Intersection Capacity Utilization 66.1%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Bradford Street/High Stree & Dunlop Street



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	6	8	208	27	39	24	226	222	39	168	0
Future Volume (vph)	3	6	8	208	27	39	24	226	222	39	168	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		9.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	0.95
Ped Bike Factor		0.99		1.00	0.99				0.96		1.00	
Frt		0.936			0.911				0.850			
Flt Protected		0.992		0.950				0.995			0.991	
Satd. Flow (prot)	0	1752	0	1787	1714	0	0	3592	1615	0	3578	0
Flt Permitted		0.976		0.745				0.913			0.857	
Satd. Flow (perm)	0	1723	0	1398	1714	0	0	3296	1552	0	3086	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			42				241			
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		577.2			431.6			191.9			290.3	
Travel Time (s)		41.6			31.1			13.8			20.9	
Confl. Peds. (#/hr)	5		3	3		5			16	16		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	3	7	9	226	29	42	26	246	241	42	183	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	19	0	226	71	0	0	272	241	0	225	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)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		16.0	16.0	16.0	16.0	16.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		14.0	14.0	14.0	14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effect Green (s)		30.0		30.0	30.0			31.1	31.1		31.1	
Actuated g/C Ratio		0.41		0.41	0.41			0.43	0.43		0.43	
v/c Ratio		0.03		0.39	0.10			0.19	0.30		0.17	
Control Delay		9.4		17.4	7.2			13.7	3.2		13.6	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		9.4		17.4	7.2			13.7	3.2		13.6	
LOS		A		B	A			B	A		B	
Approach Delay		9.4			15.0			8.8			13.6	
Approach LOS		A			B			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 72

Actuated Cycle Length: 73.1

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.39

Intersection Signal Delay: 11.6

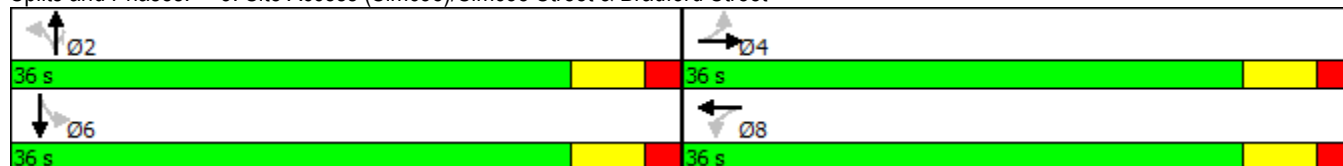
Intersection LOS: B

Intersection Capacity Utilization 90.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street



Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	164	4	27	24	14	173
Future Vol, veh/h	164	4	27	24	14	173
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	178	4	29	26	15	188
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	8.9	7.6	8
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	98%	0%	7%
Vol Thru, %	2%	53%	0%
Vol Right, %	0%	47%	93%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	168	51	187
LT Vol	164	0	14
Through Vol	4	27	0
RT Vol	0	24	173
Lane Flow Rate	183	55	203
Geometry Grp	1	1	1
Degree of Util (X)	0.228	0.065	0.221
Departure Headway (Hd)	4.498	4.246	3.916
Convergence, Y/N	Yes	Yes	Yes
Cap	787	845	921
Service Time	2.592	2.263	1.92
HCM Lane V/C Ratio	0.233	0.065	0.22
HCM Control Delay	8.9	7.6	8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.9	0.2	0.8

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2024 Future Background PM

06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	496	28	54	486	41	23	260	78	42	193	44
Future Volume (vph)	67	496	28	54	486	41	23	260	78	42	193	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	20.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	25.0			20.0			12.0			20.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		0.99	1.00		1.00		0.98	1.00	1.00	
Frt		0.992			0.988				0.850		0.972	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3573	0	1805	3556	0	1719	1900	1615	1805	1835	0
Flt Permitted	0.366			0.371			0.536			0.506		
Satd. Flow (perm)	691	3573	0	698	3556	0	968	1900	1587	958	1835	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			10				85		13	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		265.2			577.2			394.4			142.8	
Travel Time (s)		19.1			41.6			28.4			10.3	
Confl. Peds. (#/hr)	9		15	15		9	3		5	5		3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	2%
Adj. Flow (vph)	73	539	30	59	528	45	25	283	85	46	210	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	569	0	59	573	0	25	283	85	46	258	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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	

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2024 Future Background PM

06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	7.0	38.0		7.0	38.0		10.0	10.0	10.0	38.0	38.0	
Minimum Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (%)	11.6%	44.2%		11.6%	44.2%		32.2%	32.2%	32.2%	44.2%	44.2%	
Maximum Green (s)	7.5	38.0		7.5	38.0		26.0	26.0	26.0	38.0	38.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)		16.0			10.0		10.0	10.0	10.0	16.0	16.0	
Flash Dont Walk (s)		16.0			16.0		16.0	16.0	16.0	16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	
Act Effect Green (s)	45.9	38.2		45.8	38.1		38.1	38.1	38.1	38.1	38.1	
Actuated g/C Ratio	0.47	0.39		0.47	0.39		0.39	0.39	0.39	0.39	0.39	
v/c Ratio	0.18	0.40		0.14	0.41		0.07	0.38	0.13	0.12	0.35	
Control Delay	13.3	22.6		13.0	22.6		20.3	23.7	5.1	21.2	22.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	13.3	22.6		13.0	22.6		20.3	23.7	5.1	21.2	22.2	
LOS	B	C		B	C		C	C	A	C	C	
Approach Delay		21.5			21.7			19.4			22.0	
Approach LOS		C			C			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 99.5

Actuated Cycle Length: 97.1

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.41

Intersection Signal Delay: 21.2

Intersection LOS: C

Intersection Capacity Utilization 100.0%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: Eccles Street & Dunlop Street



Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2024 Future Background PM

06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	520	90	120	396	24	150	116	181	14	86	16
Future Volume (vph)	6	520	90	120	396	24	150	116	181	14	86	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		20.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		1	1		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00	0.91	0.98				0.99	
Frt		0.978				0.850			0.850		0.982	
Flt Protected		0.999			0.989		0.950				0.994	
Satd. Flow (prot)	0	3507	0	0	3562	1615	1805	1900	1615	0	1842	0
Flt Permitted		0.950			0.668		0.501				0.944	
Satd. Flow (perm)	0	3333	0	0	2401	1467	932	1900	1615	0	1748	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23				85			197			8
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		577.2			373.1			105.1			143.3	
Travel Time (s)		41.6			26.9			7.6			10.3	
Confl. Peds. (#/hr)	39		25	25		39	24			7		24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)												0
Adj. Flow (vph)	7	565	98	130	430	26	163	126	197	15	93	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	670	0	0	560	26	163	126	197	0	125	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		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	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2024 Future Background PM

06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8		8	4		
Detector Phase	2	2		1	6	6	3	8	8	4	4	
Switch Phase												
Minimum Initial (s)	24.0	24.0		5.0	24.0	24.0	5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	30.0	30.0		9.0	30.0	30.0	9.0	31.0	31.0	16.0	16.0	
Total Split (s)	37.0	37.0		20.0	57.0	57.0	10.0	33.0	33.0	23.0	23.0	
Total Split (%)	41.1%	41.1%		22.2%	63.3%	63.3%	11.1%	36.7%	36.7%	25.6%	25.6%	
Maximum Green (s)	31.0	31.0		16.0	51.0	51.0	6.0	27.0	27.0	17.0	17.0	
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.0			6.0	6.0	4.0	6.0	6.0		6.0	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None	None	None	None	
Walk Time (s)	12.0	12.0			12.0	12.0		9.0	9.0			
Flash Dont Walk (s)	12.0	12.0			12.0	12.0		12.0	12.0			
Pedestrian Calls (#/hr)	0	0			0	0		0	0			
Act Effct Green (s)		51.0			51.0	51.0	23.8	21.8	21.8		11.8	
Actuated g/C Ratio		0.60			0.60	0.60	0.28	0.26	0.26		0.14	
v/c Ratio		0.33			0.39	0.03	0.50	0.26	0.35		0.50	
Control Delay		8.9			10.0	0.0	30.3	26.5	5.8		38.9	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay		8.9			10.0	0.0	30.3	26.5	5.8		38.9	
LOS		A			B	A	C	C	A		D	
Approach Delay		8.9			9.6			19.4			38.9	
Approach LOS		A			A			B			D	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 84.8

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 13.8

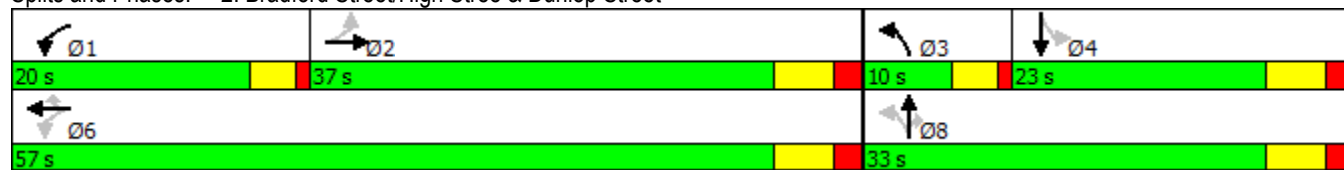
Intersection LOS: B

Intersection Capacity Utilization 70.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Bradford Street/High Stree & Dunlop Street



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	5	7	370	45	38	38	346	305	38	271	0
Future Volume (vph)	6	5	7	370	45	38	38	346	305	38	271	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		9.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	0.95
Ped Bike Factor		0.99		0.99	0.99				0.95		1.00	
Frt		0.946			0.932				0.850			
Flt Protected		0.983		0.950				0.995			0.994	
Satd. Flow (prot)	0	1755	0	1805	1759	0	0	3592	1615	0	3588	0
Flt Permitted		0.936		0.744				0.888			0.863	
Satd. Flow (perm)	0	1670	0	1406	1759	0	0	3206	1541	0	3110	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			41				276			
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		577.2			431.6			191.9			292.3	
Travel Time (s)		41.6			31.1			13.8			21.0	
Confl. Peds. (#/hr)	3		6	6		3			22	22		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	7	5	8	402	49	41	41	376	332	41	295	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	20	0	402	90	0	0	417	332	0	336	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)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		16.0	16.0	16.0	16.0	16.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		14.0	14.0	14.0	14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effect Green (s)		30.0		30.0	30.0			30.0	30.0		30.0	
Actuated g/C Ratio		0.42		0.42	0.42			0.42	0.42		0.42	
v/c Ratio		0.03		0.69	0.12			0.31	0.41		0.26	
Control Delay		9.8		24.5	8.5			14.9	5.0		14.4	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		9.8		24.5	8.5			14.9	5.0		14.4	
LOS		A		C	A			B	A		B	
Approach Delay		9.8			21.6			10.5			14.4	
Approach LOS		A			C			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 72

Actuated Cycle Length: 72

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 14.7

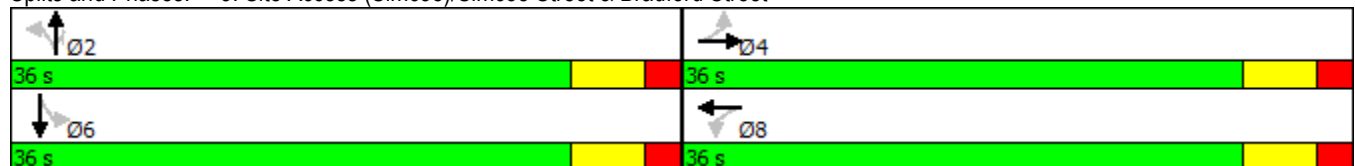
Intersection LOS: B

Intersection Capacity Utilization 90.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street



Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	360	8	45	38	11	265
Future Vol, veh/h	360	8	45	38	11	265
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	391	9	49	41	12	288
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	13.7	8.6	10.3
HCM LOS	B	A	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	98%	0%	4%
Vol Thru, %	2%	54%	0%
Vol Right, %	0%	46%	96%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	368	83	276
LT Vol	360	0	11
Through Vol	8	45	0
RT Vol	0	38	265
Lane Flow Rate	400	90	300
Geometry Grp	1	1	1
Degree of Util (X)	0.543	0.121	0.377
Departure Headway (Hd)	4.891	4.818	4.525
Convergence, Y/N	Yes	Yes	Yes
Cap	732	735	792
Service Time	2.961	2.905	2.578
HCM Lane V/C Ratio	0.546	0.122	0.379
HCM Control Delay	13.7	8.6	10.3
HCM Lane LOS	B	A	B
HCM 95th-tile Q	3.3	0.4	1.8

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2024 Total Traffic AM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	445	51	51	383	29	74	126	36	32	131	44
Future Volume (vph)	30	445	51	51	383	29	74	126	36	32	131	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	20.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	25.0			20.0			12.0			20.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	1.00				0.99	1.00		
Frt		0.985			0.989				0.850		0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3513	0	1805	3564	0	1805	1900	1615	1805	1828	0
Flt Permitted	0.477			0.376			0.619			0.669		
Satd. Flow (perm)	904	3513	0	711	3564	0	1176	1900	1592	1269	1828	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			9				77		20	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		265.2			577.2			394.4			142.8	
Travel Time (s)		19.1			41.6			28.4			10.3	
Confl. Peds. (#/hr)	3		8	8		3			2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	33	484	55	55	416	32	80	137	39	35	142	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	539	0	55	448	0	80	137	39	35	190	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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	

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2024 Total Traffic AM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	7.0	38.0		7.0	38.0		10.0	10.0	10.0	38.0	38.0	
Minimum Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (%)	11.6%	44.2%		11.6%	44.2%		32.2%	32.2%	32.2%	44.2%	44.2%	
Maximum Green (s)	7.5	38.0		7.5	38.0		26.0	26.0	26.0	38.0	38.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)		16.0			10.0		10.0	10.0	10.0	16.0	16.0	
Flash Dont Walk (s)		16.0			16.0		16.0	16.0	16.0	16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	
Act Effect Green (s)	45.7	38.1		46.6	40.3		38.1	38.1	38.1	38.1	38.1	
Actuated g/C Ratio	0.47	0.39		0.48	0.42		0.39	0.39	0.39	0.39	0.39	
v/c Ratio	0.07	0.39		0.13	0.30		0.17	0.18	0.06	0.07	0.26	
Control Delay	12.3	22.1		12.8	20.0		21.6	21.0	1.1	20.1	19.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	12.3	22.1		12.8	20.0		21.6	21.0	1.1	20.1	19.6	
LOS	B	C		B	C		C	C	A	C	B	
Approach Delay		21.5			19.2			18.2			19.7	
Approach LOS		C			B			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 99.5

Actuated Cycle Length: 97

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.39

Intersection Signal Delay: 20.0

Intersection LOS: B

Intersection Capacity Utilization 109.2%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 1: Eccles Street & Dunlop Street



Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2024 Total Traffic AM

06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	372	140	94	334	16	106	67	165	9	47	7
Future Volume (vph)	17	372	140	94	334	16	106	67	165	9	47	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		20.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		1	1		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00	0.96	0.98				0.99	
Frt		0.960				0.850			0.850		0.984	
Flt Protected		0.998			0.989		0.950				0.993	
Satd. Flow (prot)	0	3409	0	0	3570	1615	1805	1900	1615	0	1848	0
Flt Permitted		0.935			0.732		0.653				0.934	
Satd. Flow (perm)	0	3193	0	0	2639	1543	1219	1900	1615	0	1734	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		74				102			179		8	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		577.2			373.1			107.1			143.3	
Travel Time (s)		41.6			26.9			7.7			10.3	
Confl. Peds. (#/hr)	16		17	17		16	20			18		20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)												0
Adj. Flow (vph)	18	404	152	102	363	17	115	73	179	10	51	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	574	0	0	465	17	115	73	179	0	69	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		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	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2024 Total Traffic AM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8		8	4		
Detector Phase	2	2		1	6	6	3	8	8	4	4	
Switch Phase												
Minimum Initial (s)	24.0	24.0		5.0	24.0	24.0	5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	30.0	30.0		9.0	30.0	30.0	9.0	31.0	31.0	16.0	16.0	
Total Split (s)	32.0	32.0		10.0	42.0	42.0	10.0	33.0	33.0	23.0	23.0	
Total Split (%)	42.7%	42.7%		13.3%	56.0%	56.0%	13.3%	44.0%	44.0%	30.7%	30.7%	
Maximum Green (s)	26.0	26.0		6.0	36.0	36.0	6.0	27.0	27.0	17.0	17.0	
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.0			6.0	6.0	4.0	6.0	6.0		6.0	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None	None	None	None	
Walk Time (s)	12.0	12.0			12.0	12.0		9.0	9.0			
Flash Dont Walk (s)	12.0	12.0			12.0	12.0		12.0	12.0			
Pedestrian Calls (#/hr)	0	0			0	0		0	0			
Act Effct Green (s)		38.2			38.2	38.2	18.0	16.0	16.0		10.1	
Actuated g/C Ratio		0.58			0.58	0.58	0.27	0.24	0.24		0.15	
v/c Ratio		0.31			0.31	0.02	0.29	0.16	0.34		0.25	
Control Delay		7.5			8.8	0.1	19.4	19.0	5.3		25.7	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay		7.5			8.8	0.1	19.4	19.0	5.3		25.7	
LOS		A			A	A	B	B	A		C	
Approach Delay		7.5			8.5			12.5			25.7	
Approach LOS		A			A			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 66.2

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.34

Intersection Signal Delay: 9.9

Intersection LOS: A

Intersection Capacity Utilization 67.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Bradford Street/High Stree & Dunlop Street

 Ø1	 Ø2	 Ø3	 Ø4
10 s	32 s	10 s	23 s
 Ø6		 Ø8	
42 s		33 s	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	15	17	208	36	39	37	239	222	39	171	37
Future Volume (vph)	42	15	17	208	36	39	37	239	222	39	171	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		9.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	0.95
Ped Bike Factor		0.99		1.00	0.99				0.96		1.00	
Frt		0.970			0.922				0.850		0.978	
Flt Protected		0.972		0.950				0.993			0.992	
Satd. Flow (prot)	0	1786	0	1787	1737	0	0	3585	1615	0	3502	0
Flt Permitted		0.830		0.705				0.882			0.865	
Satd. Flow (perm)	0	1521	0	1323	1737	0	0	3184	1552	0	3048	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			42				241		34	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		577.2			431.6			191.9			290.3	
Travel Time (s)		41.6			31.1			13.8			20.9	
Confl. Peds. (#/hr)	5		3	3		5			16	16		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	46	16	18	226	39	42	40	260	241	42	186	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	80	0	226	81	0	0	300	241	0	268	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)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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	

Lanes, Volumes, Timings
3: Site Access (Simcoe)/Simcoe Street & Bradford Street

2024 Total Traffic AM
06-05-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		16.0	16.0	16.0	16.0	16.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		14.0	14.0	14.0	14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effect Green (s)		30.0		30.0	30.0			31.1	31.1		31.1	
Actuated g/C Ratio		0.41		0.41	0.41			0.43	0.43		0.43	
v/c Ratio		0.13		0.42	0.11			0.22	0.30		0.20	
Control Delay		11.1		17.9	7.8			14.0	3.2		12.1	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		11.1		17.9	7.8			14.0	3.2		12.1	
LOS		B		B	A			B	A		B	
Approach Delay		11.1			15.3			9.2			12.1	
Approach LOS		B			B			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 72

Actuated Cycle Length: 73.1

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 11.5

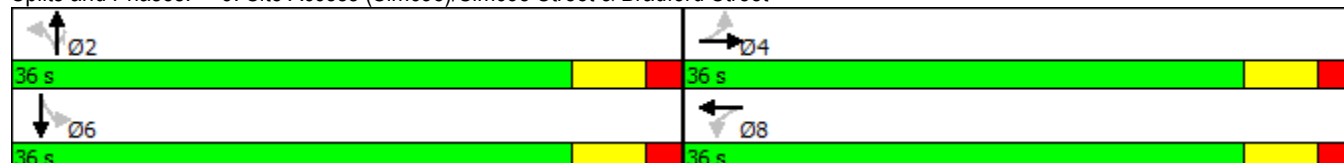
Intersection LOS: B

Intersection Capacity Utilization 90.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street



Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	6	1	485	394	3
Future Vol, veh/h	13	6	1	485	394	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	14	7	1	527	428	3
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	696	216	431	0	-	0
Stage 1	430	-	-	-	-	-
Stage 2	266	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	380	795	1139	-	-	-
Stage 1	629	-	-	-	-	-
Stage 2	760	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	380	795	1139	-	-	-
Mov Cap-2 Maneuver	380	-	-	-	-	-
Stage 1	628	-	-	-	-	-
Stage 2	760	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	13.3	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1139	-	455	-	-	
HCM Lane V/C Ratio	0.001	-	0.045	-	-	
HCM Control Delay (s)	8.2	0	13.3	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	164	9	33	95	60	173
Future Vol, veh/h	164	9	33	95	60	173
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	178	10	36	103	65	188
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	9.5	8.1	9.1
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	95%	0%	26%
Vol Thru, %	5%	26%	0%
Vol Right, %	0%	74%	74%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	173	128	233
LT Vol	164	0	60
Through Vol	9	33	0
RT Vol	0	95	173
Lane Flow Rate	188	139	253
Geometry Grp	1	1	1
Degree of Util (X)	0.251	0.164	0.3
Departure Headway (Hd)	4.803	4.245	4.259
Convergence, Y/N	Yes	Yes	Yes
Cap	747	842	843
Service Time	2.84	2.284	2.286
HCM Lane V/C Ratio	0.252	0.165	0.3
HCM Control Delay	9.5	8.1	9.1
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1	0.6	1.3

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2024 Total Traffic PM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	534	83	65	502	43	64	272	84	42	205	44
Future Volume (vph)	67	534	83	65	502	43	64	272	84	42	205	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	20.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	25.0			20.0			12.0			20.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.99		0.99	1.00		1.00		0.98	1.00	1.00	
Frt		0.980			0.988				0.850		0.973	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3517	0	1805	3556	0	1719	1900	1615	1805	1837	0
Flt Permitted	0.353			0.309			0.521			0.491		
Satd. Flow (perm)	666	3517	0	582	3556	0	941	1900	1587	930	1837	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			10				91		13	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		265.2			577.2			394.4			142.8	
Travel Time (s)		19.1			41.6			28.4			10.3	
Confl. Peds. (#/hr)	9		15	15		9	3		5	5		3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	2%
Adj. Flow (vph)	73	580	90	71	546	47	70	296	91	46	223	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	670	0	71	593	0	70	296	91	46	271	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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	

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2024 Total Traffic PM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	7.0	38.0		7.0	38.0		10.0	10.0	10.0	38.0	38.0	
Minimum Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (%)	11.6%	44.2%		11.6%	44.2%		32.2%	32.2%	32.2%	44.2%	44.2%	
Maximum Green (s)	7.5	38.0		7.5	38.0		26.0	26.0	26.0	38.0	38.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)		16.0			10.0		10.0	10.0	10.0	16.0	16.0	
Flash Dont Walk (s)		16.0			16.0		16.0	16.0	16.0	16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	
Act Effect Green (s)	45.9	38.1		45.8	38.1		38.1	38.1	38.1	38.1	38.1	
Actuated g/C Ratio	0.47	0.39		0.47	0.39		0.39	0.39	0.39	0.39	0.39	
v/c Ratio	0.18	0.48		0.19	0.42		0.19	0.40	0.13	0.13	0.37	
Control Delay	13.4	23.3		13.5	22.8		22.4	24.0	5.0	21.3	22.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	13.4	23.3		13.5	22.8		22.4	24.0	5.0	21.3	22.5	
LOS	B	C		B	C		C	C	A	C	C	
Approach Delay		22.3			21.8			19.9			22.3	
Approach LOS		C			C			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 99.5

Actuated Cycle Length: 97.1

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 21.7

Intersection LOS: C

Intersection Capacity Utilization 104.0%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 1: Eccles Street & Dunlop Street



Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2024 Total Traffic PM

06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔	↗	↗	↗	↗		↔↔	
Traffic Volume (vph)	6	526	128	141	407	24	168	124	211	14	96	16
Future Volume (vph)	6	526	128	141	407	24	168	124	211	14	96	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		20.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		1	1		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00	0.91	0.98				0.99	
Frt		0.971				0.850			0.850		0.983	
Flt Protected					0.987		0.950				0.995	
Satd. Flow (prot)	0	3478	0	0	3554	1615	1805	1900	1615	0	1847	0
Flt Permitted		0.950			0.626		0.477				0.948	
Satd. Flow (perm)	0	3303	0	0	2250	1467	888	1900	1615	0	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		35				85			229		7	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		577.2			373.1			105.1			143.3	
Travel Time (s)		41.6			26.9			7.6			10.3	
Confl. Peds. (#/hr)	39		25	25		39	24			7		24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)												0
Adj. Flow (vph)	7	572	139	153	442	26	183	135	229	15	104	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	718	0	0	595	26	183	135	229	0	136	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		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	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2024 Total Traffic PM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8		8	4		
Detector Phase	2	2		1	6	6	3	8	8	4	4	
Switch Phase												
Minimum Initial (s)	24.0	24.0		5.0	24.0	24.0	5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	30.0	30.0		9.0	30.0	30.0	9.0	31.0	31.0	16.0	16.0	
Total Split (s)	37.0	37.0		20.0	57.0	57.0	10.0	33.0	33.0	23.0	23.0	
Total Split (%)	41.1%	41.1%		22.2%	63.3%	63.3%	11.1%	36.7%	36.7%	25.6%	25.6%	
Maximum Green (s)	31.0	31.0		16.0	51.0	51.0	6.0	27.0	27.0	17.0	17.0	
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.0			6.0	6.0	4.0	6.0	6.0		6.0	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None	None	None	None	
Walk Time (s)	12.0	12.0			12.0	12.0		9.0	9.0			
Flash Dont Walk (s)	12.0	12.0			12.0	12.0		12.0	12.0			
Pedestrian Calls (#/hr)	0	0			0	0		0	0			
Act Effct Green (s)		51.0			51.0	51.0	24.2	22.2	22.2		12.2	
Actuated g/C Ratio		0.60			0.60	0.60	0.28	0.26	0.26		0.14	
v/c Ratio		0.36			0.44	0.03	0.58	0.27	0.39		0.53	
Control Delay		9.2			11.0	0.0	32.7	26.6	5.6		39.9	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay		9.2			11.0	0.0	32.7	26.6	5.6		39.9	
LOS		A			B	A	C	C	A		D	
Approach Delay		9.2			10.5			19.8			39.9	
Approach LOS		A			B			B			D	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 85.2

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 14.5

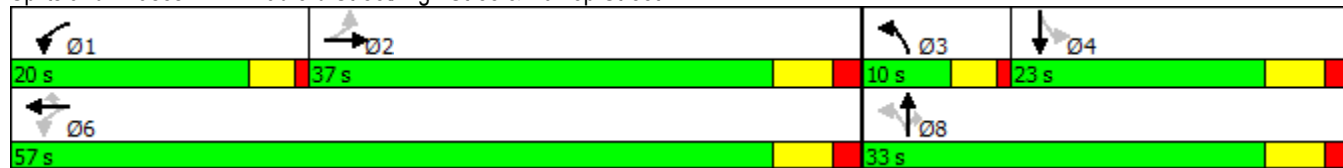
Intersection LOS: B

Intersection Capacity Utilization 73.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 2: Bradford Street/High Stree & Dunlop Street



Lanes, Volumes, Timings
3: Site Access (Simcoe)/Simcoe Street & Bradford Street

2024 Total Traffic PM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↗	↖			↕	↗		↕	
Traffic Volume (vph)	56	15	21	370	52	38	50	352	305	38	283	54
Future Volume (vph)	56	15	21	370	52	38	50	352	305	38	283	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		9.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	0.95
Ped Bike Factor		0.99		1.00	0.99				0.95		1.00	
Frt		0.969			0.937				0.850		0.978	
Flt Protected		0.970		0.950				0.994			0.995	
Satd. Flow (prot)	0	1779	0	1805	1769	0	0	3588	1615	0	3513	0
Flt Permitted		0.800		0.692				0.853			0.873	
Satd. Flow (perm)	0	1465	0	1309	1769	0	0	3079	1541	0	3078	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			41				263			32
Link Speed (k/h)		50			50			50				50
Link Distance (m)		577.2			431.6			191.9			292.3	
Travel Time (s)		41.6			31.1			13.8			21.0	
Confl. Peds. (#/hr)	3		6	6		3			22	22		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	61	16	23	402	57	41	54	383	332	41	308	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	100	0	402	98	0	0	437	332	0	408	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)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		16.0	16.0	16.0	16.0	16.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		14.0	14.0	14.0	14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effect Green (s)		30.0		30.0	30.0			30.0	30.0		30.0	
Actuated g/C Ratio		0.42		0.42	0.42			0.42	0.42		0.42	
v/c Ratio		0.16		0.74	0.13			0.34	0.42		0.31	
Control Delay		11.2		27.9	8.8			15.2	5.4		13.7	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		11.2		27.9	8.8			15.2	5.4		13.7	
LOS		B		C	A			B	A		B	
Approach Delay		11.2			24.1			11.0			13.7	
Approach LOS		B			C			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 72

Actuated Cycle Length: 72

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 15.3

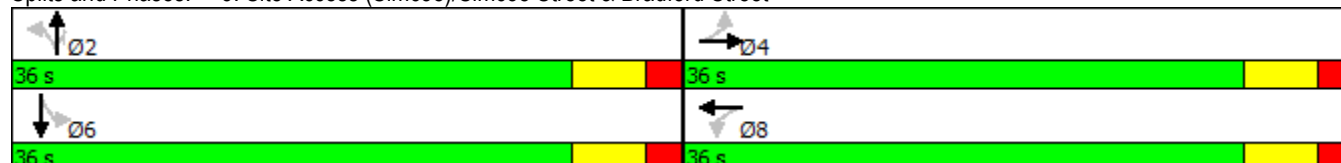
Intersection LOS: B

Intersection Capacity Utilization 90.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street



Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	3	1	700	662	12
Future Vol, veh/h	6	3	1	700	662	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	7	3	1	761	720	13

