100 Chapman's Crescent
Markdale, ON
Transportation Impact Study

Paradigm Transportation Solutions Limited

July 2021
210196

ptsl.com

Project Summary

Project Number
210196

July 2021

Client
Chapman's Ice Cream
100 Chapman's Crescent
Markdale, ON N0C 1H0

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100 Chapman's Crescent Markdale, ON Transportation Impact Study

Erica Bayley, P.Eng.

Disclaimer

Executive Summary

Content

Paradigm Transportation Solutions Limited (Paradigm) was retained to conduct this Transportation Impact Study for a proposed expansion of the existing Chapman's plant at 100 Chapman's Crescent in the community of Markdale, Ontario.

The purpose of this study is to determine the net impacts of the development traffic on the surrounding road network. This study will identify improvements, if needed, to support the development of the subject site and determine an appropriate site access to support the planned development.

Conclusions

Based on the above analysis, the following is concluded:

- **Existing Traffic Conditions:** Under 2021 base year conditions all movements are forecast to operate with an acceptable level of service during the AM and PM peak hour except for the Highway 10 and Fairway Heights/Private Driveway westbound approach is forecast to operate with delays in the LOS D range during the PM peak hour.
- **Site Description**: The development concept proposes a 90,000 square foot expansion to the existing Chapman's Ice Cream Plant. It is proposed that vehicle access will be maintained via a single access. Three alternatives are being considered for this access:
  - Maintaining existing access via Chapman Crescent/Wellington Avenue;
  - Alternative access to existing A Street connection to Highway 10; and
  - A new connection to Highway 10, approximately 350-400 metres northwest of the existing A Street intersection.
- **Development Generated Traffic:** The subject site is estimated to generate approximately 56 new AM peak hour trips and approximately 60 new PM peak hour trips.
- **Forecast Traffic:** The forecast traffic volumes near the subject site have been assessed for five years (Year 2026) and ten

years (Year 2031) beyond the study date. The projected traffic volumes are estimated to consist of:

- Background developments;
- Generalized background traffic growth; and
- Traffic generated by the subject site.

- **Background Traffic Conditions 2026:** Under 2026 background conditions all movements are forecast to operate with an acceptable level of service during the AM and PM peak hour except for the Toronto Street (Highway 10) and A Street /Greenview Lane westbound approach is forecast to operate with delays in the LOS E range during the PM peak hour. The Highway 10 and Fairway Heights/Private Driveway westbound approach is also forecast to operate with delays in the LOS E range during the PM peak hour.

- **Background Traffic Conditions 2031:** Under 2031 background conditions the critical movements at the intersection of Toronto Street (Highway 10) and A Street /Greenview Lane and Highway 10 and Fairway Heights/Private Driveway are forecast to operate with similar delays. While Toronto Street (Highway 10) and Main Street eastbound and northbound approaches are forecast to operate with V/C ratios approaching 0.90 during the PM peak hour.

- **Total Traffic Conditions:** The capacity issues forecast to occur under the background traffic horizon are expected to continue to occur during Scenarios 1-3 with, or without the development of the subject site.

- **Remedial Measures**:

  No changes to the existing lane configuration are recommended at the site driveway to A Street or Chapman Crescent/Wellington Avenue. While Scenario 3 is not the preferred access arrangement, should this scenario proceed a northbound left-turn lane of 15 meters is recommended.

  Although the intersection of Toronto Street (Highway 10) and Main Street is forecast to function with delays under the LOS D range it is suggested that Grey County continues to monitor the intersection operations and consider improvements as needed.

- **Access Recommendation:** It is suggested that the site continues to operate with the existing driveway access to Wellington Avenue (Scenario 1) while the A Street driveway

connection (Scenario 2) may be further explored in the future if additional expansion and increase in traffic is planned.

Recommendations

Based on the findings of this study, it is recommended that:

- Although the intersection of Toronto Street (Highway 10) and Main Street is forecast to function with delays under the LOS D range it is suggested that Grey County continues to monitor the intersection operations and consider improvements as needed.
- It is suggested that the site continues to operate with the existing driveway access to Wellington Avenue (Scenario 1) while the A Street driveway connection (Scenario 2) may be further explored in the future if additional expansion and increase in traffic is planned.

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1 Introduction

1.1 Overview

Paradigm Transportation Solutions Limited (Paradigm) was retained to conduct this Transportation Impact Study for a proposed expansion of the existing Chapman's plant at 100 Chapman's Crescent in the community of Markdale, Ontario. **Figure 1.1** illustrates the location of the subject site and the study area.

The subject lands are currently occupied by two existing manufacturing plants 65,000 and 150,000 square feet (6,000 and 14,000 square metres) respectively. Access to the subject site is currently provided via one all-movement connection to the intersection of Chapman Crescent and Wellington Avenue.

It is proposed that vehicle access will be maintained via a single access. Three alternatives are being considered for this access:

- Maintaining existing access via Chapman Crescent/Wellington Avenue;
- Alternative access to existing A Street connection to Highway 10; and
- A new connection to Highway 10 (Driveway A), approximately 350-400 metres northwest of the existing A Street intersection.

Appendix A contains the study's Terms of Reference provided to the Municipality of Grey Highlands, Municipality of West Grey, Grey County and Ministry of Transportation (MTO) in May 2021, and additional background material and email correspondence regarding the scope of the study.

1.2 Purpose and Scope

The purpose of this study is to determine the impacts of the development from a transportation perspective on the surrounding road and pedestrian network and identify any improvements necessary to accommodate the increase in traffic generated by the development.

The scope of this study is to:

- Document current traffic and site conditions in the vicinity of the development;
- Estimate the background traffic growth in the area;

- Estimate the additional traffic forecast to be generated by the redevelopment of the subject site;
- Assign the forecast traffic volumes to the surrounding road network based on the existing traffic patterns in the study area;
- Assess the future background and future total traffic within the study area for two horizon years (five (5) and ten (10)) years from the study date;
- Identify any operational or safety concerns and any mitigation measures that may be required to improve operations;
- Determine an appropriate site access to support the planned development.

1.3 Study Area

Based on pre-consultation with the Township of Grey Highlands, the following intersections have been confirmed as requiring investigation with respect to the impacts of the additional traffic due to the development of the subject site:

- A Street and Highway 10 (unsignalized);
- Wellington Avenue & Main Street (unsignalized);
- Main Street & Highway 10 (Toronto Street) (signalized);
- Fairway Heights and Highway 10 (unsignalized); and
- New connection to Highway 10 (Driveway A) (unsignalized).

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Image Source: geo.grey.ca

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Location of Subject Site

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Figure 1.1

2 Existing Conditions

The section of the report provides an overview of the existing conditions of the roadways in the study area, and other features of the transportation network, including transit, and active transportation infrastructure.

2.1 Existing Roadways

The main roadways near the subject site that have been assessed include Ontario Highway 10, Wellington Avenue, and Main Street. The characteristics of these roadways are as follows:

- **Ontario Highway 10 (Toronto Street)** is a north-south, two-lane road, with urban and rural cross-sections, that operates under the jurisdiction of the MTO. The roadway is classified as a Class III – Special Controlled Highway under the MTO's Central Region Map[1]. Within the study area, the speed limit is posted at 50 kilometres per hour within the urban boundary and 80 kilometres per hour north of the urban boundary. Sidewalk is generally provided on each side of the roadway throughout the urban cross-section. No cycling facilities are provided.
- **Main Street (County Road 12)** is an east-west, two-lane road with an urban cross-section that operates under the jurisdiction of Grey County. The roadway is assumed to be classified as an arterial roadway. Within the study area, the posted speed limit is 50 kilometres per hour. Sidewalk is provided on each side of the roadway. No cycling facilities are provided.
- **Childs Drive** is a north-south, two-lane road with an urban cross-section that operates under jurisdiction of the Municipality of Grey Highlands. The roadway is assumed to be classified as a local roadway. Within the study area, the posted speed limit is 50 kilometres per hour. Sidewalk is provided on the east side of the roadway. No cycling facilities are provided.
- **Fairway Heights** is an east-west, two-lane road with an urban cross-section that operates under jurisdiction of the Municipality of Grey Highlands. The roadway is assumed to be classified as a local roadway. Within the study area the posted speed limit is 50 kilometres per hours. Sidewalk is provided on the south side of the roadway. No cycling facilities are provided.

Figure 2.1 illustrates the existing lane alignment and traffic control.

[1] MTO Central Region Map, Geomatics 2004

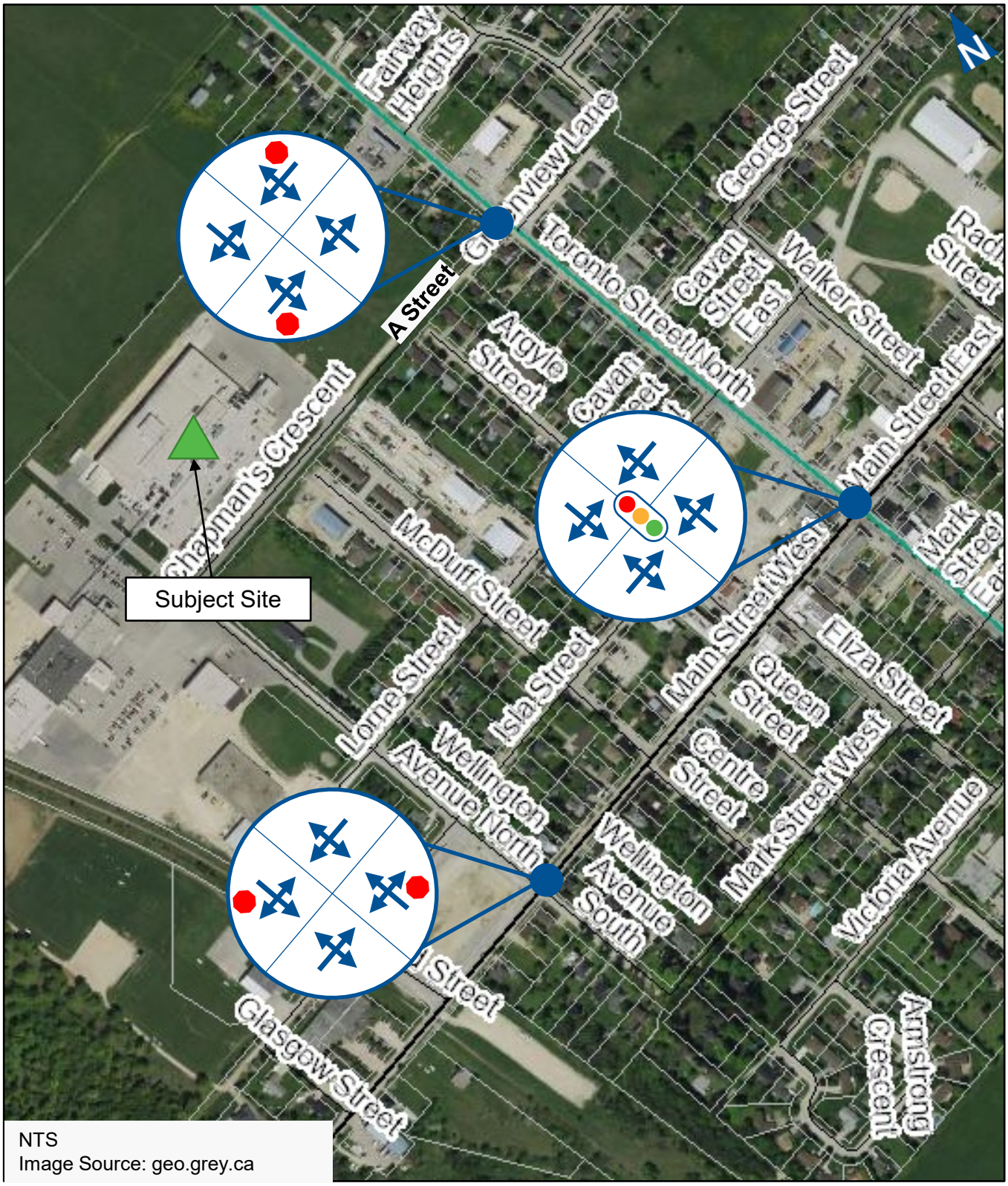

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Image Source: geo.grey.ca

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Existing Traffic Control and Lane Configuration

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Figure 2.1

2.2 Existing Transit Services

Grey Transit Route (GTR) is the public transit operator in the community of Markdale. GTR operates a total of six (6) surface bus routes across Grey County. Bus route 1 and 2 (Owen Sound to Orangeville) currently services the community of Markdale.

Route 1 operates between the Owen Sound Transit Terminal and the Dundalk Arena. Route 1 operates between 6:45 AM and 7:21 PM during the weekdays and the route does not operate on weekends. Route 1 operates with headways of 5 and 7 hours during the weekdays.

Route 2 operates between the Dundalk Arena and the Dundalk Owen Sound Transit Terminal. Route 2 operates between 8:45 AM and 8:59 PM during the weekdays and the route does not operate on weekends. Route 2 operates with headways of 5 and 7 hours during the weekdays.

The nearest transit stop to the subject site is located approximately 500 metres away at the intersection of Scotland Street and Main Street.

Figure 2.2 illustrates the existing transit network.

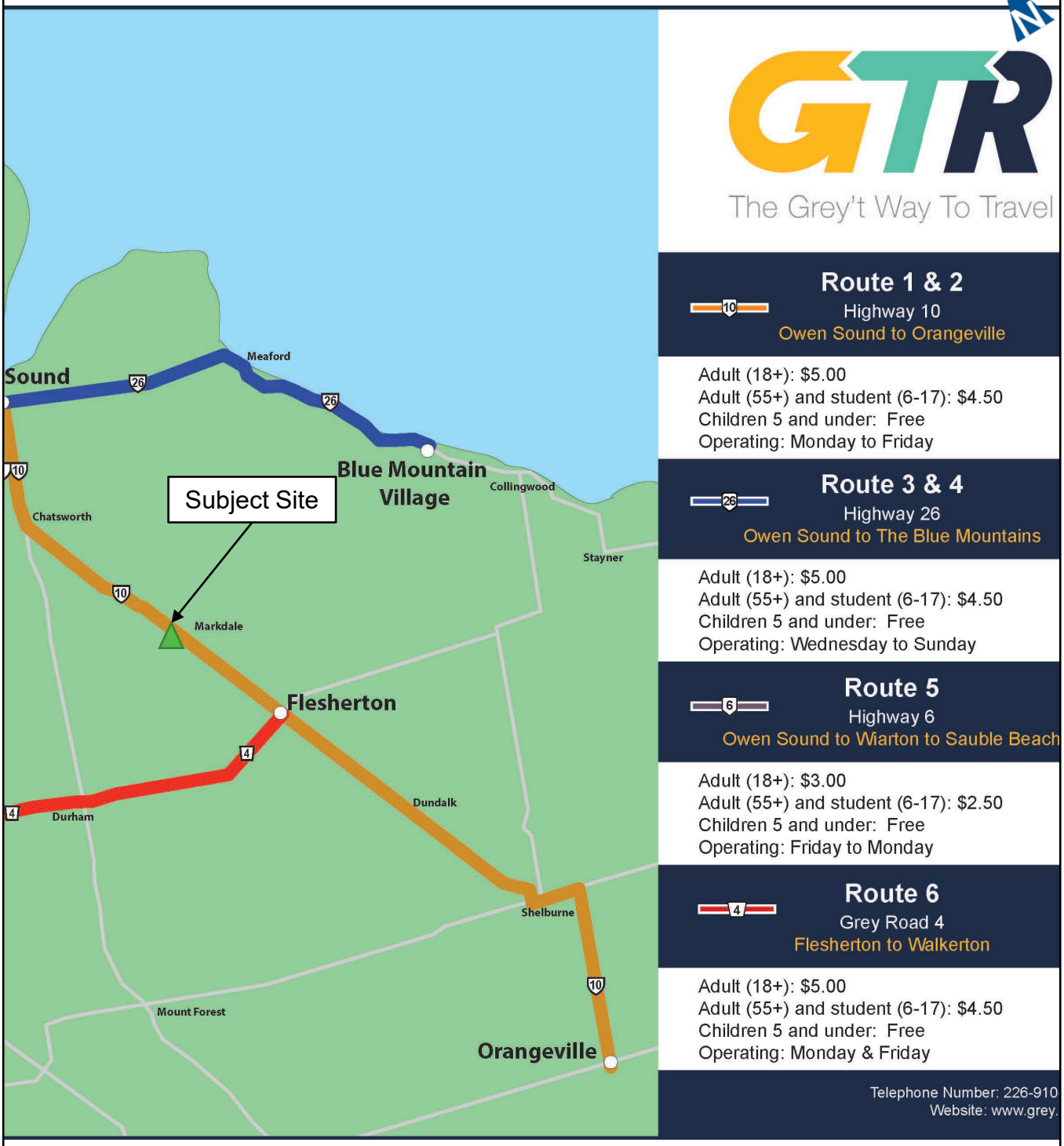

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Image Source: https://www.grey.ca/grey-transit-route

Grey Transit Route (GTR) - Transit Service

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Figure 2.2

2.3 Existing Cycling Network

No cycling infrastructure is currently provided within the study area. A review of Grey County's Cycling and Trails Master Plan[2] indicates the proposed implementation of paved shoulder on Main Street throughout the study area.

2.4 Existing Traffic Volumes

To assess intersection operations, turning movement counts are used to quantify the movement of vehicles through the area. Existing traffic data at the intersection or on a road section forms the foundation for the analysis. The counts are usually taken during peak periods at an intersection to complete the level of service analysis under its worst-case operating conditions.

2.4.1 Traffic Data

To assess intersection operations, turning movement counts are used to quantify the movement of vehicles. Existing traffic data at an intersection or on a road section forms the foundation for analysis. The counts are usually taken during peak periods to complete level of service analysis. All turning movement counts were conducted by Paradigm.

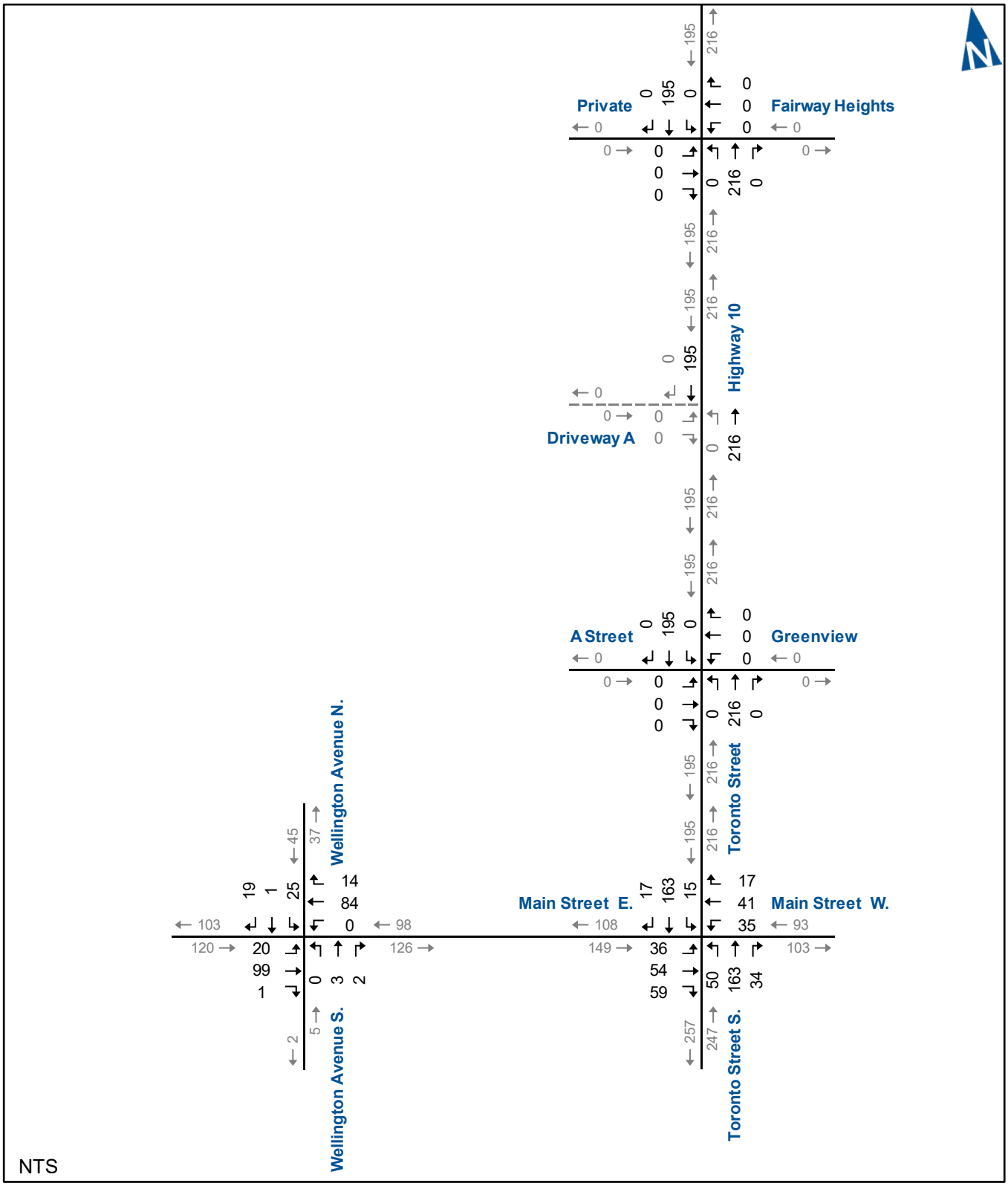
Table 2.1 outlines the counts used for the traffic analysis. **Appendix B** contains the raw traffic data used in this report.

TABLE 2.1: TRAFFIC DATA SUMMARY

Intersection	Date
Main Street and Highway 10	June, 2021
Wellington Avenue and Main Street	June, 2021

Figure 2.3A-B illustrates the 2021 turning movement traffic volumes.

[2] Grey County. October 2020. Cycling and Trails Master Plan. Prepared by WSP and Share the Road. Map 2a: Preferred Cycling and Trails Network.



2021 Traffic Volumes – AM Peak Hour

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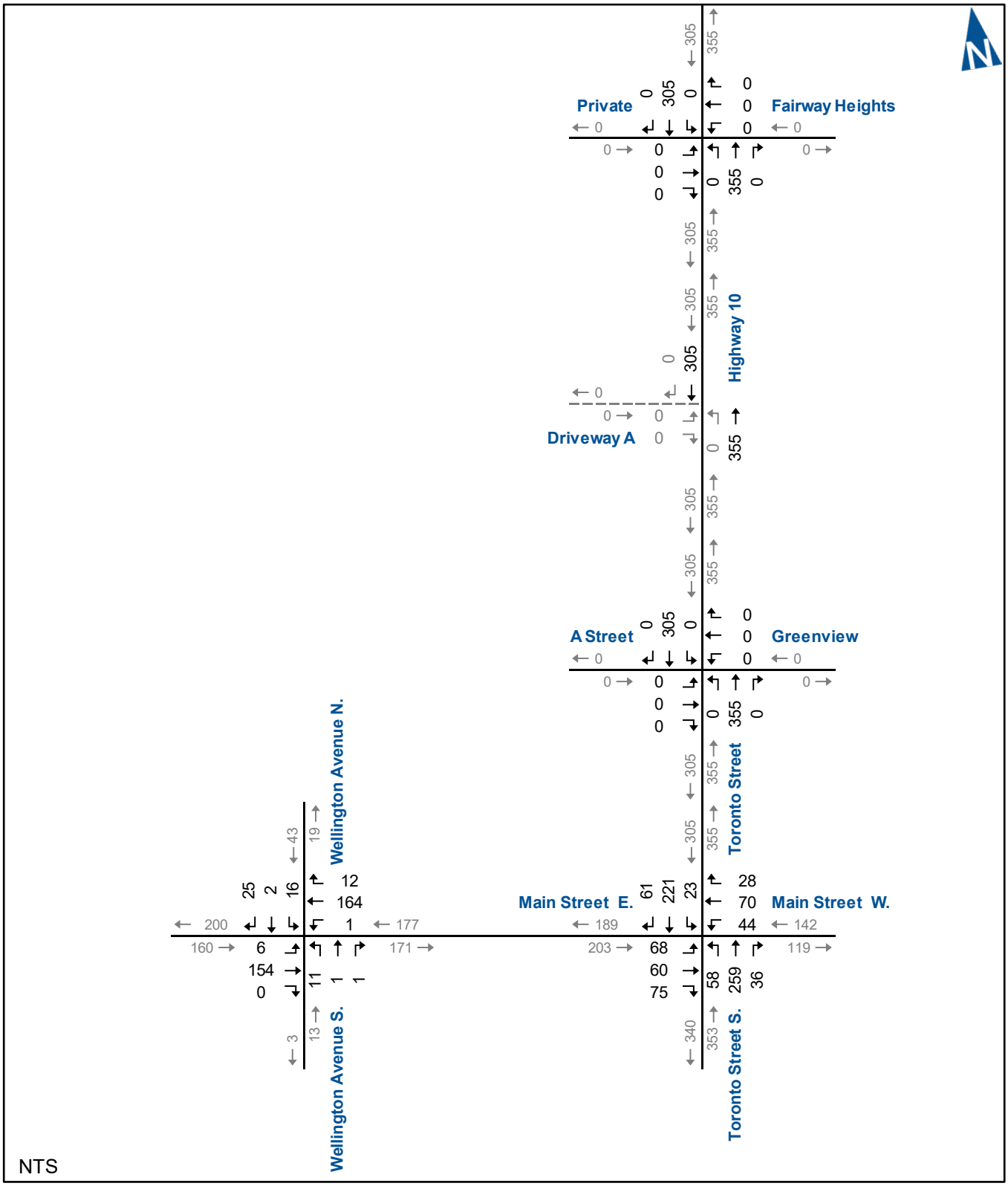
Figure 2.3A



2021 Traffic Volumes – PM Peak Hour

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Figure 2.3B

2.4.2 Background Trip Generation Traffic Volumes

In addition to the existing turning movement counts the traffic volumes at the intersections of Fairway Heights/Private Driveway at Highway 10 and Greenview Lane/A Street at Highway 10 during the AM and PM peak hour were estimated using the Institute of Transportation Engineers' (ITE) Trip Generation Manual[3].

The following land use codes were referenced:

- **LUC 210 (Single Family Detached Housing):** This land use is described as Single-family detached housing includes all single-family detached homes on individual lots. A typical site surveyed is a suburban subdivision. The trip generation average rate was utilized.
- **LUC 220 (Multifamily-Housing - Low-Rise):** This land use is described as Low-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have one or two levels (floors). The trip generation equation was utilized.
- **ITE Gasoline/Service Station With Convenience Market (945):** This land use includes gasoline/service stations with convenience markets where the primary business is the fueling of motor vehicles. The trip generation equation was utilized in the AM peak hour while the average rate was utilized in the PM peak hour.

In addition to the ITE rates provided above, the police station trip generation rates from the Traffic Study Analysis for the Tilson Farm Road/Eastman Lane Intersection with East Pleasant Street[4] report were used to estimate the traffic generated from the existing police station on Greenview Lane.

As requested by Grey Highlands staff the background developments of Stonebrook Phase 3[5] and Centre Point South[6] were also included in

[3] Institute of Transportation Engineers (ITE). 2017. *Trip Generation Manual*, 10th Edition. Washington D.C.
[4] Traffic Engineering Solutions, P.C., Traffic Study Analysis for the Tillson Farm Road/Eastman Lane Intersection with East Pleasant Street, November 2008
[5] C.C. Tatham & Associates Ltd., Stonebrook Residential Development Phase III, July 2018
[6] C.C. Tatham & Associates Ltd., Centre Point South Residential Development, November 2017

the study area analysis. **Appendix C** includes the background development traffic.

Stonebrook Phase 3 consists of 54 low-rise townhouse units located off Fairway Heights. The site is provided access via two site accesses: one full moves access to Fairway Heights and one full move access to George Street. A driveway distribution of 50% was assumed based on the nearly equal distribution of the residential properties in comparison to the two available accesses to Highway 10 and Main Street.

While the Centre Point South development consists of 113 low-rise townhouse units near the southeast corner of Main Street and Toronto Avenue (Highway 10). The site is provided access via two site accesses: one full move access to Uplands Drive and one full moves access to Herbert Avenue. A driveway distribution of 50% was assumed based on the nearly equal distribution of the residential properties in comparison to the two available accesses to Highway 10.

Table 2.2 summarizes the estimated background trip generation.

TABLE 2.2: ESTIMATED BACKGROUND TRIP GENERATION

Location	Land Use	Units/Fueling Poistion	GFA (sq. ft.)	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Green View Lane	ITE Single-Family Detached Housing (LUC 210)	3	-	0	2	**2**	2	1	**3**
	Police Report Rates	-	2000	3	1	**4**	1	2	**3**
A Street	ITE Single-Family Detached Housing (LUC 210)	3	-	0	2	**2**	2	1	**3**
Fairway Heights	ITE Single-Family Detached Housing (LUC 210)	41	-	8	22	**30**	26	15	**41**
Fairway Heights/ George Street	ITE Mutlifamily-Housing (Low-Rise) (220)	88	-	10	32	**42**	33	20	**53**
Private Driveway	ITE Gasoline/Service Station With Convenience Market (945)	8	-	28	27	**55**	57	55	**112**
Herbert Drive/ Uplands Drive	Traffic Impact Analysis	54	-	9	27	**36**	24	18	**42**

2.4.3 Summer Adjustment Factor

As suggested by Grey Highlands a summer adjustment factor was used to provide a conservative estimate of the study area background traffic volumes. This factor was derived from the MTO's Provincial Highways Traffic Volumes report[7].

The MTO uses the following terms when defining the specific time of year regarding annual average daily traffic (AADT):

[7] MTO Provincial Highways Traffic Volumes, 1988-2016.

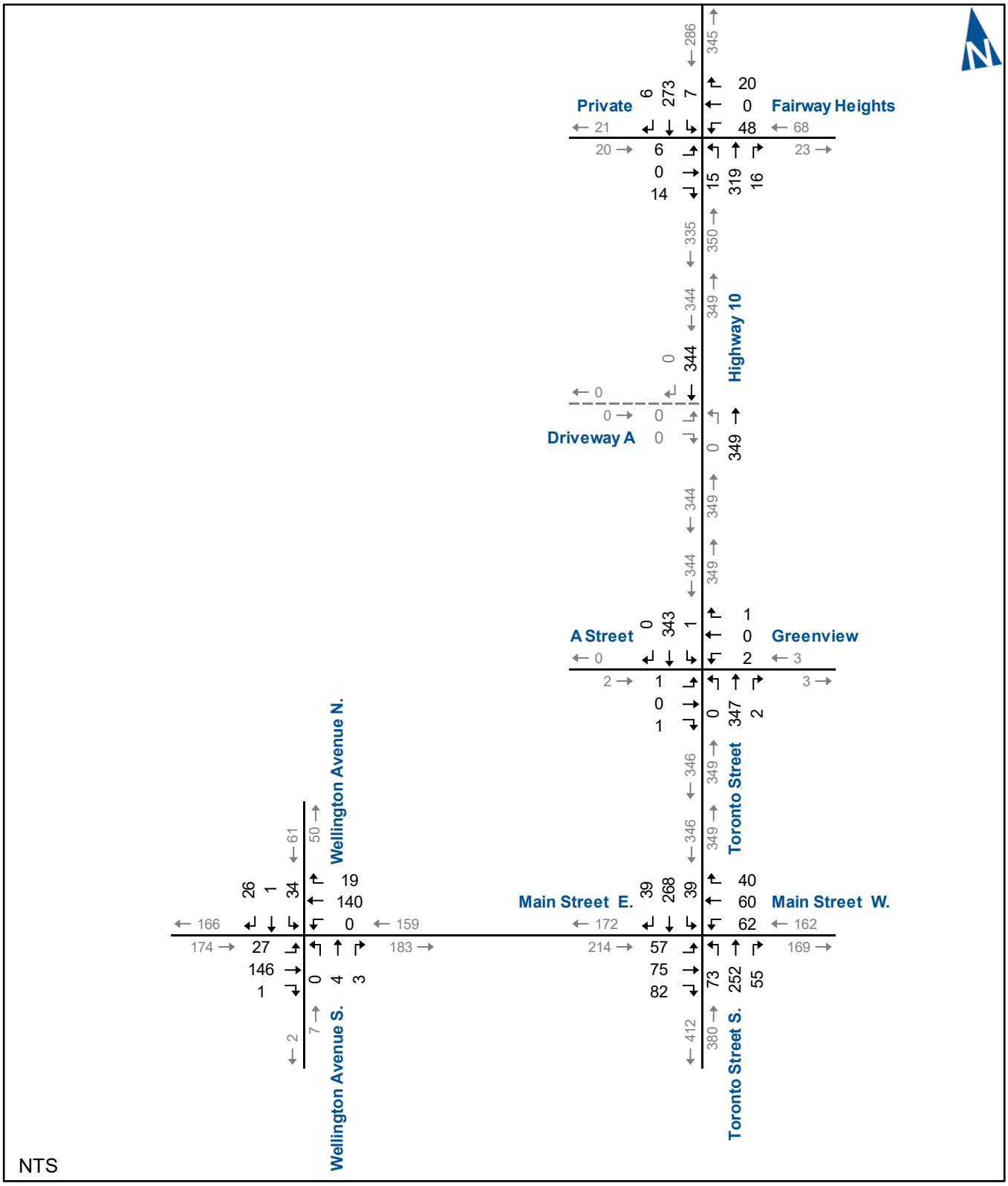
- AADT: Annual Average Daily Traffic; defined as the average twenty-four-hour, two-way traffic for the period January 1st to December 31st.
- SADT: Summer Average Daily Traffic; defined as the average twenty-four-hour, two-way traffic for the period July 1st to August 31st including weekends.
- SAWDT: Summer Average Weekday Traffic; defined as the average twenty-four-hour, two-way traffic for the period July 1st to August 31st, excluding weekends.
- WADT: Winter Average Daily Traffic; defined as the average twenty-four-hour, two-way traffic for the period January 1st to March 31st, plus December 1st to December 31st, including weekends.

Since the turning movement counts were conducted before July 1st the SAWDT traffic volume was compared to the AADT to derive a summer adjustment factor of 1.36 for the study area intersections. **Table 2.3** summarizes the growth rate.

TABLE 2.3: SUMMER ADJUSTMENT FACTOR

Location	Year	Pattern Type	AADT	SAWDT
Former Markdale N LTS end of NA	2016	LT	5,550	7,550
Summer Factor				**1.36**

Figure 2.4 illustrates the base year traffic volumes which includes section 2.4.2 and 2.4.3.



Base Year Traffic Volumes – AM Peak Hour

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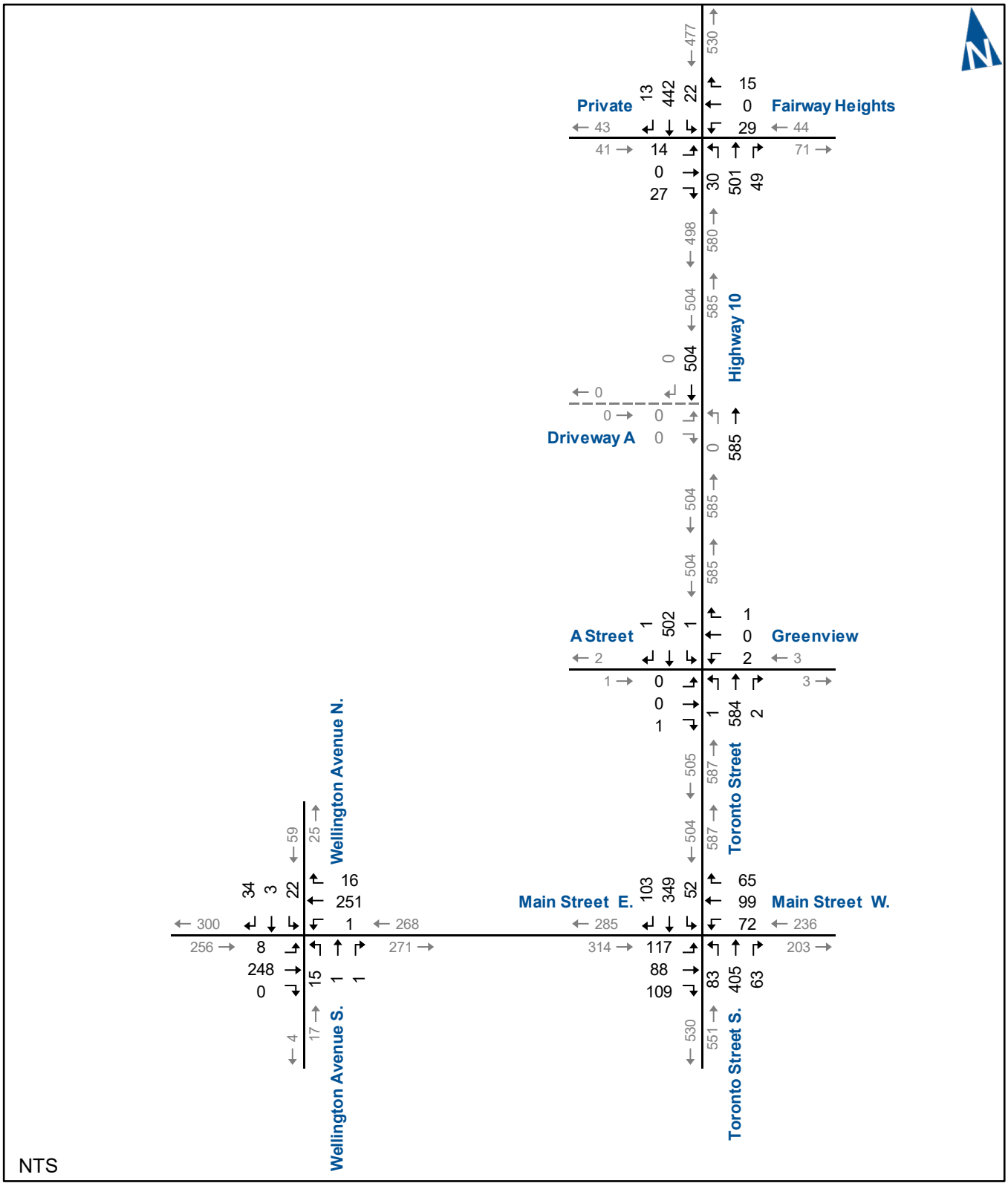
Figure 2.4A



Base Year Traffic Volumes – PM Peak Hour

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Figure 2.4B

3 Development Concept

3.1 Development Description

The development concept proposes a 90,000 square foot expansion to the existing Chapman's Ice Cream Plant. It is proposed that vehicle access will be maintained via a single access. Three alternatives are being considered for this access:

- Maintaining existing access via Chapman Crescent/Wellington Avenue;
- Alternative access to existing A Street connection to Highway 10; and
- A new connection to Highway 10, approximately 350-400 metres northwest of the existing A Street intersection.