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1110	367	733
Stage 1	727	-	-
Stage 2	383	-	-
Critical Hdwy	6.8	6.9	4.1
Critical Hdwy Stg 1	5.8	-	-
Critical Hdwy Stg 2	5.8	-	-
Follow-up Hdwy	3.5	3.3	2.2
Pot Cap-1 Maneuver	207	636	881
Stage 1	445	-	-
Stage 2	665	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	207	636	881
Mov Cap-2 Maneuver	207	-	-
Stage 1	444	-	-
Stage 2	665	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	881	-	267	-	-
HCM Lane V/C Ratio	0.001	-	0.037	-	-
HCM Control Delay (s)	9.1	0	19	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Intersection Delay, s/veh	14.2
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	360	15	54	97	89	265
Future Vol, veh/h	360	15	54	97	89	265
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	391	16	59	105	97	288
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	16.4	9.8	13.7
HCM LOS	C	A	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	96%	0%	25%
Vol Thru, %	4%	36%	0%
Vol Right, %	0%	64%	75%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	375	151	354
LT Vol	360	0	89
Through Vol	15	54	0
RT Vol	0	97	265
Lane Flow Rate	408	164	385
Geometry Grp	1	1	1
Degree of Util (X)	0.608	0.236	0.535
Departure Headway (Hd)	5.372	5.171	5.01
Convergence, Y/N	Yes	Yes	Yes
Cap	673	694	720
Service Time	3.4	3.208	3.046
HCM Lane V/C Ratio	0.606	0.236	0.535
HCM Control Delay	16.4	9.8	13.7
HCM Lane LOS	C	A	B
HCM 95th-tile Q	4.1	0.9	3.2

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2025 Future Background AM

06-12-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	439	25	44	367	29	12	121	33	32	120	45
Future Volume (vph)	31	439	25	44	367	29	12	121	33	32	120	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	20.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	25.0			20.0			12.0			20.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	1.00				0.99	1.00		
Frt		0.992			0.989				0.850		0.959	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3541	0	1805	3563	0	1805	1900	1615	1805	1822	0
Flt Permitted	0.471			0.416			0.637			0.673		
Satd. Flow (perm)	892	3541	0	786	3563	0	1210	1900	1592	1276	1822	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			10				77		22	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		265.2			577.2			394.4			142.8	
Travel Time (s)		19.1			41.6			28.4			10.3	
Confl. Peds. (#/hr)	3		8	8		3			2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	34	477	27	48	399	32	13	132	36	35	130	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	504	0	48	431	0	13	132	36	35	179	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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	

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2025 Future Background AM

06-12-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	7.0	38.0		7.0	38.0		10.0	10.0	10.0	38.0	38.0	
Minimum Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (%)	11.6%	44.2%		11.6%	44.2%		32.2%	32.2%	32.2%	44.2%	44.2%	
Maximum Green (s)	7.5	38.0		7.5	38.0		26.0	26.0	26.0	38.0	38.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)		16.0			10.0		10.0	10.0	10.0	16.0	16.0	
Flash Dont Walk (s)		16.0			16.0		16.0	16.0	16.0	16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	
Act Effect Green (s)	44.3	38.1		44.4	38.2		38.1	38.1	38.1	38.1	38.1	
Actuated g/C Ratio	0.47	0.40		0.47	0.40		0.40	0.40	0.40	0.40	0.40	
v/c Ratio	0.07	0.35		0.11	0.30		0.03	0.17	0.05	0.07	0.24	
Control Delay	12.5	21.1		12.8	20.2		19.5	20.2	0.6	19.7	18.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	12.5	21.1		12.8	20.2		19.5	20.2	0.6	19.7	18.4	
LOS	B	C		B	C		B	C	A	B	B	
Approach Delay		20.5			19.4			16.3			18.6	
Approach LOS		C			B			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 99.5

Actuated Cycle Length: 94.8

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.35

Intersection Signal Delay: 19.3

Intersection LOS: B

Intersection Capacity Utilization 100.0%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: Eccles Street & Dunlop Street



Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2025 Future Background AM

06-12-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	379	122	75	335	16	81	62	146	10	42	7
Future Volume (vph)	17	379	122	75	335	16	81	62	146	10	42	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		20.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		1	1		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00	0.96	0.98				0.99	
Frt		0.965				0.850			0.850		0.983	
Flt Protected		0.998			0.991		0.950				0.992	
Satd. Flow (prot)	0	3429	0	0	3578	1615	1805	1900	1615	0	1844	0
Flt Permitted		0.936			0.773		0.645				0.925	
Satd. Flow (perm)	0	3215	0	0	2787	1543	1204	1900	1615	0	1714	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		60				102			159			8
Link Speed (k/h)		50			50			50				50
Link Distance (m)		577.2			373.1			107.1				143.3
Travel Time (s)		41.6			26.9			7.7				10.3
Confl. Peds. (#/hr)	16		17	17		16	20			18		20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)												0
Adj. Flow (vph)	18	412	133	82	364	17	88	67	159	11	46	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	563	0	0	446	17	88	67	159	0	65	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		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	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2025 Future Background AM

06-12-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases		2		1	6		3	8		4		
Permitted Phases	2			6		6	8		8	4		
Detector Phase	2	2		1	6	6	3	8	8	4	4	
Switch Phase												
Minimum Initial (s)	24.0	24.0		5.0	24.0	24.0	5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	30.0	30.0		9.0	30.0	30.0	9.0	31.0	31.0	16.0	16.0	
Total Split (s)	32.0	32.0		10.0	42.0	42.0	10.0	33.0	33.0	23.0	23.0	
Total Split (%)	42.7%	42.7%		13.3%	56.0%	56.0%	13.3%	44.0%	44.0%	30.7%	30.7%	
Maximum Green (s)	26.0	26.0		6.0	36.0	36.0	6.0	27.0	27.0	17.0	17.0	
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.0			6.0	6.0	4.0	6.0	6.0		6.0	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None	None	None	None	
Walk Time (s)	12.0	12.0			12.0	12.0		9.0	9.0			
Flash Dont Walk (s)	12.0	12.0			12.0	12.0		12.0	12.0			
Pedestrian Calls (#/hr)	0	0			0	0		0	0			
Act Effct Green (s)		40.9			40.9	40.9	16.3	15.7	15.7		10.1	
Actuated g/C Ratio		0.64			0.64	0.64	0.26	0.25	0.25		0.16	
v/c Ratio		0.27			0.25	0.02	0.23	0.14	0.31		0.23	
Control Delay		7.2			8.0	0.0	18.5	18.8	5.4		25.3	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay		7.2			8.0	0.0	18.5	18.8	5.4		25.3	
LOS		A			A	A	B	B	A		C	
Approach Delay		7.2			7.7			11.9			25.3	
Approach LOS		A			A			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 63.8

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.31

Intersection Signal Delay: 9.2

Intersection LOS: A

Intersection Capacity Utilization 66.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Bradford Street/High Stree & Dunlop Street

 Ø1	 Ø2	 Ø3	 Ø4
10 s	32 s	10 s	23 s
 Ø6		 Ø8	
42 s		33 s	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	6	8	210	28	39	24	228	224	39	170	0
Future Volume (vph)	3	6	8	210	28	39	24	228	224	39	170	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		9.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	0.95
Ped Bike Factor		0.99		1.00	0.99				0.96		1.00	
Frt		0.936			0.912				0.850			
Flt Protected		0.992		0.950				0.995			0.991	
Satd. Flow (prot)	0	1752	0	1787	1716	0	0	3592	1615	0	3578	0
Flt Permitted		0.976		0.745				0.913			0.858	
Satd. Flow (perm)	0	1723	0	1398	1716	0	0	3296	1552	0	3090	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			42				243			
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		577.2			431.6			191.9			290.3	
Travel Time (s)		41.6			31.1			13.8			20.9	
Confl. Peds. (#/hr)	5		3	3		5			16	16		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	3	7	9	228	30	42	26	248	243	42	185	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	19	0	228	72	0	0	274	243	0	227	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)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		16.0	16.0	16.0	16.0	16.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		14.0	14.0	14.0	14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effect Green (s)		30.0		30.0	30.0			31.0	31.0		31.0	
Actuated g/C Ratio		0.41		0.41	0.41			0.42	0.42		0.42	
v/c Ratio		0.03		0.40	0.10			0.20	0.30		0.17	
Control Delay		9.4		17.4	7.2			13.8	3.2		13.6	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		9.4		17.4	7.2			13.8	3.2		13.6	
LOS		A		B	A			B	A		B	
Approach Delay		9.4			15.0			8.8			13.6	
Approach LOS		A			B			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 72

Actuated Cycle Length: 73

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.40

Intersection Signal Delay: 11.6

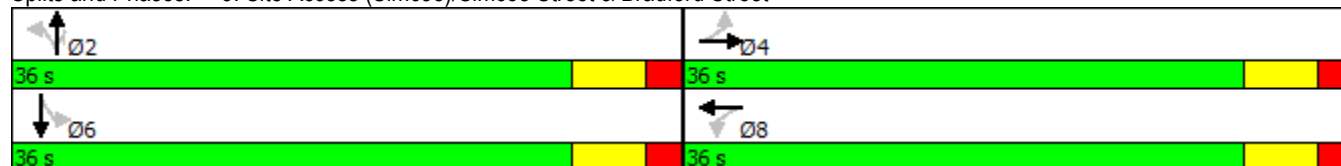
Intersection LOS: B

Intersection Capacity Utilization 90.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street



Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	166	4	28	24	14	175
Future Vol, veh/h	166	4	28	24	14	175
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	180	4	30	26	15	190
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	9	7.6	8.1
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	98%	0%	7%
Vol Thru, %	2%	54%	0%
Vol Right, %	0%	46%	93%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	170	52	189
LT Vol	166	0	14
Through Vol	4	28	0
RT Vol	0	24	175
Lane Flow Rate	185	57	205
Geometry Grp	1	1	1
Degree of Util (X)	0.231	0.067	0.224
Departure Headway (Hd)	4.503	4.259	3.925
Convergence, Y/N	Yes	Yes	Yes
Cap	785	843	920
Service Time	2.6	2.277	1.928
HCM Lane V/C Ratio	0.236	0.068	0.223
HCM Control Delay	9	7.6	8.1
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.9	0.2	0.9

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2025 Future Background PM

06-12-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	510	29	54	500	41	23	262	79	42	195	45
Future Volume (vph)	68	510	29	54	500	41	23	262	79	42	195	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	20.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	25.0			20.0			12.0			20.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		0.99	1.00		1.00		0.98	1.00	1.00	
Frt		0.992			0.989				0.850		0.972	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3573	0	1805	3560	0	1719	1900	1615	1805	1835	0
Flt Permitted	0.357			0.360			0.533			0.504		
Satd. Flow (perm)	674	3573	0	678	3560	0	963	1900	1587	954	1835	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			10				86		14	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		265.2			577.2			394.4			142.8	
Travel Time (s)		19.1			41.6			28.4			10.3	
Confl. Peds. (#/hr)	9		15	15		9	3		5	5		3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	2%
Adj. Flow (vph)	74	554	32	59	543	45	25	285	86	46	212	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	586	0	59	588	0	25	285	86	46	261	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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	

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2025 Future Background PM

06-12-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	7.0	38.0		7.0	38.0		10.0	10.0	10.0	38.0	38.0	
Minimum Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (%)	11.6%	44.2%		11.6%	44.2%		32.2%	32.2%	32.2%	44.2%	44.2%	
Maximum Green (s)	7.5	38.0		7.5	38.0		26.0	26.0	26.0	38.0	38.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)		16.0			10.0		10.0	10.0	10.0	16.0	16.0	
Flash Dont Walk (s)		16.0			16.0		16.0	16.0	16.0	16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	
Act Effect Green (s)	45.9	38.2		45.8	38.1		38.1	38.1	38.1	38.1	38.1	
Actuated g/C Ratio	0.47	0.39		0.47	0.39		0.39	0.39	0.39	0.39	0.39	
v/c Ratio	0.18	0.42		0.15	0.42		0.07	0.38	0.13	0.12	0.36	
Control Delay	13.4	22.8		13.0	22.7		20.3	23.7	5.1	21.2	22.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	13.4	22.8		13.0	22.7		20.3	23.7	5.1	21.2	22.1	
LOS	B	C		B	C		C	C	A	C	C	
Approach Delay		21.7			21.8			19.4			22.0	
Approach LOS		C			C			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 99.5

Actuated Cycle Length: 97.1

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 21.3

Intersection LOS: C

Intersection Capacity Utilization 100.0%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: Eccles Street & Dunlop Street



Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2025 Future Background PM

06-12-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	534	91	121	408	24	152	117	183	14	87	16
Future Volume (vph)	6	534	91	121	408	24	152	117	183	14	87	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		20.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		1	1		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00	0.91	0.98				0.99	
Frt		0.978				0.850			0.850		0.982	
Flt Protected		0.999			0.989		0.950				0.994	
Satd. Flow (prot)	0	3507	0	0	3562	1615	1805	1900	1615	0	1842	0
Flt Permitted		0.950			0.662		0.496				0.945	
Satd. Flow (perm)	0	3334	0	0	2380	1467	922	1900	1615	0	1750	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23				85			199			8
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		577.2			373.1			105.1			143.3	
Travel Time (s)		41.6			26.9			7.6			10.3	
Confl. Peds. (#/hr)	39		25	25		39	24			7		24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)												0
Adj. Flow (vph)	7	580	99	132	443	26	165	127	199	15	95	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	686	0	0	575	26	165	127	199	0	127	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		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	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2025 Future Background PM

06-12-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8		8	4		
Detector Phase	2	2		1	6	6	3	8	8	4	4	
Switch Phase												
Minimum Initial (s)	24.0	24.0		5.0	24.0	24.0	5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	30.0	30.0		9.0	30.0	30.0	9.0	31.0	31.0	16.0	16.0	
Total Split (s)	37.0	37.0		20.0	57.0	57.0	10.0	33.0	33.0	23.0	23.0	
Total Split (%)	41.1%	41.1%		22.2%	63.3%	63.3%	11.1%	36.7%	36.7%	25.6%	25.6%	
Maximum Green (s)	31.0	31.0		16.0	51.0	51.0	6.0	27.0	27.0	17.0	17.0	
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.0			6.0	6.0	4.0	6.0	6.0		6.0	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None	None	None	None	
Walk Time (s)	12.0	12.0			12.0	12.0		9.0	9.0			
Flash Dont Walk (s)	12.0	12.0			12.0	12.0		12.0	12.0			
Pedestrian Calls (#/hr)	0	0			0	0		0	0			
Act Effct Green (s)		51.0			51.0	51.0	23.8	21.8	21.8		11.8	
Actuated g/C Ratio		0.60			0.60	0.60	0.28	0.26	0.26		0.14	
v/c Ratio		0.34			0.40	0.03	0.51	0.26	0.35		0.51	
Control Delay		9.0			10.2	0.0	30.5	26.5	5.7		39.0	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay		9.0			10.2	0.0	30.5	26.5	5.7		39.0	
LOS		A			B	A	C	C	A		D	
Approach Delay		9.0			9.8			19.4			39.0	
Approach LOS		A			A			B			D	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 84.9

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.51

Intersection Signal Delay: 13.9

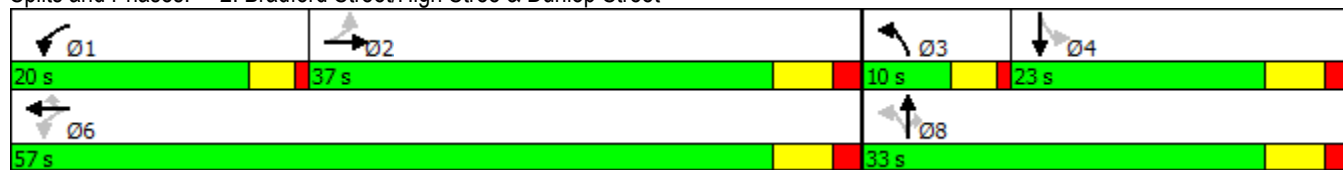
Intersection LOS: B

Intersection Capacity Utilization 70.1%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Bradford Street/High Stree & Dunlop Street



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	5	7	374	46	38	38	349	308	38	274	0
Future Volume (vph)	6	5	7	374	46	38	38	349	308	38	274	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		9.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	0.95
Ped Bike Factor		0.99		0.99	0.99				0.95		1.00	
Frt		0.946			0.932				0.850			
Flt Protected		0.983		0.950				0.995			0.994	
Satd. Flow (prot)	0	1755	0	1805	1759	0	0	3592	1615	0	3588	0
Flt Permitted		0.936		0.744				0.888			0.864	
Satd. Flow (perm)	0	1670	0	1406	1759	0	0	3206	1541	0	3113	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			41				276			
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		577.2			431.6			191.9			292.3	
Travel Time (s)		41.6			31.1			13.8			21.0	
Confl. Peds. (#/hr)	3		6	6		3			22	22		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	7	5	8	407	50	41	41	379	335	41	298	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	20	0	407	91	0	0	420	335	0	339	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)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		16.0	16.0	16.0	16.0	16.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		14.0	14.0	14.0	14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effect Green (s)		30.0		30.0	30.0			30.0	30.0		30.0	
Actuated g/C Ratio		0.42		0.42	0.42			0.42	0.42		0.42	
v/c Ratio		0.03		0.70	0.12			0.31	0.42		0.26	
Control Delay		9.8		25.0	8.5			14.9	5.1		14.4	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		9.8		25.0	8.5			14.9	5.1		14.4	
LOS		A		C	A			B	A		B	
Approach Delay		9.8			22.0			10.6			14.4	
Approach LOS		A			C			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 72

Actuated Cycle Length: 72

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 14.9

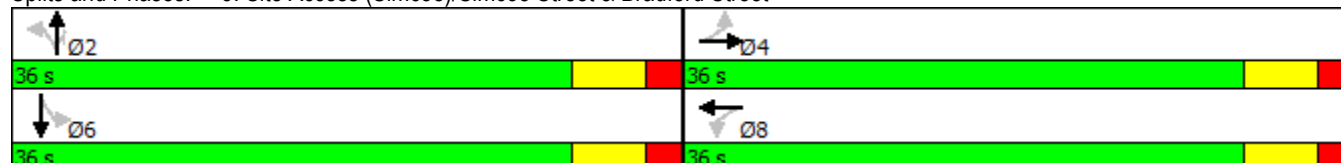
Intersection LOS: B

Intersection Capacity Utilization 90.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street



Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	364	8	46	38	11	268
Future Vol, veh/h	364	8	46	38	11	268
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	396	9	50	41	12	291
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	13.9	8.6	10.4
HCM LOS	B	A	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	98%	0%	4%
Vol Thru, %	2%	55%	0%
Vol Right, %	0%	45%	96%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	372	84	279
LT Vol	364	0	11
Through Vol	8	46	0
RT Vol	0	38	268
Lane Flow Rate	404	91	303
Geometry Grp	1	1	1
Degree of Util (X)	0.551	0.123	0.382
Departure Headway (Hd)	4.902	4.837	4.54
Convergence, Y/N	Yes	Yes	Yes
Cap	732	732	788
Service Time	2.973	2.927	2.596
HCM Lane V/C Ratio	0.552	0.124	0.385
HCM Control Delay	13.9	8.6	10.4
HCM Lane LOS	B	A	B
HCM 95th-tile Q	3.4	0.4	1.8

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2025 Total Traffic AM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	461	56	52	399	30	92	128	36	32	132	45
Future Volume (vph)	31	461	56	52	399	30	92	128	36	32	132	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	20.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	25.0			20.0			12.0			20.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	1.00				0.99	1.00		
Frt		0.984			0.989				0.850		0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3509	0	1805	3564	0	1805	1900	1615	1805	1828	0
Flt Permitted	0.462			0.362			0.616			0.668		
Satd. Flow (perm)	875	3509	0	684	3564	0	1170	1900	1592	1267	1828	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			9				77		20	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		265.2			577.2			394.4			142.8	
Travel Time (s)		19.1			41.6			28.4			10.3	
Confl. Peds. (#/hr)	3		8	8		3			2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	34	501	61	57	434	33	100	139	39	35	143	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	562	0	57	467	0	100	139	39	35	192	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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	

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2025 Total Traffic AM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	7.0	38.0		7.0	38.0		10.0	10.0	10.0	38.0	38.0	
Minimum Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (%)	11.6%	44.2%		11.6%	44.2%		32.2%	32.2%	32.2%	44.2%	44.2%	
Maximum Green (s)	7.5	38.0		7.5	38.0		26.0	26.0	26.0	38.0	38.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)		16.0			10.0		10.0	10.0	10.0	16.0	16.0	
Flash Dont Walk (s)		16.0			16.0		16.0	16.0	16.0	16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	
Act Effect Green (s)	45.7	38.1		46.6	40.3		38.1	38.1	38.1	38.1	38.1	
Actuated g/C Ratio	0.47	0.39		0.48	0.42		0.39	0.39	0.39	0.39	0.39	
v/c Ratio	0.07	0.41		0.14	0.31		0.22	0.19	0.06	0.07	0.26	
Control Delay	12.3	22.3		12.9	20.2		22.2	21.0	1.1	20.2	19.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	12.3	22.3		12.9	20.2		22.2	21.0	1.1	20.2	19.7	
LOS	B	C		B	C		C	C	A	C	B	
Approach Delay		21.7			19.4			18.7			19.8	
Approach LOS		C			B			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 99.5

Actuated Cycle Length: 97

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.41

Intersection Signal Delay: 20.2

Intersection LOS: C

Intersection Capacity Utilization 109.2%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 1: Eccles Street & Dunlop Street



Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2025 Total Traffic AM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	382	144	97	343	16	114	69	170	10	48	7
Future Volume (vph)	17	382	144	97	343	16	114	69	170	10	48	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		20.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		1	1		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00	0.96	0.98				0.99	
Frt		0.960				0.850			0.850		0.985	
Flt Protected		0.998			0.989		0.950				0.992	
Satd. Flow (prot)	0	3409	0	0	3570	1615	1805	1900	1615	0	1849	0
Flt Permitted		0.935			0.726		0.654				0.929	
Satd. Flow (perm)	0	3193	0	0	2618	1543	1221	1900	1615	0	1727	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		75				102			185			8
Link Speed (k/h)		50			50			50				50
Link Distance (m)		577.2			373.1			107.1				143.3
Travel Time (s)		41.6			26.9			7.7				10.3
Confl. Peds. (#/hr)	16		17	17		16	20			18		20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)												0
Adj. Flow (vph)	18	415	157	105	373	17	124	75	185	11	52	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	590	0	0	478	17	124	75	185	0	71	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		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	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2025 Total Traffic AM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8		8	4		
Detector Phase	2	2		1	6	6	3	8	8	4	4	
Switch Phase												
Minimum Initial (s)	24.0	24.0		5.0	24.0	24.0	5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	30.0	30.0		9.0	30.0	30.0	9.0	31.0	31.0	16.0	16.0	
Total Split (s)	32.0	32.0		10.0	42.0	42.0	10.0	33.0	33.0	23.0	23.0	
Total Split (%)	42.7%	42.7%		13.3%	56.0%	56.0%	13.3%	44.0%	44.0%	30.7%	30.7%	
Maximum Green (s)	26.0	26.0		6.0	36.0	36.0	6.0	27.0	27.0	17.0	17.0	
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.0			6.0	6.0	4.0	6.0	6.0		6.0	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None	None	None	None	
Walk Time (s)	12.0	12.0			12.0	12.0		9.0	9.0			
Flash Dont Walk (s)	12.0	12.0			12.0	12.0		12.0	12.0			
Pedestrian Calls (#/hr)	0	0			0	0		0	0			
Act Effct Green (s)		37.5			37.5	37.5	17.9	15.9	15.9		10.2	
Actuated g/C Ratio		0.57			0.57	0.57	0.27	0.24	0.24		0.16	
v/c Ratio		0.32			0.32	0.02	0.31	0.16	0.35		0.26	
Control Delay		7.6			8.9	0.1	19.6	19.0	5.3		25.8	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay		7.6			8.9	0.1	19.6	19.0	5.3		25.8	
LOS		A			A	A	B	B	A		C	
Approach Delay		7.6			8.6			12.6			25.8	
Approach LOS		A			A			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 65.5

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.35

Intersection Signal Delay: 10.0

Intersection LOS: B

Intersection Capacity Utilization 68.0%

ICU Level of Service C

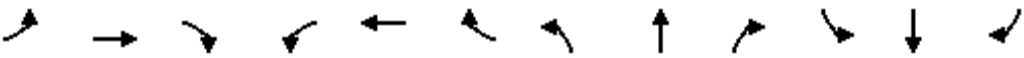
Analysis Period (min) 15

Splits and Phases: 2: Bradford Street/High Stree & Dunlop Street

			
10 s	32 s	10 s	23 s
			
42 s		33 s	

Lanes, Volumes, Timings
3: Site Access (Simcoe)/Simcoe Street & Bradford Street

2025 Total Traffic AM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	16	18	210	37	39	37	246	224	39	175	42
Future Volume (vph)	49	16	18	210	37	39	37	246	224	39	175	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		9.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	0.95
Ped Bike Factor		0.99		1.00	0.99				0.96		1.00	
Frt		0.970			0.923				0.850		0.975	
Flt Protected		0.971		0.950				0.994			0.993	
Satd. Flow (prot)	0	1784	0	1787	1739	0	0	3588	1615	0	3495	0
Flt Permitted		0.819		0.699				0.881			0.866	
Satd. Flow (perm)	0	1501	0	1312	1739	0	0	3180	1552	0	3042	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			42				243		39	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		577.2			431.6			191.9			290.3	
Travel Time (s)		41.6			31.1			13.8			20.9	
Confl. Peds. (#/hr)	5		3	3		5			16	16		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	53	17	20	228	40	42	40	267	243	42	190	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	90	0	228	82	0	0	307	243	0	278	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)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		16.0	16.0	16.0	16.0	16.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		14.0	14.0	14.0	14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effect Green (s)		30.0		30.0	30.0			30.8	30.8		30.8	
Actuated g/C Ratio		0.41		0.41	0.41			0.42	0.42		0.42	
v/c Ratio		0.14		0.42	0.11			0.23	0.31		0.21	
Control Delay		11.2		18.0	7.9			14.1	3.2		12.0	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		11.2		18.0	7.9			14.1	3.2		12.0	
LOS		B		B	A			B	A		B	
Approach Delay		11.2			15.3			9.3			12.0	
Approach LOS		B			B			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 72

Actuated Cycle Length: 72.8

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 11.6

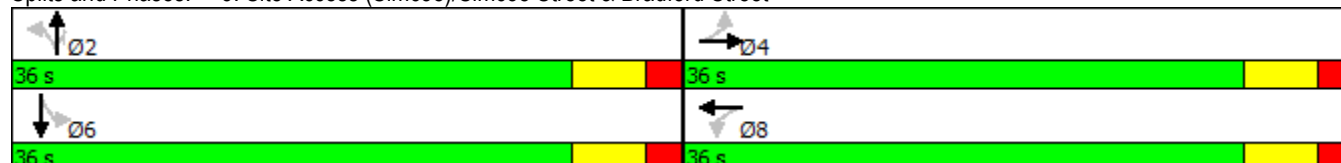
Intersection LOS: B

Intersection Capacity Utilization 90.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street



Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	18	7	1	490	399	5
Future Vol, veh/h	18	7	1	490	399	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	20	8	1	533	434	5
Major/Minor						
	Minor2	Major1		Major2		
Conflicting Flow All	706	220	439	0	-	0
Stage 1	437	-	-	-	-	-
Stage 2	269	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	375	790	1132	-	-	-
Stage 1	624	-	-	-	-	-
Stage 2	758	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	375	790	1132	-	-	-
Mov Cap-2 Maneuver	375	-	-	-	-	-
Stage 1	623	-	-	-	-	-
Stage 2	758	-	-	-	-	-
Approach						
	EB	NB		SB		
HCM Control Delay, s	13.7	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1132	-	440	-	-	
HCM Lane V/C Ratio	0.001	-	0.062	-	-	
HCM Control Delay (s)	8.2	0	13.7	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.2	-	-	

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	166	11	36	114	65	175
Future Vol, veh/h	166	11	36	114	65	175
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	180	12	39	124	71	190
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	9.6	8.3	9.3
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	94%	0%	27%
Vol Thru, %	6%	24%	0%
Vol Right, %	0%	76%	73%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	177	150	240
LT Vol	166	0	65
Through Vol	11	36	0
RT Vol	0	114	175
Lane Flow Rate	192	163	261
Geometry Grp	1	1	1
Degree of Util (X)	0.259	0.193	0.314
Departure Headway (Hd)	4.853	4.268	4.33
Convergence, Y/N	Yes	Yes	Yes
Cap	739	838	830
Service Time	2.895	2.31	2.363
HCM Lane V/C Ratio	0.26	0.195	0.314
HCM Control Delay	9.6	8.3	9.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1	0.7	1.3

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2025 Total Traffic PM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	559	100	67	520	43	73	274	85	42	207	45
Future Volume (vph)	68	559	100	67	520	43	73	274	85	42	207	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	20.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	25.0			20.0			12.0			20.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.99		0.99	1.00		1.00		0.98	1.00	1.00	
Frt		0.977			0.988				0.850		0.973	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3504	0	1805	3557	0	1719	1900	1615	1805	1837	0
Flt Permitted	0.342			0.281			0.517			0.489		
Satd. Flow (perm)	646	3504	0	530	3557	0	934	1900	1587	926	1837	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			10				92		13	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		265.2			577.2			394.4			142.8	
Travel Time (s)		19.1			41.6			28.4			10.3	
Confl. Peds. (#/hr)	9		15	15		9	3		5	5		3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	2%
Adj. Flow (vph)	74	608	109	73	565	47	79	298	92	46	225	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	717	0	73	612	0	79	298	92	46	274	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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	

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2025 Total Traffic PM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	7.0	38.0		7.0	38.0		10.0	10.0	10.0	38.0	38.0	
Minimum Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (%)	11.6%	44.2%		11.6%	44.2%		32.2%	32.2%	32.2%	44.2%	44.2%	
Maximum Green (s)	7.5	38.0		7.5	38.0		26.0	26.0	26.0	38.0	38.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)		16.0			10.0		10.0	10.0	10.0	16.0	16.0	
Flash Dont Walk (s)		16.0			16.0		16.0	16.0	16.0	16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	
Act Effect Green (s)	45.9	38.1		45.9	38.1		38.1	38.1	38.1	38.1	38.1	
Actuated g/C Ratio	0.47	0.39		0.47	0.39		0.39	0.39	0.39	0.39	0.39	
v/c Ratio	0.19	0.52		0.21	0.44		0.22	0.40	0.14	0.13	0.38	
Control Delay	13.5	23.8		13.8	23.0		22.8	24.0	4.9	21.3	22.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	13.5	23.8		13.8	23.0		22.8	24.0	4.9	21.3	22.5	
LOS	B	C		B	C		C	C	A	C	C	
Approach Delay		22.8			22.0			20.1			22.4	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 99.5

Actuated Cycle Length: 97.1

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 21.9

Intersection LOS: C

Intersection Capacity Utilization 109.2%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 1: Eccles Street & Dunlop Street



Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2025 Total Traffic PM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	540	140	146	421	24	174	125	218	14	97	16
Future Volume (vph)	6	540	140	146	421	24	174	125	218	14	97	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		20.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		1	1		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00	0.91	0.98				0.99	
Frt		0.969				0.850			0.850		0.983	
Flt Protected					0.987		0.950				0.995	
Satd. Flow (prot)	0	3470	0	0	3554	1615	1805	1900	1615	0	1847	0
Flt Permitted		0.950			0.617		0.474				0.948	
Satd. Flow (perm)	0	3295	0	0	2218	1467	882	1900	1615	0	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		38				85			237			7
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		577.2			373.1			105.1			143.3	
Travel Time (s)		41.6			26.9			7.6			10.3	
Confl. Peds. (#/hr)	39		25	25		39	24			7		24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)												0
Adj. Flow (vph)	7	587	152	159	458	26	189	136	237	15	105	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	746	0	0	617	26	189	136	237	0	137	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		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	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2025 Total Traffic PM

06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8		8	4		
Detector Phase	2	2		1	6	6	3	8	8	4	4	
Switch Phase												
Minimum Initial (s)	24.0	24.0		5.0	24.0	24.0	5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	30.0	30.0		9.0	30.0	30.0	9.0	31.0	31.0	16.0	16.0	
Total Split (s)	37.0	37.0		20.0	57.0	57.0	10.0	33.0	33.0	23.0	23.0	
Total Split (%)	41.1%	41.1%		22.2%	63.3%	63.3%	11.1%	36.7%	36.7%	25.6%	25.6%	
Maximum Green (s)	31.0	31.0		16.0	51.0	51.0	6.0	27.0	27.0	17.0	17.0	
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.0			6.0	6.0	4.0	6.0	6.0		6.0	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None	None	None	None	
Walk Time (s)	12.0	12.0			12.0	12.0		9.0	9.0			
Flash Dont Walk (s)	12.0	12.0			12.0	12.0		12.0	12.0			
Pedestrian Calls (#/hr)	0	0			0	0		0	0			
Act Effct Green (s)		51.1			51.1	51.1	24.2	22.2	22.2		12.2	
Actuated g/C Ratio		0.60			0.60	0.60	0.28	0.26	0.26		0.14	
v/c Ratio		0.38			0.46	0.03	0.60	0.28	0.40		0.53	
Control Delay		9.3			11.3	0.0	33.5	26.6	5.6		40.0	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay		9.3			11.3	0.0	33.5	26.6	5.6		40.0	
LOS		A			B	A	C	C	A		D	
Approach Delay		9.3			10.9			20.1			40.0	
Approach LOS		A			B			C			D	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 85.3

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 14.7

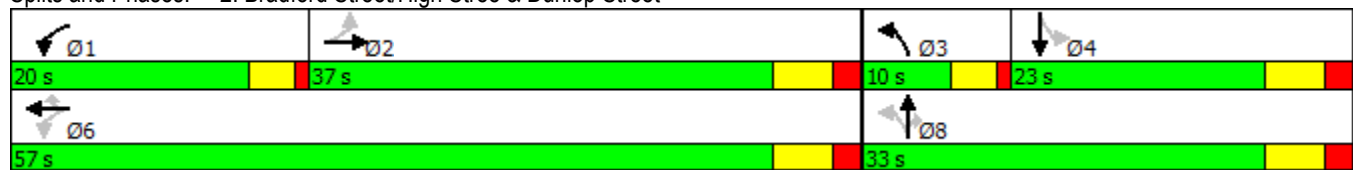
Intersection LOS: B

Intersection Capacity Utilization 73.4%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 2: Bradford Street/High Stree & Dunlop Street



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	16	22	374	54	38	50	358	308	38	290	65
Future Volume (vph)	62	16	22	374	54	38	50	358	308	38	290	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		9.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	0.95
Ped Bike Factor		0.99		1.00	0.99				0.95		1.00	
Frt		0.970			0.938				0.850		0.975	
Flt Protected		0.970		0.950				0.994			0.995	
Satd. Flow (prot)	0	1781	0	1805	1772	0	0	3588	1615	0	3502	0
Flt Permitted		0.791		0.687				0.850			0.875	
Satd. Flow (perm)	0	1450	0	1299	1772	0	0	3068	1541	0	3076	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			41				262			40
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		577.2			431.6			191.9			292.3	
Travel Time (s)		41.6			31.1			13.8			21.0	
Confl. Peds. (#/hr)	3		6	6		3			22	22		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	67	17	24	407	59	41	54	389	335	41	315	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	108	0	407	100	0	0	443	335	0	427	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)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		16.0	16.0	16.0	16.0	16.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		14.0	14.0	14.0	14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effect Green (s)		30.0		30.0	30.0			30.0	30.0		30.0	
Actuated g/C Ratio		0.42		0.42	0.42			0.42	0.42		0.42	
v/c Ratio		0.17		0.75	0.13			0.35	0.42		0.33	
Control Delay		11.3		28.8	8.9			15.3	5.6		13.6	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		11.3		28.8	8.9			15.3	5.6		13.6	
LOS		B		C	A			B	A		B	
Approach Delay		11.3			24.9			11.1			13.6	
Approach LOS		B			C			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 72

Actuated Cycle Length: 72

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 15.5

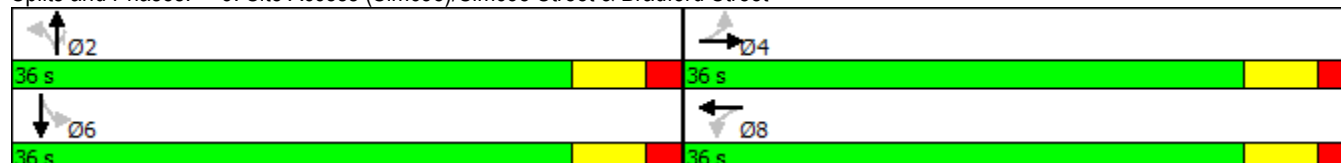
Intersection LOS: B

Intersection Capacity Utilization 90.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street



Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	3	1	707	670	16
Future Vol, veh/h	9	3	1	707	670	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	10	3	1	768	728	17

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1123	373	745
Stage 1	737	-	-
Stage 2	386	-	-
Critical Hdwy	6.8	6.9	4.1
Critical Hdwy Stg 1	5.8	-	-
Critical Hdwy Stg 2	5.8	-	-
Follow-up Hdwy	3.5	3.3	2.2
Pot Cap-1 Maneuver	203	630	872
Stage 1	439	-	-
Stage 2	662	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	203	630	872
Mov Cap-2 Maneuver	203	-	-
Stage 1	438	-	-
Stage 2	662	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.6	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	872	-	244	-	-
HCM Lane V/C Ratio	0.001	-	0.053	-	-
HCM Control Delay (s)	9.1	0	20.6	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Intersection Delay, s/veh	15.1
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	364	17	58	106	107	268
Future Vol, veh/h	364	17	58	106	107	268
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	396	18	63	115	116	291
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	17.4	10.2	15
HCM LOS	C	B	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	96%	0%	29%
Vol Thru, %	4%	35%	0%
Vol Right, %	0%	65%	71%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	381	164	375
LT Vol	364	0	107
Through Vol	17	58	0
RT Vol	0	106	268
Lane Flow Rate	414	178	408
Geometry Grp	1	1	1
Degree of Util (X)	0.63	0.261	0.579
Departure Headway (Hd)	5.48	5.279	5.11
Convergence, Y/N	Yes	Yes	Yes
Cap	658	679	705
Service Time	3.518	3.327	3.151
HCM Lane V/C Ratio	0.629	0.262	0.579
HCM Control Delay	17.4	10.2	15
HCM Lane LOS	C	B	B
HCM 95th-tile Q	4.5	1	3.7

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2024 Future Background AM

06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	508	27	46	421	30	12	127	35	33	126	47
Future Volume (vph)	32	508	27	46	421	30	12	127	35	33	126	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	20.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	25.0			20.0			12.0			20.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00				0.99	1.00		
Frt		0.993			0.990				0.850		0.959	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3545	0	1805	3568	0	1805	1900	1615	1805	1822	0
Flt Permitted	0.444			0.351			0.621			0.669		
Satd. Flow (perm)	841	3545	0	664	3568	0	1180	1900	1592	1269	1822	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			9				77		22	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		265.2			577.2			394.4			142.8	
Travel Time (s)		19.1			41.6			28.4			10.3	
Confl. Peds. (#/hr)	3		8	8		3			2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	35	552	29	50	458	33	13	138	38	36	137	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	581	0	50	491	0	13	138	38	36	188	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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	

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2024 Future Background AM

06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	7.0	38.0		7.0	38.0		10.0	10.0	10.0	38.0	38.0	
Minimum Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (%)	11.6%	44.2%		11.6%	44.2%		32.2%	32.2%	32.2%	44.2%	44.2%	
Maximum Green (s)	7.5	38.0		7.5	38.0		26.0	26.0	26.0	38.0	38.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)		16.0			10.0		10.0	10.0	10.0	16.0	16.0	
Flash Dont Walk (s)		16.0			16.0		16.0	16.0	16.0	16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	
Act Effect Green (s)	45.7	38.1		46.6	40.3		38.1	38.1	38.1	38.1	38.1	
Actuated g/C Ratio	0.47	0.39		0.48	0.42		0.39	0.39	0.39	0.39	0.39	
v/c Ratio	0.08	0.42		0.12	0.33		0.03	0.18	0.06	0.07	0.26	
Control Delay	12.4	22.8		12.8	20.4		19.6	21.0	1.0	20.2	19.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	12.4	22.8		12.8	20.4		19.6	21.0	1.0	20.2	19.3	
LOS	B	C		B	C		B	C	A	C	B	
Approach Delay		22.2			19.7			16.9			19.5	
Approach LOS		C			B			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 99.5

Actuated Cycle Length: 97

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 20.3

Intersection LOS: C

Intersection Capacity Utilization 100.0%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: Eccles Street & Dunlop Street



Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2024 Future Background AM

06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	438	128	79	383	17	85	65	154	10	45	8
Future Volume (vph)	18	438	128	79	383	17	85	65	154	10	45	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		20.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		1	1		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00	0.96	0.98				0.99	
Frt		0.967				0.850			0.850		0.982	
Flt Protected		0.998			0.992		0.950				0.992	
Satd. Flow (prot)	0	3437	0	0	3581	1615	1805	1900	1615	0	1842	0
Flt Permitted		0.933			0.759		0.655				0.928	
Satd. Flow (perm)	0	3212	0	0	2737	1543	1223	1900	1615	0	1718	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		52				102			167			9
Link Speed (k/h)		50			50			50				50
Link Distance (m)		577.2			373.1			107.1				143.3
Travel Time (s)		41.6			26.9			7.7				10.3
Confl. Peds. (#/hr)	16		17	17		16	20			18		20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)												0
Adj. Flow (vph)	20	476	139	86	416	18	92	71	167	11	49	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	635	0	0	502	18	92	71	167	0	69	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		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	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2024 Future Background AM

06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases		2		1	6		3	8		Perm		4
Permitted Phases	2			6		6	8		8	4		
Detector Phase	2	2		1	6	6	3	8	8	4	4	
Switch Phase												
Minimum Initial (s)	24.0	24.0		5.0	24.0	24.0	5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	30.0	30.0		9.0	30.0	30.0	9.0	31.0	31.0	16.0	16.0	
Total Split (s)	32.0	32.0		10.0	42.0	42.0	10.0	33.0	33.0	23.0	23.0	
Total Split (%)	42.7%	42.7%		13.3%	56.0%	56.0%	13.3%	44.0%	44.0%	30.7%	30.7%	
Maximum Green (s)	26.0	26.0		6.0	36.0	36.0	6.0	27.0	27.0	17.0	17.0	
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.0			6.0	6.0	4.0	6.0	6.0		6.0	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None	None	None	None	
Walk Time (s)	12.0	12.0			12.0	12.0		9.0	9.0			
Flash Dont Walk (s)	12.0	12.0			12.0	12.0		12.0	12.0			
Pedestrian Calls (#/hr)	0	0			0	0		0	0			
Act Effct Green (s)		39.0			39.0	39.0	18.1	16.0	16.0		10.1	
Actuated g/C Ratio		0.58			0.58	0.58	0.27	0.24	0.24		0.15	
v/c Ratio		0.34			0.32	0.02	0.23	0.16	0.33		0.26	
Control Delay		8.0			8.8	0.1	18.6	18.9	5.4		25.5	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay		8.0			8.8	0.1	18.6	18.9	5.4		25.5	
LOS		A			A	A	B	B	A		C	
Approach Delay		8.0			8.5			12.0			25.5	
Approach LOS		A			A			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 67.1

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.34

Intersection Signal Delay: 9.8

Intersection LOS: A

Intersection Capacity Utilization 66.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Bradford Street/High Stree & Dunlop Street

 Ø1	 Ø2	 Ø3	 Ø4
10 s	32 s	10 s	23 s
 Ø6		 Ø8	
42 s		33 s	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	7	9	221	29	41	26	240	235	41	179	0
Future Volume (vph)	3	7	9	221	29	41	26	240	235	41	179	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		9.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	0.95
Ped Bike Factor		0.99		1.00	0.99				0.96		1.00	
Frt		0.936			0.912				0.850			
Flt Protected		0.993		0.950				0.995			0.991	
Satd. Flow (prot)	0	1754	0	1787	1716	0	0	3592	1615	0	3578	0
Flt Permitted		0.978		0.744				0.909			0.851	
Satd. Flow (perm)	0	1726	0	1396	1716	0	0	3281	1552	0	3065	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			45				255			
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		577.2			431.6			191.9			290.3	
Travel Time (s)		41.6			31.1			13.8			20.9	
Confl. Peds. (#/hr)	5		3	3		5			16	16		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	3	8	10	240	32	45	28	261	255	45	195	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	240	77	0	0	289	255	0	240	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)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		16.0	16.0	16.0	16.0	16.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		14.0	14.0	14.0	14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effect Green (s)		30.0		30.0	30.0			30.5	30.5		30.5	
Actuated g/C Ratio		0.41		0.41	0.41			0.42	0.42		0.42	
v/c Ratio		0.03		0.42	0.10			0.21	0.32		0.19	
Control Delay		9.2		17.7	7.2			13.9	3.2		13.8	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		9.2		17.7	7.2			13.9	3.2		13.8	
LOS		A		B	A			B	A		B	
Approach Delay		9.2			15.1			8.9			13.8	
Approach LOS		A			B			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 72

Actuated Cycle Length: 72.5

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 11.7

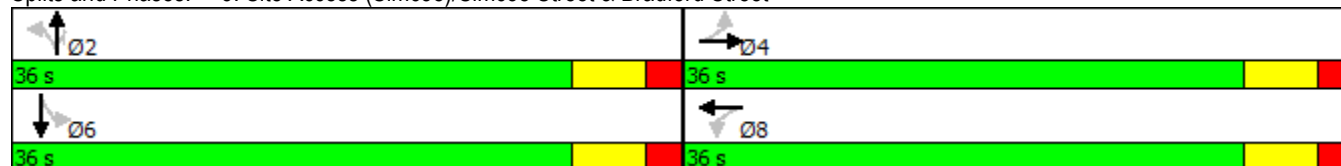
Intersection LOS: B

Intersection Capacity Utilization 90.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street



Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	174	4	29	26	15	184
Future Vol, veh/h	174	4	29	26	15	184
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	189	4	32	28	16	200
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	9.2	7.6	8.2
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	98%	0%	8%
Vol Thru, %	2%	53%	0%
Vol Right, %	0%	47%	92%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	178	55	199
LT Vol	174	0	15
Through Vol	4	29	0
RT Vol	0	26	184
Lane Flow Rate	193	60	216
Geometry Grp	1	1	1
Degree of Util (X)	0.249	0.071	0.238
Departure Headway (Hd)	4.632	4.29	3.956
Convergence, Y/N	Yes	Yes	Yes
Cap	780	835	911
Service Time	2.632	2.316	1.971
HCM Lane V/C Ratio	0.247	0.072	0.237
HCM Control Delay	9.2	7.6	8.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1	0.2	0.9

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2024 Future Background PM

06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	586	30	57	577	44	25	276	83	45	205	47
Future Volume (vph)	71	586	30	57	577	44	25	276	83	45	205	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	20.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	25.0			20.0			12.0			20.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		0.99	1.00		1.00		0.98	1.00	1.00	
Frt		0.993			0.989				0.850		0.972	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3577	0	1805	3561	0	1719	1900	1615	1805	1835	0
Flt Permitted	0.304			0.309			0.517			0.486		
Satd. Flow (perm)	574	3577	0	582	3561	0	934	1900	1587	920	1835	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			9				90		13	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		265.2			577.2			394.4			142.8	
Travel Time (s)		19.1			41.6			28.4			10.3	
Confl. Peds. (#/hr)	9		15	15		9	3		5	5		3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	2%
Adj. Flow (vph)	77	637	33	62	627	48	27	300	90	49	223	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	77	670	0	62	675	0	27	300	90	49	274	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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	

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2024 Future Background PM

06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8				4
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		8	8	8	4		4
Switch Phase												
Minimum Initial (s)	7.0	38.0		7.0	38.0		10.0	10.0	10.0	38.0		38.0
Minimum Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0		44.0
Total Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0		44.0
Total Split (%)	11.6%	44.2%		11.6%	44.2%		32.2%	32.2%	32.2%	44.2%		44.2%
Maximum Green (s)	7.5	38.0		7.5	38.0		26.0	26.0	26.0	38.0		38.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0		4.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0		2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0		6.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None		None	None		Max	Max	Max	Max		Max
Walk Time (s)		16.0			10.0		10.0	10.0	10.0	16.0		16.0
Flash Dont Walk (s)		16.0			16.0		16.0	16.0	16.0	16.0		16.0
Pedestrian Calls (#/hr)		0			0		0	0	0	0		0
Act Effct Green (s)	45.9	38.1		45.8	38.1		38.1	38.1	38.1	38.1		38.1
Actuated g/C Ratio	0.47	0.39		0.47	0.39		0.39	0.39	0.39	0.39		0.39
v/c Ratio	0.21	0.48		0.17	0.48		0.07	0.40	0.13	0.14		0.38
Control Delay	13.7	23.7		13.3	23.7		20.4	24.1	5.0	21.5		22.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Total Delay	13.7	23.7		13.3	23.7		20.4	24.1	5.0	21.5		22.6
LOS	B	C		B	C		C	C	A	C		C
Approach Delay		22.7			22.9			19.7				22.4
Approach LOS		C			C			B				C

Intersection Summary

Area Type: Other

Cycle Length: 99.5

Actuated Cycle Length: 97.1

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 22.1

Intersection LOS: C

Intersection Capacity Utilization 100.0%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: Eccles Street & Dunlop Street



Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2024 Future Background PM

06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	614	96	127	470	26	160	123	192	15	91	17
Future Volume (vph)	7	614	96	127	470	26	160	123	192	15	91	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		20.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		1	1		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00	0.91	0.98				0.99	
Frt		0.980				0.850			0.850		0.982	
Flt Protected		0.999			0.989		0.950				0.994	
Satd. Flow (prot)	0	3516	0	0	3563	1615	1805	1900	1615	0	1842	0
Flt Permitted		0.948			0.635		0.485				0.943	
Satd. Flow (perm)	0	3335	0	0	2284	1467	902	1900	1615	0	1746	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21				85			209			8
Link Speed (k/h)		50			50			50				50
Link Distance (m)		577.2			373.1			105.1				143.3
Travel Time (s)		41.6			26.9			7.6				10.3
Confl. Peds. (#/hr)	39		25	25		39	24			7		24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)												0
Adj. Flow (vph)	8	667	104	138	511	28	174	134	209	16	99	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	779	0	0	649	28	174	134	209	0	133	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		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	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2024 Future Background PM

06-03-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8		8	4		
Detector Phase	2	2		1	6	6	3	8	8	4	4	
Switch Phase												
Minimum Initial (s)	24.0	24.0		5.0	24.0	24.0	5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	30.0	30.0		9.0	30.0	30.0	9.0	31.0	31.0	16.0	16.0	
Total Split (s)	37.0	37.0		20.0	57.0	57.0	10.0	33.0	33.0	23.0	23.0	
Total Split (%)	41.1%	41.1%		22.2%	63.3%	63.3%	11.1%	36.7%	36.7%	25.6%	25.6%	
Maximum Green (s)	31.0	31.0		16.0	51.0	51.0	6.0	27.0	27.0	17.0	17.0	
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.0			6.0	6.0	4.0	6.0	6.0		6.0	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None	None	None	None	
Walk Time (s)	12.0	12.0			12.0	12.0		9.0	9.0			
Flash Dont Walk (s)	12.0	12.0			12.0	12.0		12.0	12.0			
Pedestrian Calls (#/hr)	0	0			0	0		0	0			
Act Effct Green (s)		51.0			51.0	51.0	24.1	22.1	22.1		12.1	
Actuated g/C Ratio		0.60			0.60	0.60	0.28	0.26	0.26		0.14	
v/c Ratio		0.39			0.47	0.03	0.55	0.27	0.36		0.52	
Control Delay		9.6			11.3	0.1	31.5	26.6	5.7		39.5	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay		9.6			11.3	0.1	31.5	26.6	5.7		39.5	
LOS		A			B	A	C	C	A		D	
Approach Delay		9.6			10.8			19.8			39.5	
Approach LOS		A			B			B			D	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 85.1

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 14.4

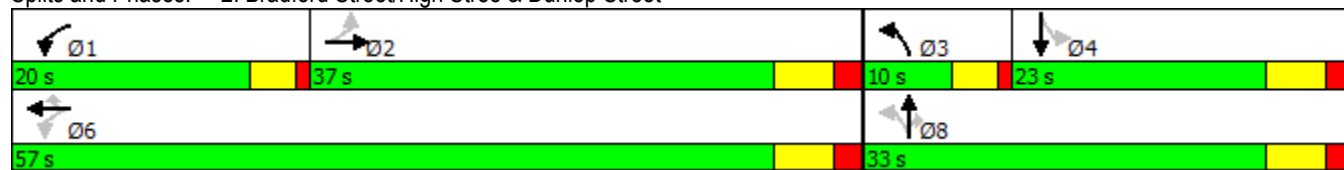
Intersection LOS: B

Intersection Capacity Utilization 74.6%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 2: Bradford Street/High Stree & Dunlop Street



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	6	8	393	48	40	40	367	324	40	288	0
Future Volume (vph)	7	6	8	393	48	40	40	367	324	40	288	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		9.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	0.95
Ped Bike Factor		0.99		0.99	0.99				0.95		1.00	
Frt		0.949			0.932				0.850			
Flt Protected		0.984		0.950				0.995			0.994	
Satd. Flow (prot)	0	1763	0	1805	1759	0	0	3592	1615	0	3588	0
Flt Permitted		0.935		0.742				0.885			0.858	
Satd. Flow (perm)	0	1674	0	1403	1759	0	0	3195	1541	0	3092	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			43				275			
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		577.2			431.6			191.9			292.3	
Travel Time (s)		41.6			31.1			13.8			21.0	
Confl. Peds. (#/hr)	3		6	6		3			22	22		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	8	7	9	427	52	43	43	399	352	43	313	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	24	0	427	95	0	0	442	352	0	356	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)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		16.0	16.0	16.0	16.0	16.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		14.0	14.0	14.0	14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effect Green (s)		30.0		30.0	30.0			30.0	30.0		30.0	
Actuated g/C Ratio		0.42		0.42	0.42			0.42	0.42		0.42	
v/c Ratio		0.03		0.73	0.13			0.33	0.44		0.28	
Control Delay		9.7		26.8	8.4			15.1	5.7		14.6	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		9.7		26.8	8.4			15.1	5.7		14.6	
LOS		A		C	A			B	A		B	
Approach Delay		9.7			23.5			10.9			14.6	
Approach LOS		A			C			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 72

Actuated Cycle Length: 72

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 15.5

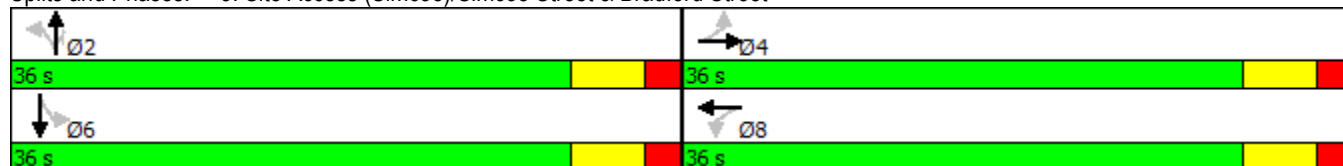
Intersection LOS: B

Intersection Capacity Utilization 90.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street



Intersection	
Intersection Delay, s/veh	12.7
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	383	9	48	40	11	281
Future Vol, veh/h	383	9	48	40	11	281
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	416	10	52	43	12	305
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	14.9	8.8	10.8
HCM LOS	B	A	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	98%	0%	4%
Vol Thru, %	2%	55%	0%
Vol Right, %	0%	45%	96%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	392	88	292
LT Vol	383	0	11
Through Vol	9	48	0
RT Vol	0	40	281
Lane Flow Rate	426	96	317
Geometry Grp	1	1	1
Degree of Util (X)	0.586	0.133	0.406
Departure Headway (Hd)	4.949	5.014	4.608
Convergence, Y/N	Yes	Yes	Yes
Cap	720	719	774
Service Time	3.032	3.014	2.675
HCM Lane V/C Ratio	0.592	0.134	0.41
HCM Control Delay	14.9	8.8	10.8
HCM Lane LOS	B	A	B
HCM 95th-tile Q	3.8	0.5	2

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2030 Total Traffic AM

06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	530	58	54	453	31	92	134	38	33	138	47
Future Volume (vph)	32	530	58	54	453	31	92	134	38	33	138	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	20.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	25.0			20.0			12.0			20.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00				0.99	1.00		
Frt		0.985			0.990				0.850		0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3513	0	1805	3568	0	1805	1900	1615	1805	1828	0
Flt Permitted	0.421			0.316			0.605			0.664		
Satd. Flow (perm)	798	3513	0	598	3568	0	1150	1900	1592	1259	1828	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			8				77		20	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		265.2			577.2			394.4			142.8	
Travel Time (s)		19.1			41.6			28.4			10.3	
Confl. Peds. (#/hr)	3		8	8		3			2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	35	576	63	59	492	34	100	146	41	36	150	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	639	0	59	526	0	100	146	41	36	201	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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	

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2030 Total Traffic AM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	7.0	38.0		7.0	38.0		10.0	10.0	10.0	38.0	38.0	
Minimum Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (%)	11.6%	44.2%		11.6%	44.2%		32.2%	32.2%	32.2%	44.2%	44.2%	
Maximum Green (s)	7.5	38.0		7.5	38.0		26.0	26.0	26.0	38.0	38.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)		16.0			10.0		10.0	10.0	10.0	16.0	16.0	
Flash Dont Walk (s)		16.0			16.0		16.0	16.0	16.0	16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	
Act Effect Green (s)	45.7	38.1		46.7	40.4		38.1	38.1	38.1	38.1	38.1	
Actuated g/C Ratio	0.47	0.39		0.48	0.42		0.39	0.39	0.39	0.39	0.39	
v/c Ratio	0.08	0.46		0.16	0.35		0.22	0.20	0.06	0.07	0.28	
Control Delay	12.4	23.2		13.1	20.7		22.3	21.1	1.3	20.2	19.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	12.4	23.2		13.1	20.7		22.3	21.1	1.3	20.2	19.9	
LOS	B	C		B	C		C	C	A	C	B	
Approach Delay		22.6			20.0			18.7			20.0	
Approach LOS		C			B			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 99.5

Actuated Cycle Length: 97

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 20.8

Intersection LOS: C

Intersection Capacity Utilization 109.2%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 1: Eccles Street & Dunlop Street



Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2030 Total Traffic AM

06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	441	150	101	391	17	118	72	178	10	51	8
Future Volume (vph)	18	441	150	101	391	17	118	72	178	10	51	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		20.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		1	1		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00	0.96	0.98				0.99	
Frt		0.963				0.850			0.850		0.984	
Flt Protected		0.998			0.990		0.950				0.993	
Satd. Flow (prot)	0	3421	0	0	3574	1615	1805	1900	1615	0	1848	0
Flt Permitted		0.932			0.712		0.661				0.942	
Satd. Flow (perm)	0	3194	0	0	2568	1543	1234	1900	1615	0	1749	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		65				102			193			8
Link Speed (k/h)		50			50			50				50
Link Distance (m)		577.2			373.1			107.1				143.3
Travel Time (s)		41.6			26.9			7.7				10.3
Confl. Peds. (#/hr)	16		17	17		16	20			18		20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)												0
Adj. Flow (vph)	20	479	163	110	425	18	128	78	193	11	55	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	662	0	0	535	18	128	78	193	0	75	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1		2
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		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	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2030 Total Traffic AM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8		8	4		
Detector Phase	2	2		1	6	6	3	8	8	4	4	
Switch Phase												
Minimum Initial (s)	24.0	24.0		5.0	24.0	24.0	5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	30.0	30.0		9.0	30.0	30.0	9.0	31.0	31.0	16.0	16.0	
Total Split (s)	32.0	32.0		10.0	42.0	42.0	10.0	33.0	33.0	23.0	23.0	
Total Split (%)	42.7%	42.7%		13.3%	56.0%	56.0%	13.3%	44.0%	44.0%	30.7%	30.7%	
Maximum Green (s)	26.0	26.0		6.0	36.0	36.0	6.0	27.0	27.0	17.0	17.0	
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.0			6.0	6.0	4.0	6.0	6.0		6.0	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None	None	None	None	
Walk Time (s)	12.0	12.0			12.0	12.0		9.0	9.0			
Flash Dont Walk (s)	12.0	12.0			12.0	12.0		12.0	12.0			
Pedestrian Calls (#/hr)	0	0			0	0		0	0			
Act Effct Green (s)		37.0			37.0	37.0	20.0	18.0	18.0		10.2	
Actuated g/C Ratio		0.55			0.55	0.55	0.30	0.27	0.27		0.15	
v/c Ratio		0.37			0.38	0.02	0.31	0.15	0.34		0.28	
Control Delay		8.8			10.1	0.1	19.1	18.6	5.0		26.5	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay		8.8			10.1	0.1	19.1	18.6	5.0		26.5	
LOS		A			B	A	B	B	A		C	
Approach Delay		8.8			9.8			12.2			26.5	
Approach LOS		A			A			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 67

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.38

Intersection Signal Delay: 10.7

Intersection LOS: B

Intersection Capacity Utilization 68.2%

ICU Level of Service C

Analysis Period (min) 15

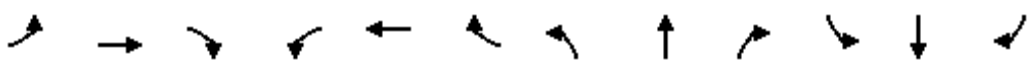
Splits and Phases: 2: Bradford Street/High Stree & Dunlop Street