3.1.1 Sight Distance Assessment

This section of Highway 10 contains a horizontal curve to the south of the new proposed site Driveway A (Scenario 3). Paradigm conducted a sight distance evaluation for the proposed roadway connections to Highway 10 in accordance with guidelines provided by the Transportation Association of Canada (TAC)[8]. A design speed of 10 kilometres per hour over the posted and/or assumed speed has been used.

The TAC Manual states that it is recommended that at the least, the minimum stopping sight distance should be provided for driveway connections.

- Stopping Sight Distance (SSD) is the distance required for a vehicle approaching an intersection from either direction to perceive, react and come to a complete stop to avoid colliding with an object in the road. In this respect, SSD can be considered as the minimum visibility criterion for the safe operation of an unsignalized intersection. Based on a 90 kilometre per hour design speed, a minimum sight distance of 160 metres is required.

Sight distance was observed towards the north and south of the new proposed site Driveway A (Scenario 3) to Highway 10. Based on these observations, the available sight distance towards the north and south satisfies the minimum requirement of 160 metres.

[8] MTO Design Supplement for TAC Geometric Design Guide for Canadian Roads, June 2017 Appendix 9 for Chapter 9 Intersections

3.1 Access Scenarios

Vehicular access for all employee and truck traffic to the plant is currently provided via one full moves access to Chapman's Crescent/Wellington Avenue. With the proposed expansion three access scenarios are being considered for the development, they are as follows:

- Scenario 1: Maintaining existing access via Chapman Crescent/Wellington Avenue;
- Scenario 2: Alternative access to existing A Street connection to Highway 10; and
- Scenario 3: A new connection to Highway 10 (Driveway A), approximately 350-400 metres northwest of the existing A Street intersection.

Each of these scenarios have been evaluated in the operational analysis separately to determine the individual impact. All scenarios assume the existing access at Chapman's Crescent and Wellington Avenue will remain operational. Full operational details for all access scenarios are presented in Section 5.2.

3.2 Development Trip Generation

3.2.1 Trip Generation Methodology

Trip generation information is used to forecast the anticipated level of new vehicular activity to occur as a result of the development of the subject site. The Institute of Transportation Engineers' (ITE) Trip Generation Manual[9] was used to the estimate the AM and PM peak hour traffic volumes generated by the development. The following land use code was referenced:

- **LUC 140 (Manufacturing):** A manufacturing facility is an area where the primary activity is the conversion of raw materials or parts into finished products. Size and type of activity may vary substantially from one facility to another. In addition to the actual production of goods, manufacturing facilities generally also have office, warehouse, research, and associated functions. The average rate was utilized.

[9] Institute of Transportation Engineers (ITE). 2017. *Trip Generation Manual*, 10th Edition. Washington D.C.

3.2.2 Modal Split

No adjustments have been made to account for alternate modes of transportation (transit, cycling, and/or walking) which could reduce the trip generations estimates.

3.2.3 Trip Generation Estimates

Table 3.1 summarizes the trip generation estimates for the weekday AM and PM peak hours. These estimates summarize the trip generation reductions noted above. A total of 56 new weekday AM and 60 new weekday PM peak hour trips are forecast to be added to the study area roadways. The client has indicated that less than 10 additional truck loads per week to the distribution centre south of Markdale's southern limits are expected to accompany the expansion. Therefore, no adjustment was made to the analysis.

TABLE 3.1: ESTIMATED TRIP GENERATION

Land Use	GFA (1000 Sq.Ft.)	Peak Hour	Rate	In	Out	Total
ITE Manufacturing (LUC 140)	90.00	AM	0.62	43	13	56
		PM	0.67	19	41	60

It is noted that the site currently generates approximately 43 AM and PM peak hour trips respectively or 0.2 trips per 1000 sq. ft. based on existing shift schedule information provided by the client. This would equate to approximately 18 AM and PM peak hour trips respectively generated by the proposed expansion.

The ITE trip generation methodology estimated approximately 70% higher peak hour traffic volumes when compared to the existing trip generation rate provided by the client.

Since Wellington Avenue North provides access to more than the existing site traffic an accurate representation of site generated trips could not be estimated. Thus, the ITE land use trip generation in **Table 3.1** was used in the analysis.

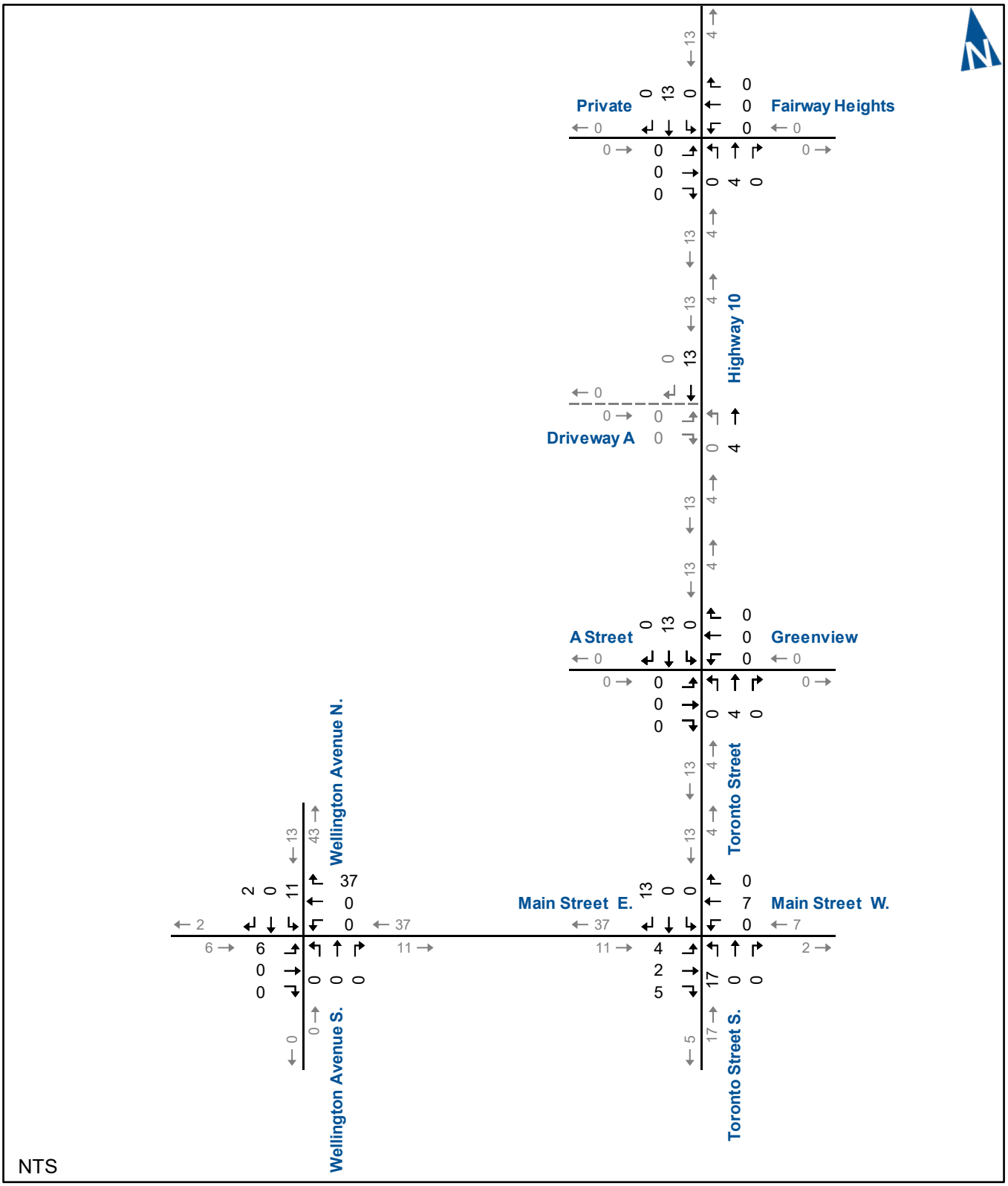
3.4 Development Distribution and Assignment

The trip distribution within the study area has been estimated based on a review of the existing traffic patterns and distribution along the study area roadways.

TABLE 3.2: ESTIMATED TRIP DISTRIBUTION

Trip Distribution (To/From)	AM Peak Hour		PM Peak Hour	
	IN	Out	IN	Out
Main Street - West	15%	15%	15%	10%
Main Street - East	15%	15%	20%	20%
Toronto Street/Highway 10 - North	30%	30%	30%	35%
Toronto Street/Highway 10 - South	40%	40%	35%	35%
Total	**100%**	**100%**	**100%**	**100%**

Figure 3.1A-B illustrates the weekday peak hour site generated traffic volumes for Scenario 1. **Figure 3.2A-B** illustrates the weekday peak hour site generated traffic volumes for Scenario 2. **Figure 3.3A-B** illustrates the weekday peak hour site generated traffic volumes for Scenario 3.



Site Generated Traffic Volumes
Scenario 1 – AM Peak Hour

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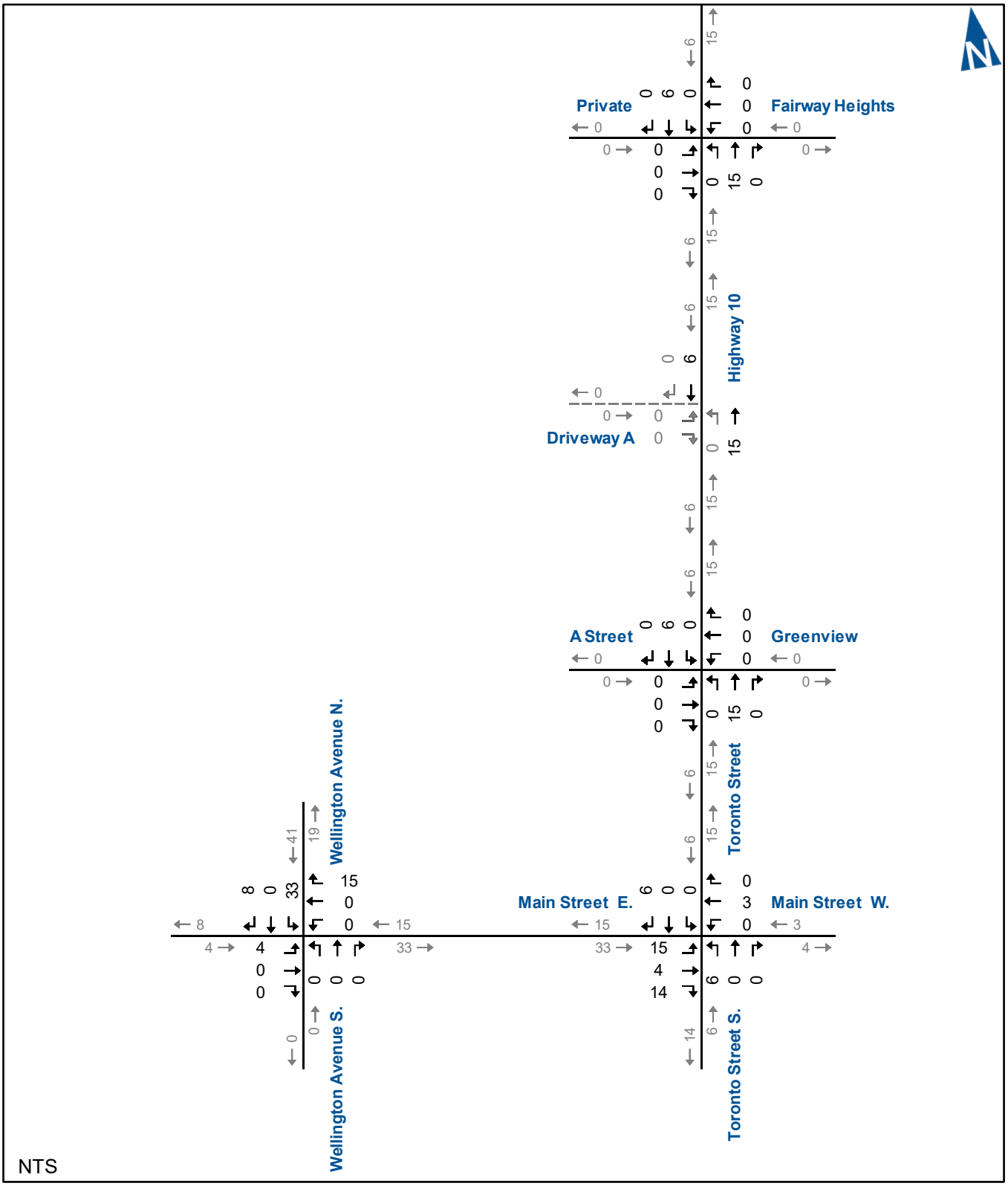
Figure 3.1A



Site Generated Traffic Volumes
Scenario 1 – PM Peak Hour

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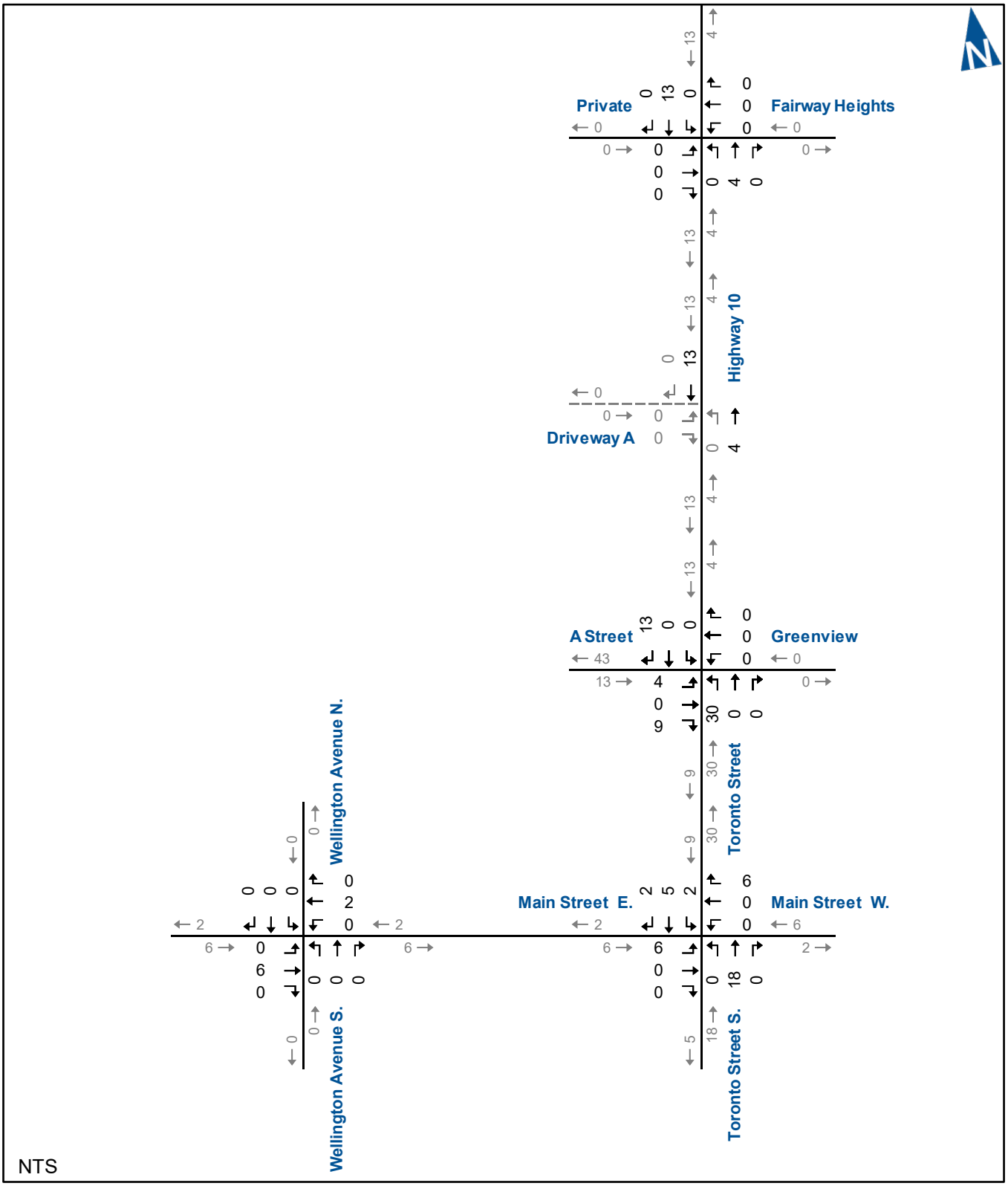
Figure 3.1B



Site Generated Traffic Volumes
Scenario 2 – AM Peak Hour

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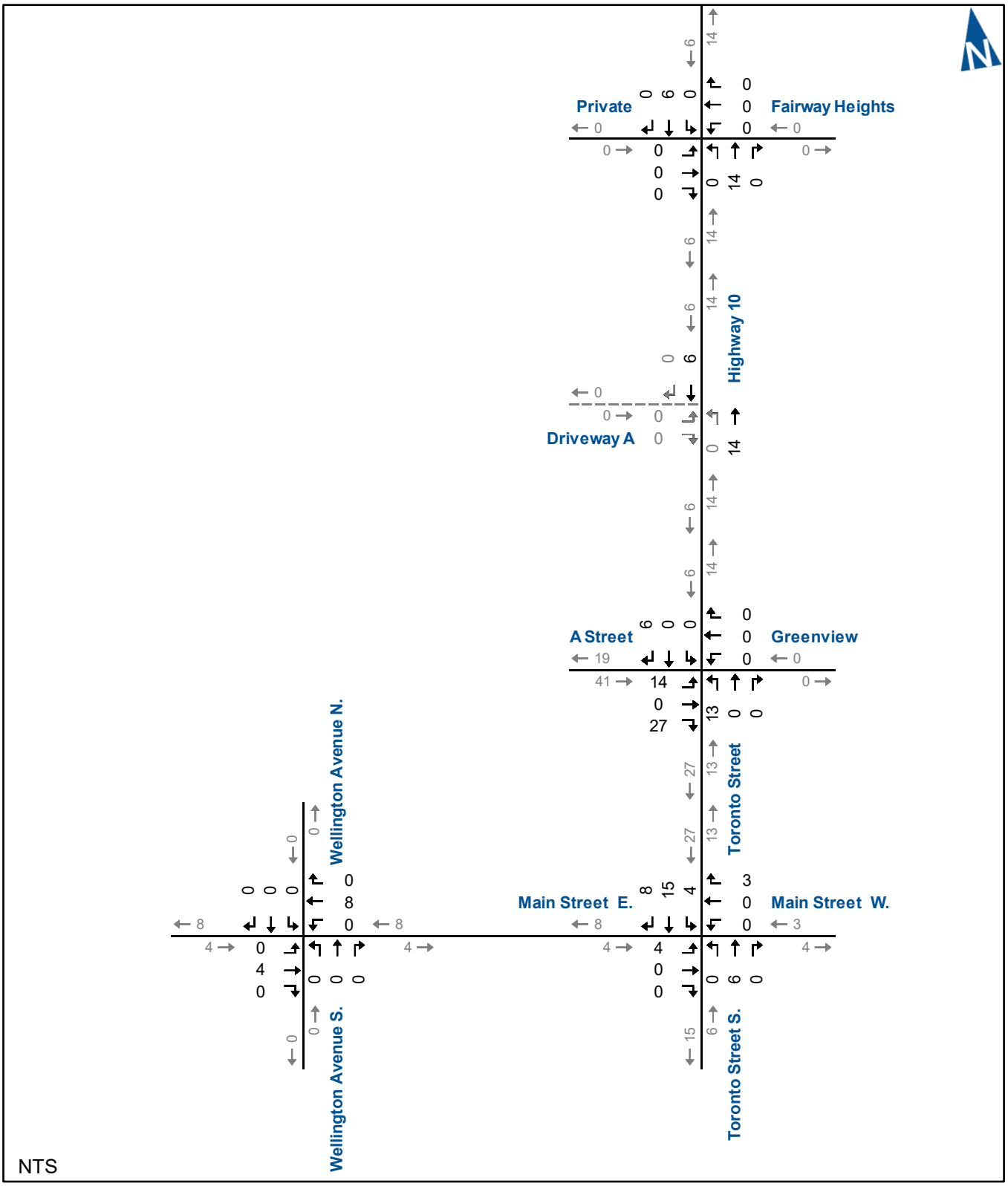
Figure 3.2A



Site Generated Traffic Volumes
Scenario 2 – PM Peak Hour

100 Chapman's Crescent
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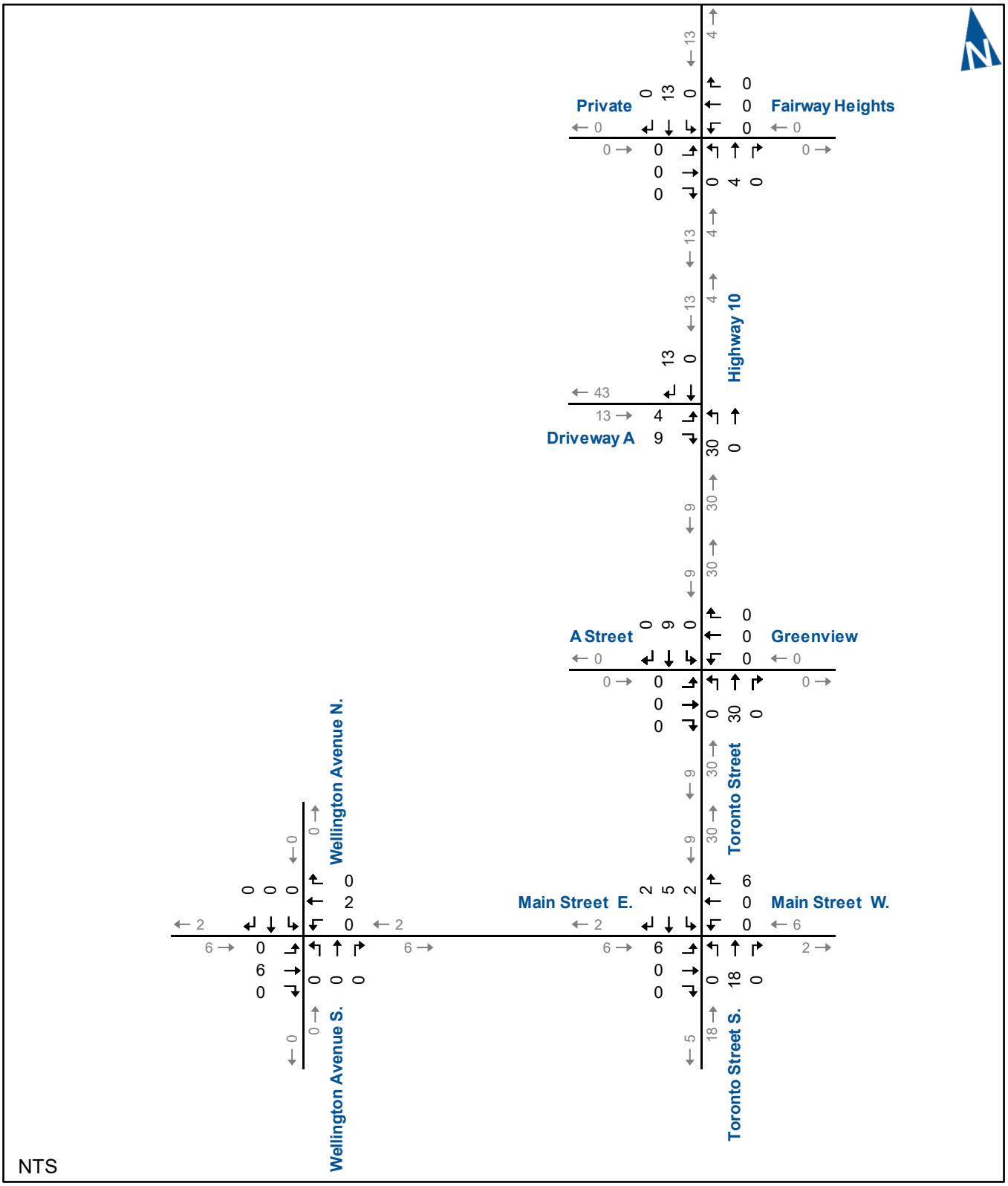
Figure 3.2B



Site Generated Traffic Volumes
Scenario 3 – AM Peak Hour

100 Chapman's Crescent
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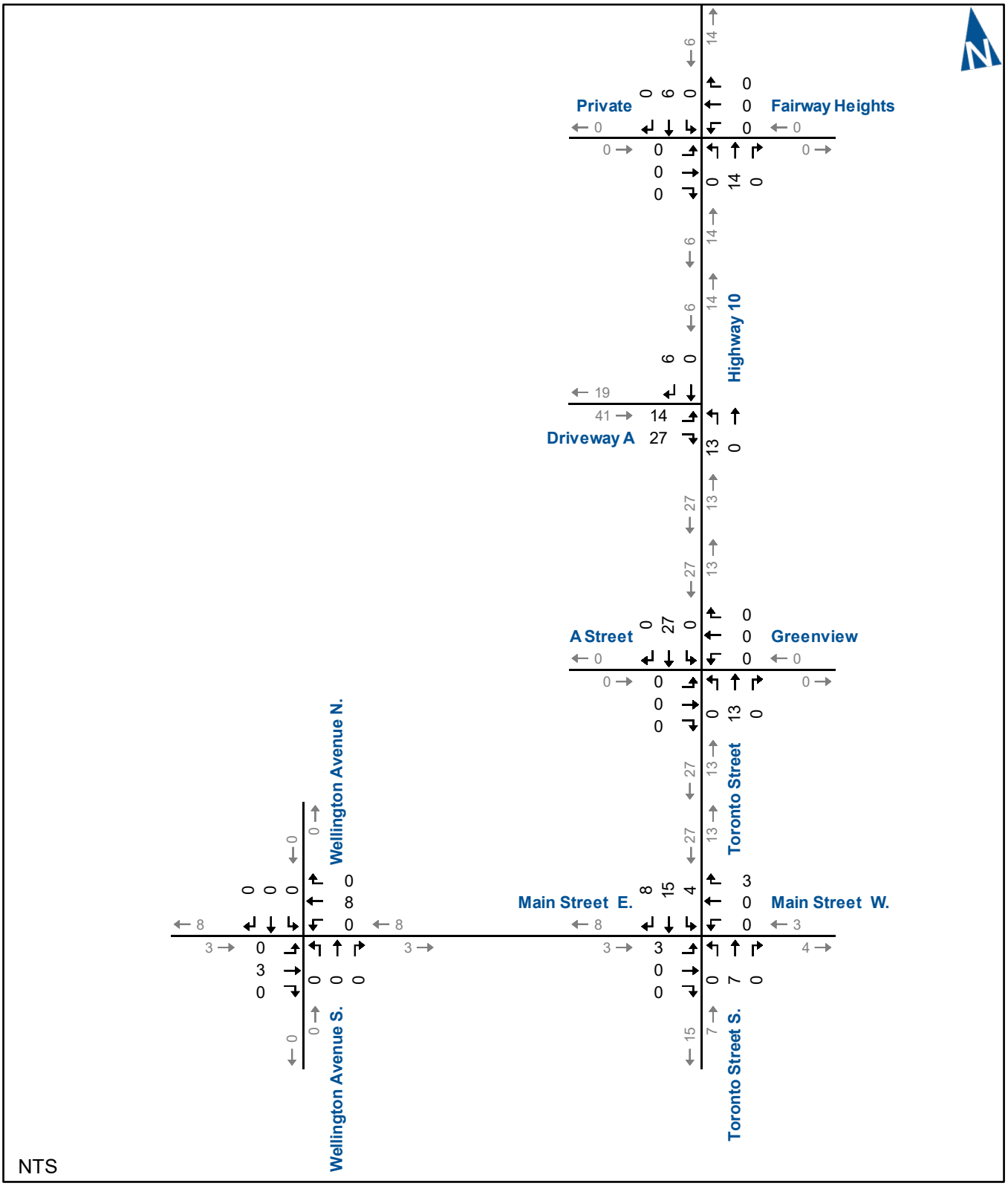
Figure 3.3A



Site Generated Traffic Volumes
Scenario 3 – PM Peak Hour

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Figure 3.3B

4 Future Conditions

To be consistent with the terms of reference established with the Grey Highlands a horizon year of 2026 and 2031, five (5) years and ten (10) years after the study is commissioned has been used for traffic forecasting and analyses purposes.

4.1 Traffic Growth

Traffic growth on area roadways is a function of the expected land development, economic activity, and changes in demographics. A frequently used procedure is to estimate an annual percentage increase and apply that increase to the study area traffic volumes.

A growth rate of 1.0% compounded per annum has been applied to the base year traffic volumes to account for population and employment growth while a summer adjustment factor of 1.36 has been applied to account for higher traffic volumes during the summer months. This growth rate is consistent with other Transportation Impact Studies completed for other developments near the subject site.

4.3.1 2026 Background Projections

The forecast background traffic volumes within the study area are estimated to consist of generalized background traffic growth along with traffic volumes related to the nearby developments mentioned in section 2.4.2. **Figure 4.1** illustrates the forecast 2026 Background traffic volumes.

4.3.2 2031 Background Projections

The forecast background traffic volumes within the study area are estimated to consist of generalized background traffic growth along with traffic volumes related to the nearby developments mentioned in section 2.4.2. **Figure 4.2A-B** illustrates the forecast 2031 Background traffic volumes.

4.3.3 2026 Total Scenario 1 Projections

Scenario 1 maintains the existing access via Chapman Crescent/Wellington Avenue. The forecast total traffic volumes within the study area are estimated to consist of generalized background traffic growth, traffic volumes related to the nearby developments and development site-generated traffic. **Figure 4.3A-B** illustrates the forecast 2026 total traffic volumes for access scenario 1.

4.3.4 2031 Total Scenario 1 Projections

Scenario 1 maintains the existing access via Chapman Crescent/Wellington Avenue. The forecast total traffic volumes within the study area are estimated to consist of generalized background traffic growth, traffic volumes related to the nearby developments and development site-generated traffic volumes. **Figure 4.4A-B** illustrates the forecast 2031 total traffic volumes for access scenario 1.

4.3.5 2026 Total Scenario 2 Projections

Scenario 2 provides an alternative access to the existing A Street connection to Highway 10. The forecast total traffic volumes within the study area are estimated to consist of generalized background traffic growth, traffic volumes related to the nearby developments and development site-generated traffic volumes. **Figure 4.5A-B** illustrates the forecast 2026 total traffic volumes for access scenario 2.

4.3.6 2031 Total Scenario 2 Projections

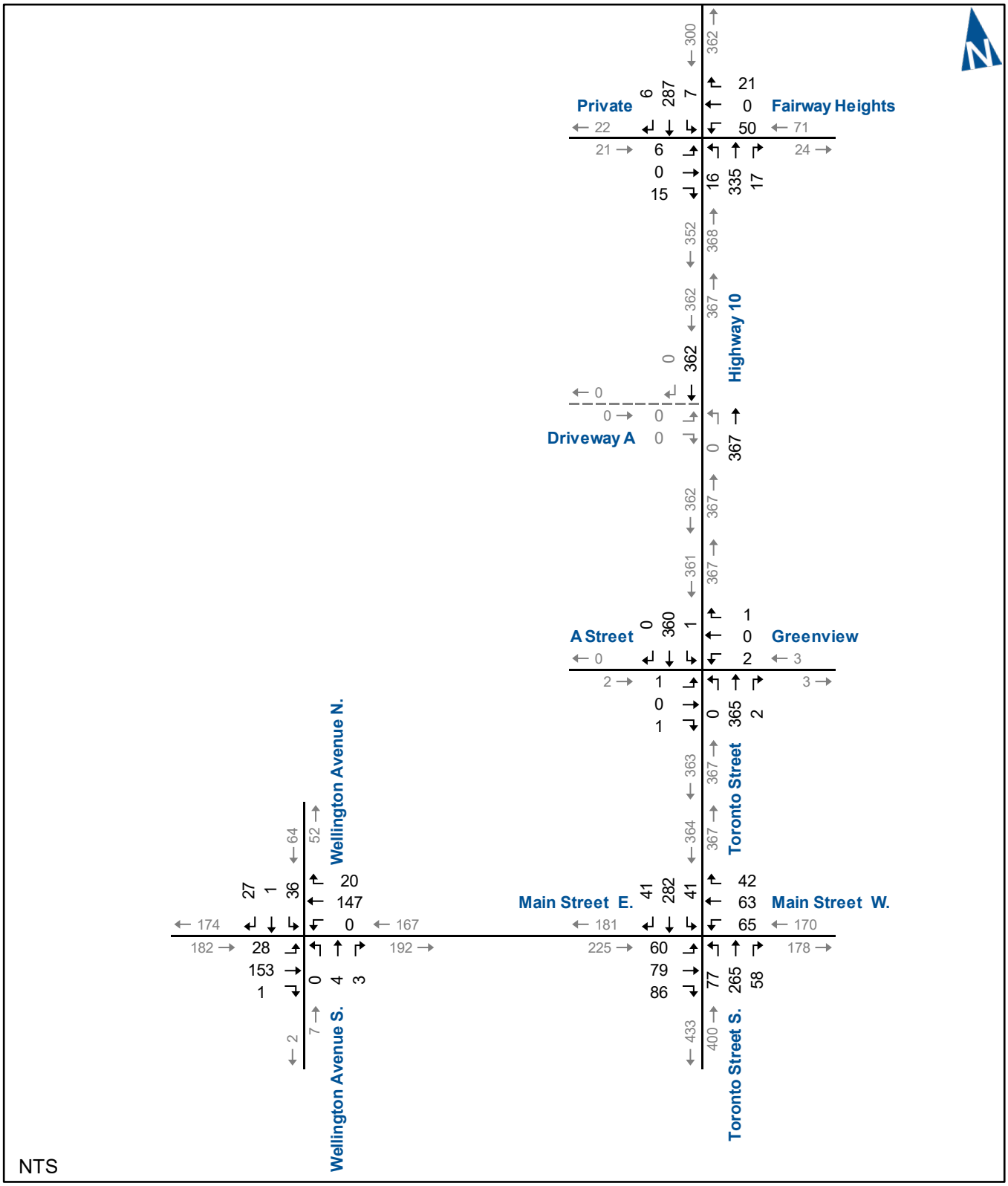
Scenario 2 provides an alternative access to the existing A Street connection to Highway 10. The forecast total traffic volumes within the study area are estimated to consist of generalized background traffic growth, traffic volumes related to the nearby developments and development site-generated traffic volumes. **Figure 4.6A-B** illustrates the forecast 2031 total traffic volumes for access scenario 2.

4.3.7 2026 Total Scenario 3 Projections

Scenario 3 provides a new connection to Highway 10 (Driveway A), approximately 350-400 metres northwest of the existing A Street intersection. The forecast total traffic volumes within the study area are estimated to consist of generalized background traffic growth, traffic volumes related to the nearby developments and development site-generated traffic volumes. **Figure 4.7A-B** illustrates the forecast 2026 total traffic volumes for access scenario 3.