Lanes, Volumes, Timings
3: Site Access (Simcoe)/Simcoe Street & Bradford Street

2030 Total Traffic AM

06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕			↕	↕		↕	
Traffic Volume (vph)	49	17	19	221	38	41	39	258	235	41	184	42
Future Volume (vph)	49	17	19	221	38	41	39	258	235	41	184	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		9.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	0.95
Ped Bike Factor		0.99		1.00	0.99				0.96		1.00	
Frt		0.969			0.922				0.850		0.976	
Flt Protected		0.972		0.950				0.994			0.992	
Satd. Flow (prot)	0	1784	0	1787	1737	0	0	3588	1615	0	3495	0
Flt Permitted		0.821		0.697				0.878			0.859	
Satd. Flow (perm)	0	1503	0	1308	1737	0	0	3170	1552	0	3021	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			45				255			37
Link Speed (k/h)		50			50			50				50
Link Distance (m)		577.2			431.6			191.9				290.3
Travel Time (s)		41.6			31.1			13.8				20.9
Confl. Peds. (#/hr)	5		3	3		5			16	16		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	53	18	21	240	41	45	42	280	255	45	200	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	92	0	240	86	0	0	322	255	0	291	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)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		16.0	16.0	16.0	16.0	16.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		14.0	14.0	14.0	14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effect Green (s)		30.0		30.0	30.0			30.2	30.2		30.2	
Actuated g/C Ratio		0.42		0.42	0.42			0.42	0.42		0.42	
v/c Ratio		0.14		0.44	0.11			0.24	0.32		0.23	
Control Delay		11.2		18.3	7.8			14.2	3.2		12.3	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		11.2		18.3	7.8			14.2	3.2		12.3	
LOS		B		B	A			B	A		B	
Approach Delay		11.2			15.5			9.4			12.3	
Approach LOS		B			B			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 72

Actuated Cycle Length: 72.2

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.44

Intersection Signal Delay: 11.7

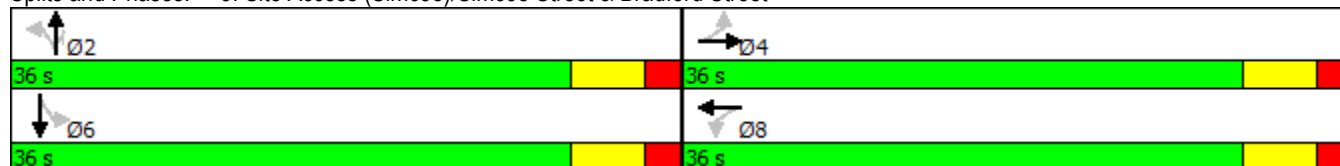
Intersection LOS: B

Intersection Capacity Utilization 90.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street



Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	18	7	1	514	418	5
Future Vol, veh/h	18	7	1	514	418	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	20	8	1	559	454	5
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	739	230	459	0	-	0
Stage 1	457	-	-	-	-	-
Stage 2	282	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	357	779	1113	-	-	-
Stage 1	610	-	-	-	-	-
Stage 2	747	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	357	779	1113	-	-	-
Mov Cap-2 Maneuver	357	-	-	-	-	-
Stage 1	609	-	-	-	-	-
Stage 2	747	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	14.1	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1113	-	421	-	-	
HCM Lane V/C Ratio	0.001	-	0.065	-	-	
HCM Control Delay (s)	8.2	0	14.1	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.2	-	-	

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	174	11	37	116	66	184
Future Vol, veh/h	174	11	37	116	66	184
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	189	12	40	126	72	200
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	9.8	8.4	9.5
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	94%	0%	26%
Vol Thru, %	6%	24%	0%
Vol Right, %	0%	76%	74%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	185	153	250
LT Vol	174	0	66
Through Vol	11	37	0
RT Vol	0	116	184
Lane Flow Rate	201	166	272
Geometry Grp	1	1	1
Degree of Util (X)	0.273	0.199	0.329
Departure Headway (Hd)	4.887	4.31	4.357
Convergence, Y/N	Yes	Yes	Yes
Cap	732	830	823
Service Time	2.932	2.355	2.393
HCM Lane V/C Ratio	0.275	0.2	0.33
HCM Control Delay	9.8	8.4	9.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.1	0.7	1.4

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2030 Total Traffic PM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	635	101	70	597	46	75	288	89	45	217	47
Future Volume (vph)	71	635	101	70	597	46	75	288	89	45	217	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	20.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	25.0			20.0			12.0			20.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.99		0.99	1.00		1.00		0.98	1.00	1.00	
Frt		0.979			0.989				0.850		0.973	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3513	0	1805	3561	0	1719	1900	1615	1805	1837	0
Flt Permitted	0.291			0.237			0.502			0.471		
Satd. Flow (perm)	550	3513	0	448	3561	0	907	1900	1587	892	1837	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			9				97		13	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		265.2			577.2			394.4			142.8	
Travel Time (s)		19.1			41.6			28.4			10.3	
Confl. Peds. (#/hr)	9		15	15		9	3		5	5		3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	2%
Adj. Flow (vph)	77	690	110	76	649	50	82	313	97	49	236	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	77	800	0	76	699	0	82	313	97	49	287	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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	

Lanes, Volumes, Timings
1: Eccles Street & Dunlop Street

2030 Total Traffic PM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	7.0	38.0		7.0	38.0		10.0	10.0	10.0	38.0	38.0	
Minimum Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (%)	11.6%	44.2%		11.6%	44.2%		32.2%	32.2%	32.2%	44.2%	44.2%	
Maximum Green (s)	7.5	38.0		7.5	38.0		26.0	26.0	26.0	38.0	38.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)		16.0			10.0		10.0	10.0	10.0	16.0	16.0	
Flash Dont Walk (s)		16.0			16.0		16.0	16.0	16.0	16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	
Act Effect Green (s)	45.9	38.1		45.9	38.1		38.1	38.1	38.1	38.1	38.1	
Actuated g/C Ratio	0.47	0.39		0.47	0.39		0.39	0.39	0.39	0.39	0.39	
v/c Ratio	0.22	0.58		0.24	0.50		0.23	0.42	0.14	0.14	0.39	
Control Delay	13.8	25.0		14.3	24.0		23.1	24.4	4.9	21.6	22.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	13.8	25.0		14.3	24.0		23.1	24.4	4.9	21.6	22.9	
LOS	B	C		B	C		C	C	A	C	C	
Approach Delay		24.0			23.1			20.3			22.7	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 99.5

Actuated Cycle Length: 97.1

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 22.8

Intersection LOS: C

Intersection Capacity Utilization 109.2%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 1: Eccles Street & Dunlop Street



Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2030 Total Traffic PM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	620	145	152	483	26	182	131	227	15	101	17
Future Volume (vph)	7	620	145	152	483	26	182	131	227	15	101	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		20.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		1	1		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00	0.91	0.98				0.99	
Frt		0.972				0.850			0.850		0.983	
Flt Protected					0.988		0.950				0.994	
Satd. Flow (prot)	0	3483	0	0	3558	1615	1805	1900	1615	0	1845	0
Flt Permitted		0.948			0.597		0.462				0.947	
Satd. Flow (perm)	0	3301	0	0	2147	1467	860	1900	1615	0	1756	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		34				85			247			7
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		577.2			373.1			105.1			143.3	
Travel Time (s)		41.6			26.9			7.6			10.3	
Confl. Peds. (#/hr)	39		25	25		39	24			7		24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)												0
Adj. Flow (vph)	8	674	158	165	525	28	198	142	247	16	110	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	840	0	0	690	28	198	142	247	0	144	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		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	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lanes, Volumes, Timings
2: Bradford Street/High Stree & Dunlop Street

2030 Total Traffic PM

06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8		8	4		
Detector Phase	2	2		1	6	6	3	8	8	4	4	
Switch Phase												
Minimum Initial (s)	24.0	24.0		5.0	24.0	24.0	5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	30.0	30.0		9.0	30.0	30.0	9.0	31.0	31.0	16.0	16.0	
Total Split (s)	37.0	37.0		20.0	57.0	57.0	10.0	33.0	33.0	23.0	23.0	
Total Split (%)	41.1%	41.1%		22.2%	63.3%	63.3%	11.1%	36.7%	36.7%	25.6%	25.6%	
Maximum Green (s)	31.0	31.0		16.0	51.0	51.0	6.0	27.0	27.0	17.0	17.0	
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.0			6.0	6.0	4.0	6.0	6.0		6.0	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None	None	None	None	
Walk Time (s)	12.0	12.0			12.0	12.0		9.0	9.0			
Flash Dont Walk (s)	12.0	12.0			12.0	12.0		12.0	12.0			
Pedestrian Calls (#/hr)	0	0			0	0		0	0			
Act Effct Green (s)		51.0			51.0	51.0	24.5	22.5	22.5		12.5	
Actuated g/C Ratio		0.60			0.60	0.60	0.29	0.26	0.26		0.15	
v/c Ratio		0.42			0.54	0.03	0.63	0.28	0.41		0.55	
Control Delay		10.0			12.6	0.1	35.0	26.6	5.6		40.5	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay		10.0			12.6	0.1	35.0	26.6	5.6		40.5	
LOS		A			B	A	C	C	A		D	
Approach Delay		10.0			12.2			20.6			40.5	
Approach LOS		A			B			C			D	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 85.5

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 15.3

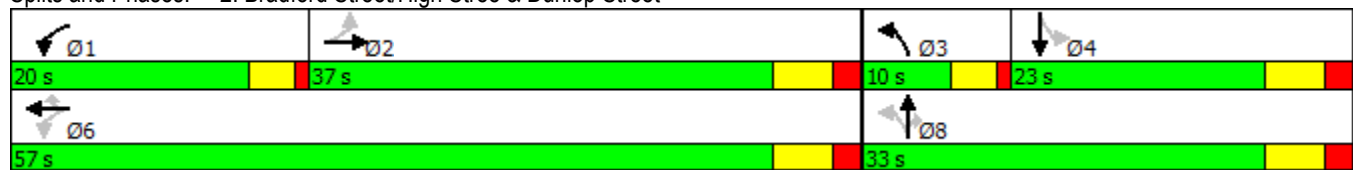
Intersection LOS: B

Intersection Capacity Utilization 76.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 2: Bradford Street/High Stree & Dunlop Street



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	17	23	393	56	40	52	376	324	40	304	65
Future Volume (vph)	63	17	23	393	56	40	52	376	324	40	304	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		9.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	0.95
Ped Bike Factor		0.99		1.00	0.99				0.95		1.00	
Frt		0.970			0.938				0.850		0.976	
Flt Protected		0.970		0.950				0.994			0.995	
Satd. Flow (prot)	0	1781	0	1805	1771	0	0	3588	1615	0	3506	0
Flt Permitted		0.790		0.685				0.845			0.870	
Satd. Flow (perm)	0	1448	0	1296	1771	0	0	3050	1541	0	3061	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			43				262			37
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		577.2			431.6			191.9			292.3	
Travel Time (s)		41.6			31.1			13.8			21.0	
Confl. Peds. (#/hr)	3		6	6		3			22	22		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	68	18	25	427	61	43	57	409	352	43	330	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	111	0	427	104	0	0	466	352	0	444	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)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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	

Lanes, Volumes, Timings
3: Site Access (Simcoe)/Simcoe Street & Bradford Street

2030 Total Traffic PM
06-05-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		16.0	16.0	16.0	16.0	16.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		14.0	14.0	14.0	14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effect Green (s)		30.0		30.0	30.0			30.0	30.0		30.0	
Actuated g/C Ratio		0.42		0.42	0.42			0.42	0.42		0.42	
v/c Ratio		0.18		0.79	0.14			0.37	0.44		0.34	
Control Delay		11.4		31.5	8.8			15.5	6.1		13.9	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		11.4		31.5	8.8			15.5	6.1		13.9	
LOS		B		C	A			B	A		B	
Approach Delay		11.4			27.0			11.5			13.9	
Approach LOS		B			C			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 72

Actuated Cycle Length: 72

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 16.4

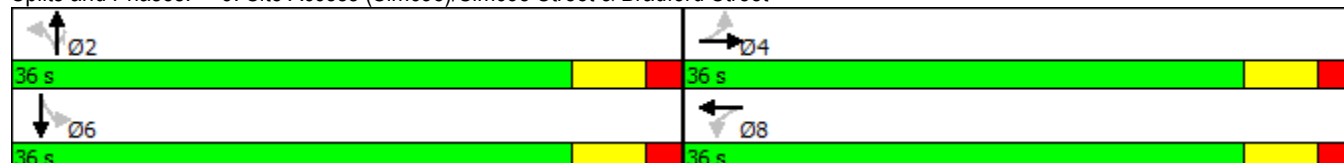
Intersection LOS: B

Intersection Capacity Utilization 90.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street



Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	3	1	742	701	14
Future Vol, veh/h	8	3	1	742	701	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	3	1	807	762	15

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1176	389	777	0	-	0
Stage 1	770	-	-	-	-	-
Stage 2	406	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	187	615	848	-	-	-
Stage 1	423	-	-	-	-	-
Stage 2	647	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	187	615	848	-	-	-
Mov Cap-2 Maneuver	187	-	-	-	-	-
Stage 1	422	-	-	-	-	-
Stage 2	647	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.4	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	848	-	231	-	-
HCM Lane V/C Ratio	0.001	-	0.052	-	-
HCM Control Delay (s)	9.3	0	21.4	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Intersection Delay, s/veh	15.8
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	383	17	58	102	97	281
Future Vol, veh/h	383	17	58	102	97	281
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	416	18	63	111	105	305
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	18.7	10.2	15.2
HCM LOS	C	B	C

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	96%	0%	26%
Vol Thru, %	4%	36%	0%
Vol Right, %	0%	64%	74%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	400	160	378
LT Vol	383	0	97
Through Vol	17	58	0
RT Vol	0	102	281
Lane Flow Rate	435	174	411
Geometry Grp	1	1	1
Degree of Util (X)	0.663	0.258	0.586
Departure Headway (Hd)	5.49	5.334	5.138
Convergence, Y/N	Yes	Yes	Yes
Cap	657	671	703
Service Time	3.529	3.384	3.181
HCM Lane V/C Ratio	0.662	0.259	0.585
HCM Control Delay	18.7	10.2	15.2
HCM Lane LOS	C	B	C
HCM 95th-tile Q	5	1	3.8

Intersection: 1: Eccles Street & Dunlop Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (m)	32.7	63.8	53.7	18.4	35.6	39.2	15.6	35.0	12.2	21.8	44.5
Average Queue (m)	6.0	31.6	21.6	6.7	18.1	21.2	3.0	15.3	4.4	5.3	17.7
95th Queue (m)	20.3	51.7	42.6	15.6	30.9	35.4	10.8	30.5	11.8	15.4	35.0
Link Distance (m)		255.0	255.0		549.5	549.5		372.2	372.2		129.0
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	25.0			25.0			20.0			40.0	
Storage Blk Time (%)		13		0	3		0	7			0
Queuing Penalty (veh)		4		0	1		0	1			0

Intersection: 2: Bradford Street/High Stree & Dunlop Street

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	LT	T	R	L	T	LTR
Maximum Queue (m)	43.6	56.2	41.8	30.2	10.3	32.6	25.1	25.6
Average Queue (m)	18.5	23.1	21.9	8.9	1.8	13.4	10.1	8.2
95th Queue (m)	36.4	44.6	37.6	21.9	7.6	26.9	21.9	18.5
Link Distance (m)	549.5	549.5	362.8	362.8		84.8	84.8	125.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)					20.0			
Storage Blk Time (%)				1				
Queuing Penalty (veh)				0				

Intersection: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street

Movement	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LTR	L	TR	LT	T	R	LT	TR
Maximum Queue (m)	14.0	44.4	20.5	31.2	62.7	18.0	25.2	24.2
Average Queue (m)	3.2	21.8	5.9	12.5	21.4	15.3	12.4	12.4
95th Queue (m)	10.8	37.0	13.8	25.8	47.4	20.3	22.9	23.6
Link Distance (m)	549.6	415.7	415.7				271.7	271.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)						9.0		
Storage Blk Time (%)					27	14		
Queuing Penalty (veh)					60	16		

Intersection: 4: Perry Street/Site Access (Simcoe) & Eccles Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (m)	16.9	14.7	18.4
Average Queue (m)	11.3	8.6	12.8
95th Queue (m)	16.5	14.2	18.9
Link Distance (m)	257.6	549.6	372.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Bradford Street & South Site Access

Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 83

Intersection: 1: Eccles Street & Dunlop Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (m)	48.2	58.2	51.2	32.5	48.3	56.2	31.8	67.5	19.1	34.0	60.8
Average Queue (m)	11.6	34.1	24.2	8.3	26.8	31.8	6.3	32.5	8.3	8.2	30.9
95th Queue (m)	26.0	53.3	44.3	20.1	43.0	51.1	21.8	56.1	16.3	21.9	52.7
Link Distance (m)		255.0	255.0		549.5	549.5		372.2	372.2		129.0
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	25.0			25.0			20.0			40.0	
Storage Blk Time (%)	0	16		0	10		0	22			4
Queuing Penalty (veh)	0	11		0	6		0	5			2

Intersection: 2: Bradford Street/High Stree & Dunlop Street

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	LT	T	R	L	T	LTR
Maximum Queue (m)	53.0	58.0	64.1	47.0	9.0	47.2	36.2	43.1
Average Queue (m)	18.8	22.9	32.9	17.6	1.8	25.8	17.3	18.3
95th Queue (m)	42.8	49.5	52.7	39.7	7.7	42.2	31.3	34.3
Link Distance (m)	549.5	549.5	362.8	362.8		82.8	82.8	125.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)					20.0			
Storage Blk Time (%)				2				
Queuing Penalty (veh)				0				

Intersection: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street

Movement	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LTR	L	TR	LT	T	R	LT	TR
Maximum Queue (m)	12.2	80.5	25.5	43.1	82.6	18.0	30.5	32.5
Average Queue (m)	2.3	41.7	6.5	20.4	32.8	16.2	16.7	17.2
95th Queue (m)	9.0	69.6	16.5	36.4	65.4	19.6	26.6	29.4
Link Distance (m)	549.6	415.7	415.7				273.7	273.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)						9.0		
Storage Blk Time (%)					33	19		
Queuing Penalty (veh)					102	33		

Intersection: 4: Perry Street/Site Access (Simcoe) & Eccles Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (m)	24.2	16.6	29.0
Average Queue (m)	16.7	9.7	16.6
95th Queue (m)	23.4	16.6	25.8
Link Distance (m)	257.6	549.6	372.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Bradford Street & South Site Access

Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 159

Intersection: 1: Eccles Street & Dunlop Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (m)	31.9	54.2	50.9	26.3	44.7	49.2	30.3	47.3	15.8	17.2	44.4
Average Queue (m)	7.2	31.8	23.5	8.3	20.5	24.7	14.2	18.7	5.7	6.2	19.0
95th Queue (m)	20.0	49.7	42.6	19.5	35.8	40.7	28.3	37.1	13.3	15.5	36.8
Link Distance (m)		255.0	255.0		549.5	549.5		372.2	372.2		129.0
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	25.0			25.0			20.0			40.0	
Storage Blk Time (%)	0	15		1	4		3	8			1
Queuing Penalty (veh)	0	4		1	2		4	6			0

Intersection: 2: Bradford Street/High Stree & Dunlop Street

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	LT	T	R	L	T	LTR
Maximum Queue (m)	43.8	58.8	49.1	35.9	10.7	31.6	28.1	23.8
Average Queue (m)	18.8	23.9	25.8	9.0	1.9	15.8	10.3	8.7
95th Queue (m)	38.7	49.5	41.8	23.0	8.0	27.8	22.0	18.7
Link Distance (m)	549.5	549.5	362.8	362.8		84.8	84.8	125.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)					20.0			
Storage Blk Time (%)				1	0			
Queuing Penalty (veh)				0	0			

Intersection: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street

Movement	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LTR	L	TR	LT	T	R	LT	TR
Maximum Queue (m)	23.7	48.5	19.2	30.2	40.3	18.0	30.4	32.8
Average Queue (m)	8.8	22.1	6.4	14.6	20.0	16.0	12.5	15.0
95th Queue (m)	19.6	39.2	14.7	26.2	36.9	20.6	26.2	27.1
Link Distance (m)	549.6	415.7	415.7	171.5	171.5		271.7	271.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)						9.0		
Storage Blk Time (%)					27	15		
Queuing Penalty (veh)					60	18		

Intersection: 4: Perry Street/Site Access (Simcoe) & Eccles Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (m)	19.9	19.8	24.9
Average Queue (m)	11.4	11.0	14.4
95th Queue (m)	17.1	16.7	21.6
Link Distance (m)	257.6	549.6	372.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Bradford Street & South Site Access

Movement	EB
Directions Served	LR
Maximum Queue (m)	12.7
Average Queue (m)	5.0
95th Queue (m)	12.7
Link Distance (m)	180.4
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 96

Intersection: 1: Eccles Street & Dunlop Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (m)	37.4	63.0	61.3	34.3	49.8	54.7	31.8	68.1	17.6	25.8	66.3
Average Queue (m)	12.2	38.4	32.9	9.7	25.7	29.7	14.7	36.1	7.9	8.7	31.6
95th Queue (m)	27.1	56.7	55.0	23.5	43.4	48.0	32.6	61.4	15.5	19.8	54.9
Link Distance (m)		255.0	255.0		549.5	549.5		372.2	372.2		129.0
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	25.0			25.0			20.0			40.0	
Storage Blk Time (%)	0	21		0	10		3	25			4
Queuing Penalty (veh)	1	14		1	6		8	16			2

Intersection: 2: Bradford Street/High Stree & Dunlop Street

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	LT	T	R	L	T	LTR
Maximum Queue (m)	65.9	64.8	71.2	59.6	10.6	48.0	43.8	36.6
Average Queue (m)	24.7	28.3	35.7	20.2	2.4	25.9	20.8	19.4
95th Queue (m)	54.3	57.5	58.6	47.2	8.8	43.7	39.2	34.0
Link Distance (m)	549.5	549.5	362.8	362.8		82.8	82.8	125.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)					20.0			
Storage Blk Time (%)				2	0			
Queuing Penalty (veh)				0	0			

Intersection: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street

Movement	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LTR	L	TR	LT	T	R	LT	TR
Maximum Queue (m)	26.2	72.7	24.8	45.4	70.3	18.0	36.5	34.3
Average Queue (m)	11.1	42.5	8.0	22.1	32.2	16.5	16.1	19.4
95th Queue (m)	21.6	66.2	17.3	37.0	56.7	21.0	27.1	31.2
Link Distance (m)	549.6	415.7	415.7	171.5	171.5		273.7	273.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)						9.0		
Storage Blk Time (%)					35	19		
Queuing Penalty (veh)					105	34		

Intersection: 4: Perry Street/Site Access (Simcoe) & Eccles Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (m)	38.1	19.1	39.7
Average Queue (m)	17.7	12.8	20.2
95th Queue (m)	28.1	19.2	32.2
Link Distance (m)	257.6	549.6	372.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Bradford Street & South Site Access

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (m)	10.8	3.9
Average Queue (m)	2.9	0.2
95th Queue (m)	9.9	2.9
Link Distance (m)	180.4	144.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 186

Intersection: 1: Eccles Street & Dunlop Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (m)	49.7	58.2	59.0	20.4	34.1	35.6	15.4	33.7	9.2	15.5	46.6
Average Queue (m)	6.2	33.4	26.2	6.8	19.4	20.8	2.8	13.4	4.1	7.9	20.4
95th Queue (m)	21.5	48.4	45.9	17.4	29.4	34.0	10.1	25.3	10.9	16.7	36.6
Link Distance (m)		255.0	255.0		549.5	549.5		372.2	372.2		129.0
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	25.0			25.0			20.0			40.0	
Storage Blk Time (%)		18		0	1		0	3			2
Queuing Penalty (veh)		6		0	1		0	0			1

Intersection: 2: Bradford Street/High Stree & Dunlop Street

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	LT	T	R	L	T	LTR
Maximum Queue (m)	52.5	63.7	39.6	35.4	8.9	40.0	22.1	19.7
Average Queue (m)	19.9	23.1	22.8	8.9	1.4	13.6	12.0	8.6
95th Queue (m)	40.2	44.7	33.9	20.6	6.5	27.9	21.7	18.3
Link Distance (m)	549.5	549.5	362.8	362.8		84.8	84.8	125.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)					20.0			
Storage Blk Time (%)				0				
Queuing Penalty (veh)				0				

Intersection: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street

Movement	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LTR	L	TR	LT	T	R	LT	TR
Maximum Queue (m)	9.2	56.7	25.2	27.9	72.3	18.0	22.0	28.1
Average Queue (m)	3.1	24.2	6.2	13.2	22.2	15.2	11.0	12.3
95th Queue (m)	10.0	43.9	16.0	25.6	43.4	19.3	18.6	22.5
Link Distance (m)	549.6	415.7	415.7				271.7	271.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)						9.0		
Storage Blk Time (%)					32	14		
Queuing Penalty (veh)					71	16		

Intersection: 4: Perry Street/Site Access (Simcoe) & Eccles Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (m)	16.7	16.4	22.9
Average Queue (m)	10.9	7.2	14.3
95th Queue (m)	15.9	16.0	21.4
Link Distance (m)	257.6	549.6	372.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Bradford Street & South Site Access

Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 94

Intersection: 1: Eccles Street & Dunlop Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (m)	22.4	66.4	56.0	44.7	52.0	50.1	31.8	66.8	16.0	21.5	63.2
Average Queue (m)	12.1	36.2	27.8	9.9	28.4	33.6	8.4	35.2	8.5	8.5	29.9
95th Queue (m)	21.0	56.7	49.1	23.1	47.6	52.5	27.0	56.9	16.0	18.0	54.3
Link Distance (m)		255.0	255.0		549.5	549.5		372.2	372.2		129.0
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	25.0			25.0			20.0			40.0	
Storage Blk Time (%)	1	17		0	12		0	22			5
Queuing Penalty (veh)	1	11		0	7		0	5			2

Intersection: 2: Bradford Street/High Stree & Dunlop Street

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	LT	T	R	L	T	LTR
Maximum Queue (m)	55.3	54.1	67.7	61.8	15.0	60.6	28.8	32.8
Average Queue (m)	17.8	25.2	34.9	20.7	3.1	25.6	14.7	15.9
95th Queue (m)	39.5	49.6	58.7	47.3	10.4	42.9	25.2	30.0
Link Distance (m)	549.5	549.5	362.8	362.8		82.8	82.8	125.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)					20.0			
Storage Blk Time (%)				3	0			
Queuing Penalty (veh)				1	0			

Intersection: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street

Movement	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LTR	L	TR	LT	T	R	LT	TR
Maximum Queue (m)	9.3	69.5	25.5	34.2	67.0	18.0	29.0	40.5
Average Queue (m)	2.4	41.4	6.3	17.1	26.5	16.9	15.8	15.9
95th Queue (m)	8.7	64.6	14.0	27.3	48.4	19.3	26.8	30.5
Link Distance (m)	549.6	415.7	415.7				273.7	273.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)						9.0		
Storage Blk Time (%)					34	19		
Queuing Penalty (veh)					105	33		

Intersection: 4: Perry Street/Site Access (Simcoe) & Eccles Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (m)	27.0	16.7	40.8
Average Queue (m)	17.2	9.9	17.5
95th Queue (m)	25.1	15.4	27.1
Link Distance (m)	257.6	549.6	372.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Bradford Street & South Site Access

Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 165

Intersection: 1: Eccles Street & Dunlop Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (m)	22.4	66.5	62.9	26.4	46.1	50.8	16.5	31.6	12.6	16.7	41.7
Average Queue (m)	6.0	37.5	26.8	6.8	21.3	24.4	2.5	16.7	4.7	7.0	20.2
95th Queue (m)	18.7	57.1	50.0	17.4	38.0	44.0	10.4	29.5	12.3	15.9	36.1
Link Distance (m)		255.0	255.0		549.5	549.5		372.2	372.2		129.0
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	25.0			25.0			20.0			40.0	
Storage Blk Time (%)	0	19		0	4		0	6			0
Queuing Penalty (veh)	0	6		0	2		0	1			0

Intersection: 2: Bradford Street/High Stree & Dunlop Street

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	LT	T	R	L	T	LTR
Maximum Queue (m)	51.1	62.6	49.7	41.3	9.0	29.6	23.7	20.9
Average Queue (m)	21.3	26.0	27.7	13.1	2.2	13.0	10.3	8.4
95th Queue (m)	42.3	51.2	44.5	31.4	8.4	24.4	21.6	17.7
Link Distance (m)	549.5	549.5	362.8	362.8		84.8	84.8	125.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)					20.0			
Storage Blk Time (%)				1				
Queuing Penalty (veh)				0				

Intersection: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street

Movement	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LTR	L	TR	LT	T	R	LT	TR
Maximum Queue (m)	12.9	50.6	14.4	30.5	51.5	18.0	28.2	25.2
Average Queue (m)	3.4	24.2	5.6	12.1	21.1	15.2	12.7	12.5
95th Queue (m)	11.0	41.7	12.6	24.0	42.7	20.6	22.3	22.8
Link Distance (m)	549.6	415.7	415.7				271.7	271.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)						9.0		
Storage Blk Time (%)					28	15		
Queuing Penalty (veh)					67	18		

Intersection: 4: Perry Street/Site Access (Simcoe) & Eccles Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (m)	16.9	16.5	23.6
Average Queue (m)	11.6	8.5	13.7
95th Queue (m)	17.2	15.1	21.0
Link Distance (m)	257.6	549.6	372.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Bradford Street & South Site Access

Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 94

Intersection: 1: Eccles Street & Dunlop Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (m)	35.5	59.7	54.2	38.4	54.6	62.6	29.7	64.3	20.4	24.6	59.0
Average Queue (m)	11.1	38.4	30.2	9.6	31.7	35.6	7.7	34.6	8.5	9.9	28.8
95th Queue (m)	23.6	57.8	51.1	23.2	50.1	55.6	23.2	56.5	16.1	20.0	50.5
Link Distance (m)		255.0	255.0		549.5	549.5		372.2	372.2		129.0
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	25.0			25.0			20.0			40.0	
Storage Blk Time (%)	0	21		0	13		1	24			3
Queuing Penalty (veh)	0	15		0	8		2	6			1

Intersection: 2: Bradford Street/High Stree & Dunlop Street

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	LT	T	R	L	T	LTR
Maximum Queue (m)	59.3	68.4	61.8	57.2	23.9	55.4	38.2	47.0
Average Queue (m)	23.7	26.9	37.9	22.1	2.7	27.6	17.1	20.7
95th Queue (m)	51.6	57.1	59.2	47.7	12.3	44.9	32.7	38.6
Link Distance (m)	549.5	549.5	362.8	362.8		82.8	82.8	125.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)					20.0			
Storage Blk Time (%)				3	0			
Queuing Penalty (veh)				1	0			

Intersection: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street

Movement	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LTR	L	TR	LT	T	R	LT	TR
Maximum Queue (m)	15.7	68.3	20.4	43.0	80.2	18.0	34.6	32.6
Average Queue (m)	4.3	40.8	7.7	20.5	35.0	17.0	18.4	17.6
95th Queue (m)	12.9	61.2	16.3	36.7	64.5	19.6	30.5	29.2
Link Distance (m)	549.6	415.7	415.7				273.7	273.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)						9.0		
Storage Blk Time (%)					36	23		
Queuing Penalty (veh)					117	41		

Intersection: 4: Perry Street/Site Access (Simcoe) & Eccles Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (m)	34.8	16.6	39.8
Average Queue (m)	17.1	10.8	18.8
95th Queue (m)	27.0	16.8	30.4
Link Distance (m)	257.6	549.6	372.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Bradford Street & South Site Access

Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 191

Intersection: 1: Eccles Street & Dunlop Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (m)	32.8	69.3	72.7	26.8	42.0	50.0	31.8	52.8	15.8	24.8	51.3
Average Queue (m)	6.6	40.0	35.0	9.0	21.3	26.5	16.2	19.4	5.4	6.9	21.6
95th Queue (m)	20.9	64.4	60.9	20.5	35.4	42.8	29.6	39.2	13.7	17.4	41.0
Link Distance (m)		255.0	255.0		549.5	549.5		372.2	372.2		129.0
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	25.0			25.0			20.0			40.0	
Storage Blk Time (%)	0	21		0	5		6	8			1
Queuing Penalty (veh)	0	7		0	3		8	8			0

Intersection: 2: Bradford Street/High Stree & Dunlop Street

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	LT	T	R	L	T	LTR
Maximum Queue (m)	57.9	69.2	53.6	42.4	8.9	39.4	25.4	25.0
Average Queue (m)	22.9	30.1	30.5	14.9	2.0	16.5	10.1	9.1
95th Queue (m)	45.6	59.2	49.6	35.0	7.8	30.3	22.0	18.7
Link Distance (m)	549.5	549.5	362.8	362.8		84.8	84.8	125.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)					20.0			
Storage Blk Time (%)				2				
Queuing Penalty (veh)				0				

Intersection: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street

Movement	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LTR	L	TR	LT	T	R	LT	TR
Maximum Queue (m)	25.7	53.2	17.5	29.2	54.8	18.0	28.9	31.4
Average Queue (m)	10.5	24.3	6.5	14.3	23.8	16.1	14.0	16.3
95th Queue (m)	21.0	42.2	14.2	25.7	44.2	21.1	23.5	27.8
Link Distance (m)	549.6	415.7	415.7	171.5	171.5		271.7	271.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)						9.0		
Storage Blk Time (%)					29	17		
Queuing Penalty (veh)					68	21		

Intersection: 4: Perry Street/Site Access (Simcoe) & Eccles Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (m)	18.4	16.6	26.4
Average Queue (m)	11.7	11.1	14.8
95th Queue (m)	17.3	16.5	22.6
Link Distance (m)	257.6	549.6	372.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Bradford Street & South Site Access

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (m)	14.0	7.7
Average Queue (m)	4.9	0.3
95th Queue (m)	12.8	3.8
Link Distance (m)	180.4	144.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 115

Intersection: 1: Eccles Street & Dunlop Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (m)	49.9	77.7	76.6	40.4	68.8	70.8	31.8	77.3	22.6	27.7	64.5
Average Queue (m)	16.3	46.4	41.9	12.1	33.6	39.5	17.3	39.0	9.3	10.4	30.9
95th Queue (m)	40.3	69.5	65.6	29.5	54.3	60.1	34.5	65.8	18.5	22.1	54.8
Link Distance (m)		255.0	255.0		549.5	549.5		372.2	372.2		129.0
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	25.0			25.0			20.0			40.0	
Storage Blk Time (%)	0	27		0	15		5	24			4
Queuing Penalty (veh)	1	19		1	11		14	18			2

Intersection: 2: Bradford Street/High Stree & Dunlop Street

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	LT	T	R	L	T	LTR
Maximum Queue (m)	70.6	74.8	70.5	61.0	9.0	54.2	39.8	57.2
Average Queue (m)	27.5	31.4	43.7	27.7	2.2	29.1	19.4	22.2
95th Queue (m)	58.3	65.1	67.7	58.7	8.3	49.6	35.7	40.5
Link Distance (m)	549.5	549.5	362.8	362.8		82.8	82.8	125.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)					20.0			
Storage Blk Time (%)				4				
Queuing Penalty (veh)				1				

Intersection: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street

Movement	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LTR	L	TR	LT	T	R	LT	TR
Maximum Queue (m)	30.0	94.9	28.2	45.4	65.2	18.0	34.4	41.1
Average Queue (m)	13.9	45.4	8.9	22.9	36.4	17.2	19.5	21.9
95th Queue (m)	26.7	78.7	20.6	39.9	61.2	19.4	31.6	35.6
Link Distance (m)	549.6	415.7	415.7	171.5	171.5		273.7	273.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)						9.0		
Storage Blk Time (%)					36	21		
Queuing Penalty (veh)					118	39		

Intersection: 4: Perry Street/Site Access (Simcoe) & Eccles Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (m)	32.6	24.5	40.3
Average Queue (m)	18.5	12.6	20.3
95th Queue (m)	27.3	19.5	32.3
Link Distance (m)	257.6	549.6	372.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Bradford Street & South Site Access

Movement	EB	NB	SB
Directions Served	LR	LT	T
Maximum Queue (m)	12.1	6.3	2.8
Average Queue (m)	3.1	0.3	0.1
95th Queue (m)	10.3	3.9	1.8
Link Distance (m)	180.4	144.6	171.5
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 225

Lanes, Volumes, Timings
Without Simcoe Extension

2030 Total Traffic AM
06-12-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	548	43	54	453	31	92	134	42	33	138	47
Future Volume (vph)	32	548	43	54	453	31	92	134	42	33	138	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	20.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	25.0			20.0			12.0			20.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00				0.99	1.00		
Frt		0.989			0.990				0.850		0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3529	0	1805	3568	0	1805	1900	1615	1805	1828	0
Flt Permitted	0.421			0.313			0.605			0.664		
Satd. Flow (perm)	798	3529	0	592	3568	0	1150	1900	1592	1259	1828	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			8				77		20	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		265.2			577.2			394.4			142.8	
Travel Time (s)		19.1			41.6			28.4			10.3	
Confl. Peds. (#/hr)	3		8	8		3			2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	35	596	47	59	492	34	100	146	46	36	150	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	643	0	59	526	0	100	146	46	36	201	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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	

Lanes, Volumes, Timings
Without Simcoe Extension

2030 Total Traffic AM
06-12-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	7.0	38.0		7.0	38.0		10.0	10.0	10.0	38.0	38.0	
Minimum Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (%)	11.6%	44.2%		11.6%	44.2%		32.2%	32.2%	32.2%	44.2%	44.2%	
Maximum Green (s)	7.5	38.0		7.5	38.0		26.0	26.0	26.0	38.0	38.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)		16.0			10.0		10.0	10.0	10.0	16.0	16.0	
Flash Dont Walk (s)		16.0			16.0		16.0	16.0	16.0	16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	
Act Effect Green (s)	45.7	38.1		46.7	40.4		38.1	38.1	38.1	38.1	38.1	
Actuated g/C Ratio	0.47	0.39		0.48	0.42		0.39	0.39	0.39	0.39	0.39	
v/c Ratio	0.08	0.46		0.16	0.35		0.22	0.20	0.07	0.07	0.28	
Control Delay	12.4	23.4		13.1	20.7		22.3	21.1	1.9	20.2	19.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	12.4	23.4		13.1	20.7		22.3	21.1	1.9	20.2	19.9	
LOS	B	C		B	C		C	C	A	C	B	
Approach Delay		22.8			20.0			18.5			20.0	
Approach LOS		C			B			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 99.5

Actuated Cycle Length: 97

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 20.8

Intersection LOS: C

Intersection Capacity Utilization 109.2%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 1: Eccles Street & Dunlop Street



Lanes, Volumes, Timings
Without Simcoe Extension

2030 Total Traffic AM
06-12-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	447	165	101	391	17	122	72	175	10	51	8
Future Volume (vph)	18	447	165	101	391	17	122	72	175	10	51	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		20.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		1	1		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00	0.96	0.98				0.99	
Frt		0.961				0.850			0.850		0.984	
Flt Protected		0.999			0.990		0.950				0.993	
Satd. Flow (prot)	0	3416	0	0	3574	1615	1805	1900	1615	0	1848	0
Flt Permitted		0.933			0.706		0.661				0.942	
Satd. Flow (perm)	0	3190	0	0	2546	1543	1234	1900	1615	0	1749	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		72				102			190			8
Link Speed (k/h)		50			50			50				50
Link Distance (m)		577.2			373.1			107.1				143.3
Travel Time (s)		41.6			26.9			7.7				10.3
Confl. Peds. (#/hr)	16		17	17		16	20			18		20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)												0
Adj. Flow (vph)	20	486	179	110	425	18	133	78	190	11	55	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	685	0	0	535	18	133	78	190	0	75	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		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	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lanes, Volumes, Timings
Without Simcoe Extension

2030 Total Traffic AM

06-12-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases		2		1	6		3	8		4		
Permitted Phases	2			6		6	8		8	4		
Detector Phase	2	2		1	6	6	3	8	8	4	4	
Switch Phase												
Minimum Initial (s)	24.0	24.0		5.0	24.0	24.0	5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	30.0	30.0		9.0	30.0	30.0	9.0	31.0	31.0	16.0	16.0	
Total Split (s)	32.0	32.0		10.0	42.0	42.0	10.0	33.0	33.0	23.0	23.0	
Total Split (%)	42.7%	42.7%		13.3%	56.0%	56.0%	13.3%	44.0%	44.0%	30.7%	30.7%	
Maximum Green (s)	26.0	26.0		6.0	36.0	36.0	6.0	27.0	27.0	17.0	17.0	
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.0			6.0	6.0	4.0	6.0	6.0		6.0	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None	None	None	None	
Walk Time (s)	12.0	12.0			12.0	12.0		9.0	9.0			
Flash Dont Walk (s)	12.0	12.0			12.0	12.0		12.0	12.0			
Pedestrian Calls (#/hr)	0	0			0	0		0	0			
Act Effct Green (s)		36.9			36.9	36.9	20.0	18.0	18.0		10.2	
Actuated g/C Ratio		0.55			0.55	0.55	0.30	0.27	0.27		0.15	
v/c Ratio		0.38			0.38	0.02	0.32	0.15	0.33		0.28	
Control Delay		8.9			10.2	0.1	19.3	18.6	5.0		26.5	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay		8.9			10.2	0.1	19.3	18.6	5.0		26.5	
LOS		A			B	A	B	B	A		C	
Approach Delay		8.9			9.9			12.4			26.5	
Approach LOS		A			A			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 66.9

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.38

Intersection Signal Delay: 10.8

Intersection LOS: B

Intersection Capacity Utilization 68.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Bradford Street/High Stree & Dunlop Street



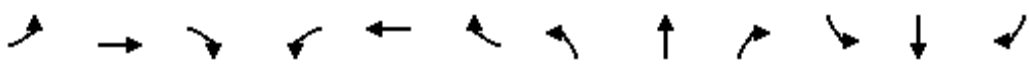
Lanes, Volumes, Timings
Without Simcoe Extension

2030 Total Traffic AM
06-12-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	10	10	245	9	46	13	284	235	47	192	42
Future Volume (vph)	46	10	10	245	9	46	13	284	235	47	192	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		9.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	0.95
Ped Bike Factor		1.00		1.00	0.99				0.96		1.00	
Frt		0.979			0.875				0.850		0.977	
Flt Protected		0.966		0.950				0.998			0.992	
Satd. Flow (prot)	0	1793	0	1787	1640	0	0	3603	1615	0	3499	0
Flt Permitted		0.810		0.710				0.936			0.848	
Satd. Flow (perm)	0	1499	0	1333	1640	0	0	3379	1552	0	2985	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			50				255		34	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		577.2			431.6			191.9			290.3	
Travel Time (s)		41.6			31.1			13.8			20.9	
Confl. Peds. (#/hr)	5		3	3		5			16	16		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	50	11	11	266	10	50	14	309	255	51	209	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	72	0	266	60	0	0	323	255	0	306	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)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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	

Lanes, Volumes, Timings
Without Simcoe Extension

2030 Total Traffic AM
06-12-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		16.0	16.0	16.0	16.0	16.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		14.0	14.0	14.0	14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effect Green (s)		30.0		30.0	30.0			30.0	30.0		30.0	
Actuated g/C Ratio		0.42		0.42	0.42			0.42	0.42		0.42	
v/c Ratio		0.11		0.48	0.08			0.23	0.32		0.24	
Control Delay		11.9		18.9	5.5			14.1	3.2		12.6	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		11.9		18.9	5.5			14.1	3.2		12.6	
LOS		B		B	A			B	A		B	
Approach Delay		11.9			16.5			9.3			12.6	
Approach LOS		B			B			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 72

Actuated Cycle Length: 72

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 12.1

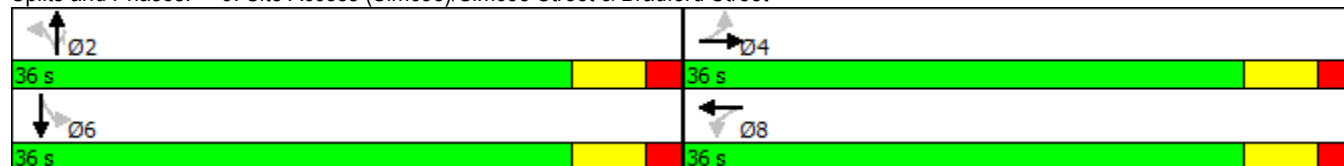
Intersection LOS: B

Intersection Capacity Utilization 90.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street



Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	179	7	8	90	51	184
Future Vol, veh/h	179	7	8	90	51	184
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	195	8	9	98	55	200
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	9.5	7.8	9
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	96%	0%	22%
Vol Thru, %	4%	8%	0%
Vol Right, %	0%	92%	78%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	186	98	235
LT Vol	179	0	51
Through Vol	7	8	0
RT Vol	0	90	184
Lane Flow Rate	202	107	255
Geometry Grp	1	1	1
Degree of Util (X)	0.268	0.123	0.297
Departure Headway (Hd)	4.765	4.153	4.187
Convergence, Y/N	Yes	Yes	Yes
Cap	754	862	858
Service Time	2.798	2.187	2.212
HCM Lane V/C Ratio	0.268	0.124	0.297
HCM Control Delay	9.5	7.8	9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.1	0.4	1.2

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	18	7	1	514	443	5
Future Vol, veh/h	18	7	1	514	443	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	20	8	1	559	482	5

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	767	244	487	0	-	0
Stage 1	485	-	-	-	-	-
Stage 2	282	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	343	763	1086	-	-	-
Stage 1	591	-	-	-	-	-
Stage 2	747	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	343	763	1086	-	-	-
Mov Cap-2 Maneuver	343	-	-	-	-	-
Stage 1	590	-	-	-	-	-
Stage 2	747	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1086	-	405	-	-
HCM Lane V/C Ratio	0.001	-	0.067	-	-
HCM Control Delay (s)	8.3	0	14.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Lanes, Volumes, Timings
Without Simcoe Extension

2030 Total Traffic PM
06-12-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	649	90	70	597	46	75	288	97	45	217	47
Future Volume (vph)	71	649	90	70	597	46	75	288	97	45	217	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	20.0		0.0	40.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	25.0			20.0			12.0			20.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.99		0.99	1.00		1.00		0.98	1.00	1.00	
Frt		0.982			0.989				0.850		0.973	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3526	0	1805	3561	0	1719	1900	1615	1805	1837	0
Flt Permitted	0.291			0.235			0.502			0.471		
Satd. Flow (perm)	550	3526	0	444	3561	0	907	1900	1587	892	1837	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			9				105		13	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		265.2			577.2			394.4			142.8	
Travel Time (s)		19.1			41.6			28.4			10.3	
Confl. Peds. (#/hr)	9		15	15		9	3		5	5		3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	2%
Adj. Flow (vph)	77	705	98	76	649	50	82	313	105	49	236	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	77	803	0	76	699	0	82	313	105	49	287	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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	

Lanes, Volumes, Timings
Without Simcoe Extension

2030 Total Traffic PM
06-12-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Detector Phase	5	2		1	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	7.0	38.0		7.0	38.0		10.0	10.0	10.0	38.0	38.0	
Minimum Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (s)	11.5	44.0		11.5	44.0		32.0	32.0	32.0	44.0	44.0	
Total Split (%)	11.6%	44.2%		11.6%	44.2%		32.2%	32.2%	32.2%	44.2%	44.2%	
Maximum Green (s)	7.5	38.0		7.5	38.0		26.0	26.0	26.0	38.0	38.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)		16.0			10.0		10.0	10.0	10.0	16.0	16.0	
Flash Dont Walk (s)		16.0			16.0		16.0	16.0	16.0	16.0	16.0	
Pedestrian Calls (#/hr)		0			0		0	0	0	0	0	
Act Effect Green (s)	45.9	38.1		45.9	38.1		38.1	38.1	38.1	38.1	38.1	
Actuated g/C Ratio	0.47	0.39		0.47	0.39		0.39	0.39	0.39	0.39	0.39	
v/c Ratio	0.22	0.58		0.24	0.50		0.23	0.42	0.15	0.14	0.39	
Control Delay	13.8	25.1		14.3	24.0		23.1	24.4	4.7	21.6	22.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	13.8	25.1		14.3	24.0		23.1	24.4	4.7	21.6	22.9	
LOS	B	C		B	C		C	C	A	C	C	
Approach Delay		24.2			23.1			20.0			22.7	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 99.5

Actuated Cycle Length: 97.1

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 22.8

Intersection LOS: C

Intersection Capacity Utilization 109.2%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 1: Eccles Street & Dunlop Street



Lanes, Volumes, Timings
Without Simcoe Extension

2030 Total Traffic PM
06-12-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	631	156	152	483	26	186	131	220	15	101	17
Future Volume (vph)	7	631	156	152	483	26	186	131	220	15	101	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		20.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		1	1		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00	0.91	0.98				0.99	
Frt		0.970				0.850			0.850		0.983	
Flt Protected					0.988		0.950				0.994	
Satd. Flow (prot)	0	3474	0	0	3558	1615	1805	1900	1615	0	1845	0
Flt Permitted		0.949			0.591		0.462				0.947	
Satd. Flow (perm)	0	3296	0	0	2126	1467	860	1900	1615	0	1756	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36				85			239		7	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		577.2			373.1			105.1			143.3	
Travel Time (s)		41.6			26.9			7.6			10.3	
Confl. Peds. (#/hr)	39		25	25		39	24			7		24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Parking (#/hr)												0
Adj. Flow (vph)	8	686	170	165	525	28	202	142	239	16	110	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	864	0	0	690	28	202	142	239	0	144	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		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	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		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	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		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	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lanes, Volumes, Timings
Without Simcoe Extension

2030 Total Traffic PM

06-12-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6		6	8		8	4		
Detector Phase	2	2		1	6	6	3	8	8	4	4	
Switch Phase												
Minimum Initial (s)	24.0	24.0		5.0	24.0	24.0	5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	30.0	30.0		9.0	30.0	30.0	9.0	31.0	31.0	16.0	16.0	
Total Split (s)	37.0	37.0		20.0	57.0	57.0	10.0	33.0	33.0	23.0	23.0	
Total Split (%)	41.1%	41.1%		22.2%	63.3%	63.3%	11.1%	36.7%	36.7%	25.6%	25.6%	
Maximum Green (s)	31.0	31.0		16.0	51.0	51.0	6.0	27.0	27.0	17.0	17.0	
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Lost Time (s)		6.0			6.0	6.0	4.0	6.0	6.0		6.0	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max		None	Max	Max	None	None	None	None	None	
Walk Time (s)	12.0	12.0			12.0	12.0		9.0	9.0			
Flash Dont Walk (s)	12.0	12.0			12.0	12.0		12.0	12.0			
Pedestrian Calls (#/hr)	0	0			0	0		0	0			
Act Effct Green (s)		51.0			51.0	51.0	24.5	22.5	22.5		12.5	
Actuated g/C Ratio		0.60			0.60	0.60	0.29	0.26	0.26		0.15	
v/c Ratio		0.44			0.54	0.03	0.65	0.28	0.40		0.55	
Control Delay		10.1			12.7	0.1	35.6	26.6	5.6		40.5	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay		10.1			12.7	0.1	35.6	26.6	5.6		40.5	
LOS		B			B	A	D	C	A		D	
Approach Delay		10.1			12.3			21.1			40.5	
Approach LOS		B			B			C			D	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 85.5

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 15.4

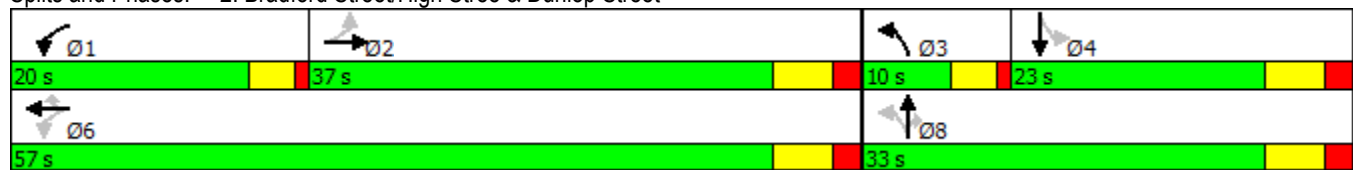
Intersection LOS: B

Intersection Capacity Utilization 77.5%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 2: Bradford Street/High Stree & Dunlop Street



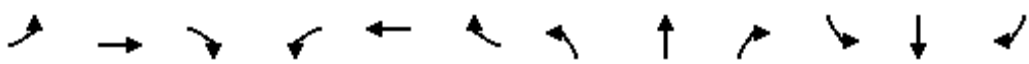
Lanes, Volumes, Timings
Without Simcoe Extension

2030 Total Traffic PM
06-12-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	11	15	436	8	45	12	416	324	44	312	65
Future Volume (vph)	56	11	15	436	8	45	12	416	324	44	312	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		9.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	0.95
Ped Bike Factor		1.00		1.00	0.99				0.95		1.00	
Frt		0.976			0.873				0.850		0.977	
Flt Protected		0.967		0.950				0.999			0.995	
Satd. Flow (prot)	0	1788	0	1805	1638	0	0	3606	1615	0	3509	0
Flt Permitted		0.802		0.699				0.938			0.860	
Satd. Flow (perm)	0	1480	0	1322	1638	0	0	3386	1541	0	3029	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			49				262			36
Link Speed (k/h)		50			50			50				50
Link Distance (m)		577.2			431.6			191.9			292.3	
Travel Time (s)		41.6			31.1			13.8			21.0	
Confl. Peds. (#/hr)	3		6	6		3			22	22		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	61	12	16	474	9	49	13	452	352	48	339	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	89	0	474	58	0	0	465	352	0	458	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)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
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	

Lanes, Volumes, Timings
Without Simcoe Extension

2030 Total Traffic PM
06-12-2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Minimum Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (s)	36.0	36.0		36.0	36.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	30.0	30.0		30.0	30.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		16.0	16.0	16.0	16.0	16.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		14.0	14.0	14.0	14.0	14.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effect Green (s)		30.0		30.0	30.0			30.0	30.0		30.0	
Actuated g/C Ratio		0.42		0.42	0.42			0.42	0.42		0.42	
v/c Ratio		0.14		0.86	0.08			0.33	0.44		0.36	
Control Delay		11.8		37.6	5.5			15.0	6.1		14.1	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		11.8		37.6	5.5			15.0	6.1		14.1	
LOS		B		D	A			B	A		B	
Approach Delay		11.8			34.1			11.2			14.1	
Approach LOS		B			C			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 72

Actuated Cycle Length: 72

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 18.4

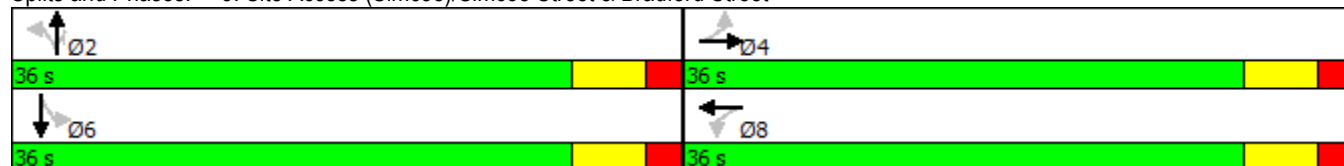
Intersection LOS: B

Intersection Capacity Utilization 90.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street



Intersection	
Intersection Delay, s/veh	15.2
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	392	9	12	68	96	281
Future Vol, veh/h	392	9	12	68	96	281
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	426	10	13	74	104	305
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	17.4	8.9	14.1
HCM LOS	C	A	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	98%	0%	25%
Vol Thru, %	2%	15%	0%
Vol Right, %	0%	85%	75%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	401	80	377
LT Vol	392	0	96
Through Vol	9	12	0
RT Vol	0	68	281
Lane Flow Rate	436	87	410
Geometry Grp	1	1	1
Degree of Util (X)	0.643	0.124	0.563
Departure Headway (Hd)	5.309	5.135	4.942
Convergence, Y/N	Yes	Yes	Yes
Cap	680	697	734
Service Time	3.341	3.181	2.942
HCM Lane V/C Ratio	0.641	0.125	0.559
HCM Control Delay	17.4	8.9	14.1
HCM Lane LOS	C	A	B
HCM 95th-tile Q	4.7	0.4	3.5

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	3	1	743	747	16
Future Vol, veh/h	9	3	1	743	747	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	10	3	1	808	812	17
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1227	415	829	0	-	0
Stage 1	821	-	-	-	-	-
Stage 2	406	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	173	592	811	-	-	-
Stage 1	398	-	-	-	-	-
Stage 2	647	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	173	592	811	-	-	-
Mov Cap-2 Maneuver	173	-	-	-	-	-
Stage 1	397	-	-	-	-	-
Stage 2	647	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	23.3	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	811	-	210	-	-	
HCM Lane V/C Ratio	0.001	-	0.062	-	-	
HCM Control Delay (s)	9.4	0	23.3	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0	-	0.2	-	-	

Intersection: 1: Eccles Street & Dunlop Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (m)	49.8	77.1	66.5	19.8	44.8	49.2	31.8	41.6	16.3	15.8	41.4
Average Queue (m)	8.9	40.1	29.4	8.3	24.1	28.6	15.6	16.5	6.4	5.9	21.5
95th Queue (m)	28.0	60.1	54.7	16.4	37.2	43.8	29.5	33.5	13.8	15.5	33.5
Link Distance (m)		255.0	255.0		549.5	549.5		372.2	372.2		129.0
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	25.0			25.0			20.0			40.0	
Storage Blk Time (%)		25		0	8		6	6			1
Queuing Penalty (veh)		8		0	4		8	6			0

Intersection: 2: Bradford Street/High Stree & Dunlop Street

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	LT	T	R	L	T	LTR
Maximum Queue (m)	44.8	53.8	58.3	36.6	9.0	34.4	28.4	32.6
Average Queue (m)	21.9	25.4	27.2	12.9	3.6	19.4	12.7	9.8
95th Queue (m)	40.8	47.7	45.7	29.1	10.5	32.1	22.9	20.9
Link Distance (m)	549.5	549.5	362.8	362.8		84.8	84.8	125.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)					20.0			
Storage Blk Time (%)				2				
Queuing Penalty (veh)				0				

Intersection: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street

Movement	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LTR	L	TR	LT	T	R	LT	TR
Maximum Queue (m)	16.4	52.6	32.0	46.8	67.0	18.0	28.6	33.8
Average Queue (m)	8.5	29.4	5.4	15.8	24.9	16.2	12.1	14.6
95th Queue (m)	17.4	49.3	15.4	32.4	53.0	19.5	21.0	27.2
Link Distance (m)	549.6	415.7	415.7	171.5	171.5		271.7	271.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)						9.0		
Storage Blk Time (%)					28	19		
Queuing Penalty (veh)					67	26		

Intersection: 4: Perry Street/Site Access (Simcoe) & Eccles Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (m)	16.6	16.7	23.0
Average Queue (m)	11.3	9.6	14.2
95th Queue (m)	16.6	12.6	20.4
Link Distance (m)	257.6	549.6	372.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Bradford Street & South Site Access

Movement	EB
Directions Served	LR
Maximum Queue (m)	9.3
Average Queue (m)	5.0
95th Queue (m)	12.3
Link Distance (m)	180.4
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 120

Intersection: 1: Eccles Street & Dunlop Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	L	TR
Maximum Queue (m)	49.8	96.8	85.3	44.9	52.0	66.7	31.8	103.2	22.1	21.3	61.3
Average Queue (m)	17.9	47.7	44.0	13.1	36.4	42.5	18.6	42.8	8.7	8.2	37.6
95th Queue (m)	43.8	77.2	70.6	37.4	55.8	62.8	37.1	77.3	15.7	17.8	60.2
Link Distance (m)		255.0	255.0		549.5	549.5		372.2	372.2		129.0
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	25.0			25.0			20.0			40.0	
Storage Blk Time (%)	1	27		1	23		5	27			8
Queuing Penalty (veh)	3	19		4	16		14	20			4

Intersection: 2: Bradford Street/High Stree & Dunlop Street

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	LT	T	R	L	T	LTR
Maximum Queue (m)	76.9	87.3	72.6	68.2	9.0	47.2	46.1	38.2
Average Queue (m)	31.8	35.9	42.6	28.5	1.2	29.7	21.8	18.7
95th Queue (m)	71.6	77.4	69.5	61.5	6.0	44.5	39.1	31.5
Link Distance (m)	549.5	549.5	362.8	362.8		82.8	82.8	125.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)					20.0			
Storage Blk Time (%)				4				
Queuing Penalty (veh)				1				

Intersection: 3: Site Access (Simcoe)/Simcoe Street & Bradford Street

Movement	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	LTR	L	TR	LT	T	R	LT	TR
Maximum Queue (m)	28.0	63.8	12.8	58.3	81.8	18.0	35.7	35.4
Average Queue (m)	10.2	43.8	5.3	21.5	37.6	17.5	19.7	21.7
95th Queue (m)	22.4	62.3	10.9	40.5	67.3	18.9	33.1	33.6
Link Distance (m)	549.6	415.7	415.7	171.5	171.5		273.7	273.7
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)						9.0		
Storage Blk Time (%)					35	21		
Queuing Penalty (veh)					113	44		