4.3.8 2026 Total Scenario 3 Projections

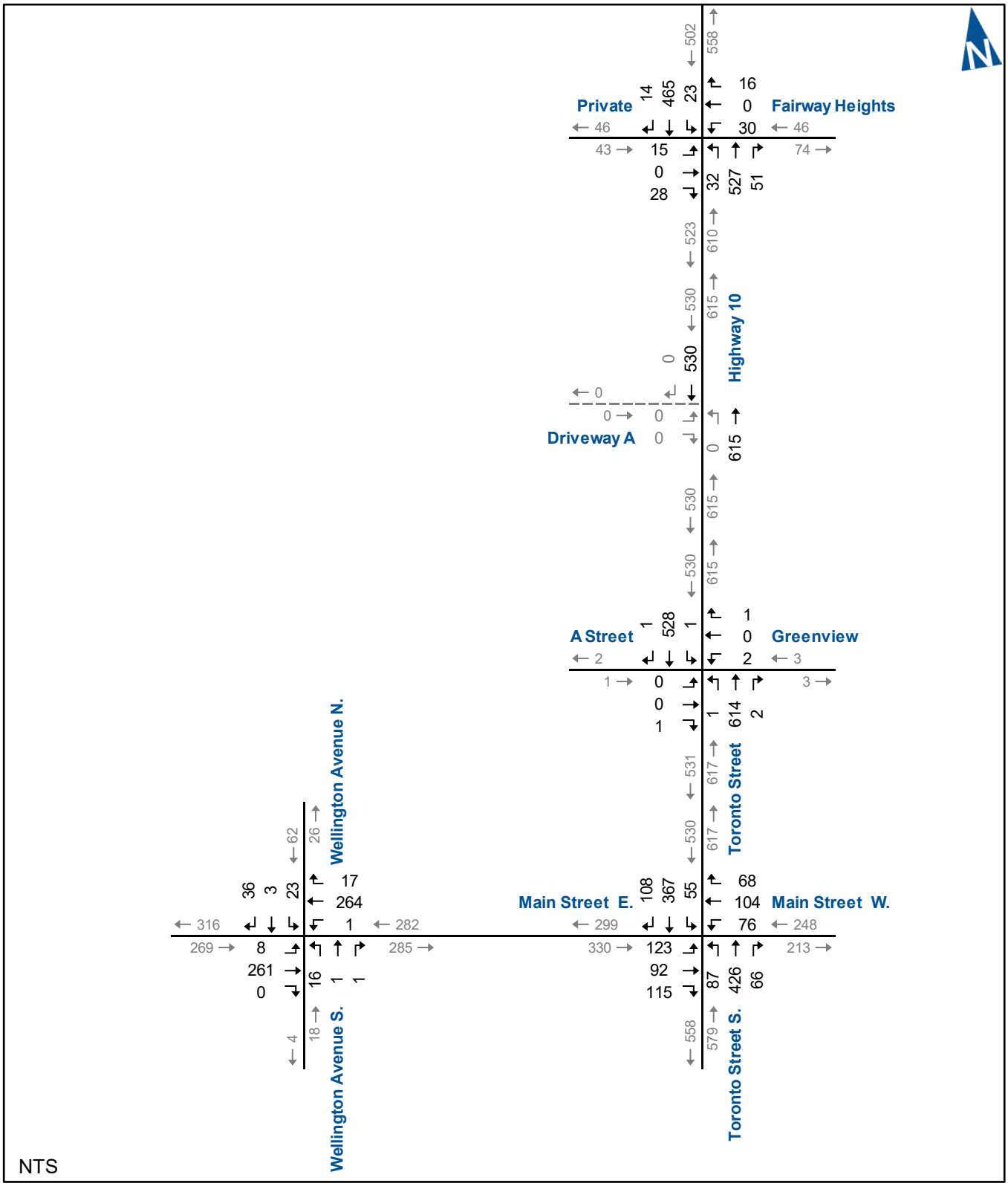
Scenario 3 provides a new connection to Highway 10 (Driveway A), approximately 350-400 metres northwest of the existing A Street intersection. The forecast total traffic volumes within the study area are estimated to consist of generalized background traffic growth, traffic volumes related to the nearby developments and development site-generated traffic volumes. **Figure 4.8A-B** illustrates the forecast 2031 total traffic volumes for access scenario 3.