Intersection: 4: Perry Street/Site Access (Simcoe) & Eccles Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (m)	41.3	22.9	44.9
Average Queue (m)	19.3	10.2	22.5
95th Queue (m)	31.3	16.9	36.8
Link Distance (m)	257.6	549.6	372.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

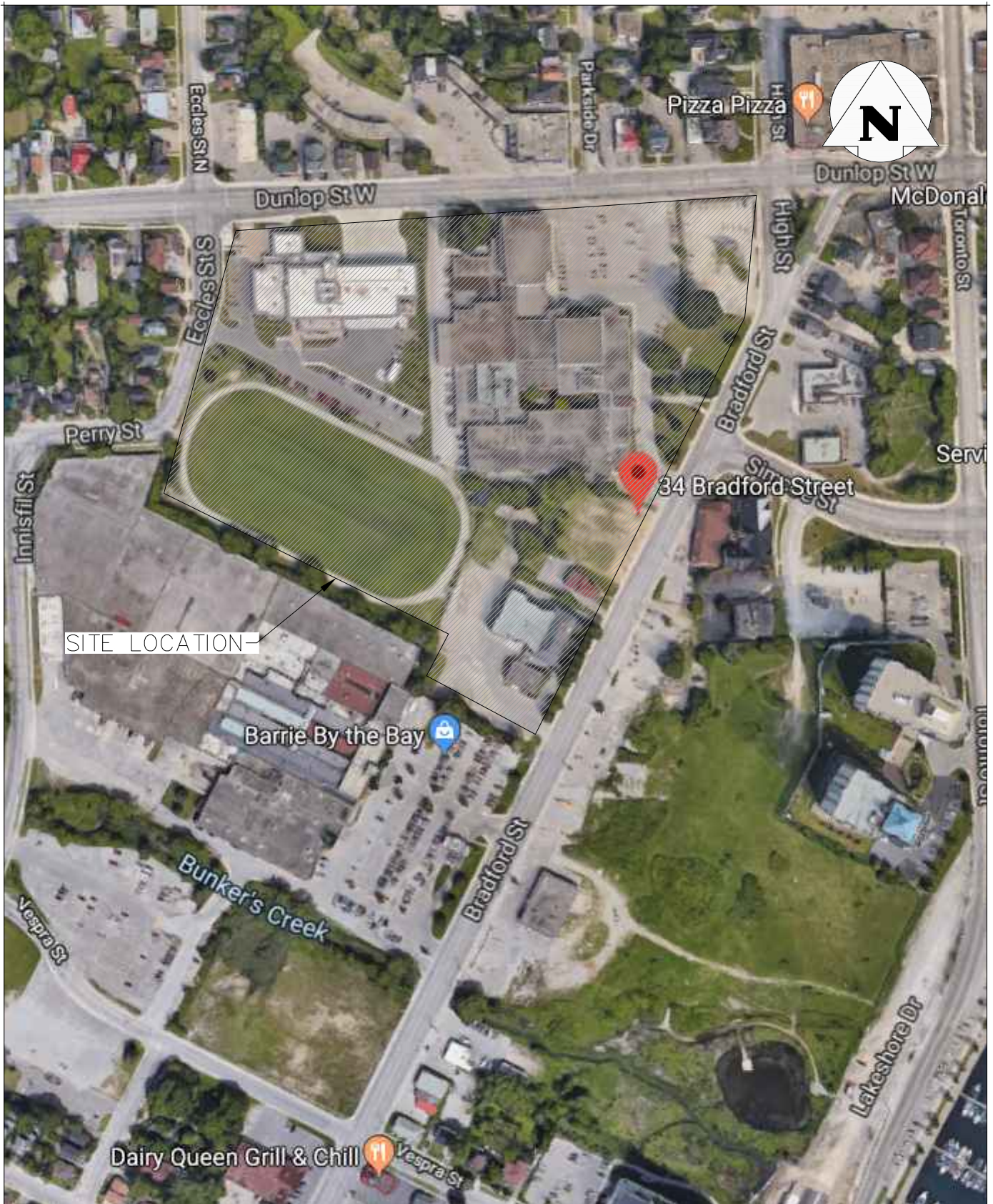
Intersection: 5: Bradford Street & South Site Access

Movement	EB
Directions Served	LR
Maximum Queue (m)	9.2
Average Queue (m)	2.1
95th Queue (m)	8.2
Link Distance (m)	180.4
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 237

FIGURES



SITE LOCATION

HIP BARRIE CENTRAL DEVELOPMENTS
34-50 BRADFORD STREET
CITY OF BARRIE

SITE LOCATION

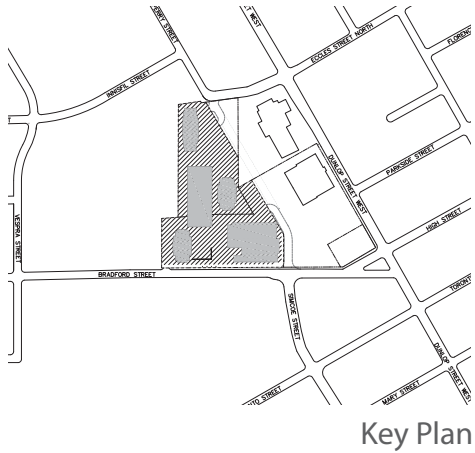


**CROZIER
& ASSOCIATES**
Consulting Engineers

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

Drawn	P.A.	Design	Project No.	1351-5233
Check	R.A.W.	Check	Scale	N.T.S.
			Dwg.	FIG. 01

HIP Developments
Barrie Central
Development
Barrie, ON
June 11, 2019



Units			
Building	One Bedroom	Two Bedroom	Total
1	152	76	228
2	152	76	228
3	86	58	144
Total Units	390	210	600
Total Beds	390	420	810

Parking			
	Surface	Structure	Total
Residential	78	578	656
YMCA	64	102	166
Total	142	680	822
Res. Parking Ratio	1.09/unit		

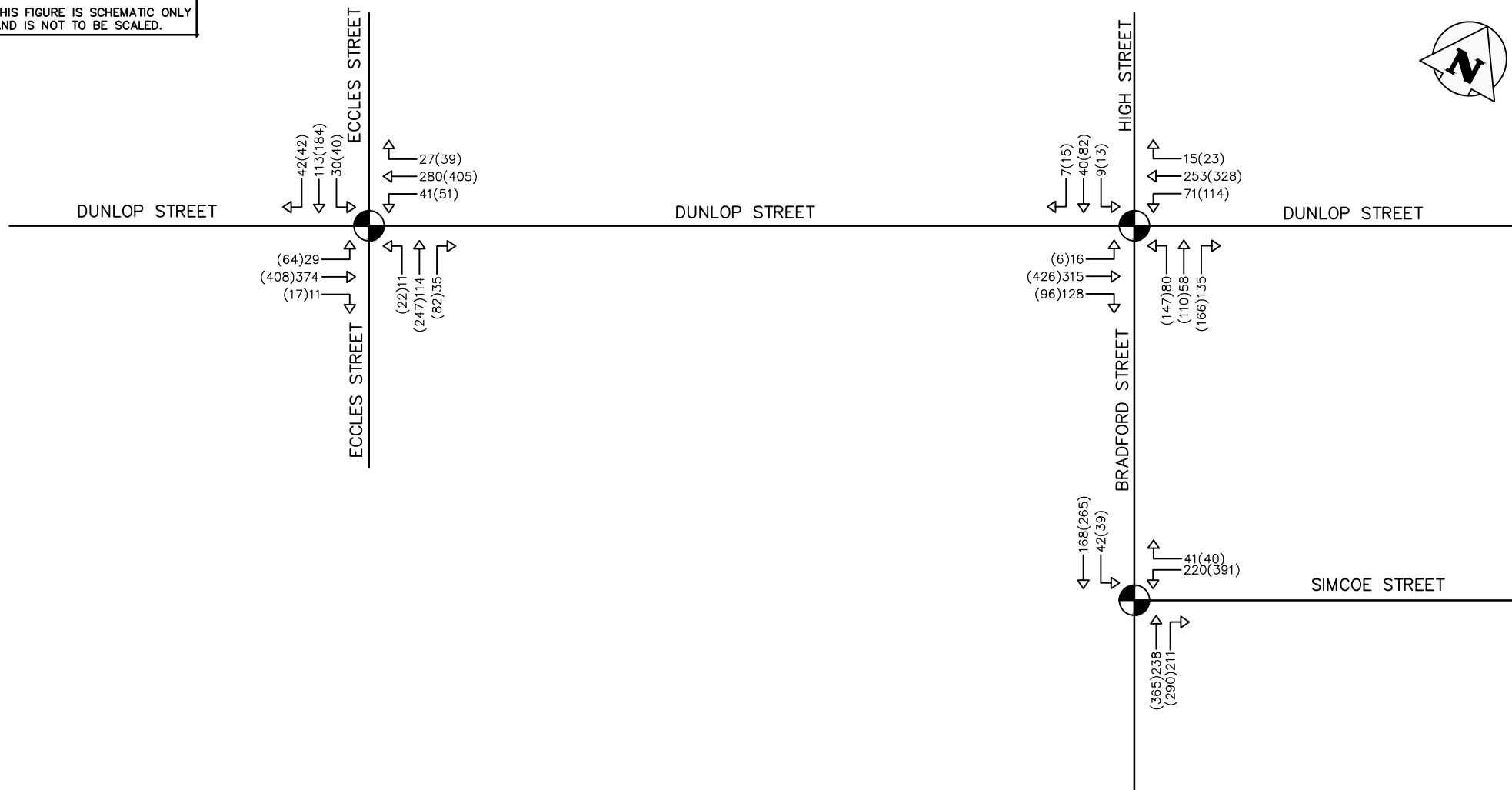
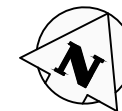
Floor Area Ratio		
	With YMCA	Without YMCA
Lot Area	28,070.29 sq.m	20,729.09 sq.m
Built Area	11,442.63 sq.m	7,354.46 sq.m
FAR	0.41	0.35

Landscaped Area: 7,850 sq.m

Neighborhood Schematic Site Plan
Scale: 1:1250



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



LEGEND:

	SIGNAL CONTROL
	STOP CONTROL
	YIELD CONTROL
	ROUND ABOUT
VOLUME	SUNDAY PEAK TRIP DISTRIBUTION

HIP BARRIE CENTRAL DEVELOPMENTS
34-50 BRADFORD STREET
CITY OF BARRIE

2019 EXISTING TRAFFIC VOLUMES

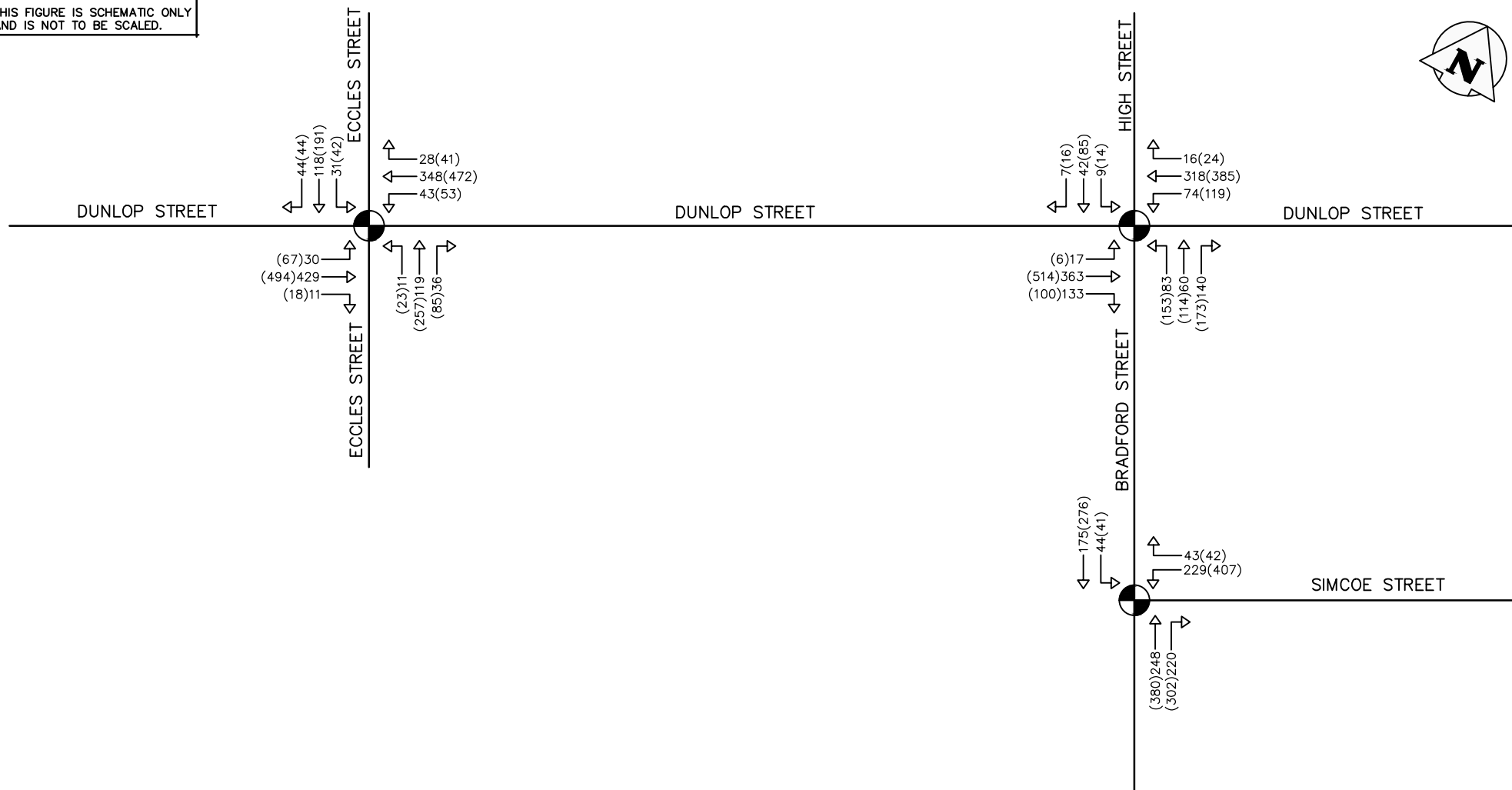
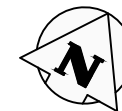


CROZIER & ASSOCIATES
Consulting Engineers

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

Drawn	P.A.	Design	Project No.	1351-5233
Check	R.A.W.	Check	Scale	N.T.S.
			Rep.	FIG. 03

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



LEGEND:

	SIGNAL CONTROL
	STOP CONTROL
	YIELD CONTROL
	ROUND ABOUT
	VOLUME
	SUNDAY PEAK TRIP DISTRIBUTION

HIP BARRIE CENTRAL DEVELOPMENTS
34-50 BRADFORD STREET
CITY OF BARRIE

2023 FUTURE BACKGROUND
TRAFFIC VOLUMES

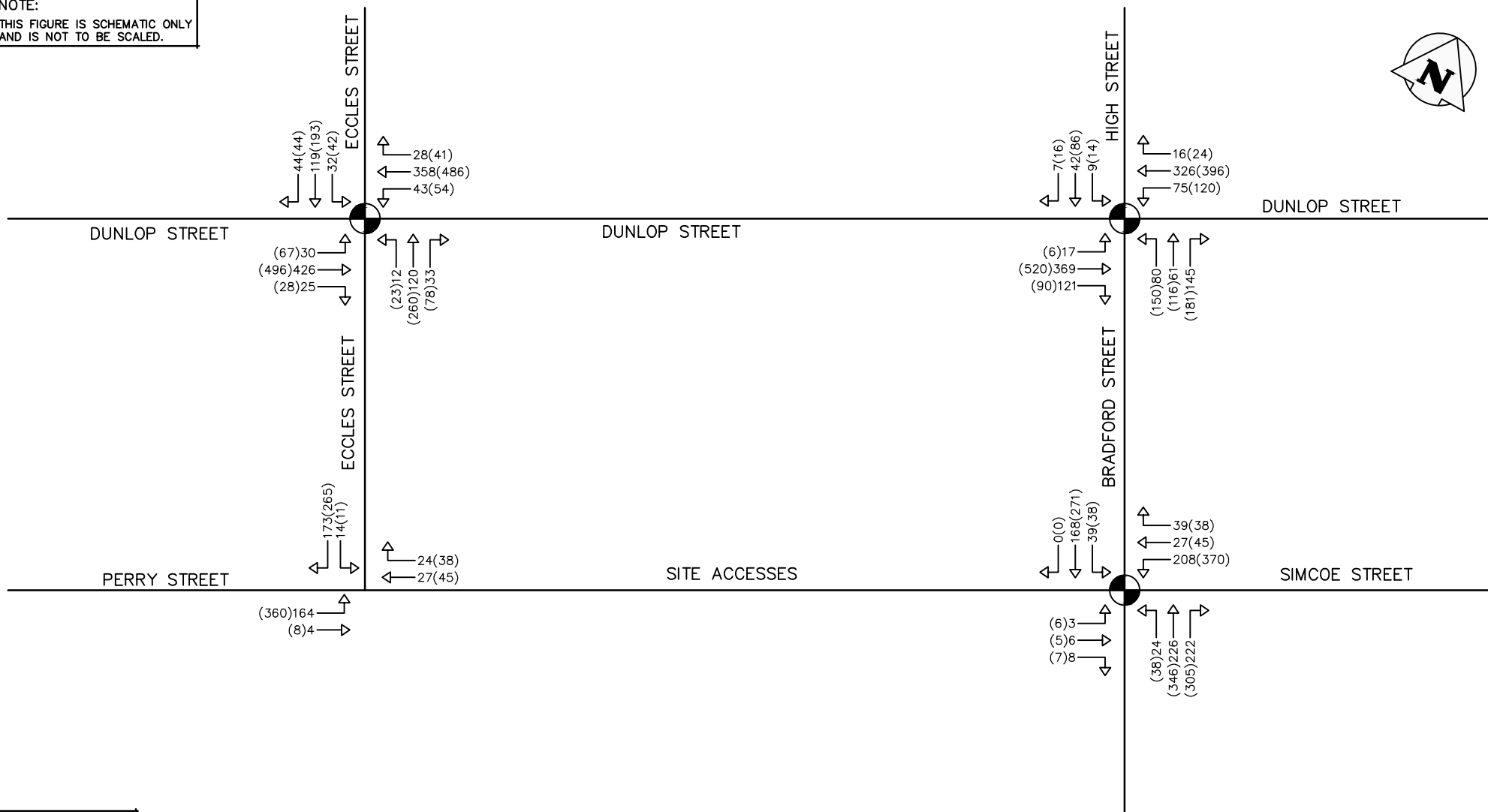
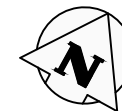


CROZIER & ASSOCIATES
Consulting Engineers

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

Drawn	P.A.	Design	Project No.	1351-5233
Check	R.A.W.	Check	Scale	N.T.S.
			Rep.	FIG. 04

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



LEGEND:

	SIGNAL CONTROL
	STOP CONTROL
	YIELD CONTROL
	ROUND ABOUT
	SUNDAY PEAK TRIP DISTRIBUTION

HIP BARRIE CENTRAL DEVELOPMENTS
34-50 BRADFORD STREET
CITY OF BARRIE

2024 FUTURE BACKGROUND
TRAFFIC VOLUMES

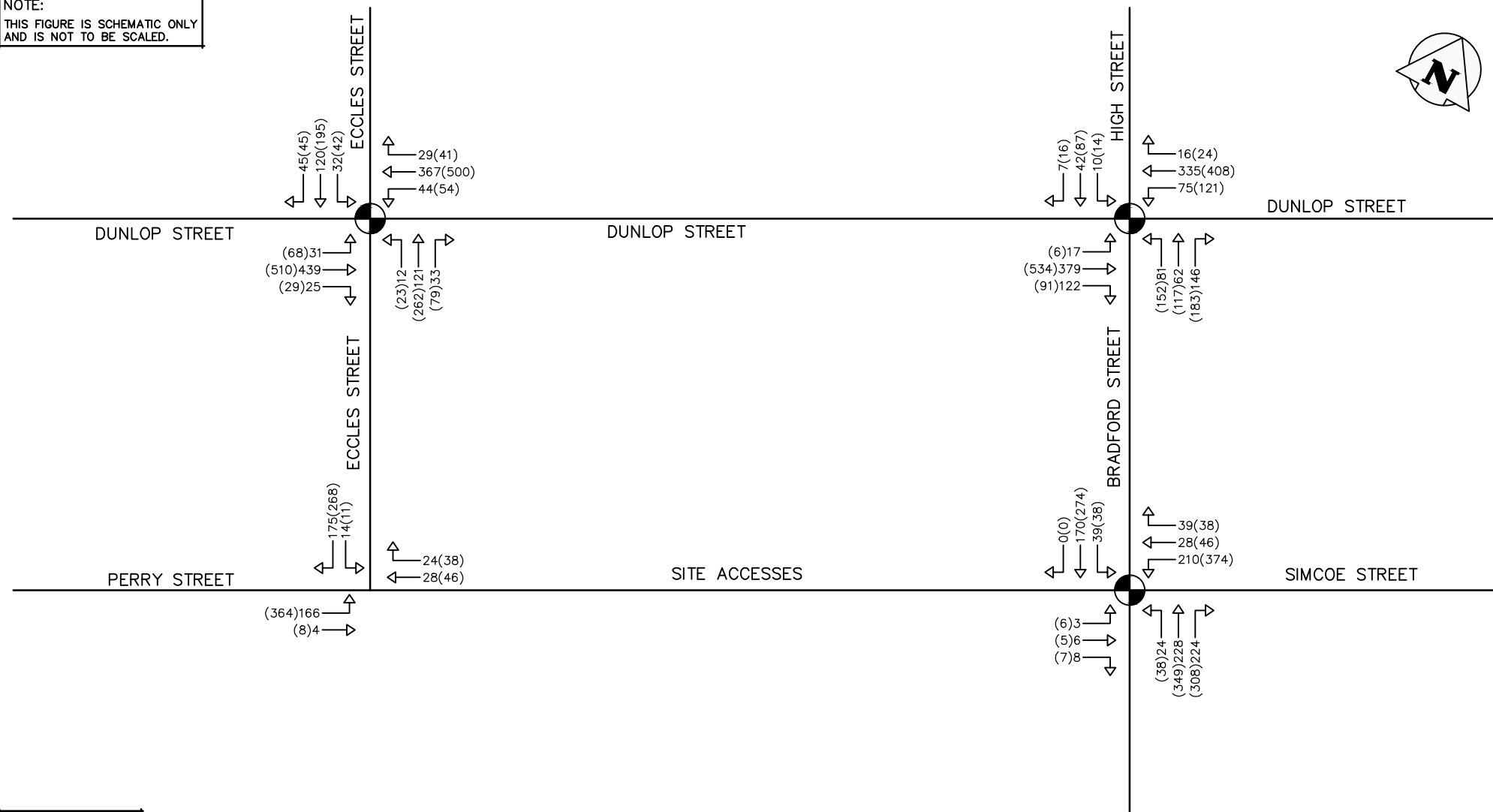
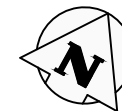


CROZIER & ASSOCIATES
Consulting Engineers

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

Drawn	P.A.	Design	Project No.	1351-5233
Check	R.A.W.	Check	Scale	N.T.S.
			Rep.	FIG. 5

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



LEGEND:

	SIGNAL CONTROL
	STOP CONTROL
	YIELD CONTROL
	ROUND ABOUT
VOLUME	SUNDAY PEAK TRIP DISTRIBUTION

HIP BARRIE CENTRAL DEVELOPMENTS
34-50 BRADFORD STREET
CITY OF BARRIE

2025 FUTURE BACKGROUND
TRAFFIC VOLUMES

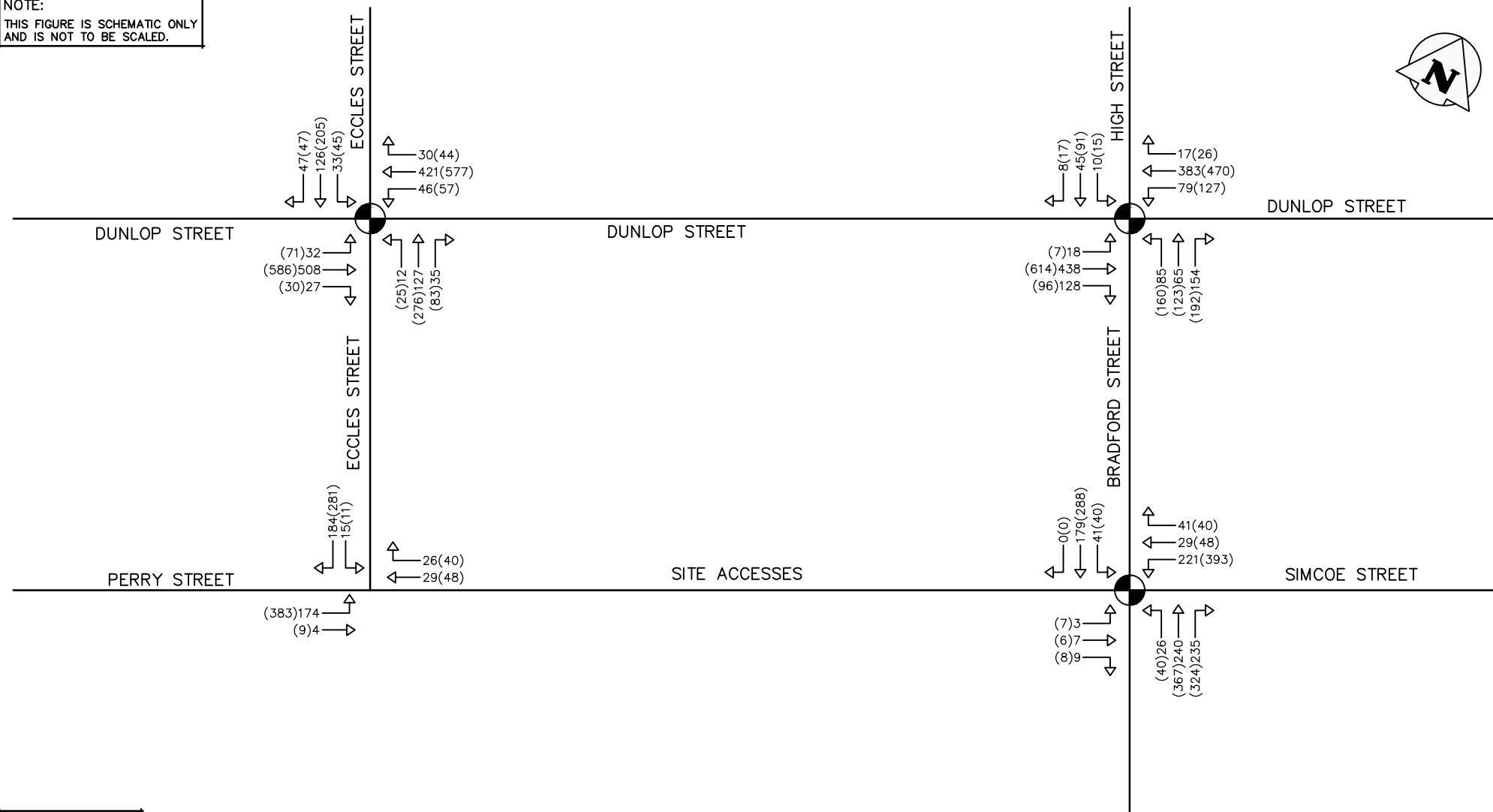
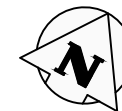


CROZIER & ASSOCIATES
Consulting Engineers

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

Drawn	P.A.	Design	Project No.	1351-5233
Check	R.A.W.	Check	Scale	N.T.S.
			Rep.	FIG. 6

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



LEGEND:

	SIGNAL CONTROL
	STOP CONTROL
	YIELD CONTROL
	ROUND ABOUT
VOLUME	SUNDAY PEAK TRIP DISTRIBUTION

HIP BARRIE CENTRAL DEVELOPMENTS
34-50 BRADFORD STREET
CITY OF BARRIE

2025 FUTURE BACKGROUND
TRAFFIC VOLUMES

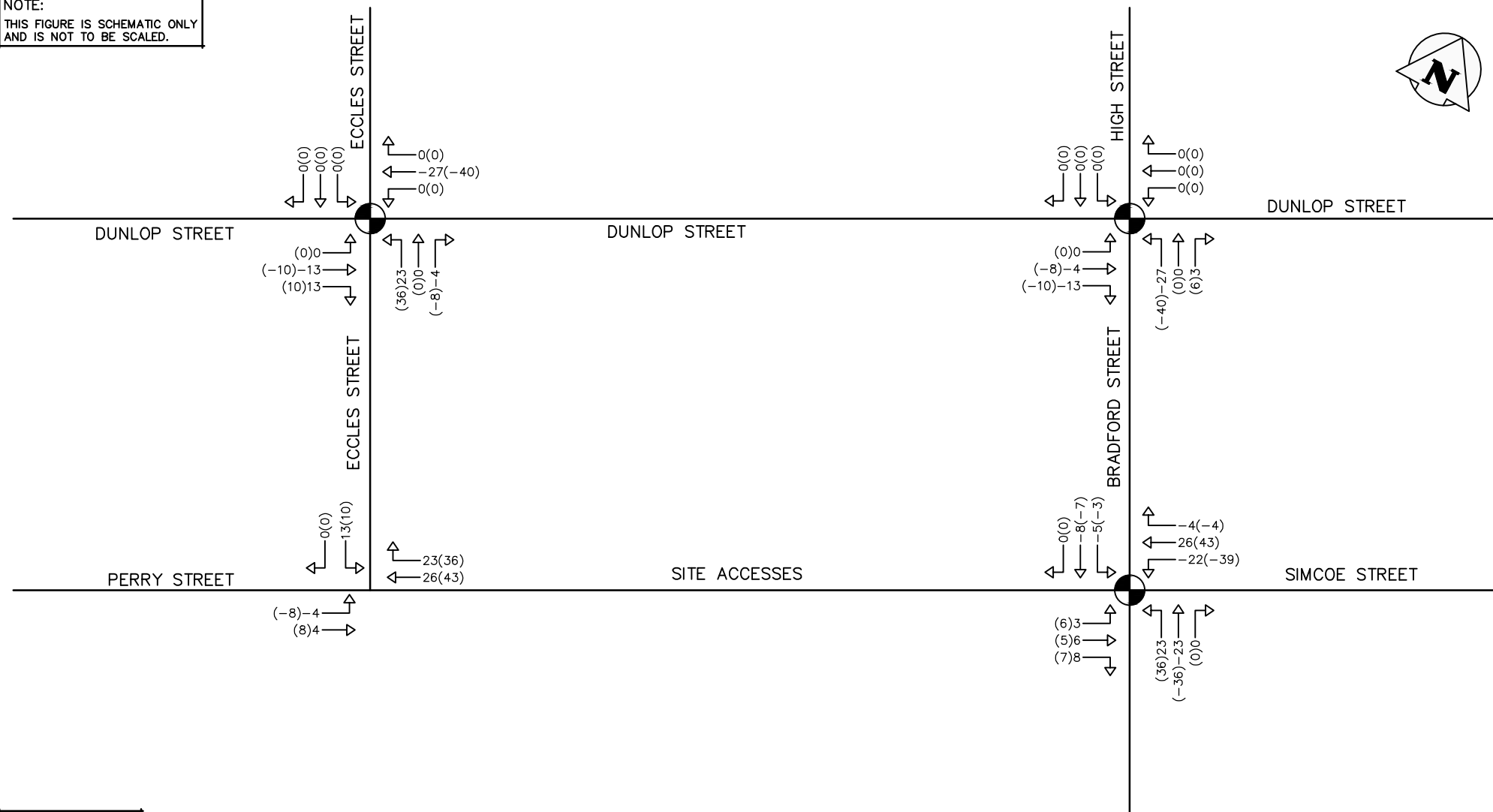
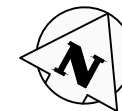