2026 Background Traffic Forecast – AM Peak Hour

100 Chapman's Crescent
210196

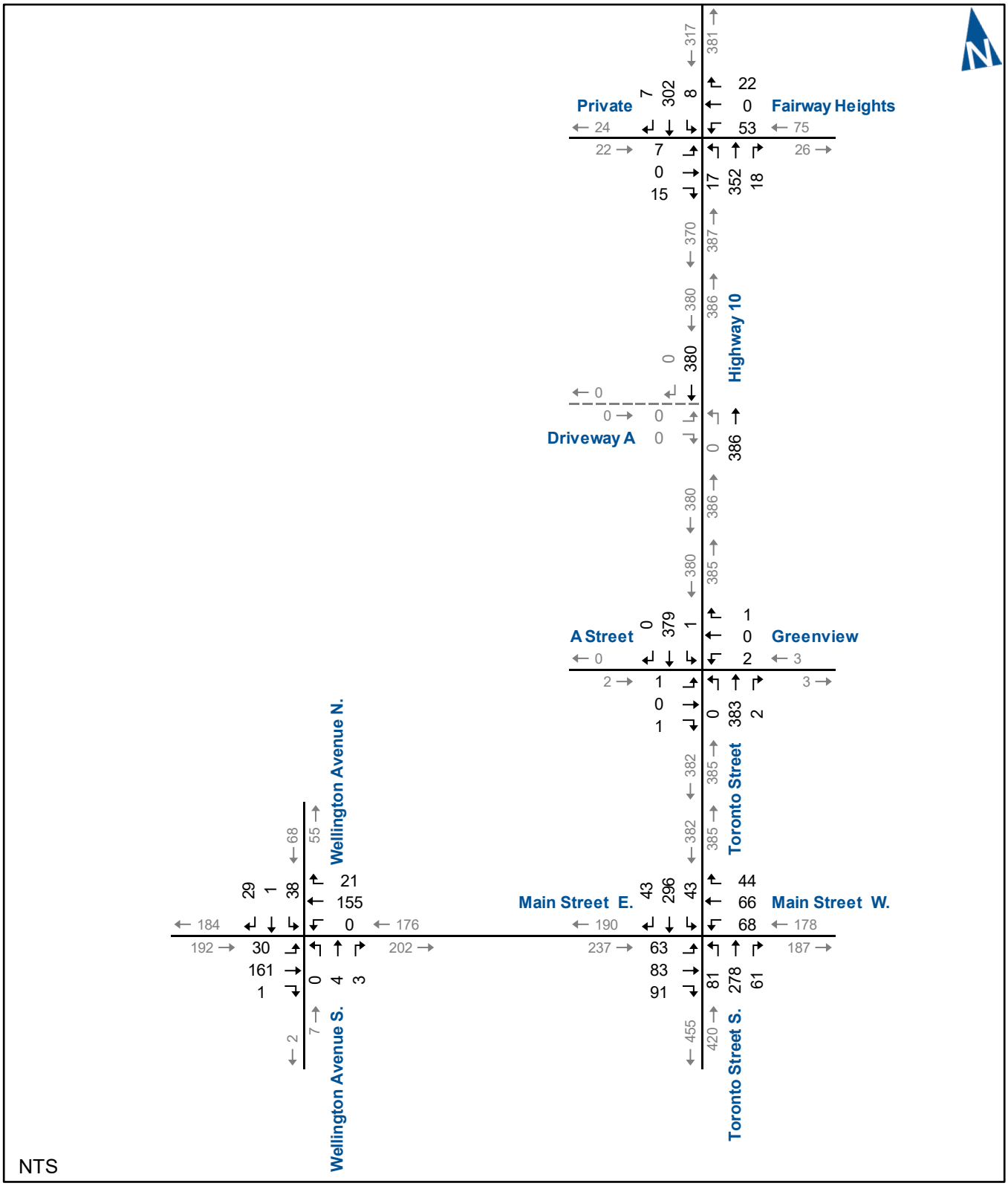
Figure 4.1A



2026 Background Traffic Forecast – PM Peak Hour

100 Chapman's Crescent
210196

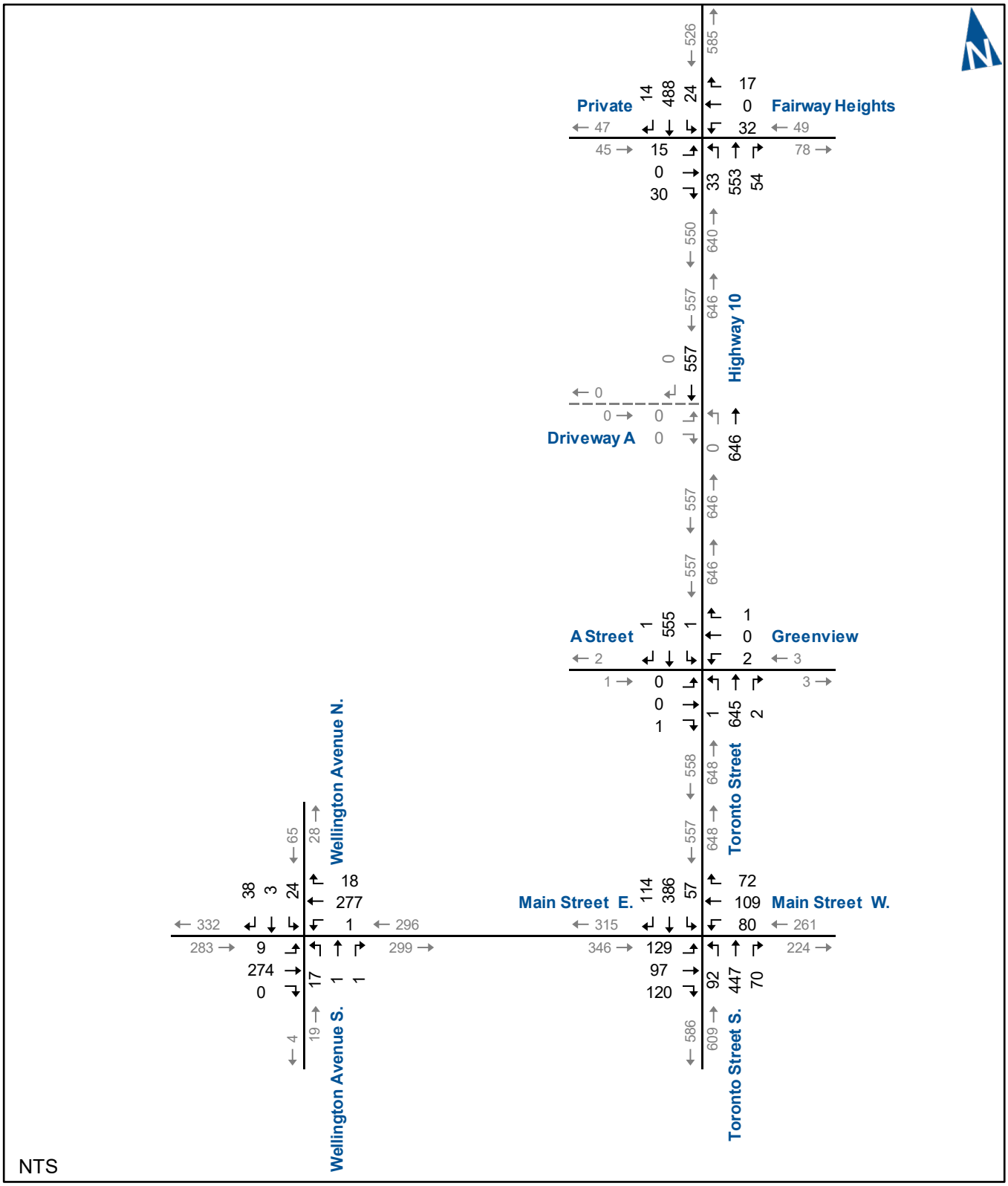
Figure 4.1B



2031 Background Traffic Forecast – AM Peak Hour

100 Chapman's Crescent
210196

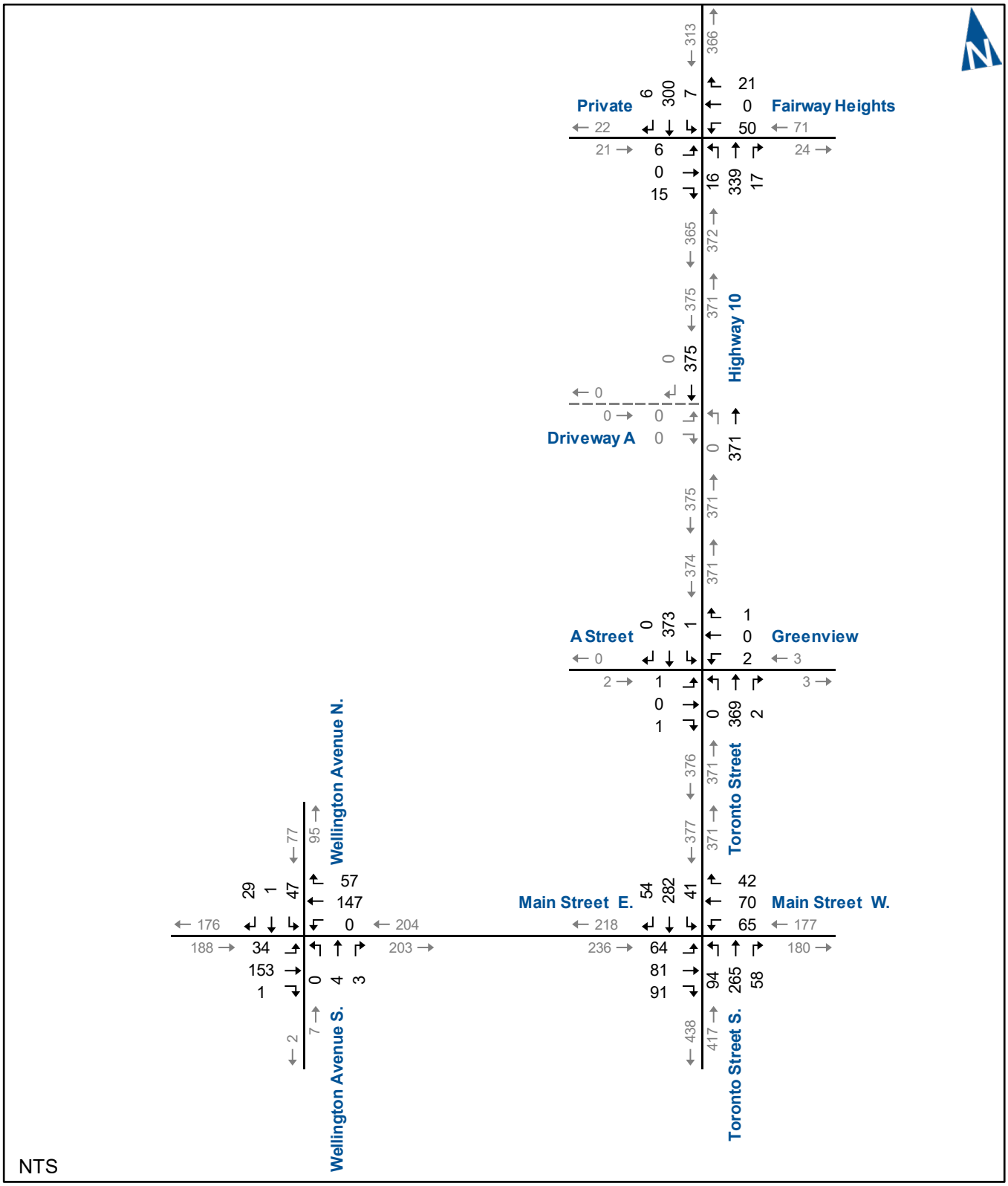
Figure 4.2A



2031 Background Traffic Forecast – PM Peak Hour

100 Chapman's Crescent
210196

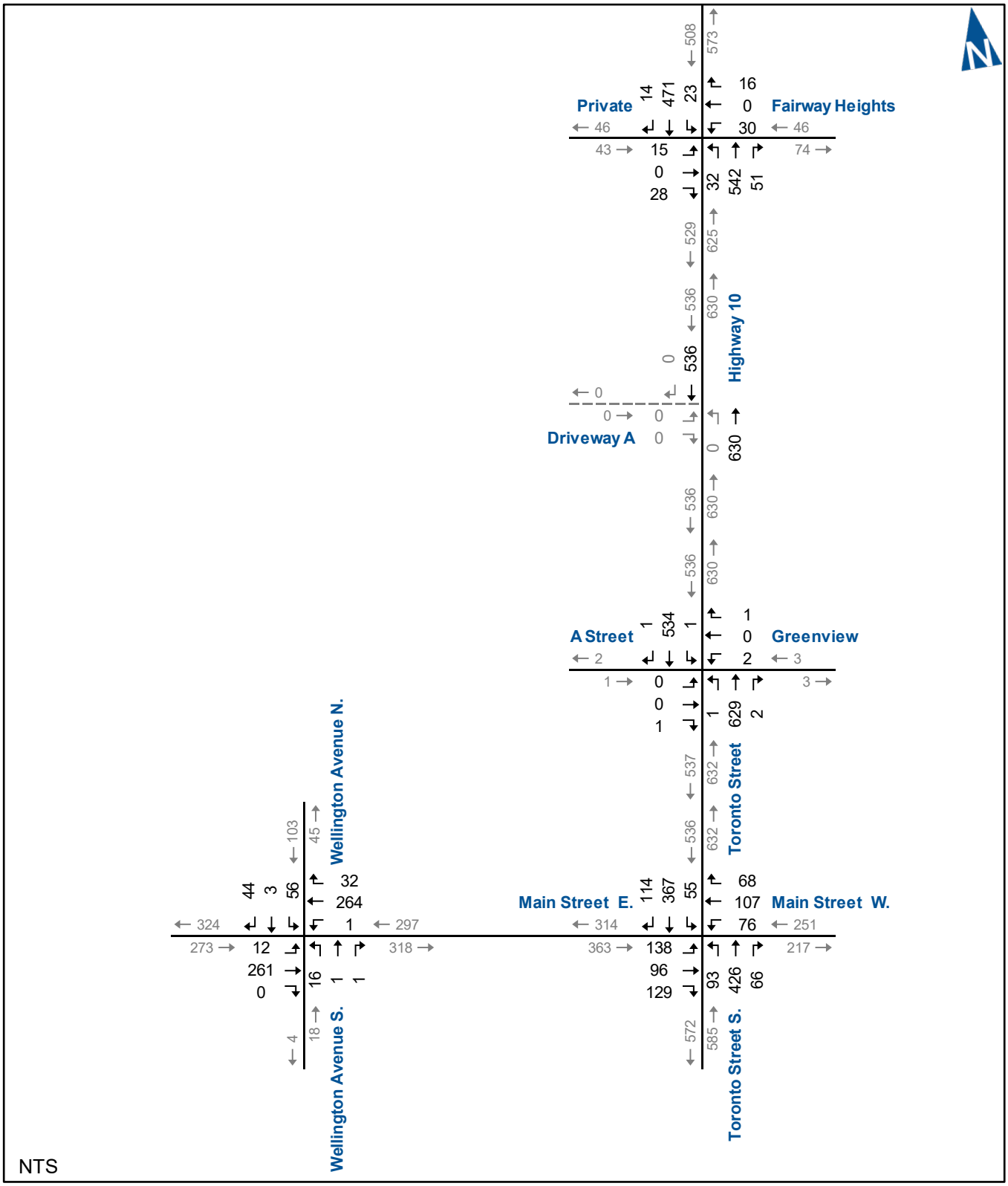
Figure 4.2B



2026 Total Traffic Scenario 1 Forecast – AM Peak Hour

100 Chapman's Crescent
210196

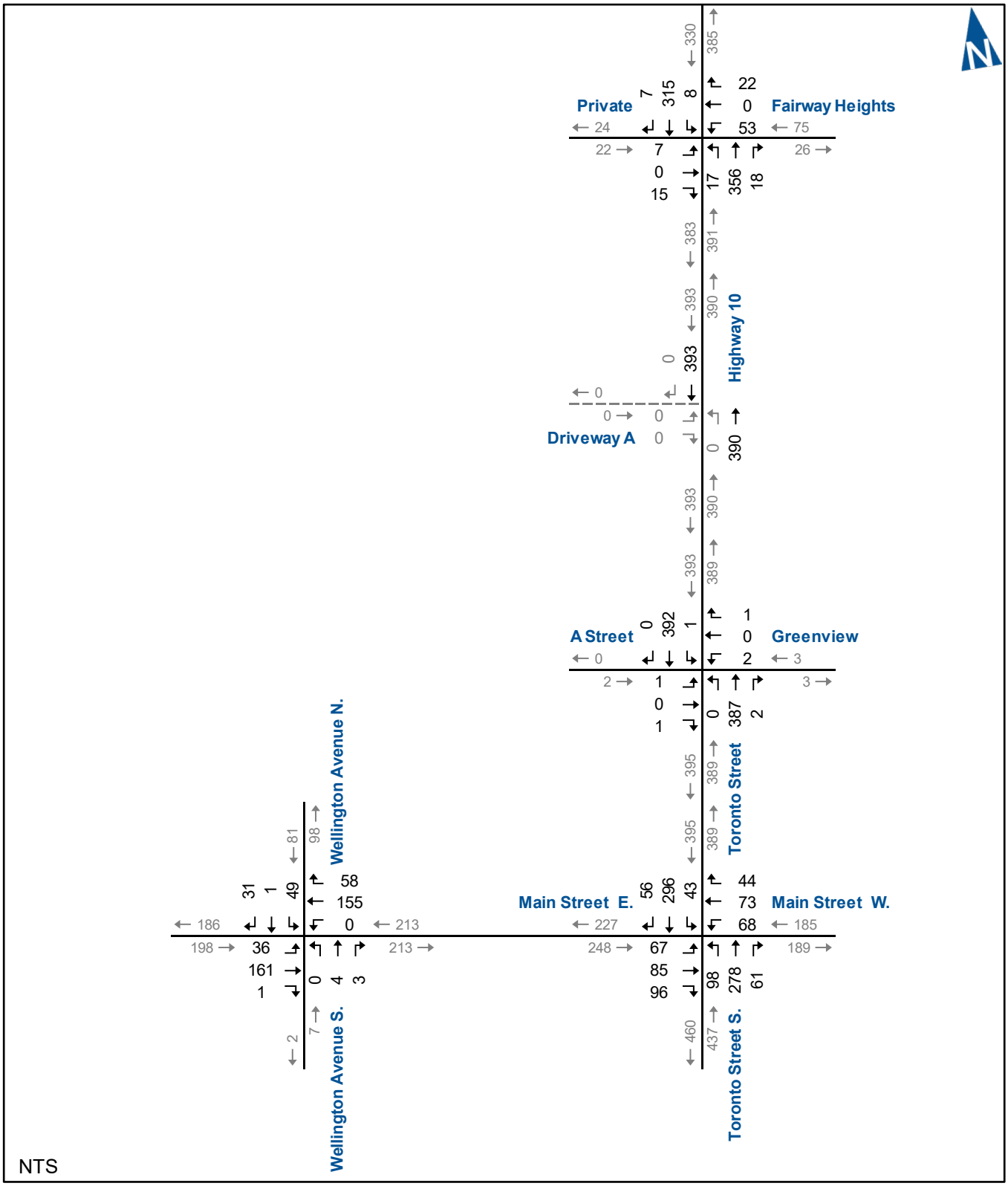
Figure 4.3A



2026 Total Traffic Scenario 1 Forecast – PM Peak Hour

100 Chapman's Crescent
210196

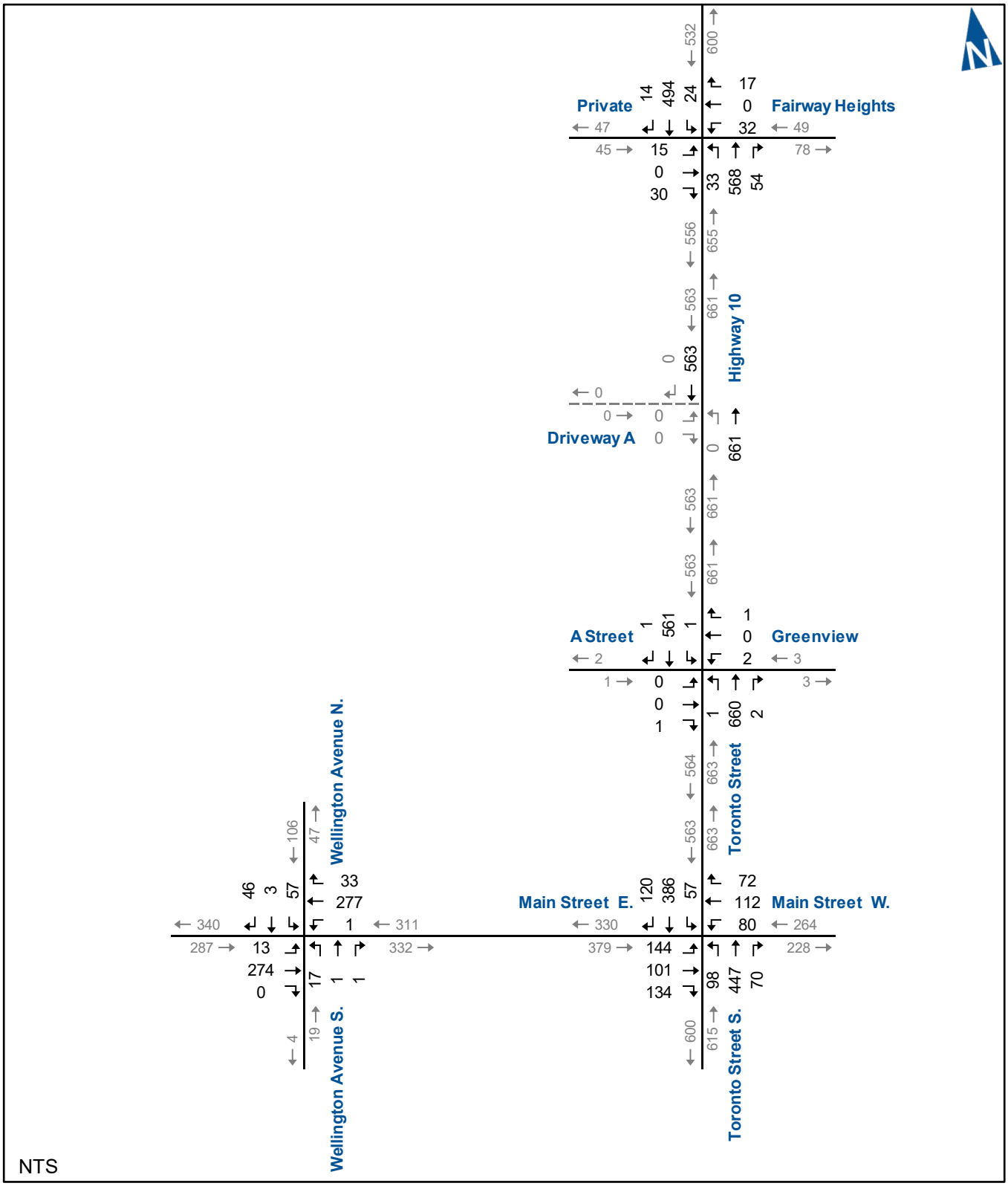
Figure 4.3B



2031 Total Traffic Scenario 1 Forecast – AM Peak Hour

100 Chapman's Crescent
210196

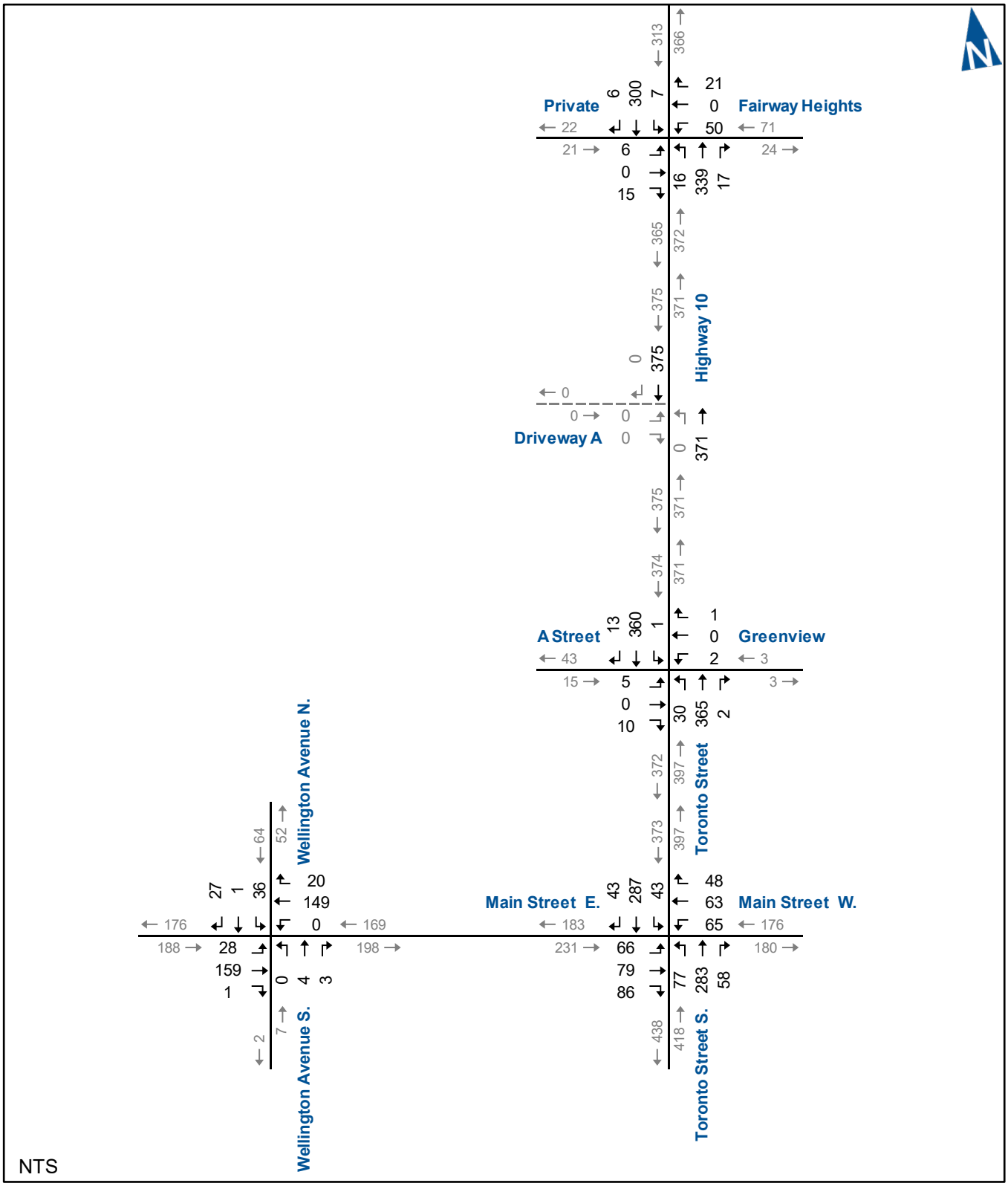
Figure 4.4A



2031 Total Traffic Scenario 1 Forecast – PM Peak Hour

100 Chapman's Crescent
210196

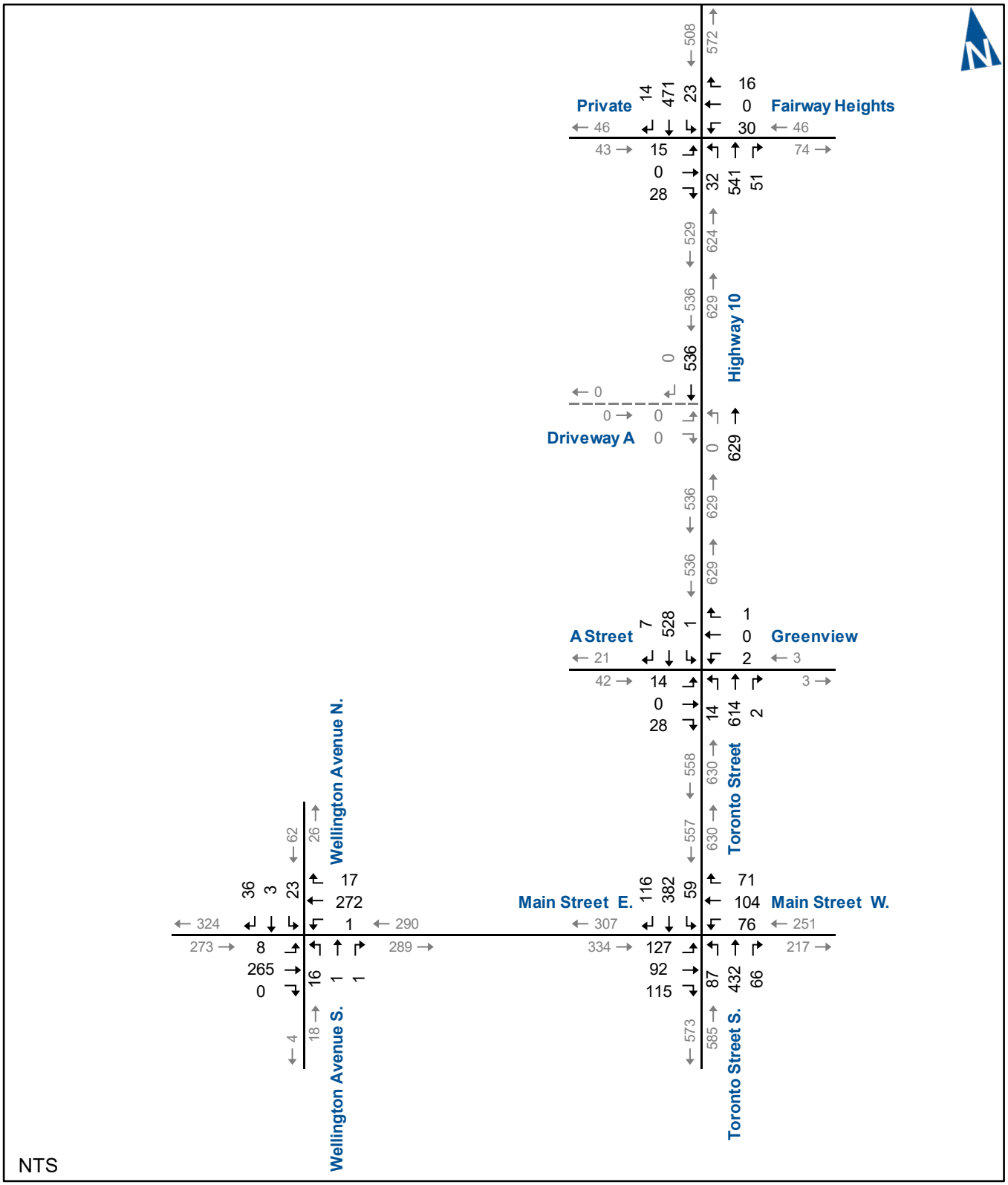
Figure 4.4B



2026 Total Traffic Scenario 2 Forecast – AM Peak Hour

100 Chapman's Crescent
210196

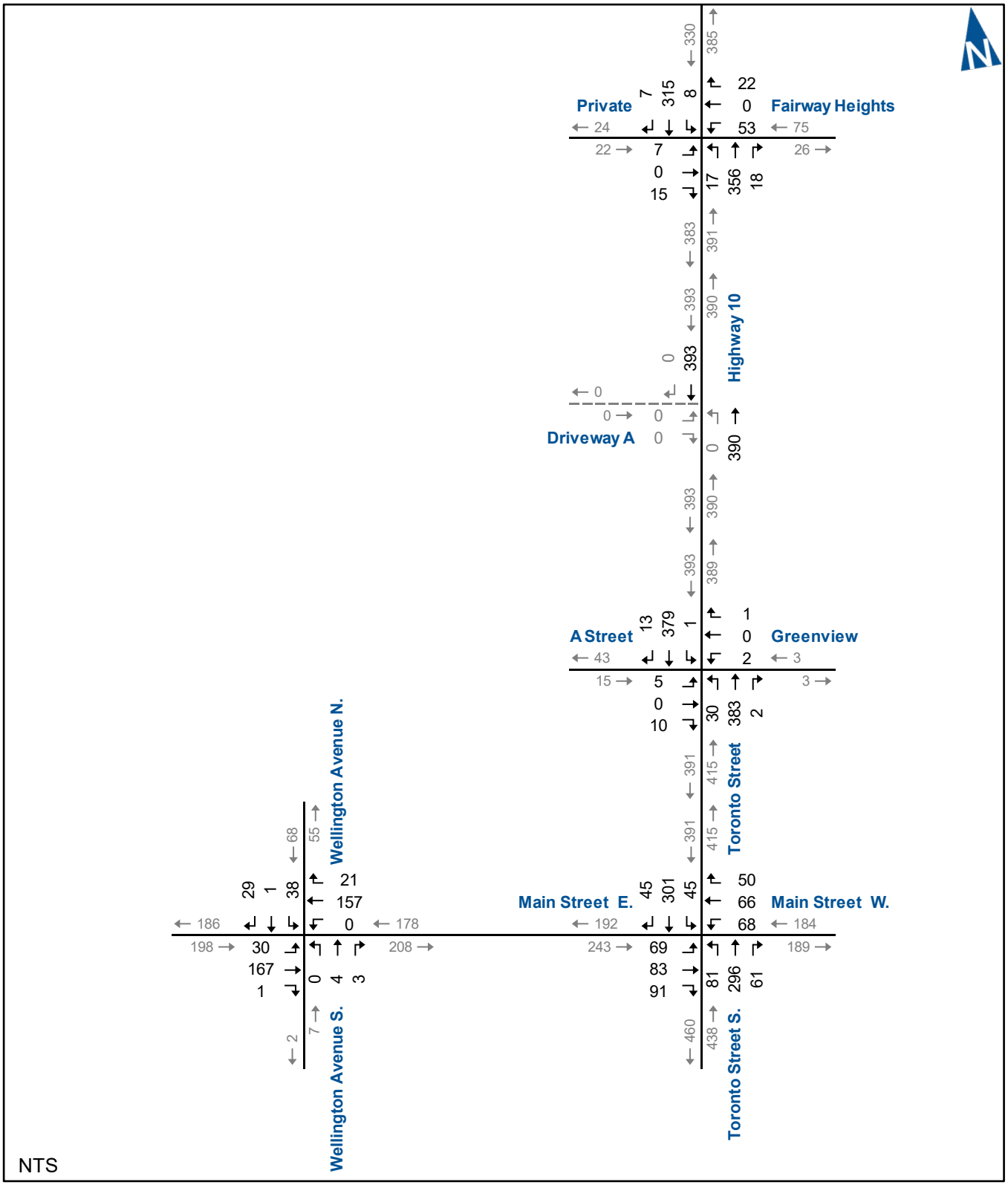
Figure 4.5A



2026 Total Traffic Scenario 2 Forecast – PM Peak Hour

100 Chapman's Crescent
210196

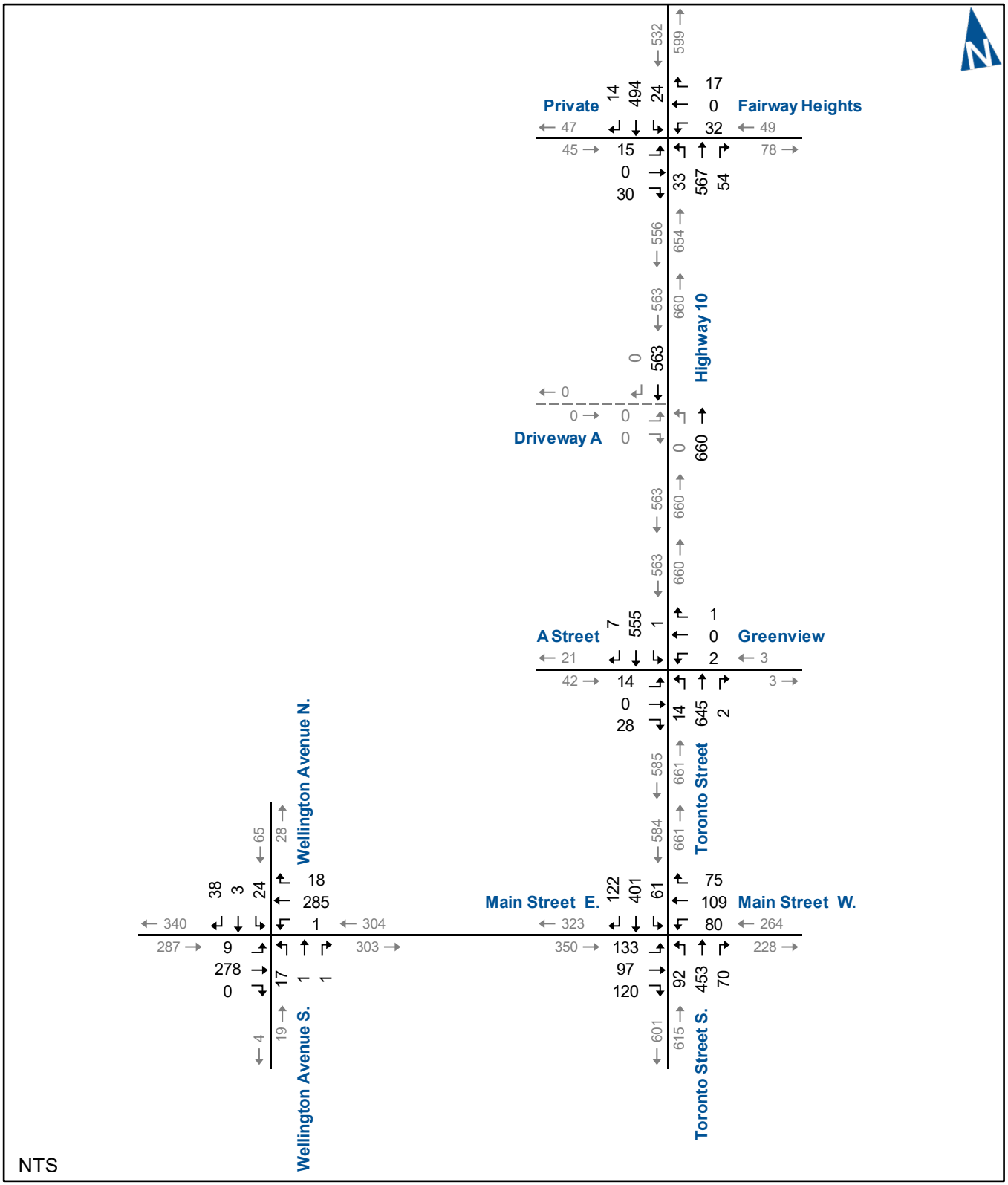
Figure 4.5B



2031 Total Traffic Scenario 2 Forecast – AM Peak Hour

100 Chapman's Crescent
210196

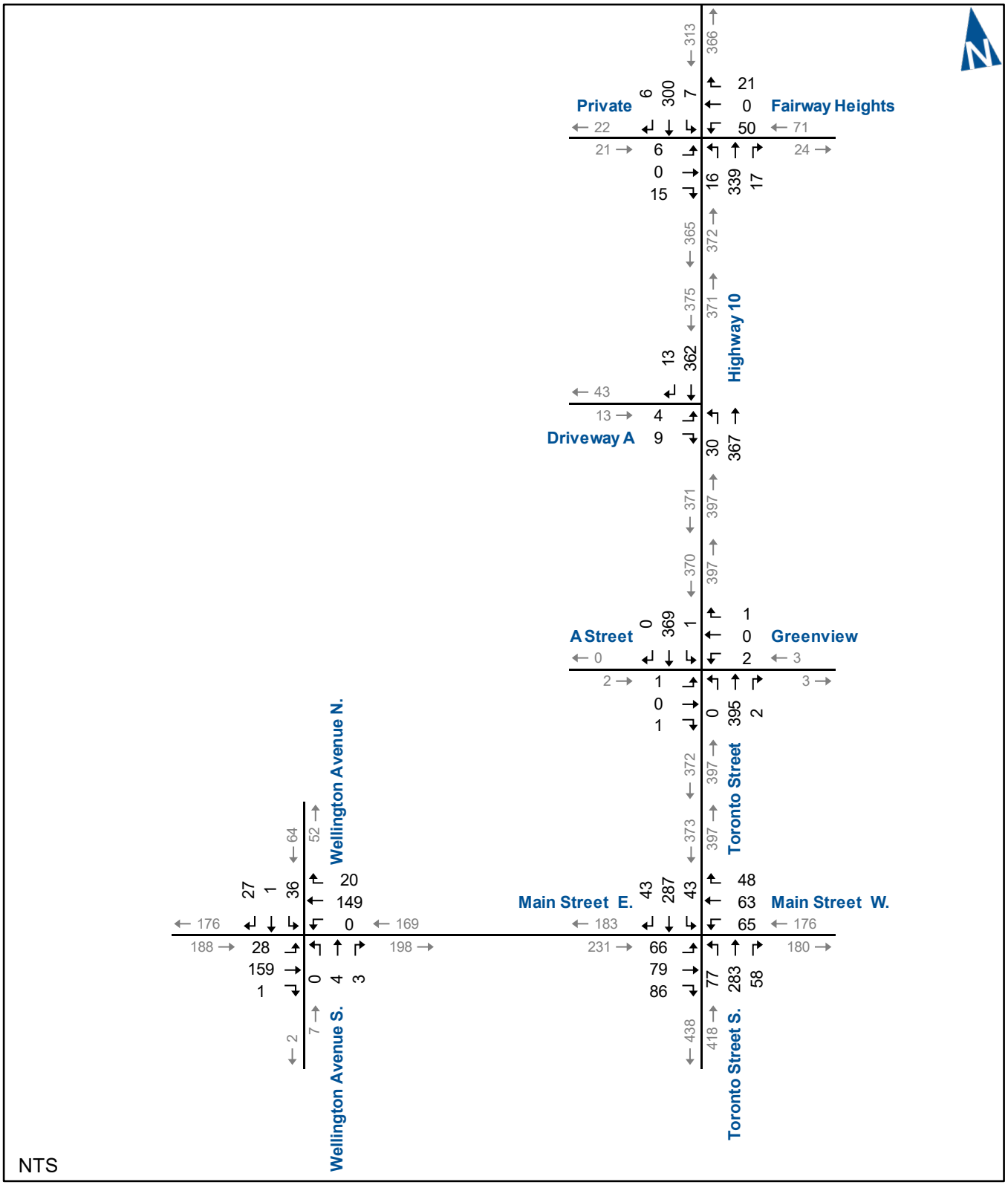
Figure 4.6A



2031 Total Traffic Scenario 2 Forecast – PM Peak Hour

100 Chapman's Crescent
210196

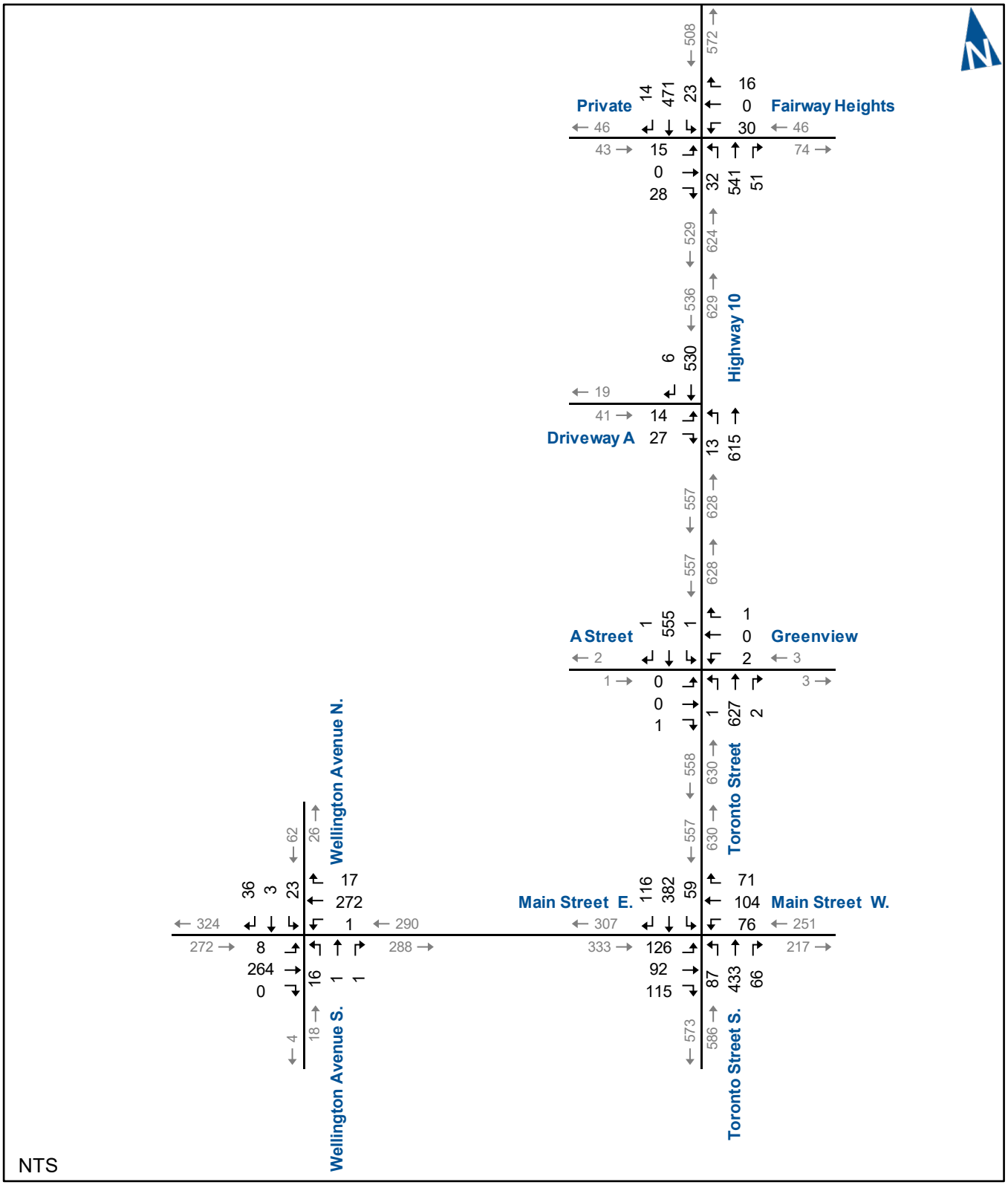
Figure 4.6B



2026 Total Traffic Scenario 3 Forecast – AM Peak Hour

100 Chapman's Crescent
210196

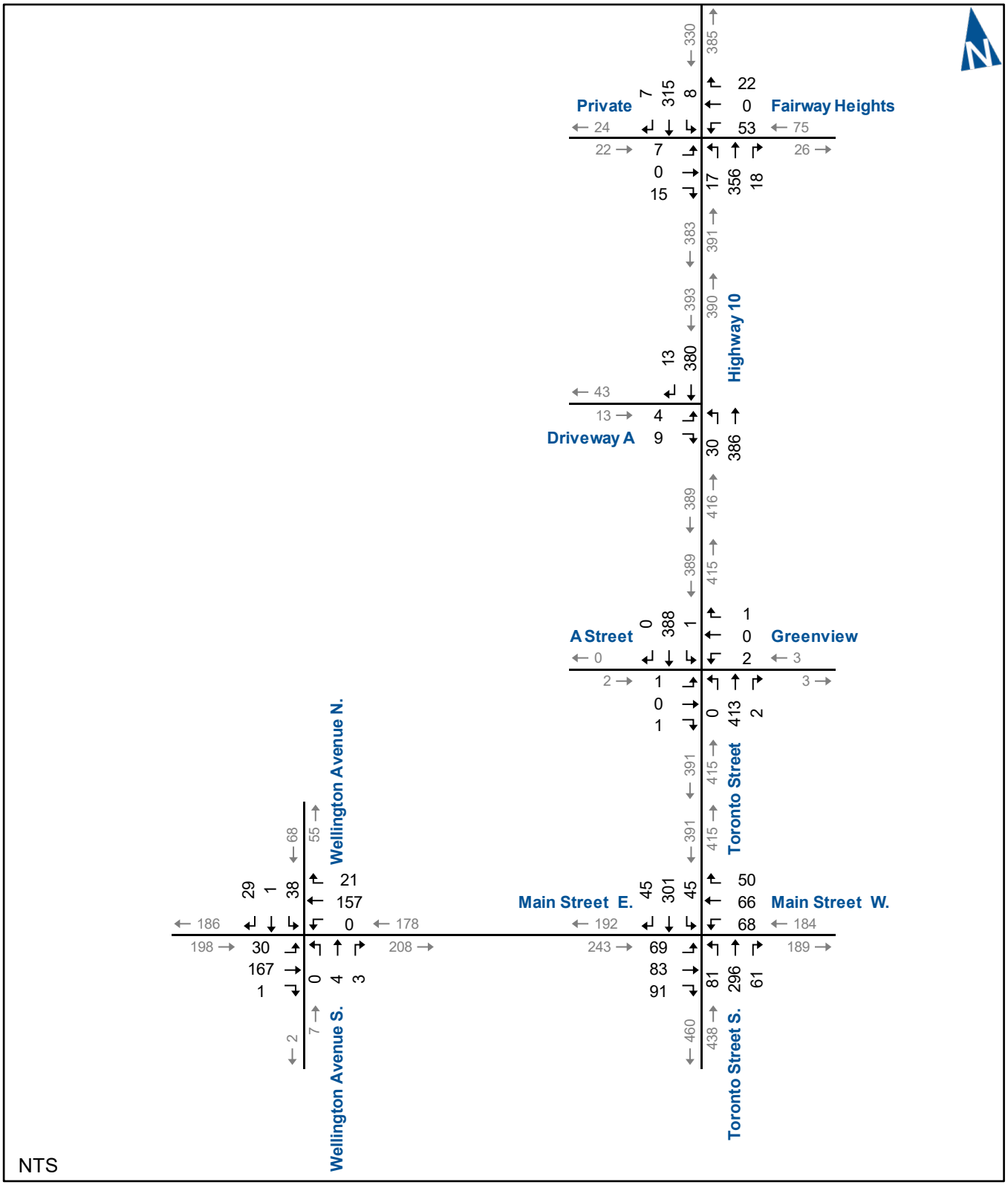
Figure 4.7A



2026 Total Traffic Scenario 3 Forecast – PM Peak Hour

100 Chapman's Crescent
210196

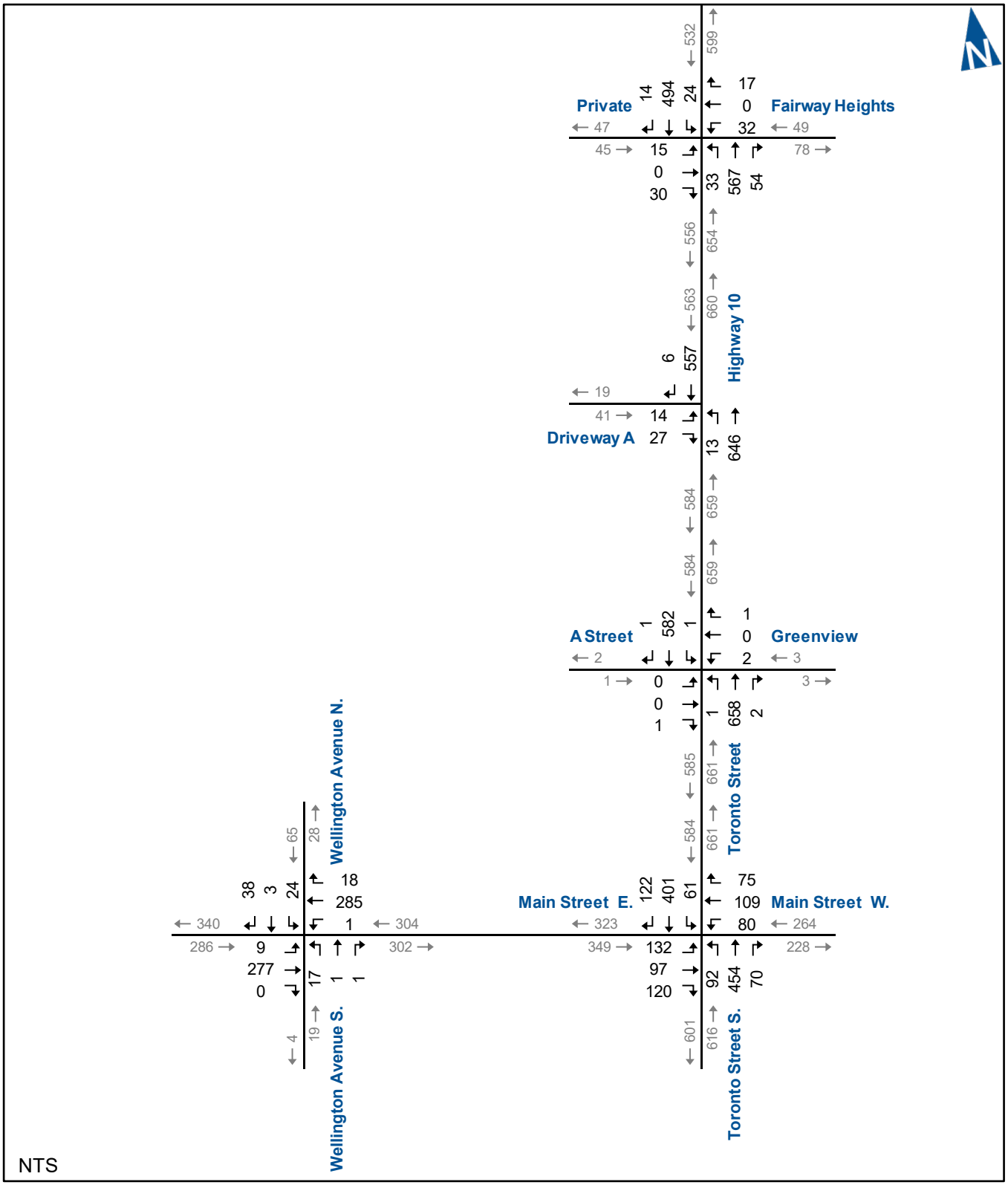
Figure 4.7B



2031 Total Traffic Scenario 3 Forecast – AM Peak Hour

100 Chapman's Crescent
210196

Figure 4.8A



2031 Total Traffic Scenario 3 Forecast – PM Peak Hour

100 Chapman's Crescent
210196

Figure 4.8B

5 Operational Analysis

5.1 Level of Service Criteria

Intersection level of service (LOS) is a recognized method of quantifying the efficiency of traffic flow at intersections. It is based on the delay experienced by individual vehicles executing the various movements. The delay is related to the number of vehicles wanting to make a movement, compared to the estimated capacity for that movement. The capacity is based on several criteria related to the opposing traffic flows. The highest possible rating is LOS A, under which the average total delay is equal or less than 10.0 seconds per vehicle. When the average delay exceeds 80 seconds at signalized intersections (50 seconds at unsignalized intersections), the movement is considered to have a LOS F and remedial measures are usually implemented if they are feasible.

The intersection analysis considered three separate measures of performance:

- The LOS for each turning movement. LOS is based on the average control delay per vehicle;
- The volume to capacity ratio for each intersection; and
- 95th percentile queue length (metres) using Synchro 10.

From the pre-consultation with Grey Highlands and Grey County's Development Application Guidelines[10] it was determined the simulated analysis should include the following:

- Peak Hour Factor (PHF) of 0.88 for all intersections; and
- Saturated Flow Rate of 1900 pc.ph.pl.

Using guidance from the MTO Traffic Impact Studies Guidelines[11] the operational analysis must include identification of signalized and unsignalized intersections where:

- V/c ratios (v/c) for all movements that exceed 0.85 at a signalized intersection; and
- The 95th percentile queues for an individual movement are projected to exceed available turning lane storage.

[10] Grey County, Development Application Guidelines - Transportation Impact Report
[11] Ministry of Transportation, General Guidelines for the Preparation of Traffic Impact Studies, February 2021

The evaluation criteria used to analyze signalized and unsignalized intersections are based on the Highway Capacity Manual (HCM)[12] 2000 using Synchro 10 software.

[12] Transportation Research Board, Highway Capacity Manual, Washington, D.C. 2003.

5.2 Intersection Capacity Analysis

The evaluation criteria used to analyze signalized and unsignalized intersections are based on the 2000 Highway Capacity Manual (HCM).[13] using Synchro 10 software.

As instructed by Grey Highlands staff a PHF of 0.88 and a Saturated Flow Rate of 1900 passenger cars per hour per lane (pcphpl) was used. The signal timings and splits were optimized throughout the entire analysis.

Appendix D contains the supporting detailed Synchro 10 output.

5.2.1 Base Year Operations

The operations of the intersections in the study area were evaluated using the existing lane configuration, and traffic control along with the forecast traffic volumes.

Table 5.1 summarizes the base year 2021 intersection operations, and the following is noted:

- Highway 10 and Fairway Heights/Private Driveway
  - the westbound approach operates with delays in the LOS D range with less than 35 seconds of delay during the PM peak hour.

Under 2021 base year conditions all other movements are forecast to operate with an acceptable level of service during the AM and PM peak hour.

[13] Transportation Research Board, Highway Capacity Manual, Washington, D.C. 2003.

TABLE 5.1: BASE YEAR 2021 INTERSECTION OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction / Movement / Approach																
				Eastbound				Westbound				Northbound				Southbound				OVERALL
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Main Street and Wellington Avenue	AWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	B	>	**B**	<	B	>	**B**	**A**
			Delay	<	1	>	**1**	<	0	>	**0**	<	11	>	**11**	<	12	>	**12**	**3**
			V/C	<	0.02	>		<	0.00	>		<	0.01	>		<	0.11	>		
			95th	<	1	>		<	0	>		<	0	>		<	3	>		
	Toronto Street and Main Street	TCS	LOS	<	B	>	**B**	<	B	>	**B**	<	B	>	**B**	<	B	>	**B**	**B**
			Delay	<	14	>	**14**	<	13	>	**13**	<	15	>	**15**	<	13	>	**13**	**14**
			V/C	<	0.38	>		<	0.32	>		<	0.64	>		<	0.53	>		**0.52**
			95th	<	26	>		<	21	>		<	51	>		<	43	>		
			Storage	<	-	>		<	-	>		<	-	>		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	>		<	-	>		
	Toronto Street and A Street/ Greenview Lane	AWSC	LOS	<	B	>	**B**	<	B	>	**B**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	14	>	**14**	<	15	>	**15**	<	0	>	**0**	<	0	>	**0**	**0**
			V/C	<	0.00	>		<	0.01	>		<	0.00	>		<	0.00	>		
			95th	<	0	>		<	0	>		<	0	>		<	0	>		
	Highway 10 and Fairway Heights/ Private Driveway	AWSC	LOS	<	B	>	**B**	<	C	>	**C**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	12	>	**12**	<	17	>	**17**	<	1	>	**1**	<	0	>	**0**	**2**
			V/C	<	0.04	>		<	0.21	>		<	0.01	>		<	0.01	>		
			95th	<	1	>		<	6	>		<	0	>		<	0	>		
PM Peak Hour	Main Street and Wellington Avenue	AWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	C	>	**C**	<	B	>	**B**	**A**
			Delay	<	0	>	**0**	<	0	>	**0**	<	15	>	**15**	<	12	>	**12**	**2**
			V/C	<	0.01	>		<	0.00	>		<	0.05	>		<	0.12	>		
			95th	<	0	>		<	0	>		<	1	>		<	3	>		
	Toronto Street and Main Street	TCS	LOS	<	C	>	**C**	<	B	>	**B**	<	B	>	**B**	<	B	>	**B**	**B**
			Delay	<	27	>	**27**	<	19	>	**19**	<	19	>	**19**	<	16	>	**16**	**20**
			V/C	<	0.73	>		<	0.52	>		<	0.79	>		<	0.71	>		**0.77**
			95th	<	64	>		<	38	>		<	101	>		<	71	>		
			Storage	<	-	>		<	-	>		<	-	>		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	>		<	-	>		
	Toronto Street and A Street/ Greenview Lane	AWSC	LOS	<	B	>	**B**	<	C	>	**C**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	12	>	**12**	<	24	>	**24**	<	0	>	**0**	<	0	>	**0**	**0**
			V/C	<	0.00	>		<	0.02	>		<	0.00	>		<	0.00	>		
			95th	<	0	>		<	0	>		<	0	>		<	0	>		
	Highway 10 and Fairway Heights/ Private Driveway	AWSC	LOS	<	C	>	**C**	<	D	>	**D**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	21	>	**21**	<	33	>	**33**	<	1	>	**1**	<	1	>	**1**	**3**
			V/C	<	0.17	>		<	0.28	>		<	0.03	>		<	0.03	>		
			95th	<	5	>		<	9	>		<	1	>		<	1	>		

MOE - Measure of Effectiveness
TCS - Traffic Control Signal
TWSC - Two-Way Stop Control
LOS - Level of Service

V/C - Volume to Capacity Ratio
95th - 95th Percentile Queue Length
Ex. - Existing Storage (m)
Avail. - Available Storage (m)

> - Shared Right-Turn Lane
< - Shared Left-Turn Lane

5.2.2 2026 Background Operations

The study area intersection operations analyses followed the same methodology used for existing conditions. No changes to the existing lane configurations are assumed.

Table 5.2 summarizes the 2026 background intersection operations, and the following is noted:

- Toronto Street (Highway 10) and A Street /Greenview Lane
  - the westbound approach is forecast to operate with delays in the LOS E range with less than 40 seconds of delay during the PM peak hour.
- Highway 10 and Fairway Heights/Private Driveway
  - the westbound approach is forecast to operate with delays in the LOS E range with less than 30 seconds of delay during the PM peak hour.

During the forecast 2026 background horizon year all other movements are forecast to operate with an acceptable level of service during the AM and PM peak hours.

TABLE 5.2: 2026 BACKGROUND INTERSECTION OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction / Movement / Approach																
				Eastbound				Westbound				Northbound				Southbound				OVERALL
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Main Street and Wellington Avenue	AWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	B	>	**B**	<	B	>	**B**	**A**
			Delay	<	1	>	**1**	<	0	>	**0**	<	11	>	**11**	<	12	>	**12**	**3**
			V/C	<	0.02	>		<	0.00	>		<	0.01	>		<	0.12	>		
			95th	<	1	>		<	0	>		<	0	>		<	3	>		
	Toronto Street and Main Street	TCS	LOS	<	B	>	**B**	<	B	>	**B**	<	B	>	**B**	<	B	>	**B**	**B**
			Delay	<	18	>	**18**	<	16	>	**16**	<	14	>	**14**	<	11	>	**11**	**14**
			V/C	<	0.45	>		<	0.37	>		<	0.62	>		<	0.51	>		**0.55**
			95th	<	33	>		<	27	>		<	54	>		<	45	>		
			Storage	<	-	>		<	-	>		<	-	>		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	>		<	-	>		
	Toronto Street and A Street/ Greenview Lane	AWSC	LOS	<	B	>	**B**	<	C	>	**C**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	14	>	**14**	<	15	>	**15**	<	0	>	**0**	<	0	>	**0**	**0**
			V/C	<	0.01	>		<	0.01	>		<	0.00	>		<	0.00	>		
			95th	<	0	>		<	0	>		<	0	>		<	0	>		
	Highway 10 and Fairway Heights/ Private Driveway	AWSC	LOS	<	B	>	**B**	<	C	>	**C**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	13	>	**13**	<	18	>	**18**	<	1	>	**1**	<	0	>	**0**	**2**
			V/C	<	0.05	>		<	0.23	>		<	0.01	>		<	0.01	>		
			95th	<	1	>		<	7	>		<	0	>		<	0	>		
PM Peak Hour	Main Street and Wellington Avenue	AWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	C	>	**C**	<	B	>	**B**	**A**
			Delay	<	0	>	**0**	<	0	>	**0**	<	16	>	**16**	<	13	>	**13**	**2**
			V/C	<	0.01	>		<	0.00	>		<	0.06	>		<	0.13	>		
			95th	<	0	>		<	0	>		<	1	>		<	4	>		
	Toronto Street and Main Street	TCS	LOS	<	C	>	**C**	<	C	>	**C**	<	C	>	**C**	<	B	>	**B**	**C**
			Delay	<	32	>	**32**	<	20	>	**20**	<	21	>	**21**	<	17	>	**17**	**22**
			V/C	<	0.81	>		<	0.56	>		<	0.83	>		<	0.74	>		**0.82**
			95th	<	71	>		<	40	>		<	109	>		<	80	>		
			Storage	<	-	>		<	-	>		<	-	>		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	>		<	-	>		
	Toronto Street and A Street/ Greenview Lane	AWSC	LOS	<	B	>	**B**	<	D	>	**D**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	12	>	**12**	<	26	>	**26**	<	0	>	**0**	<	0	>	**0**	**0**
			V/C	<	0.00	>		<	0.02	>		<	0.00	>		<	0.00	>		
			95th	<	0	>		<	0	>		<	0	>		<	0	>		
	Highway 10 and Fairway Heights/ Private Driveway	AWSC	LOS	<	C	>	**C**	<	E	>	**E**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	23	>	**23**	<	37	>	**37**	<	1	>	**1**	<	1	>	**1**	**3**
			V/C	<	0.19	>		<	0.32	>		<	0.04	>		<	0.03	>		
			95th	<	6	>		<	10	>		<	1	>		<	1	>		

MOE - Measure of Effectiveness
TCS - Traffic Control Signal
TWSC - Two-Way Stop Control
LOS - Level of Service

V/C - Volume to Capacity Ratio
95th - 95th Percentile Queue Length
Ex. - Existing Storage (m)
Avail. - Available Storage (m)

> - Shared Right-Turn Lane
< - Shared Left-Turn Lane

5.2.3 2031 Background Operations

The study area intersection operations analyses followed the same methodology used for existing conditions. No changes to the existing lane configurations are assumed.

Table 5.3 summarizes the 2031 background intersection operations, and the following is noted:

- Toronto Street (Highway 10) and Main Street
  - the eastbound and northbound approaches are forecast to operate with V/C ratios approaching 0.90 during the PM peak hour.
- Toronto Street (Highway 10) and A Street /Greenview Lane
  - the westbound approach is forecast to operate with delays in the LOS E range with less than 45 seconds of delay during the PM peak hour.
- Highway 10 and Fairway Heights/Private Driveway
  - the westbound approach is forecast to operate with delays in the LOS E range with less than 30 seconds of delay during the PM peak hour.

During the forecast 2031 background horizon year all other movements are forecast to operate with an acceptable level of service during the AM and PM peak hour.

TABLE 5.3:2031 BACKGROUND INTERSECTION OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction / Movement / Approach																
				Eastbound				Westbound				Northbound				Southbound				OVERALL
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Main Street and Wellington Avenue	AWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	B	>	**B**	<	B	>	**B**	**A**
			Delay	<	1	>	**1**	<	0	>	**0**	<	11	>	**11**	<	12	>	**12**	**3**
			V/C	<	0.03	>		<	0.00	>		<	0.01	>		<	0.13	>		
			95th	<	1	>		<	0	>		<	0	>		<	4	>		
	Toronto Street and Main Street	TCS	LOS	<	B	>	**B**	<	B	>	**B**	<	B	>	**B**	<	B	>	**B**	**B**
			Delay	<	18	>	**18**	<	17	>	**17**	<	15	>	**15**	<	12	>	**12**	**15**
			V/C	<	0.48	>		<	0.40	>		<	0.65	>		<	0.54	>		**0.58**
			95th	<	35	>		<	28	>		<	59	>		<	47	>		
			Storage	<	-	>		<	-	>		<	-	>		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	>		<	-	>		
	Toronto Street and A Street/ Greenview Lane	AWSC	LOS	<	B	>	**B**	<	C	>	**C**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	15	>	**15**	<	16	>	**16**	<	0	>	**0**	<	0	>	**0**	**0**
			V/C	<	0.01	>		<	0.01	>		<	0.00	>		<	0.00	>		
			95th	<	0	>		<	0	>		<	0	>		<	0	>		
	Highway 10 and Fairway Heights/ Private Driveway	AWSC	LOS	<	B	>	**B**	<	C	>	**C**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	13	>	**13**	<	20	>	**20**	<	1	>	**1**	<	0	>	**0**	**3**
			V/C	<	0.05	>		<	0.26	>		<	0.02	>		<	0.01	>		
			95th	<	1	>		<	8	>		<	0	>		<	0	>		
PM Peak Hour	Main Street and Wellington Avenue	AWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	C	>	**C**	<	B	>	**B**	**A**
			Delay	<	0	>	**0**	<	0	>	**0**	<	17	>	**17**	<	13	>	**13**	**2**
			V/C	<	0.01	>		<	0.00	>		<	0.06	>		<	0.14	>		
			95th	<	0	>		<	0	>		<	2	>		<	4	>		
	Toronto Street and Main Street	TCS	LOS	<	D	>	**D**	<	C	>	**C**	<	C	>	**C**	<	B	>	**B**	**C**
			Delay	<	38	>	**38**	<	22	>	**22**	<	26	>	**26**	<	19	>	**19**	**26**
			V/C	<	0.86	>		<	0.61	>		<	0.89	>		<	0.78	>		**0.88**
			95th	<	77	>		<	44	>		<	120	>		<	101	>		
			Storage	<	-	>		<	-	>		<	-	>		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	>		<	-	>		
	Toronto Street and A Street/ Greenview Lane	AWSC	LOS	<	B	>	**B**	<	D	>	**D**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	13	>	**13**	<	28	>	**28**	<	0	>	**0**	<	0	>	**0**	**0**
			V/C	<	0.00	>		<	0.02	>		<	0.00	>		<	0.00	>		
			95th	<	0	>		<	1	>		<	0	>		<	0	>		
	Highway 10 and Fairway Heights/ Private Driveway	AWSC	LOS	<	C	>	**C**	<	E	>	**E**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	24	>	**24**	<	44	>	**44**	<	1	>	**1**	<	1	>	**1**	**3**
			V/C	<	0.22	>		<	0.38	>		<	0.04	>		<	0.03	>		
			95th	<	6	>		<	13	>		<	1	>		<	1	>		

MOE - Measure of Effectiveness
TCS - Traffic Control Signal
TWSC - Two-Way Stop Control
LOS - Level of Service

V/C - Volume to Capacity Ratio
95th - 95th Percentile Queue Length
Ex. - Existing Storage (m)
Avail. - Available Storage (m)

> - Shared Right-Turn Lane
< - Shared Left-Turn Lane

5.2.4 Total Traffic 2026 and 2031 Scenario 1 Operations

The study area intersection operations analyses followed the same methodology used for existing conditions. No changes to the existing lane configurations are assumed.

The 2026 and 2031 forecast total traffic operations for access Scenario 1 show operations similar to the forecast 2031 background traffic operations with little additional delay.

Table 5.4 summarizes the 2026 Scenario 1 intersection operations. **Table 5.5** summarizes the 2031 Scenario 1 intersection operations.

TABLE 5.4:TOTAL TRAFFIC 2026 SCENARIO 1 INTERSECTION OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction / Movement / Approach																	
				Eastbound				Westbound				Northbound				Southbound				OVERALL
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Main Street and Wellington Avenue	AWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	B	>	**B**	<	B	>	**B**	**A**
			Delay	<	2	>	**2**	<	0	>	**0**	<	12	>	**12**	<	13	>	**13**	**3**
			V/C	<	0.03	>		<	0.00	>		<	0.01	>		<	0.16	>		
			95th	<	1	>		<	0	>		<	0	>		<	4	>		
	Toronto Street and Main Street	TCS	LOS	<	B	>	**B**	<	B	>	**B**	<	B	>	**B**	<	B	>	**B**	**B**
			Delay	<	18	>	**18**	<	17	>	**17**	<	15	>	**15**	<	12	>	**12**	**15**
			V/C	<	0.48	>		<	0.39	>		<	0.66	>		<	0.53	>		**0.59**
			95th	<	35	>		<	28	>		<	59	>		<	46	>		
			Storage	<	-	>		<	-	>		<	-	>		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	>		<	-	>		
	Toronto Street and A Street/ Greenview Lane	AWSC	LOS	<	B	>	**B**	<	C	>	**C**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	14	>	**14**	<	16	>	**16**	<	0	>	**0**	<	0	>	**0**	**0**
			V/C	<	0.01	>		<	0.01	>		<	0.00	>		<	0.00	>		
			95th	<	0	>		<	0	>		<	0	>		<	0	>		
	Highway 10 and Fairway Heights/ Private Driveway	AWSC	LOS	<	B	>	**B**	<	C	>	**C**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	13	>	**13**	<	19	>	**19**	<	1	>	**1**	<	0	>	**0**	**2**
			V/C	<	0.05	>		<	0.24	>		<	0.01	>		<	0.01	>		
			95th	<	1	>		<	7	>		<	0	>		<	0	>		
PM Peak Hour	Main Street and Wellington Avenue	AWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	C	>	**C**	<	C	>	**C**	**A**
			Delay	<	1	>	**1**	<	0	>	**0**	<	17	>	**17**	<	15	>	**15**	**3**
			V/C	<	0.01	>		<	0.00	>		<	0.06	>		<	0.25	>		
			95th	<	0	>		<	0	>		<	2	>		<	8	>		
	Toronto Street and Main Street	TCS	LOS	<	D	>	**D**	<	B	>	**B**	<	C	>	**C**	<	B	>	**B**	**C**
			Delay	<	39	>	**39**	<	20	>	**20**	<	25	>	**25**	<	18	>	**18**	**25**
			V/C	<	0.88	>		<	0.56	>		<	0.87	>		<	0.76	>		**0.87**
			95th	<	80	>		<	41	>		<	114	>		<	96	>		
			Storage	<	-	>		<	-	>		<	-	>		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	>		<	-	>		
	Toronto Street and A Street/ Greenview Lane	AWSC	LOS	<	B	>	**B**	<	D	>	**D**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	12	>	**12**	<	26	>	**26**	<	0	>	**0**	<	0	>	**0**	**0**
			V/C	<	0.00	>		<	0.02	>		<	0.00	>		<	0.00	>		
			95th	<	0	>		<	0	>		<	0	>		<	0	>		
	Highway 10 and Fairway Heights/ Private Driveway	AWSC	LOS	<	C	>	**C**	<	E	>	**E**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	23	>	**23**	<	39	>	**39**	<	1	>	**1**	<	1	>	**1**	**3**
			V/C	<	0.20	>		<	0.33	>		<	0.04	>		<	0.03	>		
			95th	<	6	>		<	11	>		<	1	>		<	1	>		

MOE - Measure of Effectiveness
TCS - Traffic Control Signal
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LOS - Level of Service
V/C - Volume to Capacity Ratio
95th - 95th Percentile Queue Length
Ex. - Existing Storage (m)
Avail. - Available Storage (m)
> - Shared Right-Turn Lane
< - Shared Left-Turn Lane

TABLE 5.5:TOTAL TRAFFIC 2031 SCENARIO 1 INTERSECTION OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction / Movement / Approach																
				Eastbound				Westbound				Northbound				Southbound				OVERALL
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Main Street and Wellington Avenue	AWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	B	>	**B**	<	B	>	**B**	**A**
			Delay	<	2	>	**2**	<	0	>	**0**	<	12	>	**12**	<	13	>	**13**	**3**
			V/C	<	0.03	>		<	0.00	>		<	0.01	>		<	0.16	>		
			95th	<	1	>		<	0	>		<	0	>		<	4	>		
	Toronto Street and Main Street	TCS	LOS	<	B	>	**B**	<	B	>	**B**	<	B	>	**B**	<	B	>	**B**	**B**
			Delay	<	18	>	**18**	<	17	>	**17**	<	15	>	**15**	<	12	>	**12**	**15**
			V/C	<	0.48	>		<	0.39	>		<	0.66	>		<	0.53	>		**0.59**
			95th	<	35	>		<	28	>		<	59	>		<	46	>		
			Storage	<	-	>		<	-	>		<	-	>		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	>		<	-	>		
	Toronto Street and A Street/ Greenview Lane	AWSC	LOS	<	B	>	**B**	<	C	>	**C**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	14	>	**14**	<	16	>	**16**	<	0	>	**0**	<	0	>	**0**	**0**
			V/C	<	0.01	>		<	0.01	>		<	0.00	>		<	0.00	>		
			95th	<	0	>		<	0	>		<	0	>		<	0	>		
	Highway 10 and Fairway Heights/ Private Driveway	AWSC	LOS	<	B	>	**B**	<	C	>	**C**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	13	>	**13**	<	19	>	**19**	<	1	>	**1**	<	0	>	**0**	**2**
			V/C	<	0.05	>		<	0.24	>		<	0.01	>		<	0.01	>		
			95th	<	1	>		<	7	>		<	0	>		<	0	>		
PM Peak Hour	Main Street and Wellington Avenue	AWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	C	>	**C**	<	C	>	**C**	**A**
			Delay	<	1	>	**1**	<	0	>	**0**	<	17	>	**17**	<	16	>	**16**	**3**
			V/C	<	0.01	>		<	0.00	>		<	0.07	>		<	0.26	>		
			95th	<	0	>		<	0	>		<	2	>		<	8	>		
	Toronto Street and Main Street	TCS	LOS	<	D	>	**D**	<	C	>	**C**	<	C	>	**C**	<	C	>	**C**	**C**
			Delay	<	47	>	**47**	<	21	>	**21**	<	32	>	**32**	<	20	>	**20**	**30**
			V/C	<	0.93	>		<	0.60	>		<	0.93	>		<	0.81	>		**0.93**
			95th	<	86	>		<	44	>		<	125	>		<	104	>		
			Storage	<	-	>		<	-	>		<	-	>		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	>		<	-	>		
	Toronto Street and A Street/ Greenview Lane	AWSC	LOS	<	B	>	**B**	<	D	>	**D**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	13	>	**13**	<	29	>	**29**	<	0	>	**0**	<	0	>	**0**	**0**
			V/C	<	0.00	>		<	0.02	>		<	0.00	>		<	0.00	>		
			95th	<	0	>		<	1	>		<	0	>		<	0	>		
	Highway 10 and Fairway Heights/ Private Driveway	AWSC	LOS	<	D	>	**D**	<	E	>	**E**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	25	>	**25**	<	46	>	**46**	<	1	>	**1**	<	1	>	**1**	**4**
			V/C	<	0.22	>		<	0.39	>		<	0.04	>		<	0.03	>		
			95th	<	7	>		<	13	>		<	1	>		<	1	>		

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Ex. - Existing Storage (m)
Avail. - Available Storage (m)

> - Shared Right-Turn Lane
< - Shared Left-Turn Lane

5.2.5 Total Traffic 2026 and 2031 Scenario 2 Operations

The study area intersection operations analyses followed the same methodology used for existing conditions. No changes to the existing lane configurations are assumed.

The 2026 and 2031 forecast total traffic operations for access Scenario 2 show operations similar to the forecast 2031 background traffic operations with little additional delay.

Table 5.4 summarizes the 2026 Scenario 2 intersection operations.
Table 5.5 summarizes the 2031 Scenario 2 intersection operations.

TABLE 5.6:TOTAL TRAFFIC 2026 SCENARIO 2 INTERSECTION OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction / Movement / Approach																	
				Eastbound				Westbound				Northbound				Southbound				OVERALL
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Main Street and Wellington Avenue	AWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	B	>	**B**	<	B	>	**B**	**A**
			Delay	<	1	>	**1**	<	0	>	**0**	<	11	>	**11**	<	12	>	**12**	**3**
			V/C	<	0.02	>		<	0.00	>		<	0.01	>		<	0.12	>		
			95th	<	1	>		<	0	>		<	0	>		<	3	>		
	Toronto Street and Main Street	TCS	LOS	<	C	>	**C**	<	B	>	**B**	<	B	>	**B**	<	B	>	**B**	**B**
			Delay	<	21	>	**21**	<	20	>	**20**	<	13	>	**13**	<	11	>	**11**	**15**
			V/C	<	0.51	>		<	0.42	>		<	0.61	>		<	0.49	>		**0.57**
			95th	<	39	>		<	31	>		<	57	>		<	46	>		
			Storage	<	-	>		<	-	>		<	-	>		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	>		<	-	>		
	Toronto Street and A Street/ Greenview Lane	AWSC	LOS	<	B	>	**B**	<	C	>	**C**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	14	>	**14**	<	17	>	**17**	<	1	>	**1**	<	0	>	**0**	**1**
			V/C	<	0.04	>		<	0.01	>		<	0.03	>		<	0.00	>		
			95th	<	1	>		<	0	>		<	1	>		<	0	>		
	Highway 10 and Fairway Heights/ Private Driveway	AWSC	LOS	<	B	>	**B**	<	C	>	**C**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	13	>	**13**	<	19	>	**19**	<	1	>	**1**	<	0	>	**0**	**2**
			V/C	<	0.05	>		<	0.24	>		<	0.01	>		<	0.01	>		
			95th	<	1	>		<	7	>		<	0	>		<	0	>		
PM Peak Hour	Main Street and Wellington Avenue	AWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	C	>	**C**	<	B	>	**B**	**A**
			Delay	<	0	>	**0**	<	0	>	**0**	<	16	>	**16**	<	13	>	**13**	**2**
			V/C	<	0.01	>		<	0.00	>		<	0.06	>		<	0.13	>		
			95th	<	0	>		<	0	>		<	2	>		<	4	>		
	Toronto Street and Main Street	TCS	LOS	<	C	>	**C**	<	C	>	**C**	<	C	>	**C**	<	B	>	**B**	**C**
			Delay	<	34	>	**34**	<	20	>	**20**	<	22	>	**22**	<	19	>	**19**	**23**
			V/C	<	0.83	>		<	0.57	>		<	0.84	>		<	0.78	>		**0.84**
			95th	<	73	>		<	41	>		<	112	>		<	100	>		
			Storage	<	-	>		<	-	>		<	-	>		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	>		<	-	>		
	Toronto Street and A Street/ Greenview Lane	AWSC	LOS	<	C	>	**C**	<	D	>	**D**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	23	>	**23**	<	29	>	**29**	<	0	>	**0**	<	0	>	**0**	**1**
			V/C	<	0.19	>		<	0.02	>		<	0.02	>		<	0.00	>		
			95th	<	6	>		<	1	>		<	0	>		<	0	>		
	Highway 10 and Fairway Heights/ Private Driveway	AWSC	LOS	<	C	>	**C**	<	E	>	**E**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	23	>	**23**	<	39	>	**39**	<	1	>	**1**	<	1	>	**1**	**3**
			V/C	<	0.20	>		<	0.33	>		<	0.04	>		<	0.03	>		
			95th	<	6	>		<	11	>		<	1	>		<	1	>		

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V/C - Volume to Capacity Ratio
95th - 95th Percentile Queue Length
Ex. - Existing Storage (m)
Avail. - Available Storage (m)
> - Shared Right-Turn Lane
< - Shared Left-Turn Lane

TABLE 5.7:TOTAL TRAFFIC 2031 SCENARIO 2 INTERSECTION OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction / Movement / Approach																OVERALL
				Eastbound				Westbound				Northbound				Southbound				
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Main Street and Wellington Avenue	AWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	B	>	**B**	<	B	>	**B**	**A**
			Delay	<	1	>	**1**	<	0	>	**0**	<	11	>	**11**	<	12	>	**12**	**3**
			V/C	<	0.03	>		<	0.00	>		<	0.01	>		<	0.13	>		
			95th	<	1	>		<	0	>		<	0	>		<	4	>		
	Toronto Street and Main Street	TCS	LOS	<	B	>	**B**	<	B	>	**B**	<	B	>	**B**	<	B	>	**B**	**B**
			Delay	<	19	>	**19**	<	17	>	**17**	<	15	>	**15**	<	12	>	**12**	**15**
			V/C	<	0.50	>		<	0.41	>		<	0.68	>		<	0.55	>		**0.61**
			95th	<	36	>		<	29	>		<	62	>		<	49	>		
			Storage	<	-	>		<	-	>		<	-	>		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	>		<	-	>		
	Toronto Street and A Street/ Greenview Lane	AWSC	LOS	<	B	>	**B**	<	C	>	**C**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	15	>	**15**	<	18	>	**18**	<	1	>	**1**	<	0	>	**0**	**1**
			V/C	<	0.04	>		<	0.01	>		<	0.03	>		<	0.00	>		
			95th	<	1	>		<	0	>		<	1	>		<	0	>		
	Highway 10 and Fairway Heights/ Private Driveway	AWSC	LOS	<	B	>	**B**	<	C	>	**C**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	14	>	**14**	<	20	>	**20**	<	1	>	**1**	<	0	>	**0**	**3**
			V/C	<	0.06	>		<	0.26	>		<	0.02	>		<	0.01	>		
			95th	<	1	>		<	8	>		<	0	>		<	0	>		
PM Peak Hour	Main Street and Wellington Avenue	AWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	C	>	**C**	<	B	>	**B**	**A**
			Delay	<	0	>	**0**	<	0	>	**0**	<	17	>	**17**	<	13	>	**13**	**2**
			V/C	<	0.01	>		<	0.00	>		<	0.06	>		<	0.14	>		
			95th	<	0	>		<	0	>		<	2	>		<	4	>		
	Toronto Street and Main Street	TCS	LOS	<	D	>	**D**	<	C	>	**C**	<	C	>	**C**	<	C	>	**C**	**C**
			Delay	<	46	>	**46**	<	24	>	**24**	<	26	>	**26**	<	20	>	**20**	**28**
			V/C	<	0.91	>		<	0.63	>		<	0.88	>		<	0.80	>		**0.89**
			95th	<	86	>		<	48	>		<	128	>		<	113	>		
			Storage	<	-	>		<	-	>		<	-	>		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	>		<	-	>		
	Toronto Street and A Street/ Greenview Lane	AWSC	LOS	<	C	>	**C**	<	D	>	**D**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	24	>	**24**	<	32	>	**32**	<	0	>	**0**	<	0	>	**0**	**1**
			V/C	<	0.21	>		<	0.02	>		<	0.02	>		<	0.00	>		
			95th	<	6	>		<	1	>		<	0	>		<	0	>		
	Highway 10 and Fairway Heights/ Private Driveway	AWSC	LOS	<	D	>	**D**	<	E	>	**E**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	25	>	**25**	<	46	>	**46**	<	1	>	**1**	<	1	>	**1**	**4**
			V/C	<	0.22	>		<	0.39	>		<	0.04	>		<	0.03	>		
			95th	<	7	>		<	13	>		<	1	>		<	1	>		

MOE - Measure of Effectiveness
TCS - Traffic Control Signal
TWSC - Two-Way Stop Control
LOS - Level of Service
V/C - Volume to Capacity Ratio
95th - 95th Percentile Queue Length
Ex. - Existing Storage (m)
Avail. - Available Storage (m)
> - Shared Right-Turn Lane
< - Shared Left-Turn Lane

5.2.6 Total Traffic 2026 and 2031 Scenario 3 Operations

The study area intersection operations analyses followed the same methodology used for existing conditions. No changes to the existing lane configurations are assumed.

The 2026 and 2031 forecast total traffic operations for access Scenario 3 show operations similar to the forecast 2031 background traffic operations with little additional delay.

Table 5.4 summarizes the 2026 Scenario 3 intersection operations.
Table 5.5 summarizes the 2031 Scenario 3 intersection operations.

TABLE 5.8:TOTAL TRAFFIC 2026 SCENARIO 3 INTERSECTION OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction / Movement / Approach																	
				Eastbound				Westbound				Northbound				Southbound				OVERALL
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Main Street and Wellington Avenue	AWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	B	>	**B**	<	B	>	**B**	**A**
			Delay	<	1	>	**1**	<	0	>	**0**	<	11	>	**11**	<	12	>	**12**	**3**
			V/C	<	0.02	>		<	0.00	>		<	0.01	>		<	0.12	>		
			95th	<	1	>		<	0	>		<	0	>		<	3	>		
	Toronto Street and Main Street	TCS	LOS	<	C	>	**C**	<	B	>	**B**	<	B	>	**B**	<	B	>	**B**	**B**
			Delay	<	21	>	**21**	<	20	>	**20**	<	13	>	**13**	<	11	>	**11**	**15**
			V/C	<	0.51	>		<	0.42	>		<	0.61	>		<	0.49	>		**0.57**
			95th	<	39	>		<	31	>		<	57	>		<	46	>		
			Storage	<	-	>		<	-	>		<	-	>		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	>		<	-	>		
	Toronto Street and A Street/ Greenview Lane	AWSC	LOS	<	B	>	**B**	<	C	>	**C**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	15	>	**15**	<	16	>	**16**	<	0	>	**0**	<	0	>	**0**	**0**
			V/C	<	0.01	>		<	0.01	>		<	0.00	>		<	0.00	>		
			95th	<	0	>		<	0	>		<	0	>		<	0	>		
	Highway 10 and Fairway Heights/ Private Driveway	AWSC	LOS	<	B	>	**B**	<	C	>	**C**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	13	>	**13**	<	19	>	**19**	<	1	>	**1**	<	0	>	**0**	**2**
			V/C	<	0.05	>		<	0.24	>		<	0.01	>		<	0.01	>		
			95th	<	1	>		<	7	>		<	0	>		<	0	>		
	Highway 10 and Driveway A	TWSC	LOS	<	B	>	**B**					<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	13	>	**13**					<	1	>	**1**	<	0	>	**0**	**1**
			V/C	<	0.03	>						<	0.03	>		<	0.25	>		
			95th	<	1	>						<	1	>		<	0	>		
PM Peak Hour	Main Street and Wellington Avenue	AWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	C	>	**C**	<	B	>	**B**	**A**
			Delay	<	0	>	**0**	<	0	>	**0**	<	16	>	**16**	<	13	>	**13**	**2**
			V/C	<	0.01	>		<	0.00	>		<	0.06	>		<	0.13	>		
			95th	<	0	>		<	0	>		<	2	>		<	4	>		
	Toronto Street and Main Street	TCS	LOS	<	C	>	**C**	<	C	>	**C**	<	C	>	**C**	<	B	>	**B**	**C**
			Delay	<	34	>	**34**	<	20	>	**20**	<	22	>	**22**	<	19	>	**19**	**23**
			V/C	<	0.82	>		<	0.57	>		<	0.84	>		<	0.78	>		**0.83**
			95th	<	73	>		<	41	>		<	112	>		<	100	>		
			Storage	<	-	>		<	-	>		<	-	>		<	-	>		
			Avail.	<	-	>		<	-	>		<	-	>		<	-	>		
	Toronto Street and A Street/ Greenview Lane	AWSC	LOS	<	B	>	**B**	<	D	>	**D**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	13	>	**13**	<	27	>	**27**	<	0	>	**0**	<	0	>	**0**	**0**
			V/C	<	0.00	>		<	0.02	>		<	0.00	>		<	0.00	>		
			95th	<	0	>		<	0	>		<	0	>		<	0	>		
	Highway 10 and Fairway Heights/ Private Driveway	AWSC	LOS	<	C	>	**C**	<	E	>	**E**	<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	23	>	**23**	<	39	>	**39**	<	1	>	**1**	<	1	>	**1**	**3**
			V/C	<	0.20	>		<	0.33	>		<	0.04	>		<	0.03	>		
			95th	<	6	>		<	11	>		<	1	>		<	1	>		
	Highway 10 and Driveway A	TWSC	LOS	<	C	>	**C**					<	A	>	**A**	<	A	>	**A**	**A**
			Delay	<	19	>	**19**					<	0	>	**0**	<	0	>	**0**	**1**
			V/C	<	0.16	>						<	0.02	>		<	0.36	>		
			95th	<	4	>						<	0	>		<	0	>		

MOE - Measure of Effectiveness
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TWSC - Two-Way Stop Control
LOS - Level of Service

V/C - Volume to Capacity Ratio
95th - 95th Percentile Queue Length
Ex. - Existing Storage (m)
Avail. - Available Storage (m)

> - Shared Right-Turn Lane
< - Shared Left-Turn Lane

TABLE 5.9:TOTAL TRAFFIC 2031 SCENARIO 3 INTERSECTION OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction / Movement / Approach																	OVERALL
				Eastbound				Westbound				Northbound				Southbound					
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach		
AM Peak Hour	Main Street and Wellington Avenue	AWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	B	>	**B**	<	B	>	**B**		**A**
			Delay	<	1	>	**1**	<	0	>	**0**	<	11	>	**11**	<	12	>	**12**		**3**
			V/C	<	0.03	>		<	0.00	>		<	0.01	>		<	0.13	>			
			95th	<	1	>		<	0	>		<	0	>		<	4	>			
	Toronto Street and Main Street	TCS	LOS	<	B	>	**B**	<	B	>	**B**	<	B	>	**B**	<	B	>	**B**		**B**
			Delay	<	19	>	**19**	<	17	>	**17**	<	15	>	**15**	<	12	>	**12**		**15**
			V/C	<	0.50	>		<	0.41	>		<	0.68	>		<	0.55	>			**0.61**
			95th	<	36	>		<	29	>		<	62	>		<	49	>			
			Storage	<	-	>		<	-	>		<	-	>		<	-	>			
			Avail.	<	-	>		<	-	>		<	-	>		<	-	>			
	Toronto Street and A Street/ Greenview Lane	AWSC	LOS	<	C	>	**C**	<	C	>	**C**	<	A	>	**A**	<	A	>	**A**		**A**
			Delay	<	15	>	**15**	<	17	>	**17**	<	0	>	**0**	<	0	>	**0**		**0**
			V/C	<	0.01	>		<	0.01	>		<	0.00	>		<	0.00	>			
			95th	<	0	>		<	0	>		<	0	>		<	0	>			
	Highway 10 and Fairway Heights/ Private Driveway	AWSC	LOS	<	B	>	**B**	<	C	>	**C**	<	A	>	**A**	<	A	>	**A**		**A**
			Delay	<	14	>	**14**	<	20	>	**20**	<	1	>	**1**	<	0	>	**0**		**3**
			V/C	<	0.06	>		<	0.26	>		<	0.02	>		<	0.01	>			
			95th	<	1	>		<	8	>		<	0	>		<	0	>			
	Highway 10 and Driveway A	TWSC	LOS	<	B	>	**B**					<	A	>	**A**	<	A	>	**A**		**A**
			Delay	<	13	>	**13**					<	1	>	**1**	<	0	>	**0**		**1**
			V/C	<	0.03	>						<	0.03	>		<	0.26	>			
			95th	<	1	>						<	1	>		<	0	>			
PM Peak Hour	Main Street and Wellington Avenue	AWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	C	>	**C**	<	B	>	**B**		**A**
			Delay	<	0	>	**0**	<	0	>	**0**	<	17	>	**17**	<	13	>	**13**		**2**
			V/C	<	0.01	>		<	0.00	>		<	0.06	>		<	0.14	>			
			95th	<	0	>		<	0	>		<	2	>		<	4	>			
	Toronto Street and Main Street	TCS	LOS	<	D	>	**D**	<	C	>	**C**	<	C	>	**C**	<	C	>	**C**		**C**
			Delay	<	45	>	**45**	<	24	>	**24**	<	26	>	**26**	<	20	>	**20**		**27**
			V/C	<	0.90	>		<	0.63	>		<	0.88	>		<	0.80	>			**0.89**
			95th	<	85	>		<	48	>		<	128	>		<	113	>			
			Storage	<	-	>		<	-	>		<	-	>		<	-	>			
			Avail.	<	-	>		<	-	>		<	-	>		<	-	>			
	Toronto Street and A Street/ Greenview Lane	AWSC	LOS	<	B	>	**B**	<	D	>	**D**	<	A	>	**A**	<	A	>	**A**		**A**
			Delay	<	13	>	**13**	<	29	>	**29**	<	0	>	**0**	<	0	>	**0**		**0**
			V/C	<	0.00	>		<	0.02	>		<	0.00	>		<	0.00	>			
			95th	<	0	>		<	1	>		<	0	>		<	0	>			
	Highway 10 and Fairway Heights/ Private Driveway	AWSC	LOS	<	D	>	**D**	<	E	>	**E**	<	A	>	**A**	<	A	>	**A**		**A**
			Delay	<	25	>	**25**	<	46	>	**46**	<	1	>	**1**	<	1	>	**1**		**4**
			V/C	<	0.22	>		<	0.39	>		<	0.04	>		<	0.03	>			
			95th	<	7	>		<	13	>		<	1	>		<	1	>			
	Highway 10 and Driveway A	TWSC	LOS	<	C	>	**C**					<	A	>	**A**	<	A	>	**A**		**A**
			Delay	<	21	>	**21**					<	0	>	**0**	<	0	>	**0**		**1**
			V/C	<	0.17	>						<	0.02	>		<	0.38	>			
			95th	<	5	>						<	0	>		<	0	>			

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V/C - Volume to Capacity Ratio
95th - 95th Percentile Queue Length
Ex. - Existing Storage (m)
Avail. - Available Storage (m)

> - Shared Right-Turn Lane
< - Shared Left-Turn Lane

6 Mitigation

As summarized in the analysis tables in the **Chapter 5**, some of the study area intersections either currently experience, or are forecast to experience, operational deficiencies independent of the development.

The analysis also concludes that the development would have minimal impacts on traffic conditions in the study area. This chapter includes a summary of potential improvement measures that have been identified to address the limited impacts of the development and to improve existing deficiencies.

6.1 Auxiliary Turn Lanes

The Ministry of Transportation's (MTO) Design Supplement for the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads[14] provides guidance on the assessment and/or need for auxiliary left-turn lanes.

The warrants have been completed for all proposed access scenarios. The warrant analysis indicates that a left-turn lane is not warranted for the A Street or the Wellington Avenue site access options.

A 15-metre northbound left-turn lane is warranted at the proposed Driveway A option and should be implemented if this driveway configuration is selected. No changes to the existing lane configuration are recommended at any other site accesses.

Appendix E contains the left-turn lane warrant nomographs.

6.2 Intersection / Roadway Mitigation

6.2.1 Toronto Street (Highway 10) and Main Street

Although the intersection is forecast to function with delays under the LOS D range it is suggested that Grey County continues to monitor the intersection operations and consider improvements as needed.

6.2.2 Highway 10 and Driveway A

While a 15-metre northbound left-turn lane is warranted at the proposed driveway and should be implemented if this driveway configuration is selected. The MTO is unable to support Driveway A's connection to Highway 10 as the location would not satisfy the MTO's

[14] MTO Design Supplement for TAC Geometric Design Guide for Canadian Roads, June 2017 Appendix 9 for Chapter 9 Intersections

minimum intersection spacing requirement of 800 metres. Driveway A is proposed to connect to Highway 10 approximately 350-400 metres north of Fairway Heights/Private Driveway and Highway 10.

7 Access Recommendation

The proposed 90,000 square foot expansion of the Chapman's manufacturing plant requires a review of traffic access. Three (3) full moves alternate access scenarios are considered:

- Scenario 1: Maintaining existing access via Chapman Crescent/Wellington Avenue;
- Scenario 2: Alternative access to existing A Street connection to Highway 10; and
- Scenario 3: A new connection to Highway 10 (Driveway A), approximately 350-400 metres northwest of the existing A Street intersection.

7.1 Access Recommendation

All three (3) scenarios are forecast to operate with similar overall level of service to the background 2031 conditions. No movements are forecast to operate with delays above the level of service E range.

The MTO has indicated that a new access to Highway 10 (Scenario 3) is not supported because the proposed intersection would not satisfy the MTO's minimum intersection spacing requirement of 800 metres. Driveway A is proposed to connect to Highway 10 approximately 350-400 metres north of Fairway Heights/Private Driveway and Highway 10.

All access scenarios in the analysis are forecast to operate with a similar overall level of service as the 2031 Background traffic scenario. Scenario 1 and Scenario 2 are forecast to operate with a similar overall level of service.

While Scenario 1 uses the existing access via Chapmans Crescent/Wellington Avenue to direct all site traffic towards the local street network the implementation of the A Street access would provide the site traffic a direct route to the mainline street network. With a direct route to the mainline the developments potential impact on local streets will be reduced.

The Scenario 1 and Scenario 2 accesses are expected to operate within capacity during the AM and PM peak hour.

Scenario 1 or Scenario 2 access arrangement would be considered acceptable from a traffic operations perspective. It is suggested that the site continues to operate with the existing driveway access to Wellington Avenue (Scenario 1) while the A Street driveway

connection (Scenario 2) may be further explored in the future if additional expansion and increase in traffic is planned. A Street will provide the site direct access to the mainline street network while also continuing to facilitate additional site growth in the future.

8 Conclusions and Recommendations

8.1 Conclusions

Based on the above analysis, the following is concluded:

- **Existing Traffic Conditions:** Under 2021 base year conditions all movements are forecast to operate with an acceptable level of service during the AM and PM peak hour except for the Highway 10 and Fairway Heights/Private Driveway westbound approach is forecast to operate with delays in the LOS D range during the PM peak hour.
- **Site Description**: The development concept proposes a 90,000 square foot expansion to the existing Chapman's Ice Cream Plant. It is proposed that vehicle access will be maintained via a single access. Three alternatives are being considered for this access:
  - Maintaining existing access via Chapman Crescent/Wellington Avenue;
  - Alternative access to existing A Street connection to Highway 10; and
  - A new connection to Highway 10, approximately 350-400 metres northwest of the existing A Street intersection.
- **Development Generated Traffic:** The subject site is estimated to generate approximately 56 new AM peak hour trips and approximately 60 new PM peak hour trips.
- **Forecast Traffic:** The forecast traffic volumes near the subject site have been assessed for five years (Year 2026) and ten years (Year 2031) beyond the study date. The projected traffic volumes are estimated to consist of:
  - Background developments;
  - Generalized background traffic growth; and
  - Traffic generated by the subject site.
- **Background Traffic Conditions 2026:** Under 2026 background conditions all movements are forecast to operate with an acceptable level of service during the AM and PM peak hour except for the Toronto Street (Highway 10) and A Street /Greenview Lane westbound approach is forecast to operate with delays in the LOS E range during the PM peak hour. The Highway 10 and Fairway Heights/Private Driveway westbound

approach is also forecast to operate with delays in the LOS E range during the PM peak hour.

- **Background Traffic Conditions 2031:** Under 2031 background conditions the critical movements at the intersection of Toronto Street (Highway 10) and A Street /Greenview Lane and Highway 10 and Fairway Heights/Private Driveway are forecast to operate with similar delays. While Toronto Street (Highway 10) and Main Street eastbound and northbound approaches are forecast to operate with V/C ratios approaching 0.90 during the PM peak hour.

- **Total Traffic Conditions:** The capacity issues forecast to occur under the background traffic horizon are expected to continue to occur during Scenarios 1-3 with, or without the development of the subject site.

- **Remedial Measures**:

  No changes to the existing lane configuration are recommended at the site driveway to A Street or Chapman Crescent/Wellington Avenue. While Scenario 3 is not the preferred access arrangement, should this scenario proceed a northbound left-turn lane of 15 meters is recommended.

  Although the intersection of Toronto Street (Highway 10) and Main Street is forecast to function with delays under the LOS D range it is suggested that Grey County continues to monitor the intersection operations and consider improvements as needed.

- **Access Recommendation:** It is suggested that the site continues to operate with the existing driveway access to Wellington Avenue (Scenario 1) while the A Street driveway connection (Scenario 2) may be further explored in the future if additional expansion and increase in traffic is planned.

8.2 Recommendations

Based on the findings of this study, it is recommended that:

- Although the intersection of Toronto Street (Highway 10) and Main Street is forecast to function with delays under the LOS D range it is suggested that Grey County continues to monitor the intersection operations and consider improvements as needed.
- It is suggested that the site continues to operate with the existing driveway access to Wellington Avenue (Scenario 1) while the A Street driveway connection (Scenario 2) may be

further explored in the future if additional expansion and increase in traffic is planned.

Appendix A

Terms of Reference

Creighton Chartier

From: Herb Lemon <LemonH@greyhighlands.ca>
Sent: June 1, 2021 6:24 PM
To: Creighton Chartier
Subject: RE: Scope of Work - 100 Chapman's Crescent Expansion
Attachments: GH1 CONCEPT APRIL 09 2021.pdf

I believe both red and green text are from our Municipal engineer Burnside & Associates.

Attached is a development concept for the large development property on the opposite side (east) of Highway 10. I would request that the new Chapman's road align interest Highway 10 at the same location as the large development property. This request would need to be approved by the MTO and the TIS analysis will need to support this intersection alignment.

I trust this email is satisfactory.

Thank you for your time.

Herb

Herb Lemon
Director, Transportation & Environmental Services

Municipality of Grey Highlands | The place for all seasons

206 Toronto Street South, Unit 1, P.O.Box 409 Markdale, Ontario N0C 1H0
☎519-986-1216 x 225 Toll-Free ☎1-888-342-4059 Fax 519-986-3643
lemonh@greyhighlands.ca www.greyhighlands.ca

From: Creighton Chartier <cchartier@ptsl.com>
Sent: June 1, 2021 11:53 AM
To: Herb Lemon <LemonH@greyhighlands.ca>
Subject: RE: Scope of Work - 100 Chapman's Crescent Expansion

Hi Herb,

Could you please clarify who commented in what colour please?

Regards,

Creighton Chartier, O.C.A.D.
Transportation Consultant

Paradigm Transportation Solutions Limited
p: 905.242.2420 x504
e: cchartier@ptsl.com
w: www.ptsl.com

From: Herb Lemon <LemonH@greyhighlands.ca>
Sent: May 31, 2021 5:50 PM
To: Creighton Chartier <cchartier@ptsl.com>
Cc: Holly Cullihall <cullihallh@greyhighlands.ca>; Zsolt Katzirz (zsolt.katzirz@ontario.ca) <zsolt.katzirz@ontario.ca>; 'Hoy, Pat' <Pat.Hoy@grey.ca>; Vance Czerwinski <vczerwinski@westgrey.com>
Subject: RE: Scope of Work - 100 Chapman's Crescent Expansion

Creighton,

Thank you for taking my phone call and clarifying your questions. I have copied the below Terms of Reference/Scope of Work from another development in the Municipality of Grey Highlands. This development has access to Highway 10 outside of the Connecting Link Limits. The following comments received MTO feedback, you will need ot follow-up with MTO if the below comments are appropriate for your development.

Scope of Work/Terms of reference for a Traffic Impact Study in Grey Highlands.