CROZIER & ASSOCIATES
Consulting Engineers

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

Drawn	P.A.	Design	Project No.	1351-5233
Check	R.A.W.	Check	Scale	N.T.S.
			Rep.	FIG. 7

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



LEGEND:

- SIGNAL CONTROL
- STOP CONTROL
- YIELD CONTROL
- ROUND ABOUT
- VOLUME
- SUNDAY PEAK TRIP DISTRIBUTION

HIP BARRIE CENTRAL DEVELOPMENTS
34-50 BRADFORD STREET
CITY OF BARRIE

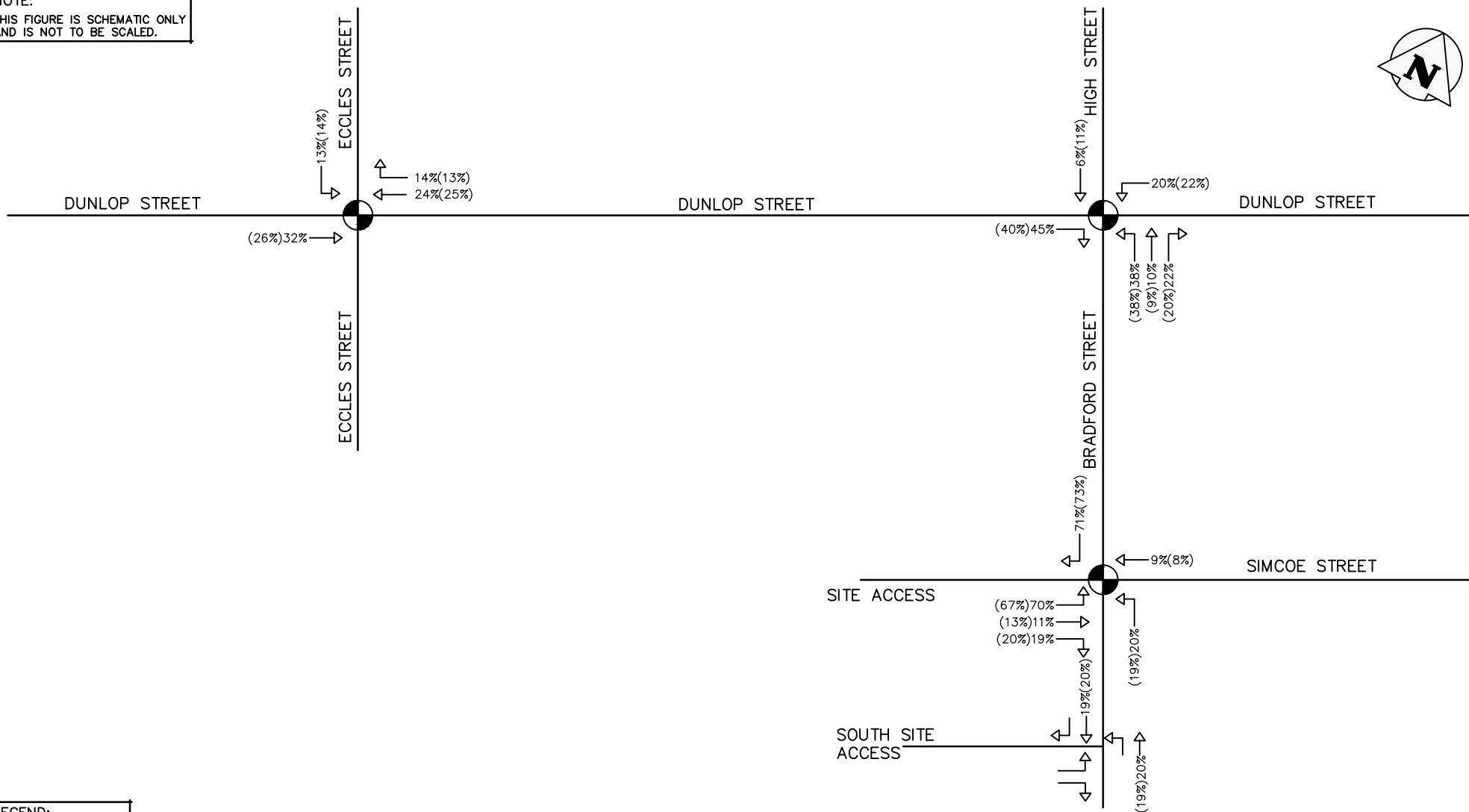
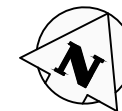
TRAFFIC MOVEMENT REDISTRIBUTION BASED
ON 2019 EXSITING TRAFFIC VOLUMES



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

Drawn	P.A.	Design	Project No.	1351-5233
Check	R.A.W.	Check	Scale	N.T.S.
			Rep.	FIG. 8

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



LEGEND:

	SIGNAL CONTROL
	STOP CONTROL
	YIELD CONTROL
	ROUND ABOUT
	VOLUME
	SUNDAY PEAK TRIP DISTRIBUTION

HIP BARRIE CENTRAL DEVELOPMENTS
34-50 BRADFORD STREET
CITY OF BARRIE

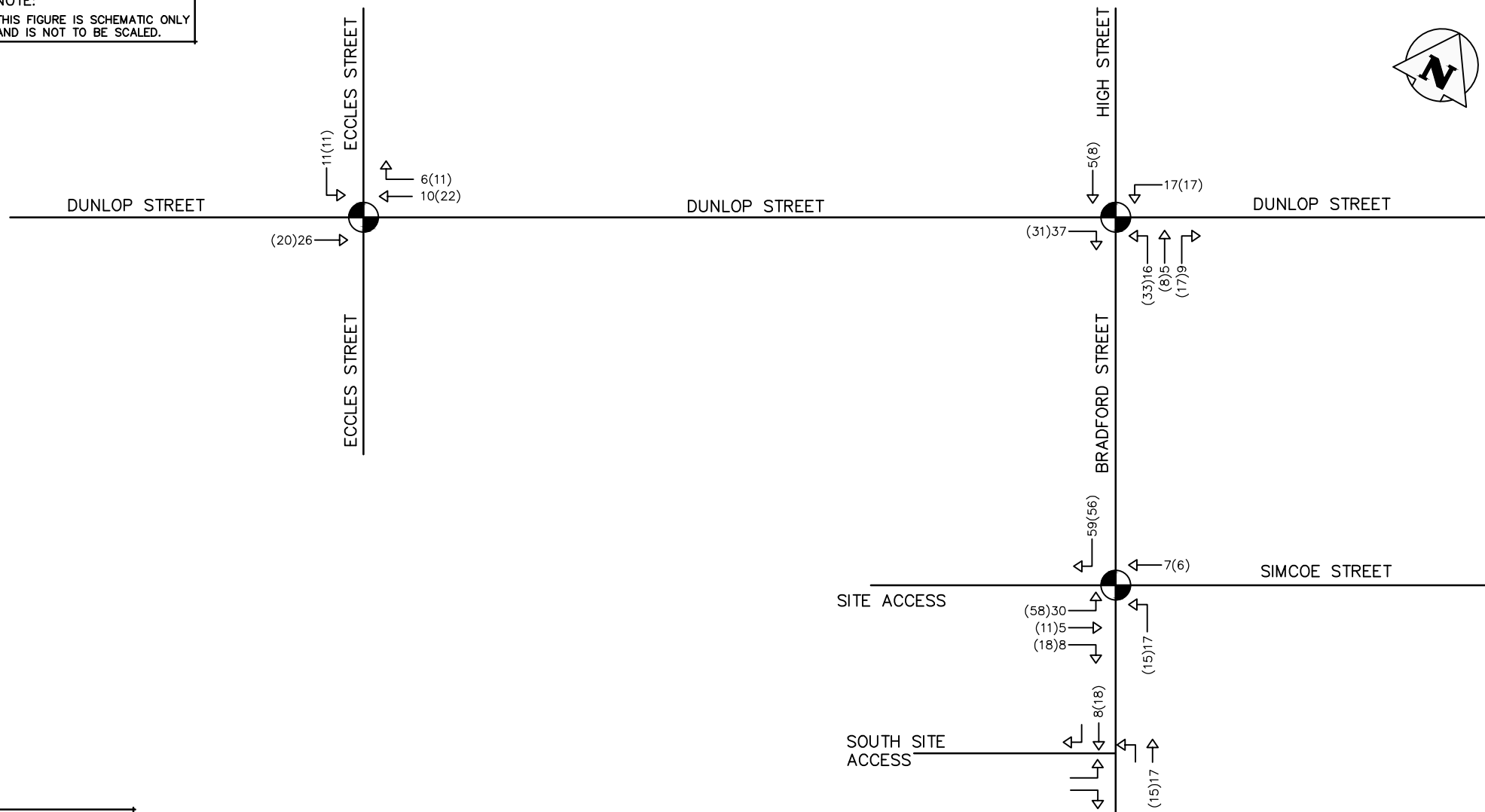
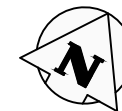
PHASE 1 - YMCA TRIP DISTRIBUTION



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

Drawn	P.A.	Design	Project No.	1351-5233
Check	R.A.W.	Check	Scale	N.T.S.
			Rep.	FIG. 9(a)

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



LEGEND:

	SIGNAL CONTROL
	STOP CONTROL
	YIELD CONTROL
	ROUND ABOUT
VOLUME	SUNDAY PEAK TRIP DISTRIBUTION

HIP BARRIE CENTRAL DEVELOPMENTS
34-50 BRADFORD STREET
CITY OF BARRIE

PHASE 1 - YMCA TRIP ASSIGNMENT

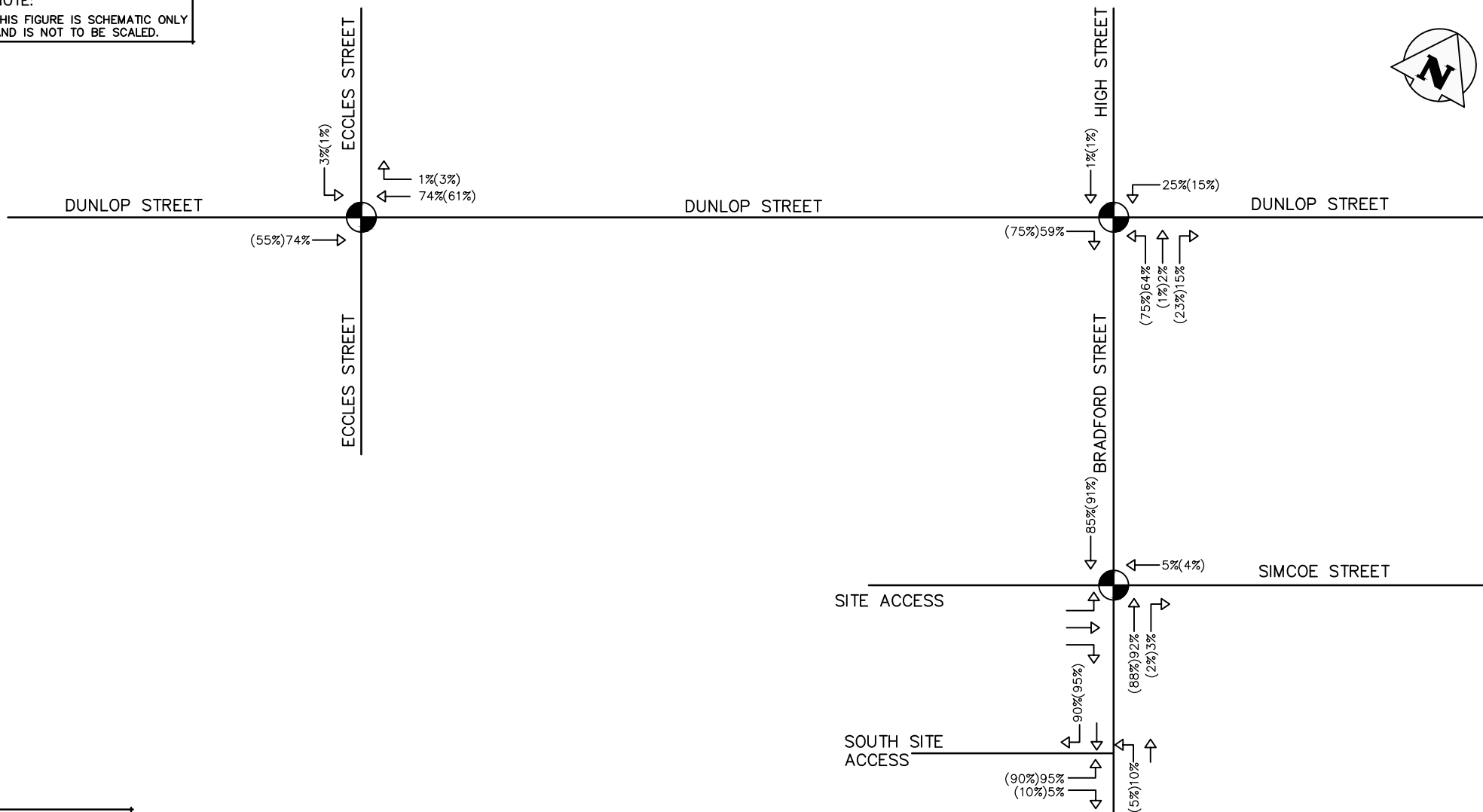
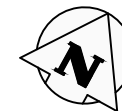


**CROZIER
& ASSOCIATES**
Consulting Engineers

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

Drawn	P.A.	Design	Project No.	1351-5233
Check	R.A.W.	Check	Scale	N.T.S.
			Rep.	FIG. 9(b)

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

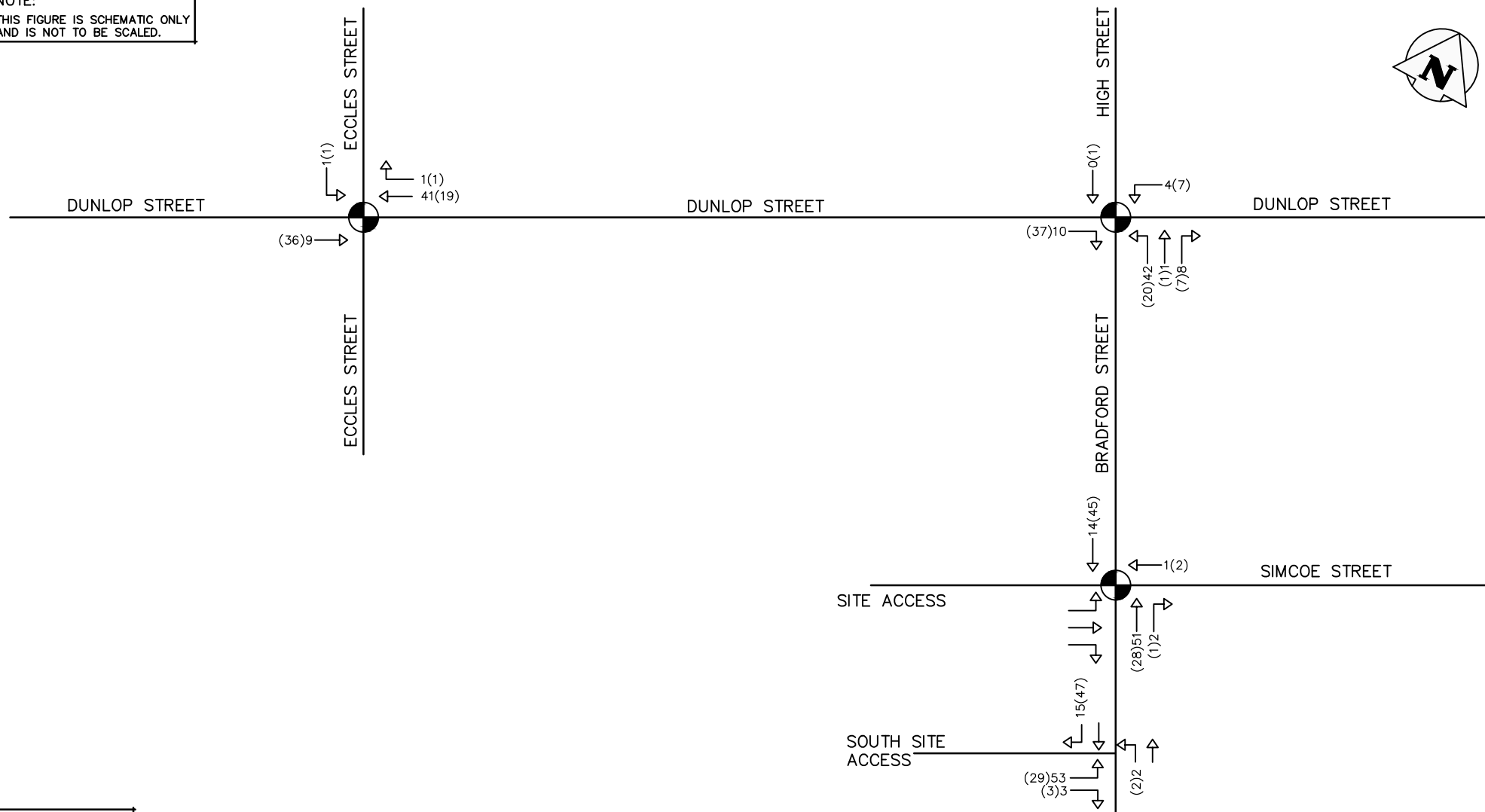
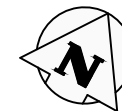


LEGEND:

	SIGNAL CONTROL
	STOP CONTROL
	YIELD CONTROL
	ROUND ABOUT
	SUNDAY PEAK TRIP DISTRIBUTION

HIP BARRIE CENTRAL DEVELOPMENTS 34-50 BRADFORD STREET CITY OF BARRIE				 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		
PHASE 1 — RESIDENTIAL TRIP DISTRIBUTION				Drawn	P.A.	Design	Project No.	1351-5233
				Check	R.A.W.	Check	Scale	N.T.S.
				FIG. 10(a)				

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



LEGEND:

	SIGNAL CONTROL
	STOP CONTROL
	YIELD CONTROL
	ROUND ABOUT
	VOLUME
	SUNDAY PEAK TRIP DISTRIBUTION

HIP BARRIE CENTRAL DEVELOPMENTS
34-50 BRADFORD STREET
CITY OF BARRIE

PHASE 1 - RESIDENTIAL TRIP ASSIGNMENT

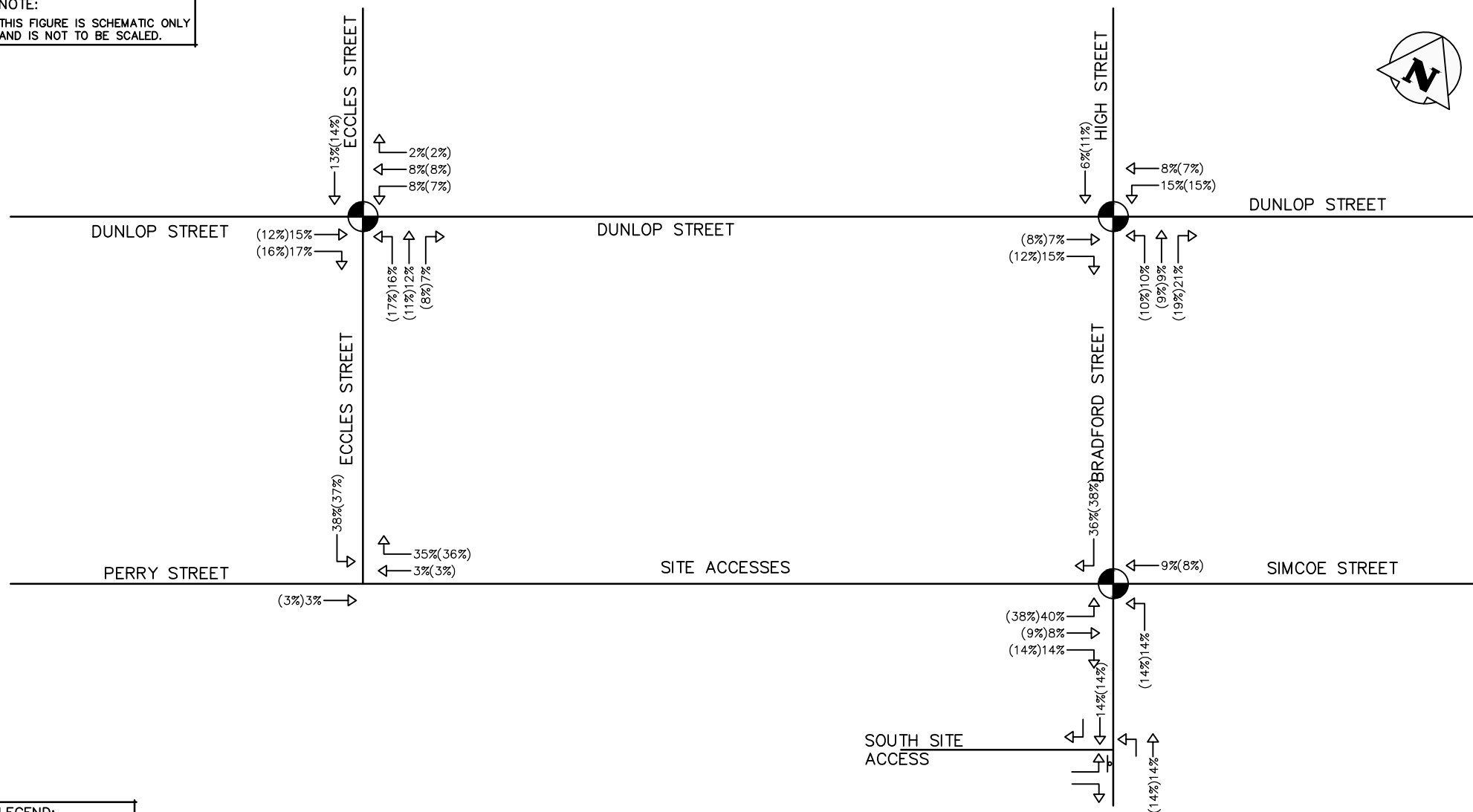
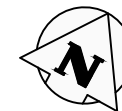


CROZIER & ASSOCIATES
Consulting Engineers

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

Drawn	P.A.	Design	Project No.	1351-5233
Check	R.A.W.	Check	Scale	N.T.S.
			Rev	FIG. 10(b)

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



LEGEND:

	SIGNAL CONTROL
	STOP CONTROL
	YIELD CONTROL
	ROUND ABOUT
VOLUME	SUNDAY PEAK TRIP DISTRIBUTION

HIP BARRIE CENTRAL DEVELOPMENTS
34-50 BRADFORD STREET
CITY OF BARRIE

PHASE 2&3 - YMCA TRIP DISTRIBUTION

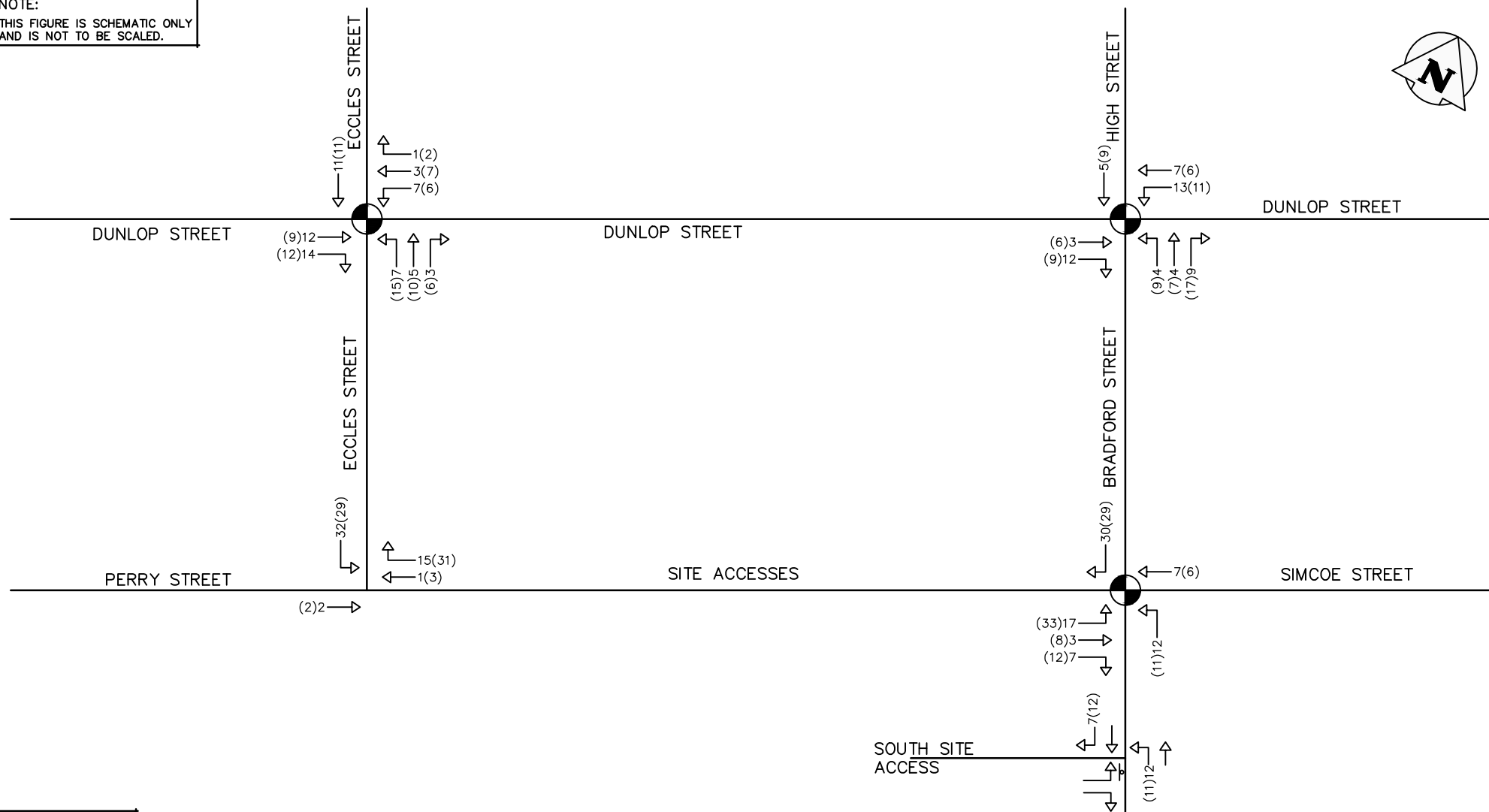
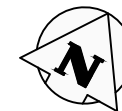


CROZIER & ASSOCIATES
Consulting Engineers

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

Drawn	P.A.	Design	Project No.	1351-5233
Check	R.A.W.	Check	Scale	N.T.S.
			Revised	FIG. 11(a)

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



LEGEND:

	SIGNAL CONTROL
	STOP CONTROL
	YIELD CONTROL
	ROUND ABOUT
	VOLUME
	SUNDAY PEAK TRIP DISTRIBUTION

HIP BARRIE CENTRAL DEVELOPMENTS
34-50 BRADFORD STREET
CITY OF BARRIE

PHASE 2&3 - RESIDENTIAL
TRIP ASSIGNMENT

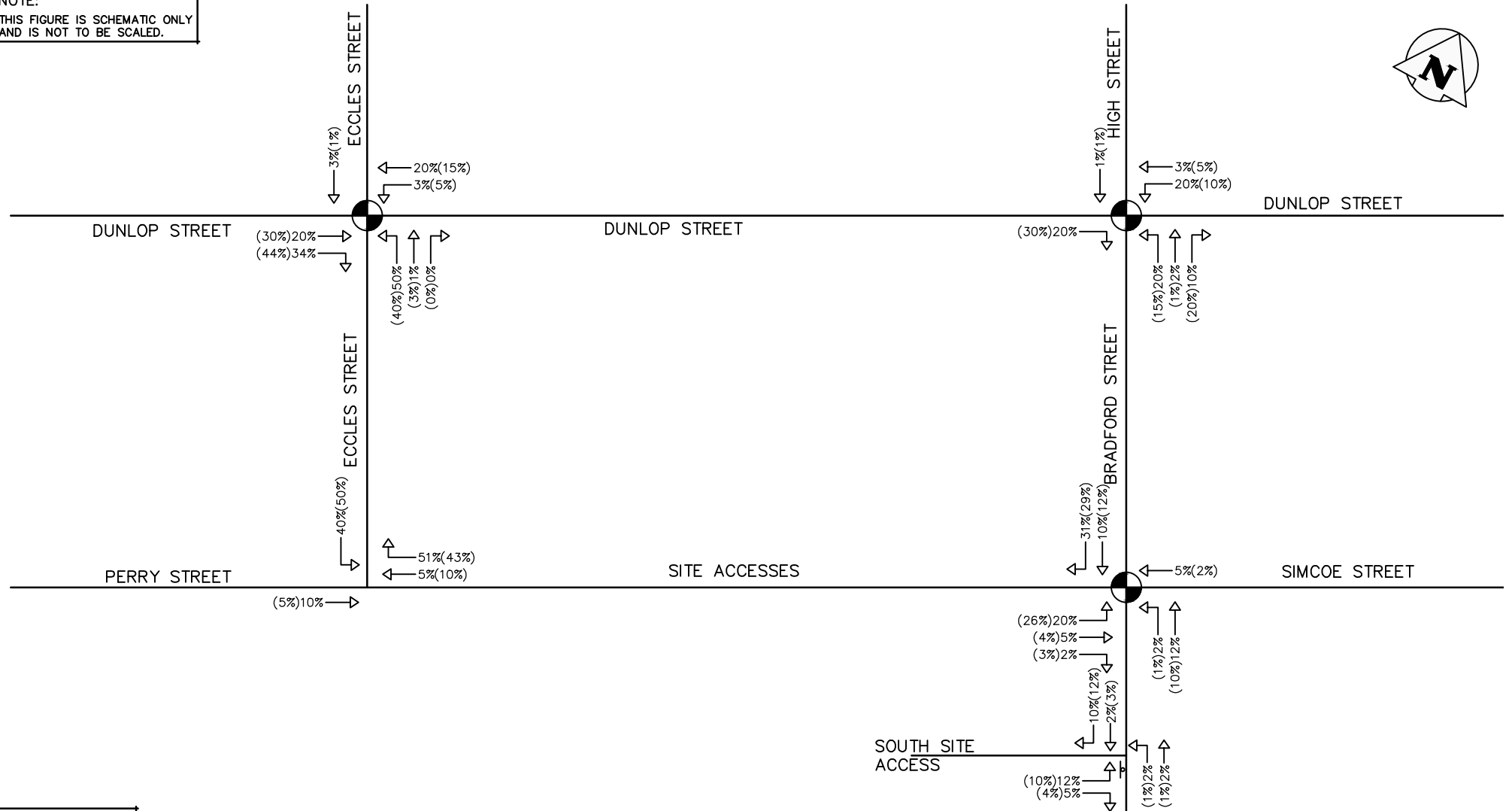


CROZIER & ASSOCIATES
Consulting Engineers

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

Drawn	P.A.	Design	Project No.	1351-5233
Check	R.A.W.	Check	Scale	N.T.S.
			Revised	FIG. 11(b)

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



LEGEND:

	SIGNAL CONTROL
	STOP CONTROL
	YIELD CONTROL
	ROUND ABOUT
	SUNDAY PEAK TRIP DISTRIBUTION

HIP BARRIE CENTRAL DEVELOPMENTS
34-50 BRADFORD STREET
CITY OF BARRIE

PHASE 2&3 - RESIDENTIAL
TRIP DISTRIBUTION

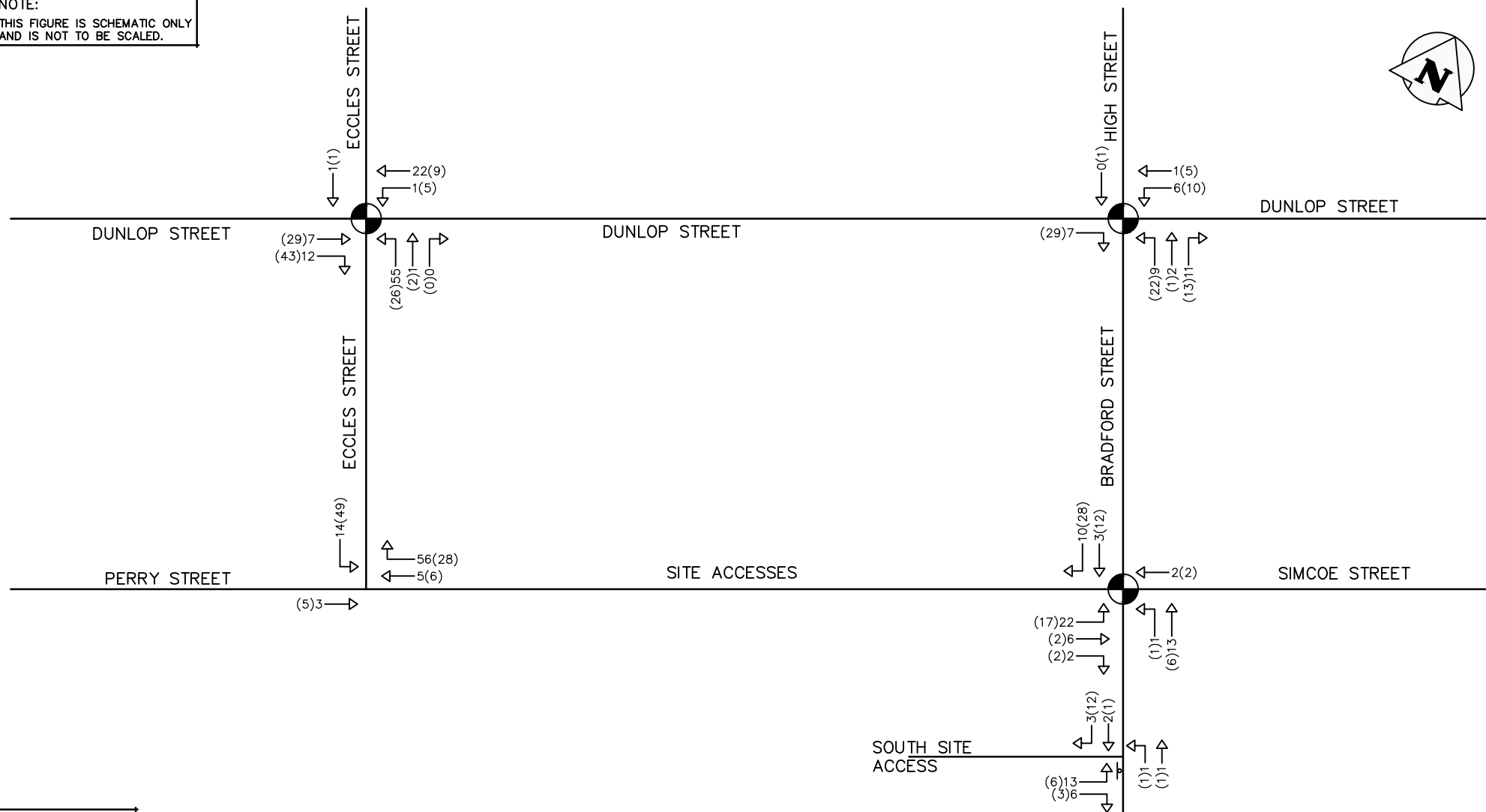
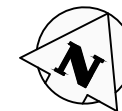


CROZIER & ASSOCIATES
Consulting Engineers

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

Drawn	P.A.	Design	Project No.	1351-5233
Check	R.A.W.	Check	Scale	N.T.S.
			Rev	FIG. 12(a)

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



LEGEND:

	SIGNAL CONTROL
	STOP CONTROL
	YIELD CONTROL
	ROUND ABOUT
	VOLUME
	SUNDAY PEAK TRIP DISTRIBUTION

HIP BARRIE CENTRAL DEVELOPMENTS
34-50 BRADFORD STREET
CITY OF BARRIE

PHASE 2 - RESIDENTIAL TRIP ASSIGNMENT



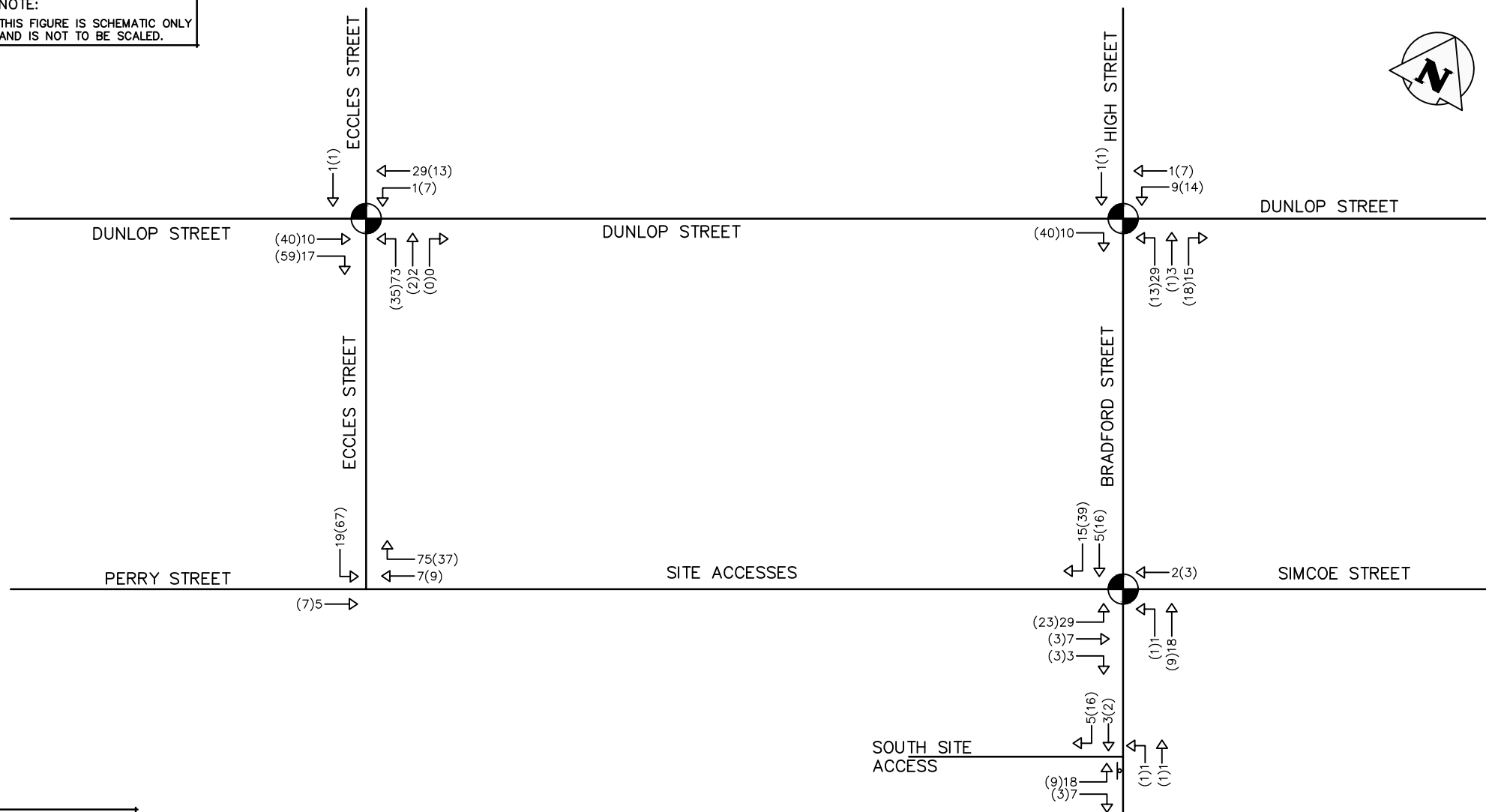
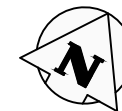
CROZIER & ASSOCIATES
Consulting Engineers

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

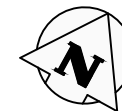
Drawn	P.A.	Design	Project No.	1351-5233
Check	R.A.W.	Check	Scale	N.T.S.

FIG. 12(b)

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



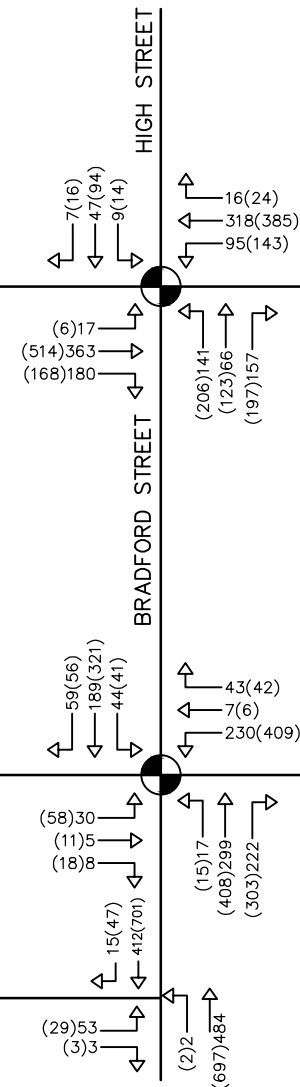
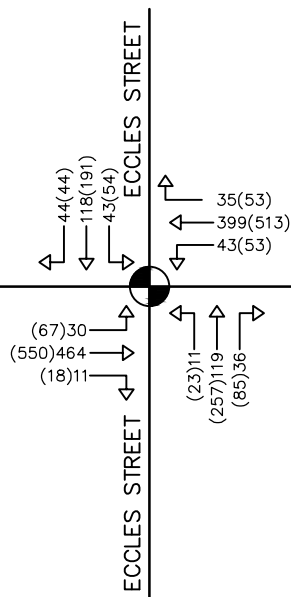
NOTE:
THIS FIGURE IS SCHEMATIC ONLY
AND IS NOT TO BE SCALED.



DUNLOP STREET

DUNLOP STREET

DUNLOP STREET



LEGEND:

	SIGNAL CONTROL
	STOP CONTROL
	YIELD CONTROL
	ROUND ABOUT
	VOLUME
	SUNDAY PEAK TRIP DISTRIBUTION

HIP BARRIE CENTRAL DEVELOPMENTS
34-50 BRADFORD STREET
CITY OF BARRIE

2023 TOTAL TRAFFIC VOLUMES

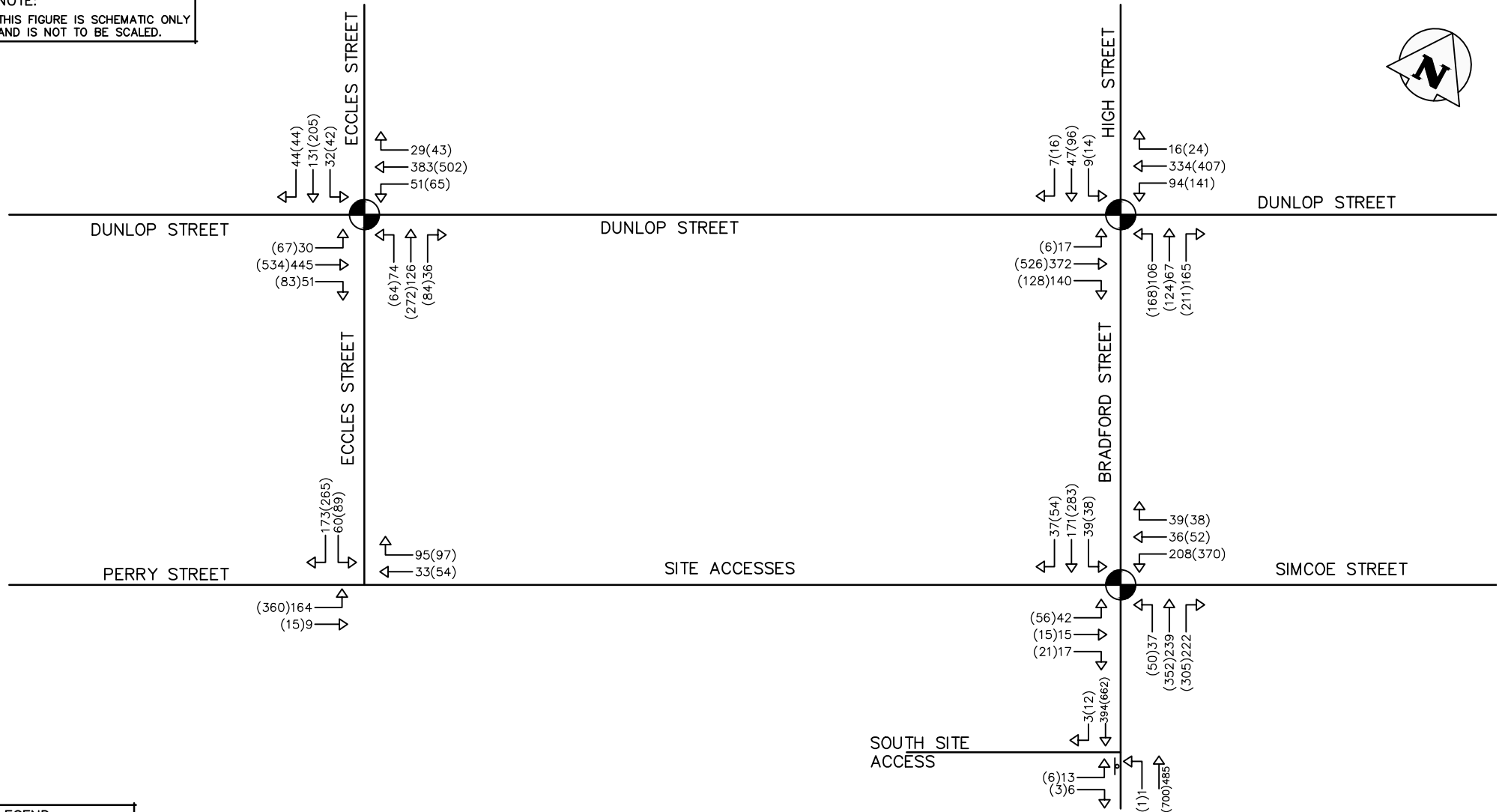


CROZIER & ASSOCIATES
Consulting Engineers

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

Drawn	P.A.	Design	Project No.	1351-5233
Check	R.A.W.	Check	Scale	N.T.S.
			Rep.	FIG. 13

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



LEGEND:

- SIGNAL CONTROL
- STOP CONTROL
- YIELD CONTROL
- ROUND ABOUT
- VOLUME** SUNDAY PEAK TRIP DISTRIBUTION

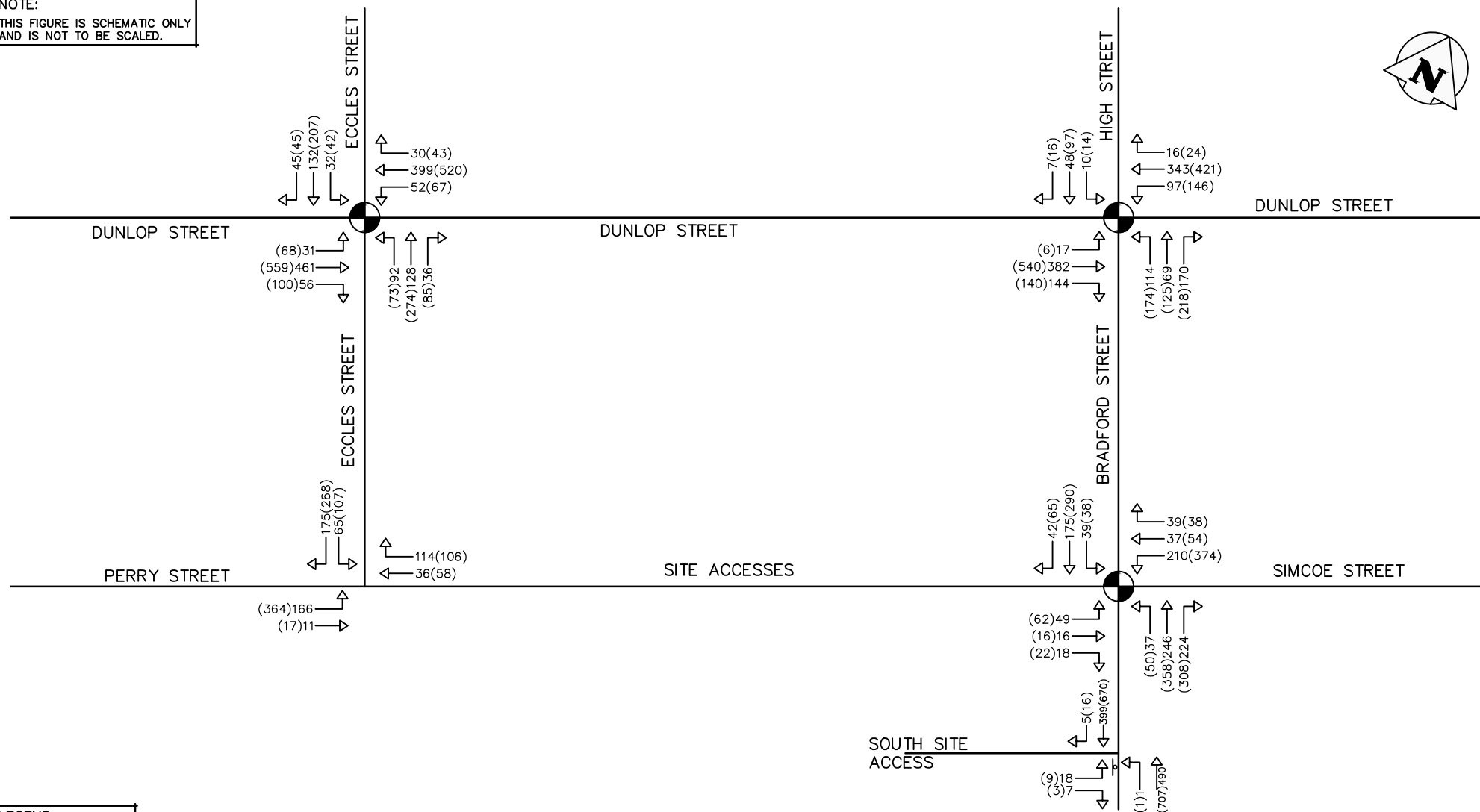
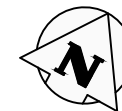
HIP BARRIE CENTRAL DEVELOPMENTS
34-50 BRADFORD STREET
CITY OF BARRIE

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	P.A.	Design	Project No.	1351-5233
Check	R.A.W.	Check	Scale	N.T.S.
				Dep. FIG. 14

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



LEGEND:

	SIGNAL CONTROL
	STOP CONTROL
	YIELD CONTROL
	ROUND ABOUT
VOLUME	SUNDAY PEAK TRIP DISTRIBUTION

HIP BARRIE CENTRAL DEVELOPMENTS
34-50 BRADFORD STREET
CITY OF BARRIE

2025 TOTAL TRAFFIC VOLUMES

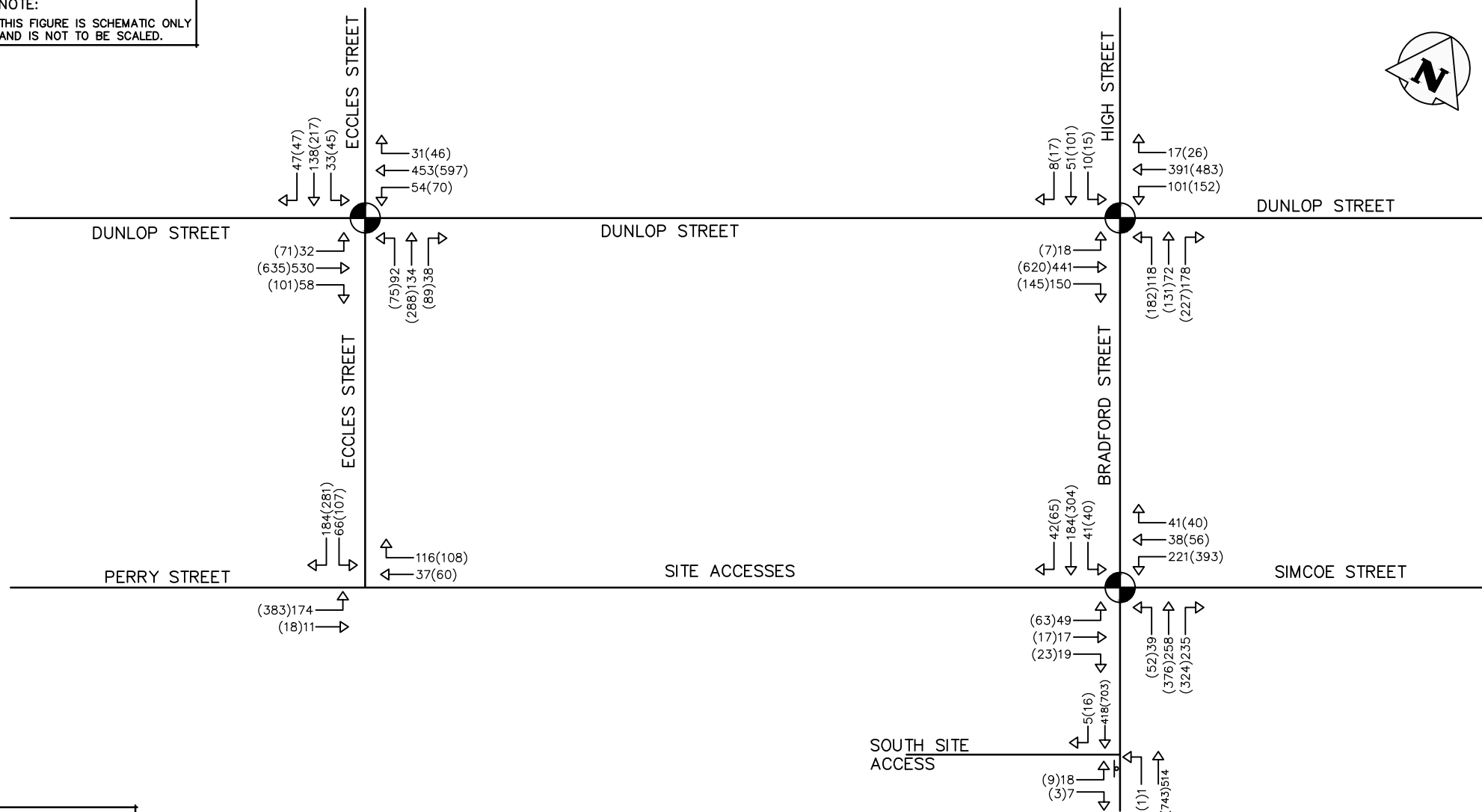
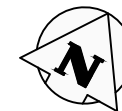


CROZIER & ASSOCIATES
Consulting Engineers

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

Drawn	P.A.	Design	Project No.	1351-5233
Check	R.A.W.	Check	Scale	N.T.S.
			Rep.	FIG. 15

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



LEGEND:

	SIGNAL CONTROL
	STOP CONTROL
	YIELD CONTROL
	ROUND ABOUT
VOLUME	SUNDAY PEAK TRIP DISTRIBUTION

HIP BARRIE CENTRAL DEVELOPMENTS
34-50 BRADFORD STREET
CITY OF BARRIE

2030 TOTAL TRAFFIC VOLUMES
(With Simcoe Street Extension)

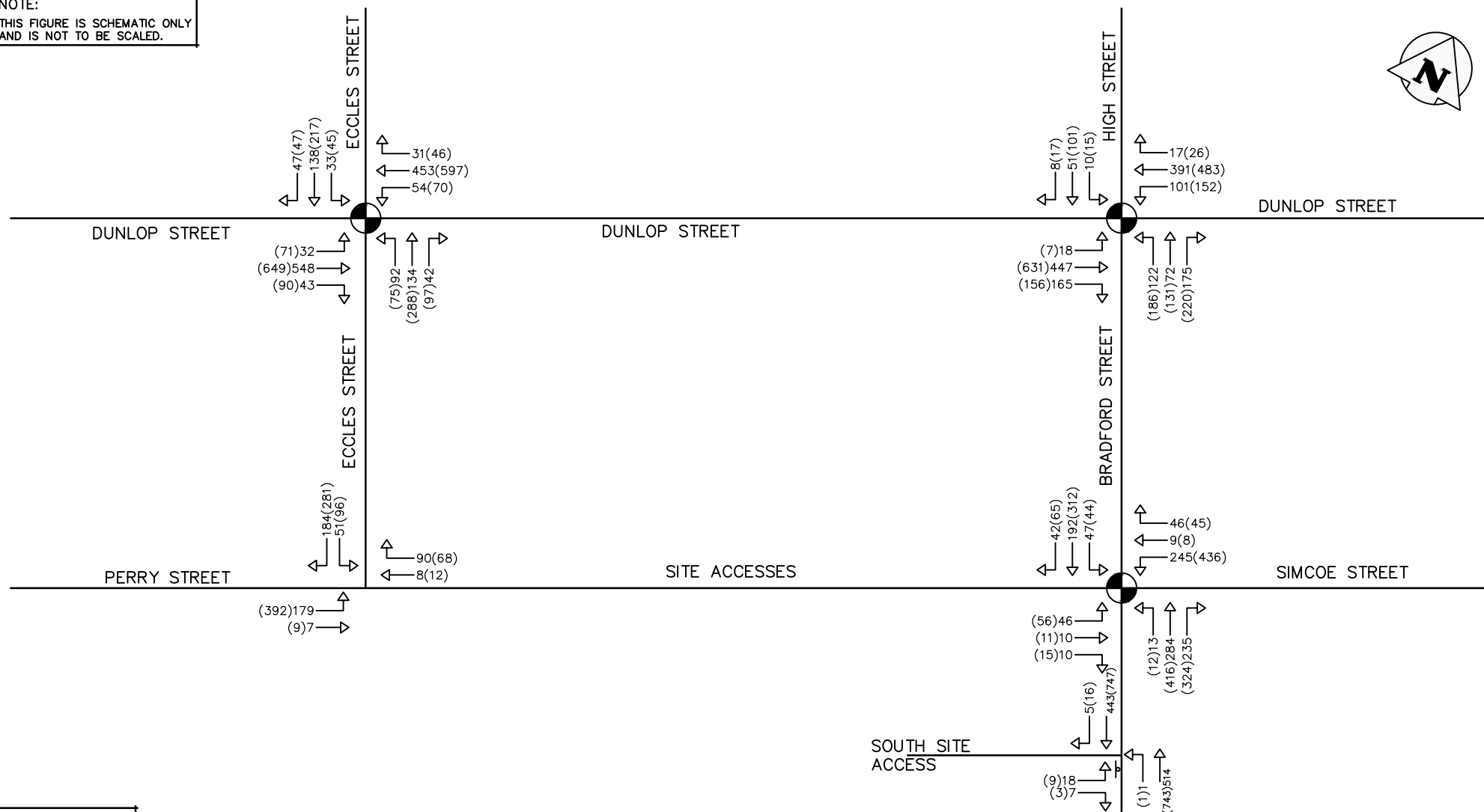
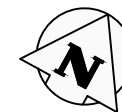


CROZIER & ASSOCIATES
Consulting Engineers

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

Drawn	P.A.	Design	Project No.	1351-5233
Check	R.A.W.	Check	Scale	N.T.S.
			Rep.	FIG. 16

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



LEGEND:

- SIGNAL CONTROL
- STOP CONTROL
- YIELD CONTROL
- ROUND ABOUT
- VOLUME
- SUNDAY PEAK TRIP DISTRIBUTION

HIP BARRIE CENTRAL DEVELOPMENTS
34-50 BRADFORD STREET
CITY OF BARRIE

2030 TOTAL TRAFFIC VOLUMES
(Without Simcoe Street Extension)



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	P.A.	Design	Project No.	1351-5233
Check	R.A.W.	Check	Scale	N.T.S.
			Rep.	FIG. 17