1. Intersections Analysed: Also comment on the any traffic impacts to the road connections between the development and these access points, including traffic volumes, active transportation connections, potential for commercial traffic through residential local roads etc.. If the commercial property is to have direct access to Highway 10, such access should also be reviewed. If the lands to the north of the urban boundary are to be included, consideration/provisions should be given for the future road network requirements.
    a. Highway 10 (Toronto Street North) / North Access;
    b. Fairway Heights / Highway 10;
    c. Wellington Avenue North / Main Street West (Grey Road 12); and
    d. Toronto Street North / Main Street East
2. Analysis Horizon Years Given the size of development it is anticipated that build-out will take a number of years and will not occur in a number of years. MTO typically requires 5 and 10 years after build-out, unless this results in an impractical horizon period. MTO has deleted the 15 year in a previous development TIS Scope of Work. Consideration of the longer horizon period provide insight for the Municipality for future updates to their Development Charges Bylaw.
    a. Existing (2020)
    b. 5 year horizon year (2025)
    c. 10 year horizon year (2030)

3. Forecasted Traffic Volumes
    a. Based on available historic traffic and population data.
    - Use Growth Rate of 1% The basis of the growth rate and seasonal adjustments should be provided, rather than simply using the MTO rate. We note that the Stonebrook Phase 3 Traffic Brief (Tatham, July 2018) assumes a 2% growth rate and a seasonal increase of 34% to account for higher summer traffic.
4. Adjacent Development to be considered Since the Toronto Street North / Main Street East access is one of the intersections being reviewed, justification should be provided that the assumed general growth rate accommodates any other developments that are beyond the two developments noted.

a. Stonebrook (Remaining phases)
b. Centre Point South (Devonleigh Homes)

5. Analysis Period Depending on the anticipated development on the 6 acre commercial block, review of Saturday conditions may also be required.
    a. Weekday AM
    b. Weekday PM
6. Traffic Generation
    a. Based on ITE trip generation rates. Use fitted curve equation.
7. Operational Review Include traffic operations review along local connection roads and traffic circulation internal to the site
    a. Complete an analysis of the study intersections using Synchro (v.10) software. Please provide digital Synchro files.
    - Use a PHF of 0.88 and a Saturation Flow Rate of 1900 pcphpl.
    - When evaluating impacts at intersections please refer to the TAC's Geometric Design Guide for Canadian Roads, MTO Design Supplement for TAC's Geometric Design Guide for Canadian Roads and the OTM Books.
    - When evaluating the impacts to a signalized intersection, please calculate the queues/storage lengths for through and left turn movements as per the methodology outlined in the MTO Design Supplement for TAC's Geometric Design Guide for Canadian Roads. For queues/storage lengths for right turn movements please refer to TAC's Geometric Design Guide for Canadian Roads.
8. Site Access Review. Include a review of active transportation requirements and connectivity. Connection (i.e. crossing of Highway 10) may be a consideration considering the location of the Chapmans Ice Cream industrial facility (i.e. 800 to 1000 employees) relative to this residential development. Identify any potential for future transit connections.
9.
    a. review the proposed access configuration and spacing
    b. complete a sight distance review at the proposed North Access
10. Alternate Access Scenario
    a. review a scenario where a connection to Highway 10 is not provided.
    b. Provide comment on the effects of such.

I trust the above provides appropriate guidance.

Regards

Herb

Herb Lemon
Director, Transportation & Environmental Services

Municipality of Grey Highlands | The place for all seasons

206 Toronto Street South, Unit 1, P.O.Box 409 Markdale, Ontario N0C 1H0
☎519-986-1216 x 225 Toll-Free ☎1-888-342-4059 Fax 519-986-3643
✉lemonh@greyhighlands.ca www.greyhighlands.ca

From: Holly Cullihall <cullihallh@greyhighlands.ca>
Sent: May 17, 2021 10:17 AM
To: Herb Lemon <LemonH@greyhighlands.ca>
Subject: FW: Scope of Work - 100 Chapman's Crescent Expansion

Holly Cullihall,
Municipal Services Technician
The Municipality of Grey Highlands
☎519-986-1216 x 190 ✉ cullihallh@greyhighlands.ca

From: Creighton Chartier <cchartier@ptsl.com>
Sent: May 17, 2021 10:01 AM
To: Zsolt.Katzirz@ontario.ca; Pat.Hoy@grey.ca; Holly Cullihall <cullihallh@greyhighlands.ca>; info@westgrey.com
Cc: Erica Bayley <ebayley@ptsl.com>
Subject: RE: Scope of Work - 100 Chapman's Crescent Expansion

Hi All,

I am following up on the status of this scope review. If you have any question feel free to reach out.

Regards,

Creighton Chartier, O.C.A.D.
Transportation Consultant

Paradigm Transportation Solutions Limited
p: 905.242.2420 x504
e: cchartier@ptsl.com
w: www.ptsl.com

From: Creighton Chartier
Sent: May 3, 2021 5:03 PM
To: Zsolt.Katzirz@ontario.ca; Pat.Hoy@grey.ca; roads@greyhighlands.ca; info@westgrey.com
Cc: Erica Bayley <ebayley@ptsl.com>
Subject: Scope of Work - 100 Chapman's Crescent Expansion

Hi All,

Paradigm Transportations Solutions Limited is working with GM BluePlan Engineering Limited to conduct a Traffic Impact Study for the proposed expansion of the existing Chapman's plant at 100 Chapman's Crescent in the community of Markdale in the municipality of Grey Highlands Township.

The development concept proposes a 90,000 square foot expansion to the existing Chapman's Ice Cream Plant. A site plan is not yet available. It is proposed that vehicle access will be maintained via a single access. Three alternative are being considered for this access:

- Maintaining existing access via Chapman Crescent/Wellington Street;
- Alternative access to existing Street A connection to Highway 10; and
- A new connection to Highway 10, approximately 540 metres northwest of the existing Street A intersection.

The site is expected to operate with an additional 36 employees during all times of the day. Preliminary trip estimates for the site suggesting a conservative trip generation of 36 AM peak hour trips and 36 PM peak hour trips.

Proposed Terms of Reference – Traffic Impact Study

Study Area:
- Street A and Highway 10 (unsignalized);
- Wellington Street & Main Street (unsignalized);
- New connection to Highway 10;
- Main Street & Highway 10 (Toronto Street) (signalized);
- Proposed site driveway.

Analysis Periods
- Five-year and ten-year planning horizon.
- Weekday AM peak hours; and
- Weekday PM peak hours.

Analysis
- Synchro 10
- HCM 2000
- SimTraffic Queueing (five 60-min iterations)

Background Traffic
- Generalized growth rate 2% per annum, if not otherwise advised.
- Traffic generated by any in stream developments in the area. Please confirm if there are any active developments in the area.

Site Traffic Estimates
- Trip generation will be estimated based on the existing site traffic and proposed future employment.
- No modal split reductions to ITE trip generation data.
- Site Traffic Distribution - Existing travel patterns.

Existing Data
- Historical count data and existing signal timing plans will be obtained from the MTO, County & Townships for study area intersections. Please advise if data for the study area intersections is available.
- Historical count volumes to be factor to a baseline condition (Year 2021) using a generalized growth rate of 2% per annum.
- Data gaps or limited availability of TMC data to be discussed with the appropriate staff members.

Report

- We will document the study methodologies, findings, and conclusions in a report with appendices containing the detailed analysis results and any data collected.

Please let us know your comments on the study.

Thank you,

Creighton Chartier, O.C.A.D.
Transportation Consultant

Paradigm Transportation Solutions Limited
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Ministry of Transportation

West Operations Branch
Corridor Management Section
West

659 Exeter Road
London, Ontario N6E 1L3
Telephone: (226) 984-7471
Facsimile: (519) 873-4228

Ministère des Transports

Bureau du génie
Section de la gestion des couloirs routiers
de l'Ouest

659, chemin Exeter
London (Ontario) N6E 1L3
Téléphone: (226) 984-7471
Télécopieur: (519) 873-4228

June 2, 2021

Creighton Chartier

Email: cchartier@ptsl.com

RE: **Chapmans Ice Cream Ltd. Proposed Expansion**

The Ministry of Transportation (MTO) has completed a cursory review of the proposed subject development for a residential subdivision and subject property. The proposal has been considered in accordance with the requirements of the Public Transportation and Highway Improvement Act, MTO's Highway Access Management Guidelines and all related policies. The following outlines our comments.

The subject property is located adjacent to Highway 10, within MTO's Permit Control Area (PCA), and as such, MTO permits are required before any demolition, grading, construction or alteration to the site commences.

Highway 10 at this location is classified as a 2B Arterial Highway in MTO's Access Management Classification System. As such, all requirements, guidelines and best practices in accordance with this classification shall apply.

Site access & Traffic Impact Review

In accordance with MTO's Access Management Policy, direct access to Highway 10 would require a minimum access spacing of 800m between the proposed and existing intersections. Since this spacing is not achievable and the site has other existing options for access MTO will not support Option 3 for a new access connection to Highway 10 as a proposed Option.

Options 1 & 2 are viable options that will not require an MTO approved Traffic impact study as the access comes from within the connecting link of Markdale.

Building and Land Use Permit

An MTO Building and Land Use Permit is required. As a condition of MTO permits, the following will be required:

- The Proponent shall submit an acceptable Site Plan, Grading Plans, Drainage Plan and Site Servicing Plan for MTO review and approval. These plans shall clearly identify all structures/works and parking (existing and proposed).

- MTO requires all buildings, structures and features integral to the site to be located a minimum of 14 metres from the highway property limit, inclusive of landscaping features, fire-lanes, parking and storm water management facilities.

Storm Water Management

The grading/drainage plans shall identify any storm drain infrastructure including - outlets, swales, tiles, direction of flow, etc. We however must reserve the right to request a full Storm Water Management Report for our review and approval.

Signs

Any/all signage visible from Highway 10, including temporary development signs, must be identified on the plans, must conform to MTO policies and guidelines, and will require a valid MTO Sign Permit before installation.

Encroachments

Any encroachments and works identified within the Highway 10 property limits are subject to MTO conditions, approval and permits, prior to construction. All provincial highway property encroachments are strictly regulated and must meet all conditions set out by MTO.

General Comments

MTO looks forward to the advancement of this development, and we anticipate receiving additional details for review and comment as the project progresses.

Please feel free to contact me directly should you have any questions or concerns.

Regards,

Martin Leyten
Corridor Management Planner
Highway Corridor Management Office
West Region

c. Joanne Moyes, Corridor Management Officer, MTO

Appendix B

Existing Traffic Data

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Main Street & Highway 10
Site Code: 210196
Start Date: 06/16/2021

Turning Movement Data

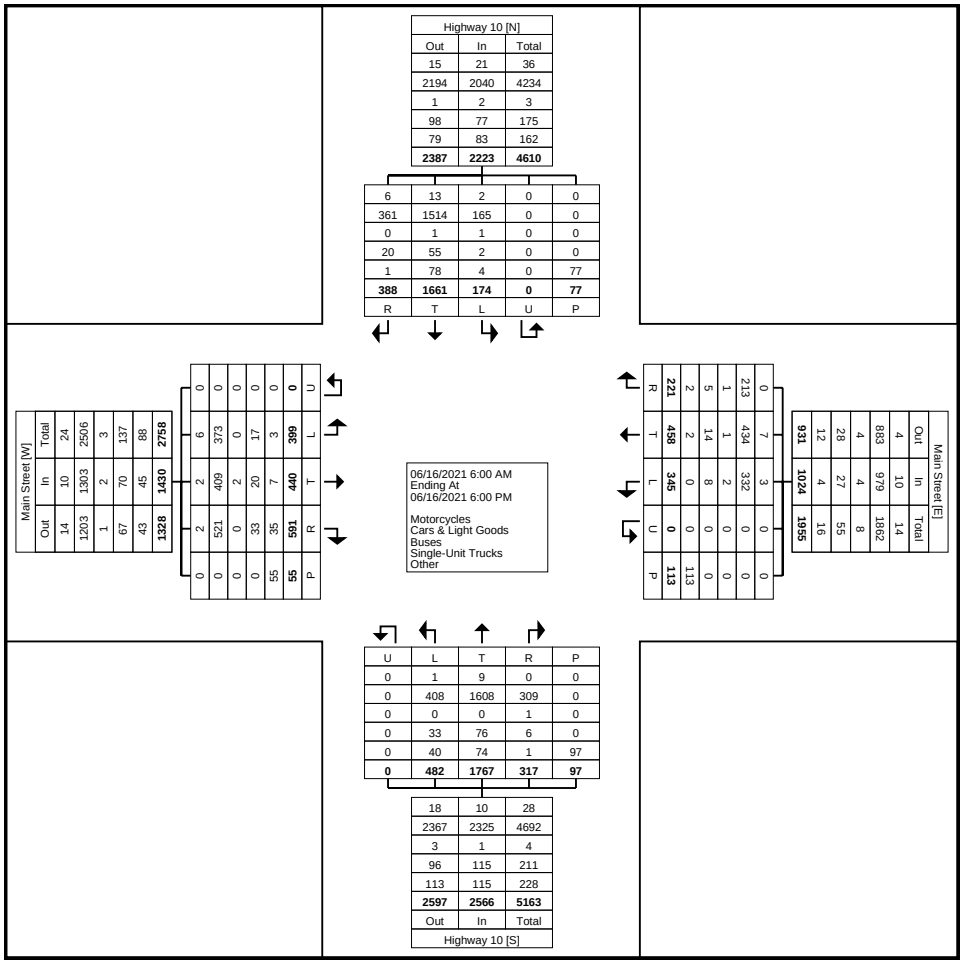
Start Time	Main Street Eastbound						Main Street Westbound						Highway 10 Northbound						Highway 10 Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
6:00 AM	4	1	13	0	0	18	1	3	2	0	0	6	7	19	2	0	0	28	1	29	6	0	0	36	88
6:15 AM	7	4	10	0	0	21	5	3	1	0	0	9	5	18	4	0	0	27	2	35	2	0	0	39	96
6:30 AM	4	6	19	0	0	29	6	3	1	0	0	10	14	22	8	0	1	44	3	32	8	0	0	43	126
6:45 AM	6	7	10	0	0	23	5	3	8	0	2	16	7	18	5	0	0	30	6	39	9	0	0	54	123
Hourly Total	21	18	52	0	0	91	17	12	12	0	2	41	33	77	19	0	1	129	12	135	25	0	0	172	433
7:00 AM	11	11	15	0	1	37	6	7	5	0	0	18	7	32	4	0	1	43	3	27	4	0	0	34	132
7:15 AM	8	10	12	0	0	30	7	7	4	0	0	18	14	35	8	0	1	57	6	28	8	0	2	42	147
7:30 AM	7	10	14	0	3	31	5	8	2	0	2	15	7	39	2	0	1	48	3	40	7	0	1	50	144
7:45 AM	4	1	17	0	2	22	5	7	5	0	0	17	21	35	7	0	2	63	2	22	20	0	1	44	146
Hourly Total	30	32	58	0	6	120	23	29	16	0	2	68	49	141	21	0	5	211	14	117	39	0	4	170	569
8:00 AM	10	11	16	0	1	37	8	10	3	0	1	21	12	41	5	0	0	58	5	39	3	0	1	47	163
8:15 AM	6	9	14	0	0	29	7	7	5	0	0	19	11	44	10	0	0	65	4	54	4	0	0	62	175
8:30 AM	7	23	11	0	1	41	6	14	4	0	2	24	18	40	9	0	3	67	4	37	4	0	1	45	177
8:45 AM	13	11	18	0	1	42	14	10	5	0	1	29	9	38	10	0	1	57	2	33	6	0	0	41	169
Hourly Total	36	54	59	0	3	149	35	41	17	0	4	93	50	163	34	0	4	247	15	163	17	0	2	195	684
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	7	13	14	0	1	34	16	16	6	0	3	38	15	46	9	0	4	70	8	42	17	0	7	67	209
11:15 AM	13	14	21	0	0	48	11	12	8	0	8	31	8	54	8	0	8	70	5	54	7	0	2	66	215
11:30 AM	9	11	22	0	3	42	8	15	6	0	5	29	14	62	11	0	1	87	4	43	11	0	1	58	216
11:45 AM	14	12	14	0	5	40	17	13	4	0	4	34	12	53	13	0	3	78	5	39	10	0	6	54	206
Hourly Total	43	50	71	0	9	164	52	56	24	0	20	132	49	215	41	0	16	305	22	178	45	0	16	245	846
12:00 PM	6	16	15	0	0	37	14	19	4	0	10	37	12	66	7	0	7	85	4	53	10	0	6	67	226
12:15 PM	15	12	16	0	2	43	12	14	6	0	9	32	13	61	13	0	4	87	7	47	12	0	7	66	228
12:30 PM	11	10	20	0	0	41	12	14	5	0	7	31	19	67	6	0	3	92	5	56	14	0	4	75	239
12:45 PM	13	19	22	0	0	54	14	10	7	0	5	31	14	50	24	0	4	88	5	49	7	0	1	61	234
Hourly Total	45	57	73	0	2	175	52	57	22	0	31	131	58	244	50	0	18	352	21	205	43	0	18	269	927
1:00 PM	15	11	15	0	3	41	13	18	4	0	9	35	14	64	9	0	5	87	5	59	11	0	4	75	238
1:15 PM	12	18	16	0	8	46	9	13	10	0	2	32	16	75	13	0	5	104	3	45	15	0	7	63	245
1:30 PM	10	16	22	0	1	48	10	14	11	0	6	35	18	58	11	0	3	87	4	50	11	0	4	65	235
1:45 PM	14	16	17	0	4	47	18	18	10	0	2	46	18	57	6	0	6	81	6	48	14	0	2	68	242
Hourly Total	51	61	70	0	16	182	50	63	35	0	19	148	66	254	39	0	19	359	18	202	51	0	17	271	960
2:00 PM	15	16	21	0	4	52	13	16	9	0	6	38	19	59	8	0	6	86	6	48	13	0	3	67	243
2:15 PM	13	12	18	0	3	43	15	18	10	0	1	43	15	54	14	0	2	83	6	61	9	0	2	76	245
2:30 PM	13	23	19	0	3	55	9	10	4	0	4	23	8	54	9	0	7	71	8	52	15	0	0	75	224
2:45 PM	17	15	15	0	2	47	9	16	8	0	8	33	20	55	9	0	7	84	3	58	15	0	2	76	240

Hourly Total	58	66	73	0	12	197	46	60	31	0	19	137	62	222	40	0	22	324	23	219	52	0	7	294	952
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	15	15	20	0	2	50	4	22	7	0	1	33	17	57	10	0	6	84	8	64	16	0	2	88	255
4:15 PM	9	8	14	0	1	31	4	19	9	0	1	32	14	38	10	0	2	62	9	57	11	0	2	77	202
4:30 PM	25	10	17	0	0	52	13	18	5	0	3	36	14	65	9	0	2	88	5	57	17	0	0	79	255
4:45 PM	15	23	15	0	2	53	18	18	12	0	2	48	8	57	11	0	0	76	5	48	15	0	3	68	245
Hourly Total	64	56	66	0	5	186	39	77	33	0	7	149	53	217	40	0	10	310	27	226	59	0	7	312	957
5:00 PM	13	14	25	0	1	52	6	18	3	0	1	27	18	66	11	0	1	95	5	65	15	0	2	85	259
5:15 PM	15	13	18	0	0	46	7	16	8	0	5	31	18	71	5	0	0	94	8	51	14	0	2	73	244
5:30 PM	14	8	14	0	1	36	10	13	10	0	2	33	14	57	10	0	0	81	5	45	12	0	0	62	212
5:45 PM	9	11	12	0	0	32	8	16	10	0	1	34	12	40	7	0	1	59	4	55	16	0	2	75	200
Hourly Total	51	46	69	0	2	166	31	63	31	0	9	125	62	234	33	0	2	329	22	216	57	0	6	295	915
Grand Total	399	440	591	0	55	1430	345	458	221	0	113	1024	482	1767	317	0	97	2566	174	1661	388	0	77	2223	7243
Approach %	27.9	30.8	41.3	0.0	-	-	33.7	44.7	21.6	0.0	-	-	18.8	68.9	12.4	0.0	-	-	7.8	74.7	17.5	0.0	-	-	-
Total %	5.5	6.1	8.2	0.0	-	19.7	4.8	6.3	3.1	0.0	-	14.1	6.7	24.4	4.4	0.0	-	35.4	2.4	22.9	5.4	0.0	-	30.7	-
Motorcycles	6	2	2	0	-	10	3	7	0	0	-	10	1	9	0	0	-	10	2	13	6	0	-	21	51
% Motorcycles	1.5	0.5	0.3	-	-	0.7	0.9	1.5	0.0	-	-	1.0	0.2	0.5	0.0	-	-	0.4	1.1	0.8	1.5	-	-	0.9	0.7
Cars & Light Goods	373	409	521	0	-	1303	332	434	213	0	-	979	408	1608	309	0	-	2325	165	1514	361	0	-	2040	6647
% Cars & Light Goods	93.5	93.0	88.2	-	-	91.1	96.2	94.8	96.4	-	-	95.6	84.6	91.0	97.5	-	-	90.6	94.8	91.1	93.0	-	-	91.8	91.8
Buses	0	2	0	0	-	2	2	1	1	0	-	4	0	0	1	0	-	1	1	1	0	0	-	2	9
% Buses	0.0	0.5	0.0	-	-	0.1	0.6	0.2	0.5	-	-	0.4	0.0	0.0	0.3	-	-	0.0	0.6	0.1	0.0	-	-	0.1	0.1
Single-Unit Trucks	17	20	33	0	-	70	8	14	5	0	-	27	33	76	6	0	-	115	2	55	20	0	-	77	289
% Single-Unit Trucks	4.3	4.5	5.6	-	-	4.9	2.3	3.1	2.3	-	-	2.6	6.8	4.3	1.9	-	-	4.5	1.1	3.3	5.2	-	-	3.5	4.0
Articulated Trucks	3	6	35	0	-	44	0	1	2	0	-	3	40	74	1	0	-	115	0	78	1	0	-	79	241
% Articulated Trucks	0.8	1.4	5.9	-	-	3.1	0.0	0.2	0.9	-	-	0.3	8.3	4.2	0.3	-	-	4.5	0.0	4.7	0.3	-	-	3.6	3.3
Bicycles on Road	0	1	0	0	-	1	0	1	0	0	-	1	0	0	0	0	-	0	4	0	0	0	-	4	6
% Bicycles on Road	0.0	0.2	0.0	-	-	0.1	0.0	0.2	0.0	-	-	0.1	0.0	0.0	0.0	-	-	0.0	2.3	0.0	0.0	-	-	0.2	0.1
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	3	-	-
% Bicycles on Crosswalk	-	-	-	-	1.8	-	-	-	-	-	0.0	-	-	-	-	-	2.1	-	-	-	-	-	3.9	-	-
Pedestrians	-	-	-	-	54	-	-	-	-	-	113	-	-	-	-	-	95	-	-	-	-	-	74	-	-
% Pedestrians	-	-	-	-	98.2	-	-	-	-	-	100.0	-	-	-	-	-	97.9	-	-	-	-	-	96.1	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Main Street & Highway 10
Site Code: 210196
Start Date: 06/16/2021



Turning Movement Data Plot

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Main Street & Highway 10
Site Code: 210196
Start Date: 06/16/2021

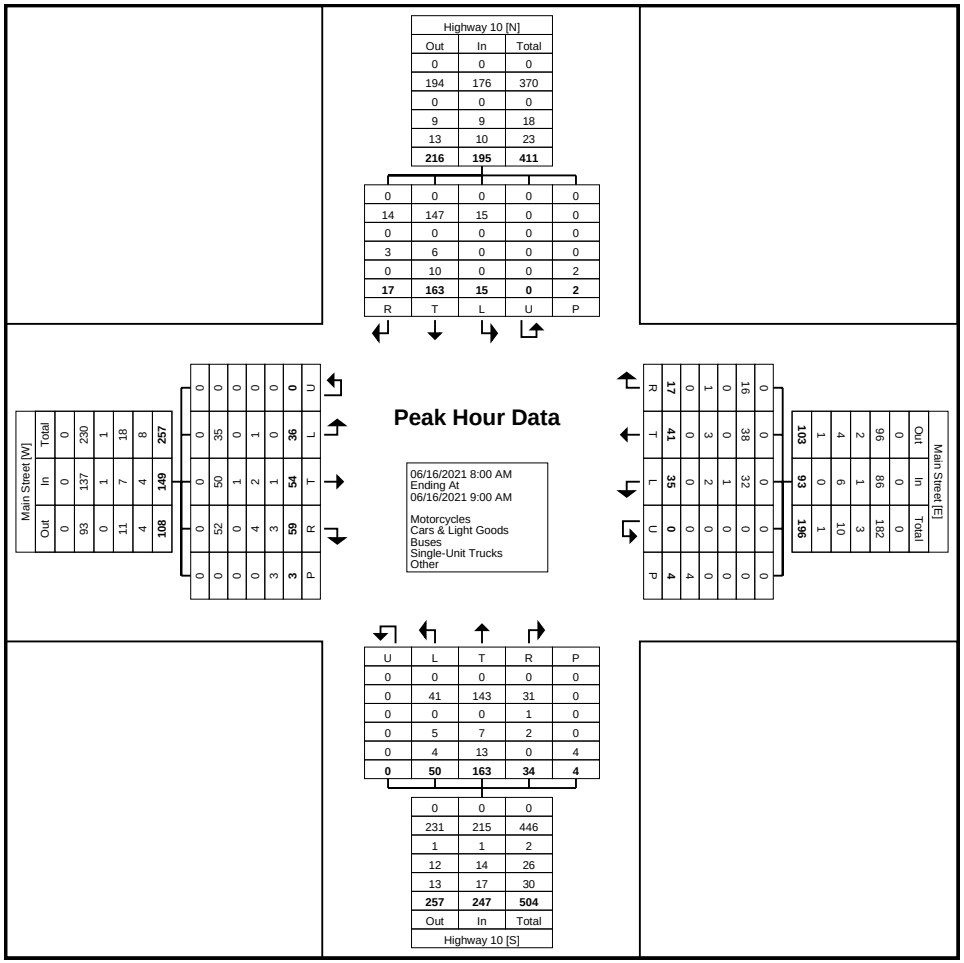
Turning Movement Peak Hour Data (8:00 AM)

Start Time	Main Street Eastbound						Main Street Westbound						Highway 10 Northbound						Highway 10 Southbound						
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Int. Total
8:00 AM	10	11	16	0	1	37	8	10	3	0	1	21	12	41	5	0	0	58	5	39	3	0	1	47	163
8:15 AM	6	9	14	0	0	29	7	7	5	0	0	19	11	44	10	0	0	65	4	54	4	0	0	62	175
8:30 AM	7	23	11	0	1	41	6	14	4	0	2	24	18	40	9	0	3	67	4	37	4	0	1	45	177
8:45 AM	13	11	18	0	1	42	14	10	5	0	1	29	9	38	10	0	1	57	2	33	6	0	0	41	169
Total	36	54	59	0	3	149	35	41	17	0	4	93	50	163	34	0	4	247	15	163	17	0	2	195	684
Approach %	24.2	36.2	39.6	0.0	-	-	37.6	44.1	18.3	0.0	-	-	20.2	66.0	13.8	0.0	-	-	7.7	83.6	8.7	0.0	-	-	-
Total %	5.3	7.9	8.6	0.0	-	21.8	5.1	6.0	2.5	0.0	-	13.6	7.3	23.8	5.0	0.0	-	36.1	2.2	23.8	2.5	0.0	-	28.5	-
PHF	0.692	0.587	0.819	0.000	-	0.887	0.625	0.732	0.850	0.000	-	0.802	0.694	0.926	0.850	0.000	-	0.922	0.750	0.755	0.708	0.000	-	0.786	0.966
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	35	50	52	0	-	137	32	38	16	0	-	86	41	143	31	0	-	215	15	147	14	0	-	176	614
% Cars & Light Goods	97.2	92.6	88.1	-	-	91.9	91.4	92.7	94.1	-	-	92.5	82.0	87.7	91.2	-	-	87.0	100.0	90.2	82.4	-	-	90.3	89.8
Buses	0	1	0	0	-	1	1	0	0	0	-	1	0	0	1	0	-	1	0	0	0	0	-	0	3
% Buses	0.0	1.9	0.0	-	-	0.7	2.9	0.0	0.0	-	-	1.1	0.0	0.0	2.9	-	-	0.4	0.0	0.0	0.0	-	-	0.0	0.4
Single-Unit Trucks	1	2	4	0	-	7	2	3	1	0	-	6	5	7	2	0	-	14	0	6	3	0	-	9	36
% Single-Unit Trucks	2.8	3.7	6.8	-	-	4.7	5.7	7.3	5.9	-	-	6.5	10.0	4.3	5.9	-	-	5.7	0.0	3.7	17.6	-	-	4.6	5.3
Articulated Trucks	0	1	3	0	-	4	0	0	0	0	-	0	4	13	0	0	-	17	0	10	0	0	-	10	31
% Articulated Trucks	0.0	1.9	5.1	-	-	2.7	0.0	0.0	0.0	-	-	0.0	8.0	8.0	0.0	-	-	6.9	0.0	6.1	0.0	-	-	5.1	4.5
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	3	-	-	-	-	-	4	-	-	-	-	-	4	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Main Street & Highway 10
Site Code: 210196
Start Date: 06/16/2021



Turning Movement Peak Hour Data Plot (8:00 AM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Main Street & Highway 10
Site Code: 210196
Start Date: 06/16/2021

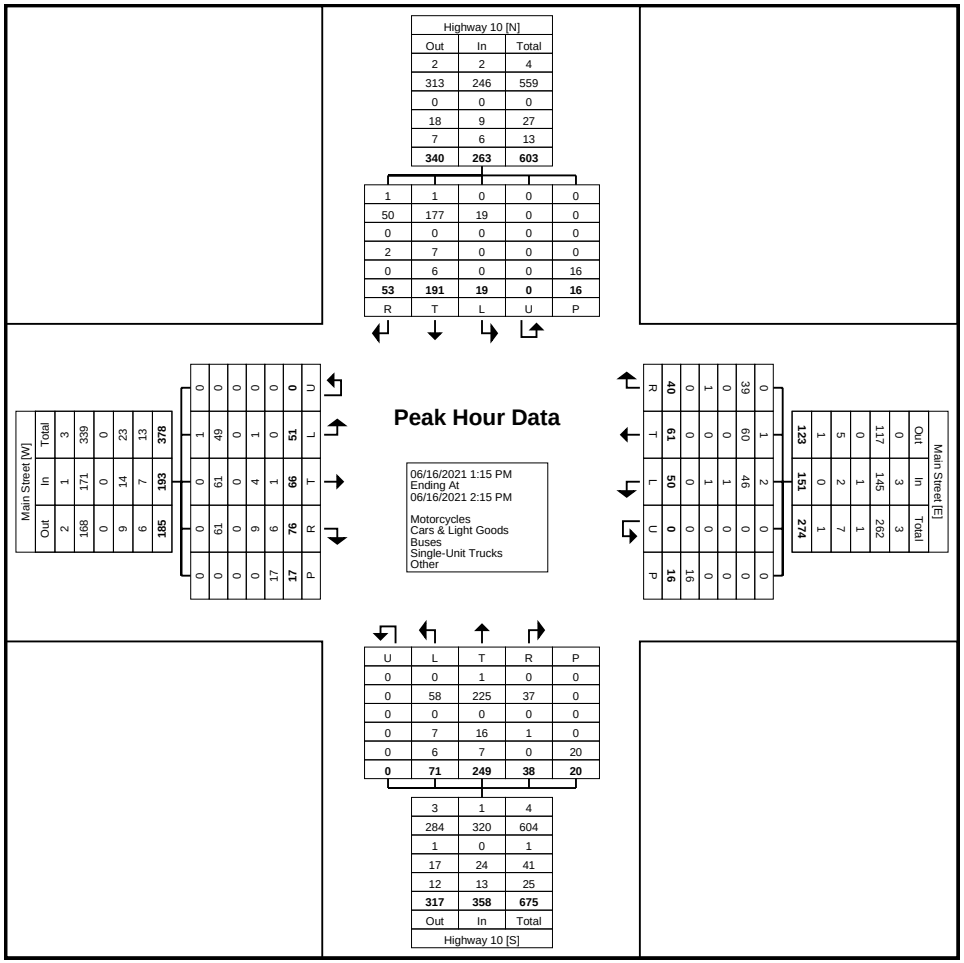
Turning Movement Peak Hour Data (1:15 PM)

Start Time	Main Street Eastbound						Main Street Westbound						Highway 10 Northbound						Highway 10 Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
1:15 PM	12	18	16	0	8	46	9	13	10	0	2	32	16	75	13	0	5	104	3	45	15	0	7	63	245
1:30 PM	10	16	22	0	1	48	10	14	11	0	6	35	18	58	11	0	3	87	4	50	11	0	4	65	235
1:45 PM	14	16	17	0	4	47	18	18	10	0	2	46	18	57	6	0	6	81	6	48	14	0	2	68	242
2:00 PM	15	16	21	0	4	52	13	16	9	0	6	38	19	59	8	0	6	86	6	48	13	0	3	67	243
Total	51	66	76	0	17	193	50	61	40	0	16	151	71	249	38	0	20	358	19	191	53	0	16	263	965
Approach %	26.4	34.2	39.4	0.0	-	-	33.1	40.4	26.5	0.0	-	-	19.8	69.6	10.6	0.0	-	-	7.2	72.6	20.2	0.0	-	-	-
Total %	5.3	6.8	7.9	0.0	-	20.0	5.2	6.3	4.1	0.0	-	15.6	7.4	25.8	3.9	0.0	-	37.1	2.0	19.8	5.5	0.0	-	27.3	-
PHF	0.850	0.917	0.864	0.000	-	0.928	0.694	0.847	0.909	0.000	-	0.821	0.934	0.830	0.731	0.000	-	0.861	0.792	0.955	0.883	0.000	-	0.967	0.985
Motorcycles	1	0	0	0	-	1	2	1	0	0	-	3	0	1	0	0	-	1	0	1	1	0	-	2	7
% Motorcycles	2.0	0.0	0.0	-	-	0.5	4.0	1.6	0.0	-	-	2.0	0.0	0.4	0.0	-	-	0.3	0.0	0.5	1.9	-	-	0.8	0.7
Cars & Light Goods	49	61	61	0	-	171	46	60	39	0	-	145	58	225	37	0	-	320	19	177	50	0	-	246	882
% Cars & Light Goods	96.1	92.4	80.3	-	-	88.6	92.0	98.4	97.5	-	-	96.0	81.7	90.4	97.4	-	-	89.4	100.0	92.7	94.3	-	-	93.5	91.4
Buses	0	0	0	0	-	0	1	0	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Buses	0.0	0.0	0.0	-	-	0.0	2.0	0.0	0.0	-	-	0.7	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.1
Single-Unit Trucks	1	4	9	0	-	14	1	0	1	0	-	2	7	16	1	0	-	24	0	7	2	0	-	9	49
% Single-Unit Trucks	2.0	6.1	11.8	-	-	7.3	2.0	0.0	2.5	-	-	1.3	9.9	6.4	2.6	-	-	6.7	0.0	3.7	3.8	-	-	3.4	5.1
Articulated Trucks	0	1	6	0	-	7	0	0	0	0	-	0	6	7	0	0	-	13	0	6	0	0	-	6	26
% Articulated Trucks	0.0	1.5	7.9	-	-	3.6	0.0	0.0	0.0	-	-	0.0	8.5	2.8	0.0	-	-	3.6	0.0	3.1	0.0	-	-	2.3	2.7
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	5.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	17	-	-	-	-	-	16	-	-	-	-	-	19	-	-	-	-	-	16	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	95.0	-	-	-	-	-	100.0	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Main Street & Highway 10
Site Code: 210196
Start Date: 06/16/2021



Turning Movement Peak Hour Data Plot (1:15 PM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Main Street & Highway 10
Site Code: 210196
Start Date: 06/16/2021

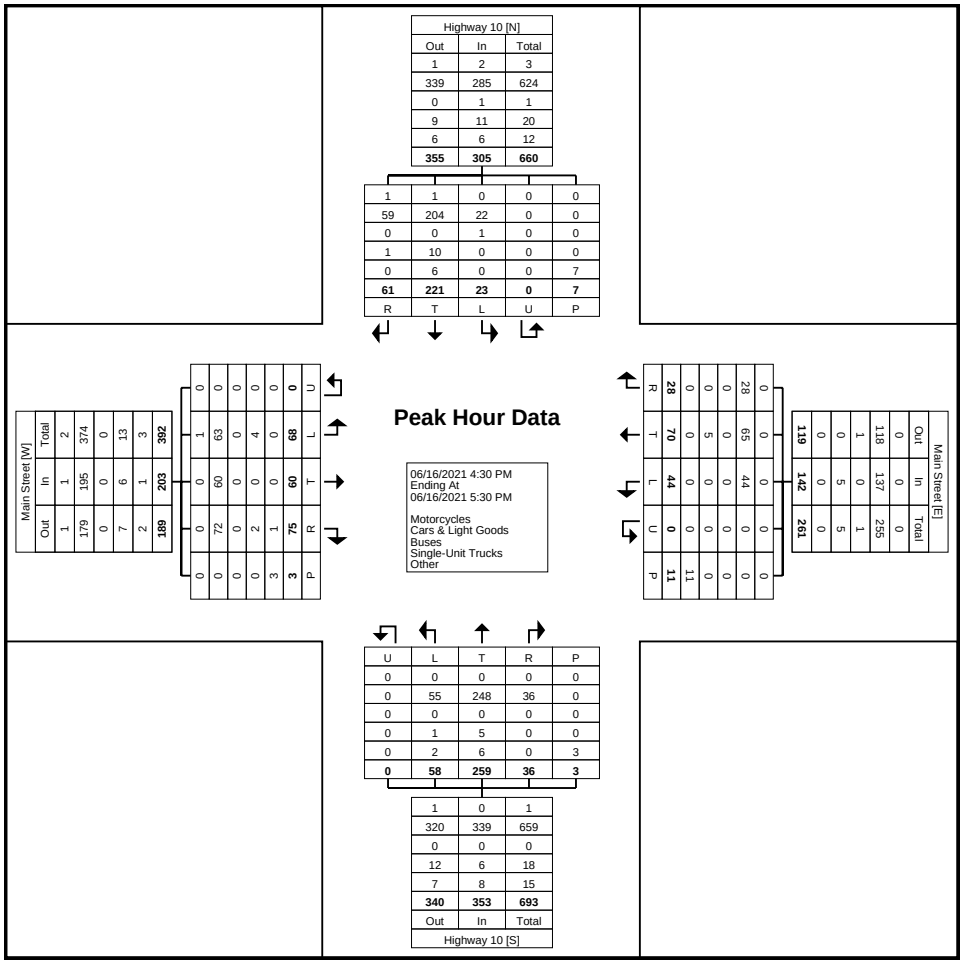
Turning Movement Peak Hour Data (4:30 PM)

Start Time	Main Street Eastbound						Main Street Westbound						Highway 10 Northbound						Highway 10 Southbound						
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Int. Total
4:30 PM	25	10	17	0	0	52	13	18	5	0	3	36	14	65	9	0	2	88	5	57	17	0	0	79	255
4:45 PM	15	23	15	0	2	53	18	18	12	0	2	48	8	57	11	0	0	76	5	48	15	0	3	68	245
5:00 PM	13	14	25	0	1	52	6	18	3	0	1	27	18	66	11	0	1	95	5	65	15	0	2	85	259
5:15 PM	15	13	18	0	0	46	7	16	8	0	5	31	18	71	5	0	0	94	8	51	14	0	2	73	244
Total	68	60	75	0	3	203	44	70	28	0	11	142	58	259	36	0	3	353	23	221	61	0	7	305	1003
Approach %	33.5	29.6	36.9	0.0	-	-	31.0	49.3	19.7	0.0	-	-	16.4	73.4	10.2	0.0	-	-	7.5	72.5	20.0	0.0	-	-	-
Total %	6.8	6.0	7.5	0.0	-	20.2	4.4	7.0	2.8	0.0	-	14.2	5.8	25.8	3.6	0.0	-	35.2	2.3	22.0	6.1	0.0	-	30.4	-
PHF	0.680	0.652	0.750	0.000	-	0.958	0.611	0.972	0.583	0.000	-	0.740	0.806	0.912	0.818	0.000	-	0.929	0.719	0.850	0.897	0.000	-	0.897	0.968
Motorcycles	1	0	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	1	1	0	-	2	3
% Motorcycles	1.5	0.0	0.0	-	-	0.5	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.5	1.6	-	-	0.7	0.3
Cars & Light Goods	63	60	72	0	-	195	44	65	28	0	-	137	55	248	36	0	-	339	22	204	59	0	-	285	956
% Cars & Light Goods	92.6	100.0	96.0	-	-	96.1	100.0	92.9	100.0	-	-	96.5	94.8	95.8	100.0	-	-	96.0	95.7	92.3	96.7	-	-	93.4	95.3
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	0	-	1	1
% Buses	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	4.3	0.0	0.0	-	-	0.3	0.1
Single-Unit Trucks	4	0	2	0	-	6	0	5	0	0	-	5	1	5	0	0	-	6	0	10	1	0	-	11	28
% Single-Unit Trucks	5.9	0.0	2.7	-	-	3.0	0.0	7.1	0.0	-	-	3.5	1.7	1.9	0.0	-	-	1.7	0.0	4.5	1.6	-	-	3.6	2.8
Articulated Trucks	0	0	1	0	-	1	0	0	0	0	-	0	2	6	0	0	-	8	0	6	0	0	-	6	15
% Articulated Trucks	0.0	0.0	1.3	-	-	0.5	0.0	0.0	0.0	-	-	0.0	3.4	2.3	0.0	-	-	2.3	0.0	2.7	0.0	-	-	2.0	1.5
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	3	-	-	-	-	-	11	-	-	-	-	-	3	-	-	-	-	-	7	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Main Street & Highway 10
Site Code: 210196
Start Date: 06/16/2021



Turning Movement Peak Hour Data Plot (4:30 PM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Wellington Street & Main Street
Site Code: 210196
Start Date: 06/16/2021

Turning Movement Data

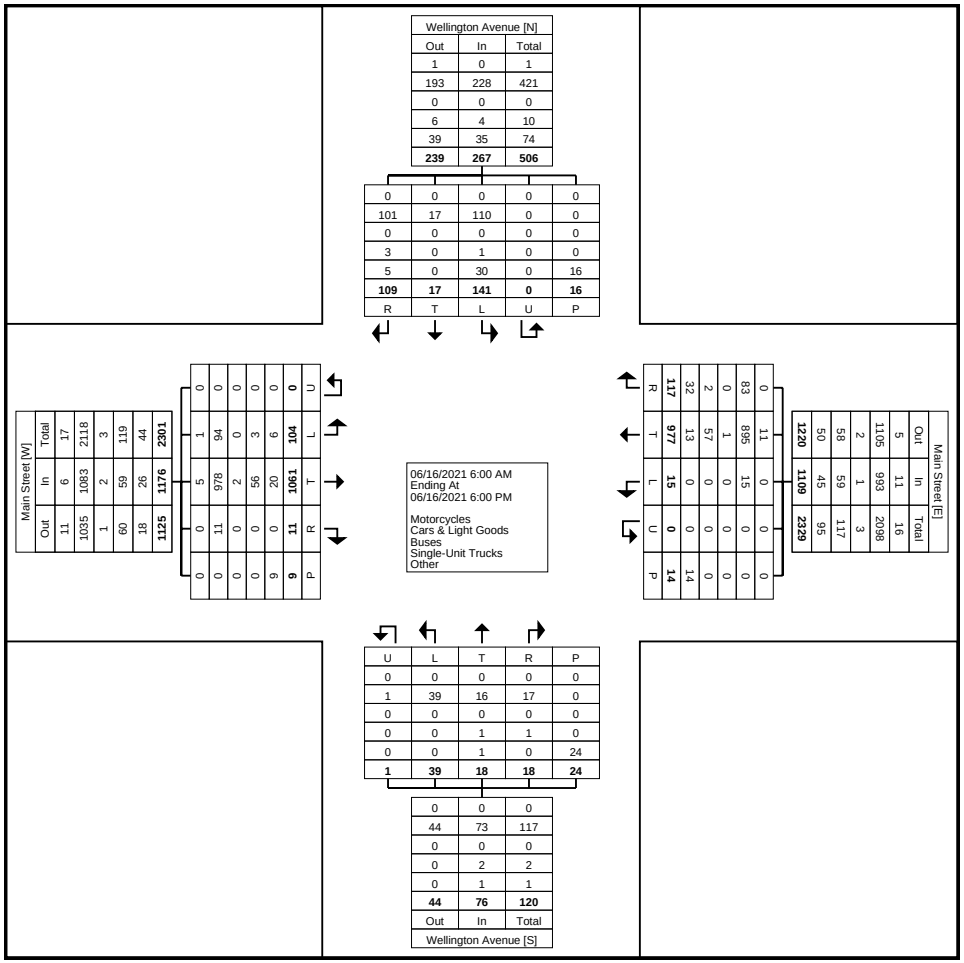
Start Time	Main Street Eastbound						Main Street Westbound						Wellington Avenue Northbound						Wellington Avenue Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
6:00 AM	11	14	0	0	0	25	0	15	2	0	1	17	0	0	0	0	1	0	6	0	2	0	0	8	50
6:15 AM	5	13	0	0	0	18	0	9	3	0	1	12	0	0	0	0	0	0	2	0	5	0	1	7	37
6:30 AM	4	22	0	0	0	26	0	16	7	0	1	23	1	1	0	0	1	2	11	0	9	0	1	20	71
6:45 AM	4	20	1	0	0	25	0	16	6	0	0	22	2	0	0	0	0	2	2	0	5	0	0	7	56
Hourly Total	24	69	1	0	0	94	0	56	18	0	3	74	3	1	0	0	2	4	21	0	21	0	2	42	214
7:00 AM	6	34	1	0	0	41	0	16	1	0	0	17	0	0	0	0	0	0	6	0	11	0	0	17	75
7:15 AM	4	23	0	0	1	27	0	19	3	0	0	22	0	2	2	0	0	4	1	0	3	0	1	4	57
7:30 AM	5	18	0	0	0	23	0	22	3	0	1	25	0	0	0	0	0	0	10	1	7	0	1	18	66
7:45 AM	5	24	0	0	0	29	0	27	7	0	0	34	0	1	0	0	1	1	2	0	4	0	1	6	70
Hourly Total	20	99	1	0	1	120	0	84	14	0	1	98	0	3	2	0	1	5	19	1	25	0	3	45	268
8:00 AM	4	33	0	0	0	37	1	22	4	0	0	27	0	0	0	1	0	1	2	0	5	0	0	7	72
8:15 AM	0	36	0	0	0	36	0	10	5	0	0	15	0	1	0	0	0	1	3	2	1	0	0	6	58
8:30 AM	1	40	0	0	0	41	0	21	4	0	1	25	0	1	0	0	0	1	0	0	1	0	0	1	68
8:45 AM	1	30	0	0	0	31	0	24	3	0	0	27	0	0	0	0	0	0	5	0	1	0	0	6	64
Hourly Total	6	139	0	0	0	145	1	77	16	0	1	94	0	2	0	1	0	3	10	2	8	0	0	20	262
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	2	28	0	0	0	30	1	27	2	0	1	30	4	1	2	0	0	7	1	1	2	0	0	4	71
11:15 AM	0	25	1	0	0	26	0	24	3	0	0	27	2	0	0	0	2	2	3	0	1	0	0	4	59
11:30 AM	2	34	0	0	0	36	0	24	1	0	0	25	0	0	1	0	1	1	3	0	0	0	0	3	65
11:45 AM	2	25	0	0	0	27	0	24	4	0	1	28	3	0	1	0	1	4	3	0	0	0	0	3	62
Hourly Total	6	112	1	0	0	119	1	99	10	0	2	110	9	1	4	0	4	14	10	1	3	0	0	14	257
12:00 PM	1	25	0	0	0	26	0	35	2	0	1	37	0	0	0	0	0	0	3	1	1	0	0	5	68
12:15 PM	1	27	2	0	0	30	1	34	0	0	0	35	1	0	1	0	0	2	2	0	1	0	0	3	70
12:30 PM	2	23	0	0	0	25	3	30	4	0	0	37	2	0	0	0	0	2	3	2	1	0	0	6	70
12:45 PM	4	41	0	0	0	45	0	13	1	0	1	14	0	1	2	0	0	3	2	1	2	0	0	5	67
Hourly Total	8	116	2	0	0	126	4	112	7	0	2	123	3	1	3	0	0	7	10	4	5	0	0	19	275
1:00 PM	3	27	0	0	0	30	0	27	1	0	3	28	0	1	0	0	0	1	2	0	0	0	0	2	61
1:15 PM	2	33	0	0	0	35	0	21	7	0	1	28	0	1	1	0	1	2	7	1	4	0	0	12	77
1:30 PM	5	28	0	0	0	33	1	31	3	0	0	35	0	3	1	0	0	4	4	0	0	0	0	4	76
1:45 PM	7	29	1	0	0	37	0	27	8	0	0	35	2	1	0	0	2	3	1	2	2	0	2	5	80
Hourly Total	17	117	1	0	0	135	1	106	19	0	4	126	2	6	2	0	3	10	14	3	6	0	2	23	294
2:00 PM	2	38	0	0	0	40	1	26	10	0	0	37	0	1	2	0	0	3	3	0	5	0	2	8	88
2:15 PM	4	26	1	0	0	31	1	29	4	0	0	34	3	1	0	0	0	4	4	0	2	0	0	6	75
2:30 PM	4	26	0	0	2	30	0	26	1	0	0	27	1	0	1	0	2	2	11	0	9	0	0	20	79
2:45 PM	3	37	1	0	0	41	1	31	3	0	0	35	1	0	0	0	0	1	2	0	4	0	0	6	83

Hourly Total	13	127	2	0	2	142	3	112	18	0	0	133	5	2	3	0	2	10	20	0	20	0	2	40	325
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	35	0	0	0	35	0	55	0	0	0	55	2	0	0	0	4	2	6	0	0	0	0	6	98
4:15 PM	1	29	1	0	0	31	3	34	2	0	0	39	3	0	0	0	2	3	2	3	2	0	0	7	80
4:30 PM	2	48	0	0	0	50	1	49	3	0	0	53	5	0	1	0	2	6	3	0	2	0	1	5	114
4:45 PM	2	37	0	0	0	39	0	28	3	0	0	31	1	1	0	0	0	2	6	0	2	0	0	8	80
Hourly Total	5	149	1	0	0	155	4	166	8	0	0	178	11	1	1	0	8	13	17	3	6	0	1	26	372
5:00 PM	1	35	0	0	0	36	0	46	4	0	0	50	4	0	0	0	1	4	12	1	9	0	0	22	112
5:15 PM	1	34	0	0	4	35	0	41	2	0	0	43	1	0	0	0	3	1	4	1	3	0	0	8	87
5:30 PM	1	35	1	0	0	37	1	38	0	0	1	39	1	0	0	0	0	1	1	1	3	0	0	5	82
5:45 PM	2	29	1	0	2	32	0	40	1	0	0	41	0	1	3	0	0	4	3	0	0	0	6	3	80
Hourly Total	5	133	2	0	6	140	1	165	7	0	1	173	6	1	3	0	4	10	20	3	15	0	6	38	361
Grand Total	104	1061	11	0	9	1176	15	977	117	0	14	1109	39	18	18	1	24	76	141	17	109	0	16	267	2628
Approach %	8.8	90.2	0.9	0.0	-	-	1.4	88.1	10.6	0.0	-	-	51.3	23.7	23.7	1.3	-	-	52.8	6.4	40.8	0.0	-	-	-
Total %	4.0	40.4	0.4	0.0	-	44.7	0.6	37.2	4.5	0.0	-	42.2	1.5	0.7	0.7	0.0	-	2.9	5.4	0.6	4.1	0.0	-	10.2	-
Motorcycles	1	5	0	0	-	6	0	11	0	0	-	11	0	0	0	0	-	0	0	0	0	0	-	0	17
% Motorcycles	1.0	0.5	0.0	-	-	0.5	0.0	1.1	0.0	-	-	1.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	-	0.0	0.6
Cars & Light Goods	94	978	11	0	-	1083	15	895	83	0	-	993	39	16	17	1	-	73	110	17	101	0	-	228	2377
% Cars & Light Goods	90.4	92.2	100.0	-	-	92.1	100.0	91.6	70.9	-	-	89.5	100.0	88.9	94.4	100.0	-	96.1	78.0	100.0	92.7	-	-	85.4	90.4
Buses	0	2	0	0	-	2	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	3
% Buses	0.0	0.2	0.0	-	-	0.2	0.0	0.1	0.0	-	-	0.1	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	-	0.0	0.1
Single-Unit Trucks	3	56	0	0	-	59	0	57	2	0	-	59	0	1	1	0	-	2	1	0	3	0	-	4	124
% Single-Unit Trucks	2.9	5.3	0.0	-	-	5.0	0.0	5.8	1.7	-	-	5.3	0.0	5.6	5.6	0.0	-	2.6	0.7	0.0	2.8	-	-	1.5	4.7
Articulated Trucks	6	17	0	0	-	23	0	12	32	0	-	44	0	0	0	0	-	0	30	0	5	0	-	35	102
% Articulated Trucks	5.8	1.6	0.0	-	-	2.0	0.0	1.2	27.4	-	-	4.0	0.0	0.0	0.0	0.0	-	0.0	21.3	0.0	4.6	-	-	13.1	3.9
Bicycles on Road	0	3	0	0	-	3	0	1	0	0	-	1	0	1	0	0	-	1	0	0	0	0	-	0	5
% Bicycles on Road	0.0	0.3	0.0	-	-	0.3	0.0	0.1	0.0	-	-	0.1	0.0	5.6	0.0	0.0	-	1.3	0.0	0.0	0.0	-	-	0.0	0.2
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	8	-	-
% Bicycles on Crosswalk	-	-	-	-	22.2	-	-	-	-	-	0.0	-	-	-	-	-	16.7	-	-	-	-	-	50.0	-	-
Pedestrians	-	-	-	-	7	-	-	-	-	-	14	-	-	-	-	-	20	-	-	-	-	-	8	-	-
% Pedestrians	-	-	-	-	77.8	-	-	-	-	-	100.0	-	-	-	-	-	83.3	-	-	-	-	-	50.0	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Wellington Street & Main Street
Site Code: 210196
Start Date: 06/16/2021



Turning Movement Data Plot

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Wellington Street & Main Street
Site Code: 210196
Start Date: 06/16/2021

Turning Movement Peak Hour Data (7:00 AM)

Start Time	Main Street Eastbound						Main Street Westbound						Wellington Avenue Northbound						Wellington Avenue Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:00 AM	6	34	1	0	0	41	0	16	1	0	0	17	0	0	0	0	0	0	6	0	11	0	0	17	75
7:15 AM	4	23	0	0	1	27	0	19	3	0	0	22	0	2	2	0	0	4	1	0	3	0	1	4	57
7:30 AM	5	18	0	0	0	23	0	22	3	0	1	25	0	0	0	0	0	0	10	1	7	0	1	18	66
7:45 AM	5	24	0	0	0	29	0	27	7	0	0	34	0	1	0	0	1	1	2	0	4	0	1	6	70
Total	20	99	1	0	1	120	0	84	14	0	1	98	0	3	2	0	1	5	19	1	25	0	3	45	268
Approach %	16.7	82.5	0.8	0.0	-	-	0.0	85.7	14.3	0.0	-	-	0.0	60.0	40.0	0.0	-	-	42.2	2.2	55.6	0.0	-	-	-
Total %	7.5	36.9	0.4	0.0	-	44.8	0.0	31.3	5.2	0.0	-	36.6	0.0	1.1	0.7	0.0	-	1.9	7.1	0.4	9.3	0.0	-	16.8	-
PHF	0.833	0.728	0.250	0.000	-	0.732	0.000	0.778	0.500	0.000	-	0.721	0.000	0.375	0.250	0.000	-	0.313	0.475	0.250	0.568	0.000	-	0.625	0.893
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	0.0	-	-	0.0	-	0.0	0.0	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	18	89	1	0	-	108	0	77	11	0	-	88	0	3	2	0	-	5	16	1	23	0	-	40	241
% Cars & Light Goods	90.0	89.9	100.0	-	-	90.0	-	91.7	78.6	-	-	89.8	-	100.0	100.0	-	-	100.0	84.2	100.0	92.0	-	-	88.9	89.9
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Buses	0.0	0.0	0.0	-	-	0.0	-	0.0	0.0	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Single-Unit Trucks	0	9	0	0	-	9	0	5	1	0	-	6	0	0	0	0	-	0	1	0	1	0	-	2	17
% Single-Unit Trucks	0.0	9.1	0.0	-	-	7.5	-	6.0	7.1	-	-	6.1	-	0.0	0.0	-	-	0.0	5.3	0.0	4.0	-	-	4.4	6.3
Articulated Trucks	2	1	0	0	-	3	0	2	2	0	-	4	0	0	0	0	-	0	2	0	1	0	-	3	10
% Articulated Trucks	10.0	1.0	0.0	-	-	2.5	-	2.4	14.3	-	-	4.1	-	0.0	0.0	-	-	0.0	10.5	0.0	4.0	-	-	6.7	3.7
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	-	0.0	0.0	-	-	0.0	-	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	3	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

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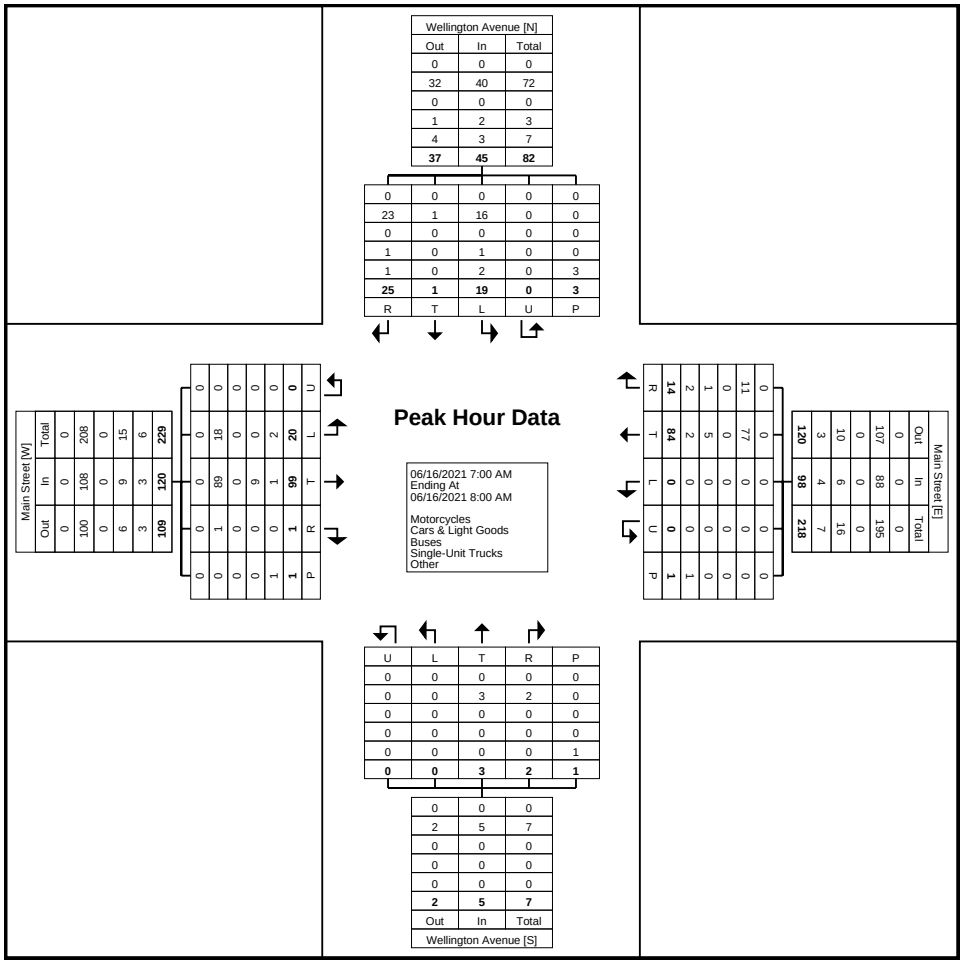
Start Date: 06/16/2021



Turning Movement Peak Hour Data Plot (7:00 AM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Wellington Street & Main Street
Site Code: 210196
Start Date: 06/16/2021

Turning Movement Peak Hour Data (2:00 PM)

Start Time	Main Street Eastbound						Main Street Westbound						Wellington Avenue Northbound						Wellington Avenue Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
2:00 PM	2	38	0	0	0	40	1	26	10	0	0	37	0	1	2	0	0	3	3	0	5	0	2	8	88
2:15 PM	4	26	1	0	0	31	1	29	4	0	0	34	3	1	0	0	0	4	4	0	2	0	0	6	75
2:30 PM	4	26	0	0	2	30	0	26	1	0	0	27	1	0	1	0	2	2	11	0	9	0	0	20	79
2:45 PM	3	37	1	0	0	41	1	31	3	0	0	35	1	0	0	0	0	1	2	0	4	0	0	6	83
Total	13	127	2	0	2	142	3	112	18	0	0	133	5	2	3	0	2	10	20	0	20	0	2	40	325
Approach %	9.2	89.4	1.4	0.0	-	-	2.3	84.2	13.5	0.0	-	-	50.0	20.0	30.0	0.0	-	-	50.0	0.0	50.0	0.0	-	-	-
Total %	4.0	39.1	0.6	0.0	-	43.7	0.9	34.5	5.5	0.0	-	40.9	1.5	0.6	0.9	0.0	-	3.1	6.2	0.0	6.2	0.0	-	12.3	-
PHF	0.813	0.836	0.500	0.000	-	0.866	0.750	0.903	0.450	0.000	-	0.899	0.417	0.500	0.375	0.000	-	0.625	0.455	0.000	0.556	0.000	-	0.500	0.923
Motorcycles	0	3	0	0	-	3	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	4
% Motorcycles	0.0	2.4	0.0	-	-	2.1	0.0	0.9	0.0	-	-	0.8	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	1.2
Cars & Light Goods	13	109	2	0	-	124	3	100	10	0	-	113	5	2	2	0	-	9	15	0	18	0	-	33	279
% Cars & Light Goods	100.0	85.8	100.0	-	-	87.3	100.0	89.3	55.6	-	-	85.0	100.0	100.0	66.7	-	-	90.0	75.0	-	90.0	-	-	82.5	85.8
Buses	0	1	0	0	-	1	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	2
% Buses	0.0	0.8	0.0	-	-	0.7	0.0	0.9	0.0	-	-	0.8	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	0.6
Single-Unit Trucks	0	9	0	0	-	9	0	9	1	0	-	10	0	0	1	0	-	1	0	0	1	0	-	1	21
% Single-Unit Trucks	0.0	7.1	0.0	-	-	6.3	0.0	8.0	5.6	-	-	7.5	0.0	0.0	33.3	-	-	10.0	0.0	-	5.0	-	-	2.5	6.5
Articulated Trucks	0	5	0	0	-	5	0	1	7	0	-	8	0	0	0	0	-	0	5	0	1	0	-	6	19
% Articulated Trucks	0.0	3.9	0.0	-	-	3.5	0.0	0.9	38.9	-	-	6.0	0.0	0.0	0.0	-	-	0.0	25.0	-	5.0	-	-	15.0	5.8
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	2	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	50.0	-	-	-	-	-	100.0	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	50.0	-	-	-	-	-	0.0	-	-

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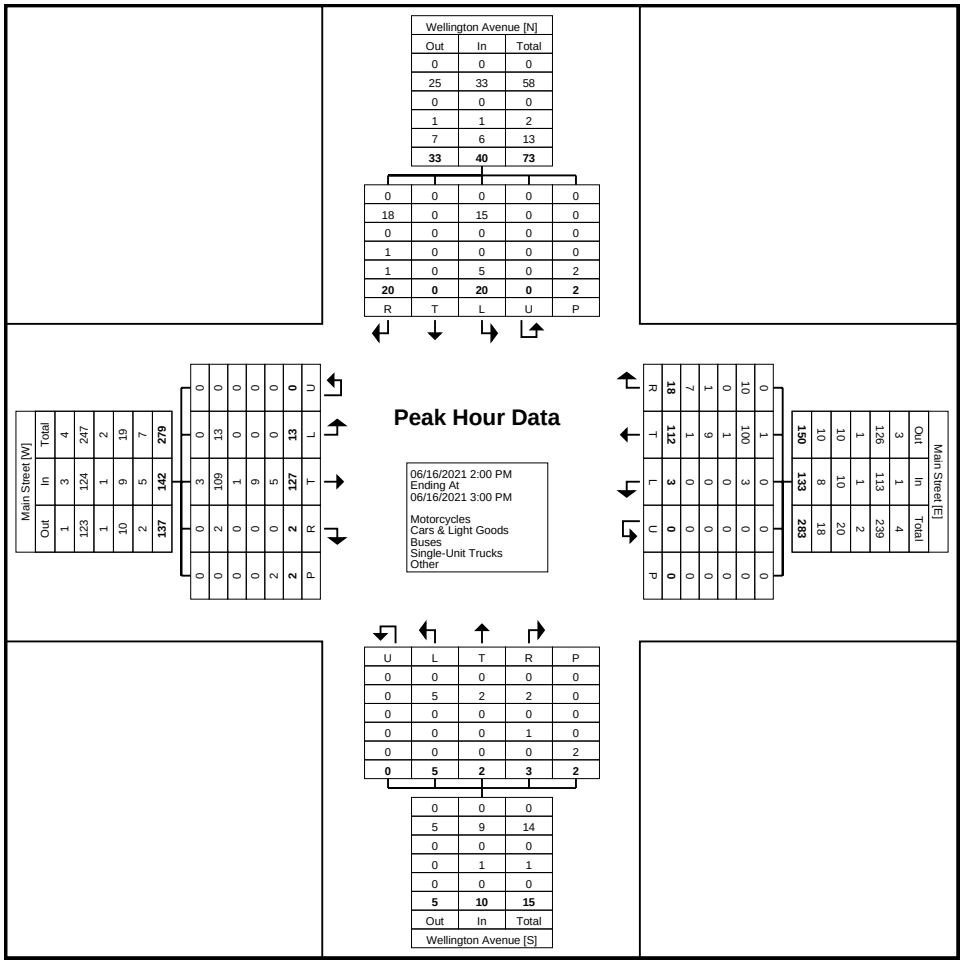


Turning Movement Peak Hour Data Plot (2:00 PM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Wellington Street & Main Street
Site Code: 210196
Start Date: 06/16/2021

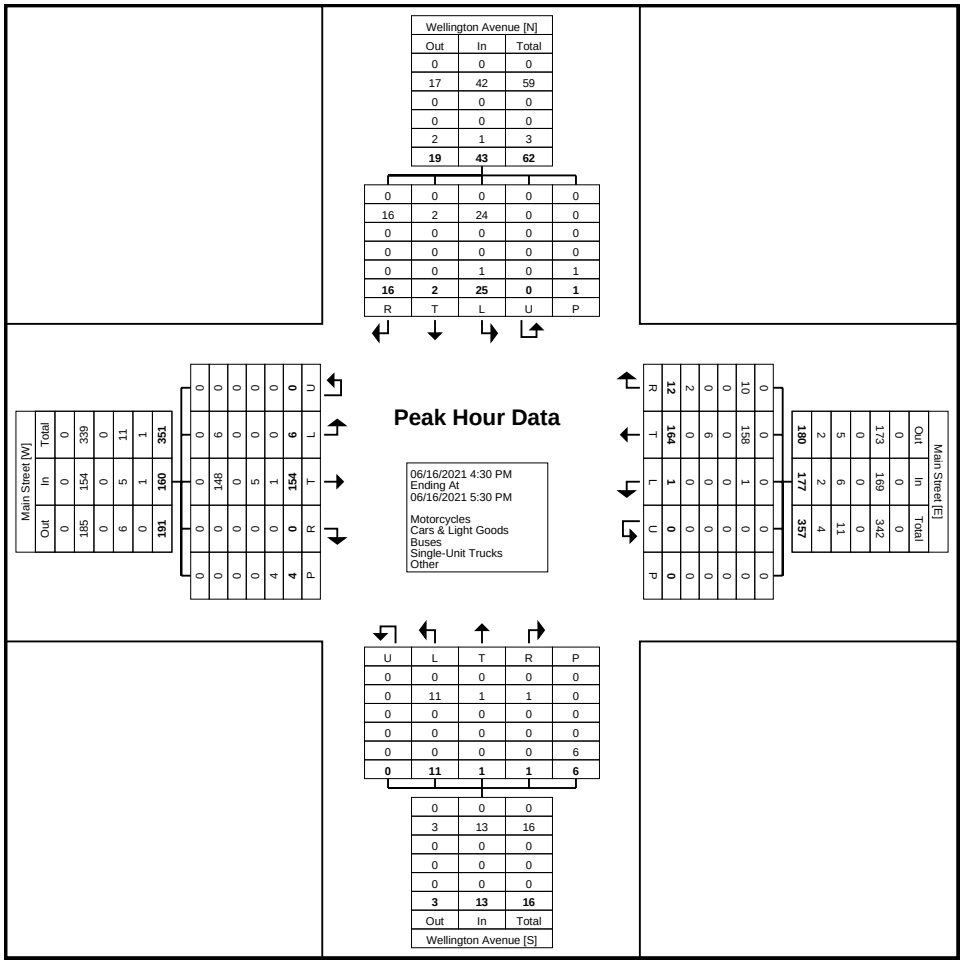
Turning Movement Peak Hour Data (4:30 PM)

Start Time	Main Street Eastbound						Main Street Westbound						Wellington Avenue Northbound						Wellington Avenue Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
4:30 PM	2	48	0	0	0	50	1	49	3	0	0	53	5	0	1	0	2	6	3	0	2	0	1	5	114
4:45 PM	2	37	0	0	0	39	0	28	3	0	0	31	1	1	0	0	0	2	6	0	2	0	0	8	80
5:00 PM	1	35	0	0	0	36	0	46	4	0	0	50	4	0	0	0	1	4	12	1	9	0	0	22	112
5:15 PM	1	34	0	0	4	35	0	41	2	0	0	43	1	0	0	0	3	1	4	1	3	0	0	8	87
Total	6	154	0	0	4	160	1	164	12	0	0	177	11	1	1	0	6	13	25	2	16	0	1	43	393
Approach %	3.8	96.3	0.0	0.0	-	-	0.6	92.7	6.8	0.0	-	-	84.6	7.7	7.7	0.0	-	-	58.1	4.7	37.2	0.0	-	-	-
Total %	1.5	39.2	0.0	0.0	-	40.7	0.3	41.7	3.1	0.0	-	45.0	2.8	0.3	0.3	0.0	-	3.3	6.4	0.5	4.1	0.0	-	10.9	-
PHF	0.750	0.802	0.000	0.000	-	0.800	0.250	0.837	0.750	0.000	-	0.835	0.550	0.250	0.250	0.000	-	0.542	0.521	0.500	0.444	0.000	-	0.489	0.862
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	-	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	6	148	0	0	-	154	1	158	10	0	-	169	11	1	1	0	-	13	24	2	16	0	-	42	378
% Cars & Light Goods	100.0	96.1	-	-	-	96.3	100.0	96.3	83.3	-	-	95.5	100.0	100.0	100.0	-	-	100.0	96.0	100.0	100.0	-	-	97.7	96.2
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Buses	0.0	0.0	-	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Single-Unit Trucks	0	5	0	0	-	5	0	6	0	0	-	6	0	0	0	0	-	0	0	0	0	0	-	0	11
% Single-Unit Trucks	0.0	3.2	-	-	-	3.1	0.0	3.7	0.0	-	-	3.4	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	2.8
Articulated Trucks	0	1	0	0	-	1	0	0	2	0	-	2	0	0	0	0	-	0	1	0	0	0	-	1	4
% Articulated Trucks	0.0	0.6	-	-	-	0.6	0.0	0.0	16.7	-	-	1.1	0.0	0.0	0.0	-	-	0.0	4.0	0.0	0.0	-	-	2.3	1.0
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	6	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

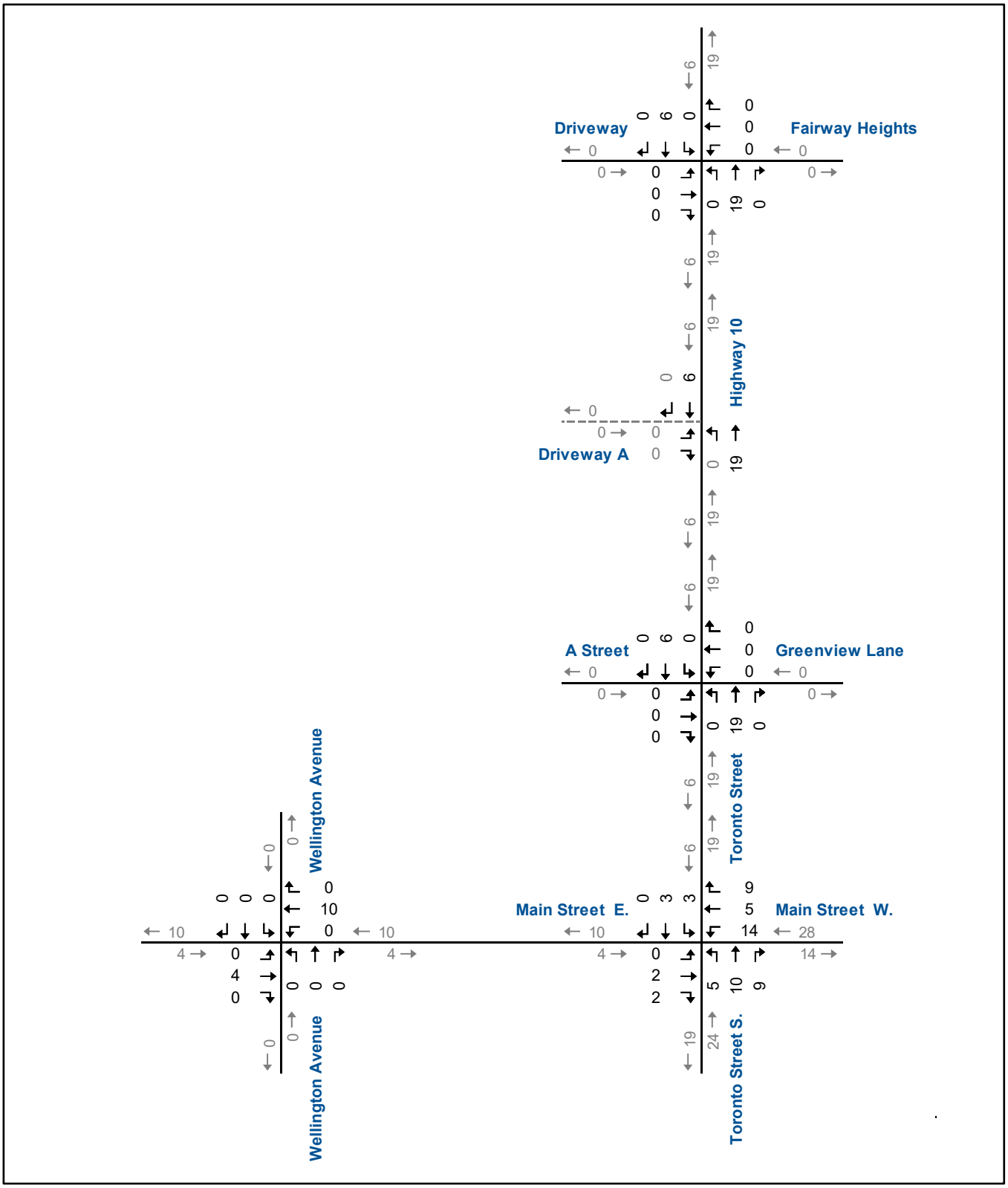
Count Name: Wellington Street & Main Street
Site Code: 210196
Start Date: 06/16/2021



Turning Movement Peak Hour Data Plot (4:30 PM)

Appendix C

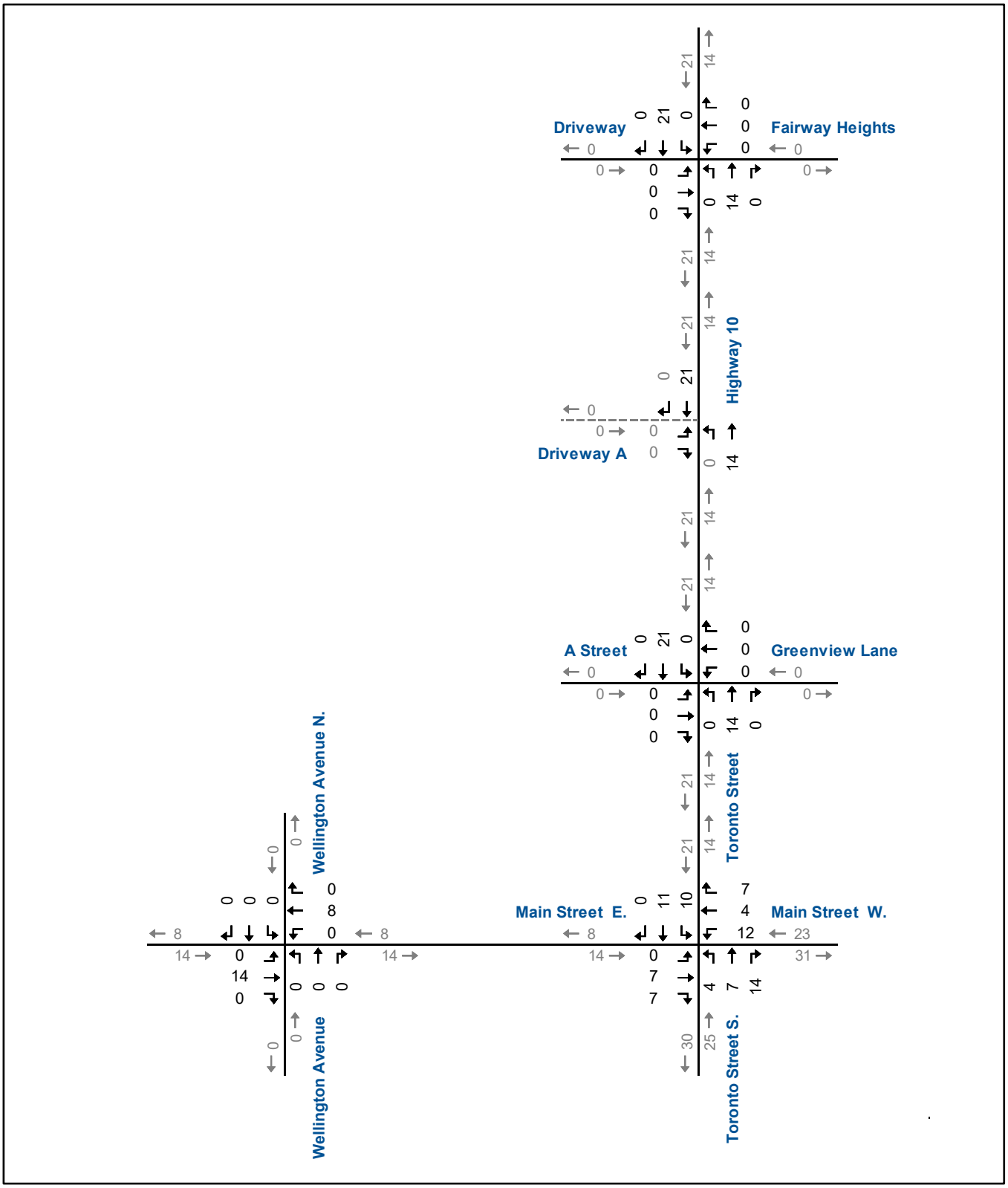
Background Reports



Centre Point South – Total Site Traffic
AM Peak Hour

100 Chapman's Crescent
210196

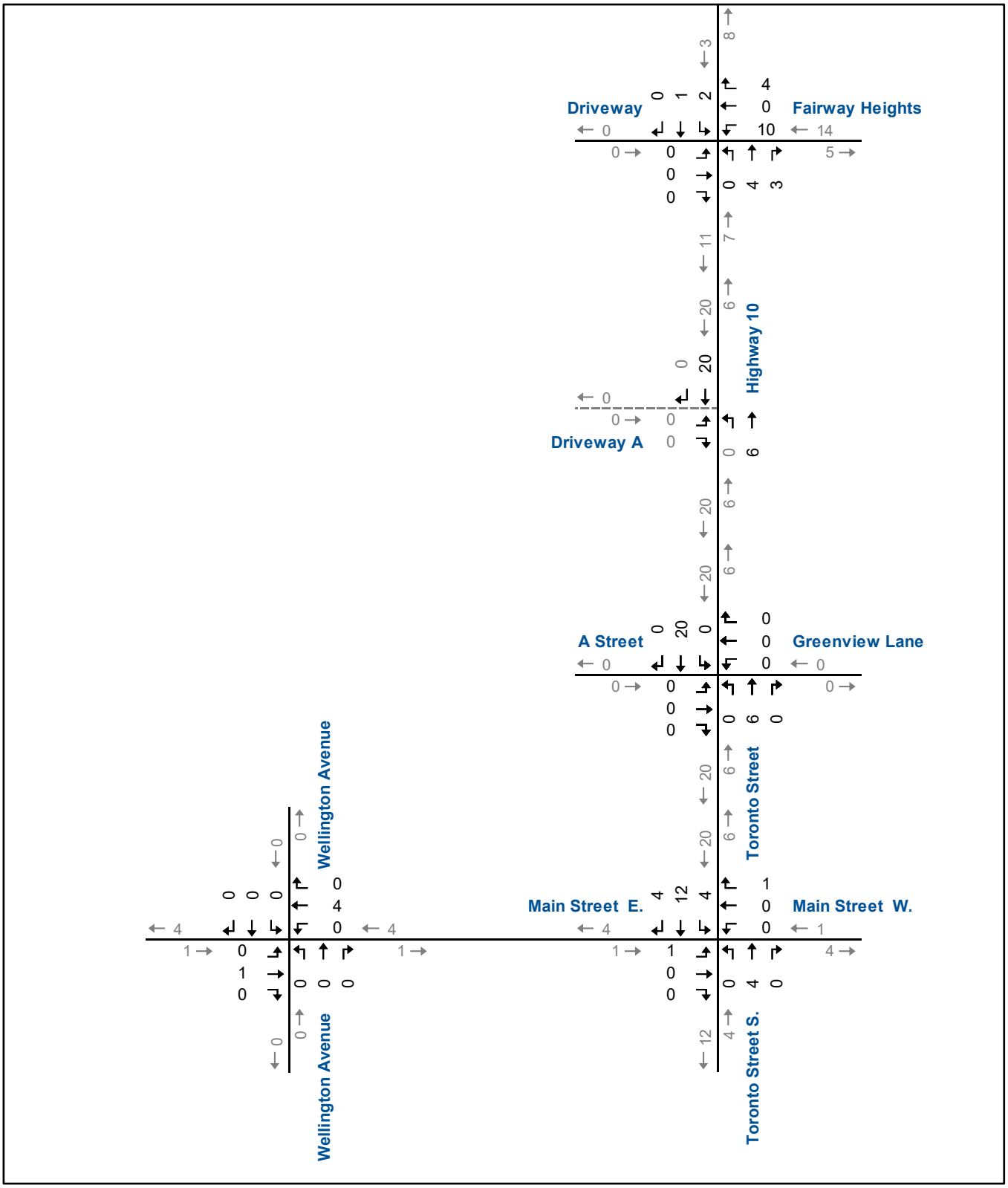
Appendix C - 1



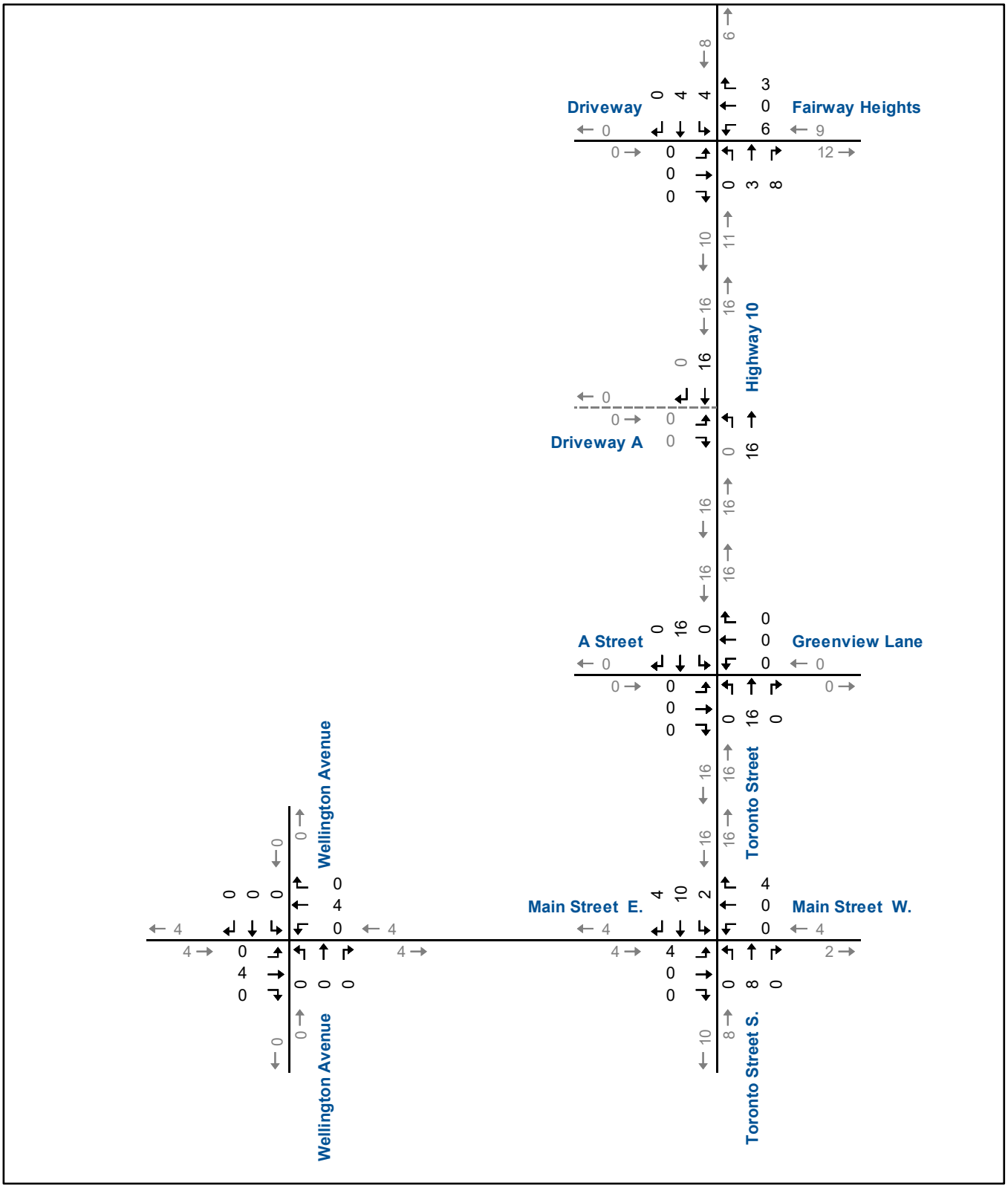
Centre Point South – Total Site Traffic
PM Peak Hour

100 Chapman's Crescent
210196

Appendix C - 2



Stone Brook Phase 3 – Total Site Traffic
AM Peak Hour



Stone Brook Phase 3 – Total Site Traffic
PM Peak Hour

Appendix D

Synchro 10 Reports

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	146	1	0	140	19	0	4	3	34	1	26
Future Volume (vph)	27	146	1	0	140	19	0	4	3	34	1	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.999			0.984			0.949			0.942	
Flt Protected		0.992									0.973	
Satd. Flow (prot)	0	1713	0	0	1706	0	0	1803	0	0	1550	0
Flt Permitted		0.992									0.973	
Satd. Flow (perm)	0	1713	0	0	1706	0	0	1803	0	0	1550	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		264.2			459.4			60.6			189.0	
Travel Time (s)		19.0			33.1			4.4			13.6	
Confl. Peds. (#/hr)	2		4	4		2	3		4	4		3
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	10%	10%	0%	2%	8%	21%	2%	0%	0%	16%	0%	8%
Adj. Flow (vph)	31	166	1	0	159	22	0	5	3	39	1	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	198	0	0	181	0	0	8	0	0	70	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)		0.0			0.0			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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.2%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	146	1	0	140	19	0	4	3	34	1	26
Future Volume (Veh/h)	27	146	1	0	140	19	0	4	3	34	1	26
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	31	166	1	0	159	22	0	5	3	39	1	30
Pedestrians		3			4			4			2	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	183			171			436	416	174	410	405	175
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	183			171			436	416	174	410	405	175
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.3	6.5	6.3
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.6	4.0	3.4
p0 queue free %	98			100			100	99	100	92	100	96
cM capacity (veh/h)	1343			1401			497	516	868	509	523	849

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	198	181	8	70
Volume Left	31	0	0	39
Volume Right	1	22	3	30
cSH	1343	1401	608	615
Volume to Capacity	0.02	0.00	0.01	0.11
Queue Length 95th (m)	0.6	0.0	0.3	3.1
Control Delay (s)	1.4	0.0	11.0	11.6
Lane LOS	A		B	B
Approach Delay (s)	1.4	0.0	11.0	11.6
Approach LOS			B	B

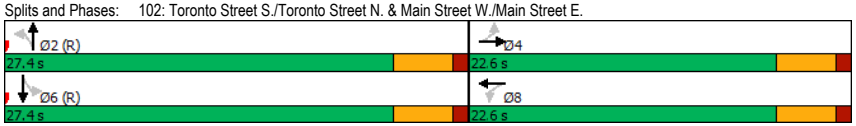
Intersection Summary				
Average Delay		2.6		
Intersection Capacity Utilization		39.2%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	75	82	62	60	40	73	252	55	39	268	39
Future Volume (vph)	57	75	82	62	60	40	73	252	55	39	268	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor		0.99			0.99			1.00			1.00	
Frt		0.948			0.967			0.980			0.985	
Flt Protected		0.987			0.981			0.990			0.994	
Satd. Flow (prot)	0	1635	0	0	1666	0	0	1630	0	0	1691	0
Flt Permitted		0.878			0.813			0.870			0.924	
Satd. Flow (perm)	0	1453	0	0	1381	0	0	1433	0	0	1571	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		70			37			23			17	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		459.4			168.7			386.0			413.1	
Travel Time (s)		33.1			12.1			27.8			29.7	
Confl. Peds. (#/hr)	3		1	1		3	1		1	1		1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	7%	12%	9%	7%	6%	18%	12%	9%	0%	10%	18%
Adj. Flow (vph)	65	85	93	70	68	45	83	286	63	44	305	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	243	0	0	183	0	0	432	0	0	393	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)		0.0			0.0			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
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.6	22.6		22.6	22.6		27.4	27.4		27.4	27.4	
Total Split (%)	45.2%	45.2%		45.2%	45.2%		54.8%	54.8%		54.8%	54.8%	
Maximum Green (s)	18.1	18.1		18.1	18.1		22.9	22.9		22.9	22.9	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		18.1			18.1			22.9			22.9	
Actuated g/C Ratio		0.36			0.36			0.46			0.46	
v/c Ratio		0.43			0.35			0.65			0.54	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		11.2			11.5			15.4			12.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		11.2			11.5			15.4			12.7	
LOS		B			B			B			B	
Approach Delay		11.2			11.5			15.4			12.7	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 50			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 50			
Control Type: Pretimed			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 13.2		Intersection LOS: B	
Intersection Capacity Utilization 55.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 102: Toronto Street S./Toronto Street N. & Main Street W./Main Street E.



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	243	183	432	393
v/c Ratio	0.43	0.35	0.65	0.54
Control Delay	11.2	11.5	15.4	12.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	11.2	11.5	15.4	12.7
Queue Length 50th (m)	11.3	9.4	27.1	23.2
Queue Length 95th (m)	25.6	21.3	51.0	42.7
Internal Link Dist (m)	435.4	144.7	362.0	389.1
Turn Bay Length (m)				
Base Capacity (vph)	570	523	668	728
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.43	0.35	0.65	0.54

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	75	82	62	60	40	73	252	55	39	268	39
Future Volume (vph)	57	75	82	62	60	40	73	252	55	39	268	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.95			0.97			0.98			0.98	
Flt Protected		0.99			0.98			0.99			0.99	
Satd. Flow (prot)		1634			1666			1631			1691	
Flt Permitted		0.88			0.81			0.87			0.92	
Satd. Flow (perm)		1454			1380			1433			1572	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	65	85	93	70	68	45	83	286	62	44	305	44
RTOR Reduction (vph)	0	45	0	0	24	0	0	12	0	0	9	0
Lane Group Flow (vph)	0	198	0	0	159	0	0	420	0	0	384	0
Confl. Peds. (#/hr)	3		1	1		3	1		1	1		1
Heavy Vehicles (%)	3%	7%	12%	9%	7%	6%	18%	12%	9%	0%	10%	18%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.1			18.1			22.9			22.9	
Effective Green, g (s)		18.1			18.1			22.9			22.9	
Actuated g/C Ratio		0.36			0.36			0.46			0.46	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		526			499			656			719	
v/s Ratio Prot												
v/s Ratio Perm		c0.14			0.12			c0.29			0.24	
v/c Ratio		0.38			0.32			0.64			0.53	
Uniform Delay, d1		11.8			11.5			10.4			9.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.1			1.7			4.7			2.8	
Delay (s)		13.8			13.2			15.1			12.5	
Level of Service		B			B			B			B	
Approach Delay (s)		13.8			13.2			15.1			12.5	
Approach LOS		B			B			B			B	

Intersection Summary				
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.52			
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	9.0	
Intersection Capacity Utilization	55.9%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	2	0	1	0	347	2	1	343	0
Future Volume (vph)	1	0	1	2	0	1	0	347	2	1	343	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.932			0.955			0.999				
Flt Protected		0.976			0.968							
Satd. Flow (prot)	0	1694	0	0	1722	0	0	1861	0	0	1863	0
Flt Permitted		0.976			0.968							
Satd. Flow (perm)	0	1694	0	0	1722	0	0	1861	0	0	1863	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		218.2			77.4			413.1			130.0	
Travel Time (s)		15.7			5.6			29.7			9.4	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	1	0	1	2	0	1	0	394	2	1	390	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2	0	0	3	0	0	396	0	0	391	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	28.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	1	2	0	1	0	347	2	1	343	0
Future Volume (Veh/h)	1	0	1	2	0	1	0	347	2	1	343	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	1	0	1	2	0	1	0	394	2	1	390	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	788	788	390	788	787	395	390			396		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	788	788	390	788	787	395	390			396		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	99	100	100	100			100		
cM capacity (veh/h)	308	323	658	308	323	654	1169			1163		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	2	3	396	391
Volume Left	1	2	0	1
Volume Right	1	1	2	0
cSH	420	374	1169	1163
Volume to Capacity	0.00	0.01	0.00	0.00
Queue Length 95th (m)	0.1	0.2	0.0	0.0
Control Delay (s)	13.6	14.7	0.0	0.0
Lane LOS	B	B		A
Approach Delay (s)	13.6	14.7	0.0	0.0
Approach LOS	B	B		

Intersection Summary				
Average Delay		0.1		
Intersection Capacity Utilization		28.8%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	0	14	48	0	20	15	319	16	7	273	6
Future Volume (vph)	6	0	14	48	0	20	15	319	16	7	273	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.906			0.960			0.994			0.997	
Flt Protected		0.985			0.966			0.998			0.999	
Satd. Flow (prot)	0	1662	0	0	1727	0	0	1848	0	0	1855	0
Flt Permitted		0.985			0.966			0.998			0.999	
Satd. Flow (perm)	0	1662	0	0	1727	0	0	1848	0	0	1855	0
Link Speed (k/h)		50			50			80			50	
Link Distance (m)		46.4			111.6			130.0			333.6	
Travel Time (s)		3.3			8.0			5.9			24.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	7	0	16	55	0	23	17	363	18	8	310	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	23	0	0	78	0	0	398	0	0	325	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.8%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	0	14	48	0	20	15	319	16	7	273	6
Future Volume (Veh/h)	6	0	14	48	0	20	15	319	16	7	273	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	7	0	16	55	0	23	17	363	18	8	310	7
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	758	744	314	752	739	372	317			381		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	758	744	314	752	739	372	317			381		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	98	83	100	97	99			99		
cM capacity (veh/h)	307	336	727	315	338	674	1243			1177		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	23	78	398	325
Volume Left	7	55	17	8
Volume Right	16	23	18	7
cSH	514	373	1243	1177
Volume to Capacity	0.04	0.21	0.01	0.01
Queue Length 95th (m)	1.1	6.2	0.3	0.2
Control Delay (s)	12.3	17.2	0.5	0.3
Lane LOS	B	C	A	A
Approach Delay (s)	12.3	17.2	0.5	0.3
Approach LOS	B	C		

Intersection Summary				
Average Delay		2.3		
Intersection Capacity Utilization		39.8%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	248	0	1	251	16	15	1	1	22	3	34
Future Volume (vph)	8	248	0	1	251	16	15	1	1	22	3	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt					0.992			0.993			0.921	
Flt Protected		0.998						0.957			0.982	
Satd. Flow (prot)	0	1825	0	0	1799	0	0	1806	0	0	1693	0
Flt Permitted		0.998						0.957			0.982	
Satd. Flow (perm)	0	1825	0	0	1799	0	0	1806	0	0	1693	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		264.2			459.4			60.6			189.0	
Travel Time (s)		19.0			33.1			4.4			13.6	
Confl. Peds. (#/hr)	1		6	6		1	4					4
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	4%	2%	0%	4%	17%	0%	0%	0%	4%	0%	0%
Adj. Flow (vph)	9	282	0	1	285	18	17	1	1	25	3	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	291	0	0	304	0	0	19	0	0	67	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)		0.0			0.0			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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	30.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	248	0	1	251	16	15	1	1	22	3	34
Future Volume (Veh/h)	8	248	0	1	251	16	15	1	1	22	3	34
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	9	282	0	1	285	18	17	1	1	25	3	39
Pedestrians		4						6			1	
Lane Width (m)		3.6						3.6			3.6	
Walking Speed (m/s)		1.2						1.2			1.2	
Percent Blockage		0						1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	304			288			646	612	288	598	603	299
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	304			288			646	612	288	598	603	299
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			95	100	100	94	99	95
cM capacity (veh/h)	1267			1279			358	405	752	405	410	742

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	291	304	19	67
Volume Left	9	1	17	25
Volume Right	0	18	1	39
cSH	1267	1279	370	551
Volume to Capacity	0.01	0.00	0.05	0.12
Queue Length 95th (m)	0.2	0.0	1.3	3.3
Control Delay (s)	0.3	0.0	15.2	12.4
Lane LOS	A	A	C	B
Approach Delay (s)	0.3	0.0	15.2	12.4
Approach LOS			C	B

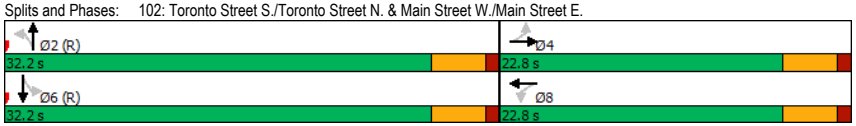
Intersection Summary					
Average Delay		1.8			
Intersection Capacity Utilization		30.3%	ICU Level of Service		A
Analysis Period (min)		15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	88	109	72	99	65	83	405	63	52	349	103
Future Volume (vph)	117	88	109	72	99	65	83	405	63	52	349	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor		0.99			0.99			1.00			0.99	
Frt		0.953			0.963			0.984			0.972	
Flt Protected		0.982			0.985			0.993			0.995	
Satd. Flow (prot)	0	1693	0	0	1740	0	0	1790	0	0	1715	0
Flt Permitted		0.766			0.805			0.864			0.904	
Satd. Flow (perm)	0	1320	0	0	1420	0	0	1557	0	0	1558	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		52			37			17			34	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		459.4			168.7			386.0			413.1	
Travel Time (s)		33.1			12.1			27.8			29.7	
Confl. Peds. (#/hr)	1		6	6		1	4					4
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	0%	4%	0%	7%	0%	5%	4%	0%	4%	8%	3%
Adj. Flow (vph)	133	100	124	82	113	74	94	460	72	59	397	117
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	357	0	0	269	0	0	626	0	0	573	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)		0.0			0.0			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
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.8	22.8		22.8	22.8		32.2	32.2		32.2	32.2	
Total Split (%)	41.5%	41.5%		41.5%	41.5%		58.5%	58.5%		58.5%	58.5%	
Maximum Green (s)	18.3	18.3		18.3	18.3		27.7	27.7		27.7	27.7	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		18.3			18.3			27.7			27.7	
Actuated g/C Ratio		0.33			0.33			0.50			0.50	
v/c Ratio		0.75			0.54			0.79			0.72	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		26.9			17.6			20.7			16.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		26.9			17.6			20.7			16.4	
LOS		C			B			C			B	
Approach Delay		26.9			17.6			20.7			16.4	
Approach LOS		C			B			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 20.1		Intersection LOS: C	
Intersection Capacity Utilization 77.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 102: Toronto Street S./Toronto Street N. & Main Street W./Main Street E.



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	357	269	626	573
v/c Ratio	0.75	0.54	0.79	0.72
Control Delay	26.9	17.6	20.7	16.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.9	17.6	20.7	16.4
Queue Length 50th (m)	27.6	18.9	47.9	39.6
Queue Length 95th (m)	#63.9	37.7	#101.0	70.9
Internal Link Dist (m)	435.4	144.7	362.0	389.1
Turn Bay Length (m)				
Base Capacity (vph)	473	497	792	801
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.75	0.54	0.79	0.72

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	88	109	72	99	65	83	405	63	52	349	103
Future Volume (vph)	117	88	109	72	99	65	83	405	63	52	349	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.95			0.96			0.98			0.97	
Flt Protected		0.98			0.98			0.99			0.99	
Satd. Flow (prot)		1692			1738			1790			1716	
Flt Permitted		0.77			0.80			0.86			0.90	
Satd. Flow (perm)		1320			1420			1558			1560	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	133	100	124	82	112	74	94	460	72	59	397	117
RTOR Reduction (vph)	0	35	0	0	25	0	0	8	0	0	17	0
Lane Group Flow (vph)	0	322	0	0	244	0	0	618	0	0	556	0
Confl. Peds. (#/hr)	1		6	6		1	4					4
Heavy Vehicles (%)	7%	0%	4%	0%	7%	0%	5%	4%	0%	4%	8%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.3			18.3			27.7			27.7	
Effective Green, g (s)		18.3			18.3			27.7			27.7	
Actuated g/C Ratio		0.33			0.33			0.50			0.50	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		439			472			784			785	
v/s Ratio Prot												
v/s Ratio Perm		c0.24			0.17			c0.40			0.36	
v/c Ratio		0.73			0.52			0.79			0.71	
Uniform Delay, d1		16.2			14.8			11.2			10.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		10.4			4.0			7.9			5.4	
Delay (s)		26.6			18.8			19.1			15.9	
Level of Service		C			B			B			B	
Approach Delay (s)		26.6			18.8			19.1			15.9	
Approach LOS		C			B			B			B	

Intersection Summary

HCM 2000 Control Delay	19.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1	2	0	1	1	584	2	1	502	1
Future Volume (vph)	0	0	1	2	0	1	1	584	2	1	502	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.865			0.955							
Flt Protected					0.968							
Satd. Flow (prot)	0	1611	0	0	1722	0	0	1863	0	0	1863	0
Flt Permitted					0.968							
Satd. Flow (perm)	0	1611	0	0	1722	0	0	1863	0	0	1863	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		218.2			77.4			413.1			127.2	
Travel Time (s)		15.7			5.6			29.7			9.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	0	1	2	0	1	1	664	2	1	570	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	3	0	0	667	0	0	572	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	41.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	1	2	0	1	1	584	2	1	502	1
Future Volume (Veh/h)	0	0	1	2	0	1	1	584	2	1	502	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	0	1	2	0	1	1	664	2	1	570	1
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1240	1240	570	1240	1240	665	571			666		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1240	1240	570	1240	1240	665	571			666		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	99	100	100	100			100		
cM capacity (veh/h)	151	175	521	151	175	460	1002			923		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1	3	667	572
Volume Left	0	2	1	1
Volume Right	1	1	2	1
cSH	521	195	1002	923
Volume to Capacity	0.00	0.02	0.00	0.00
Queue Length 95th (m)	0.0	0.4	0.0	0.0
Control Delay (s)	11.9	23.8	0.0	0.0
Lane LOS	B	C	A	A
Approach Delay (s)	11.9	23.8	0.0	0.0
Approach LOS	B	C		

Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	41.6%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	0	27	29	0	15	30	501	49	22	442	13
Future Volume (vph)	14	0	27	29	0	15	30	501	49	22	442	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.911			0.954			0.989			0.996	
Flt Protected		0.983			0.968			0.997			0.998	
Satd. Flow (prot)	0	1668	0	0	1720	0	0	1837	0	0	1852	0
Flt Permitted		0.983			0.968			0.997			0.998	
Satd. Flow (perm)	0	1668	0	0	1720	0	0	1837	0	0	1852	0
Link Speed (k/h)		50			50			80			50	
Link Distance (m)		46.6			119.5			127.2			336.4	
Travel Time (s)		3.4			8.6			5.7			24.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	16	0	31	33	0	17	34	569	56	25	502	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	47	0	0	50	0	0	659	0	0	542	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	0	27	29	0	15	30	501	49	22	442	13
Future Volume (Veh/h)	14	0	27	29	0	15	30	501	49	22	442	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	16	0	31	33	0	17	34	569	56	25	502	15
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1242	1252	510	1256	1232	597	517			625		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1242	1252	510	1256	1232	597	517			625		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	89	100	95	75	100	97	97			97		
cM capacity (veh/h)	140	162	564	134	167	503	1049			956		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	47	50	659	542
Volume Left	16	33	34	25
Volume Right	31	17	56	15
cSH	278	178	1049	956
Volume to Capacity	0.17	0.28	0.03	0.03
Queue Length 95th (m)	4.8	8.7	0.8	0.6
Control Delay (s)	20.6	32.8	0.9	0.7
Lane LOS	C	D	A	A
Approach Delay (s)	20.6	32.8	0.9	0.7
Approach LOS	C	D		

Intersection Summary				
Average Delay	2.7			
Intersection Capacity Utilization	51.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	153	1	0	147	20	0	4	3	36	1	27
Future Volume (vph)	28	153	1	0	147	20	0	4	3	36	1	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.999			0.984			0.949			0.943	
Flt Protected		0.992									0.973	
Satd. Flow (prot)	0	1712	0	0	1706	0	0	1803	0	0	1551	0
Flt Permitted		0.992									0.973	
Satd. Flow (perm)	0	1712	0	0	1706	0	0	1803	0	0	1551	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		264.2			459.4			60.6			189.0	
Travel Time (s)		19.0			33.1			4.4			13.6	
Confl. Peds. (#/hr)	2		4	4		2	3		4	4		3
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	10%	10%	0%	2%	8%	21%	2%	0%	0%	16%	0%	8%
Adj. Flow (vph)	32	174	1	0	167	23	0	5	3	41	1	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	207	0	0	190	0	0	8	0	0	73	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)		0.0			0.0			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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	40.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	153	1	0	147	20	0	4	3	36	1	27
Future Volume (Veh/h)	28	153	1	0	147	20	0	4	3	36	1	27
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	32	174	1	0	167	23	0	5	3	41	1	31
Pedestrians		3			4			4			2	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	192			179			456	434	182	428	424	184
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	192			179			456	434	182	428	424	184
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.3	6.5	6.3
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.6	4.0	3.4
p0 queue free %	98			100			100	99	100	92	100	96
cM capacity (veh/h)	1333			1392			482	503	859	494	510	840

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	207	190	8	73
Volume Left	32	0	0	41
Volume Right	1	23	3	31
cSH	1333	1392	595	599
Volume to Capacity	0.02	0.00	0.01	0.12
Queue Length 95th (m)	0.6	0.0	0.3	3.3
Control Delay (s)	1.4	0.0	11.1	11.8
Lane LOS	A		B	B
Approach Delay (s)	1.4	0.0	11.1	11.8
Approach LOS			B	B

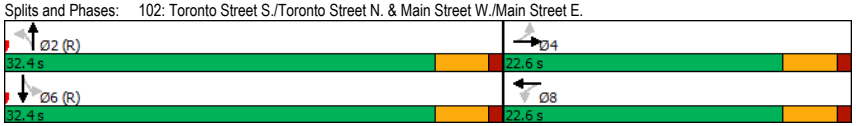
Intersection Summary				
Average Delay		2.6		
Intersection Capacity Utilization		40.2%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	79	86	65	63	42	77	265	58	41	282	41
Future Volume (vph)	60	79	86	65	63	42	77	265	58	41	282	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor		0.99			0.99			1.00			1.00	
Frt		0.948			0.967			0.980			0.985	
Flt Protected		0.987			0.981			0.990			0.994	
Satd. Flow (prot)	0	1635	0	0	1666	0	0	1630	0	0	1691	0
Flt Permitted		0.871			0.826			0.857			0.920	
Satd. Flow (perm)	0	1441	0	0	1402	0	0	1411	0	0	1565	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		61			32			23			17	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		459.4			168.7			386.0			413.1	
Travel Time (s)		33.1			12.1			27.8			29.7	
Confl. Peds. (#/hr)	3		1	1		3	1		1	1		1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	7%	12%	9%	7%	6%	18%	12%	9%	0%	10%	18%
Adj. Flow (vph)	68	90	98	74	72	48	88	301	66	47	320	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	256	0	0	194	0	0	455	0	0	414	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)		0.0			0.0			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
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.6	22.6		22.6	22.6		32.4	32.4		32.4	32.4	
Total Split (%)	41.1%	41.1%		41.1%	41.1%		58.9%	58.9%		58.9%	58.9%	
Maximum Green (s)	18.1	18.1		18.1	18.1		27.9	27.9		27.9	27.9	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		18.1			18.1			27.9			27.9	
Actuated g/C Ratio		0.33			0.33			0.51			0.51	
v/c Ratio		0.50			0.40			0.63			0.52	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		15.1			14.9			14.0			11.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		15.1			14.9			14.0			11.5	
LOS		B			B			B			B	
Approach Delay		15.1			14.9			14.0			11.5	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 13.6		Intersection LOS: B	
Intersection Capacity Utilization 57.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 102: Toronto Street S./Toronto Street N. & Main Street W./Main Street E.



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	256	194	455	414
v/c Ratio	0.50	0.40	0.63	0.52
Control Delay	15.1	14.9	14.0	11.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.1	14.9	14.0	11.5
Queue Length 50th (m)	15.5	12.6	29.5	25.1
Queue Length 95th (m)	32.8	26.7	54.0	44.5
Internal Link Dist (m)	435.4	144.7	362.0	389.1
Turn Bay Length (m)				
Base Capacity (vph)	515	482	727	802
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.50	0.40	0.63	0.52

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	79	86	65	63	42	77	265	58	41	282	41
Future Volume (vph)	60	79	86	65	63	42	77	265	58	41	282	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.95			0.97			0.98			0.98	
Flt Protected		0.99			0.98			0.99			0.99	
Satd. Flow (prot)		1634			1665			1631			1690	
Flt Permitted		0.87			0.83			0.86			0.92	
Satd. Flow (perm)		1442			1403			1412			1565	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	68	90	98	74	72	48	88	301	66	47	320	47
RTOR Reduction (vph)	0	41	0	0	21	0	0	11	0	0	8	0
Lane Group Flow (vph)	0	215	0	0	173	0	0	444	0	0	406	0
Confl. Peds. (#/hr)	3		1	1		3	1		1	1		1
Heavy Vehicles (%)	3%	7%	12%	9%	7%	6%	18%	12%	9%	0%	10%	18%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.1			18.1			27.9			27.9	
Effective Green, g (s)		18.1			18.1			27.9			27.9	
Actuated g/C Ratio		0.33			0.33			0.51			0.51	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		474			461			716			793	
v/s Ratio Prot												
v/s Ratio Perm		c0.15			0.12			c0.31			0.26	
v/c Ratio		0.45			0.37			0.62			0.51	
Uniform Delay, d1		14.6			14.1			9.7			9.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.1			2.3			4.0			2.4	
Delay (s)		17.7			16.4			13.7			11.4	
Level of Service		B			B			B			B	
Approach Delay (s)		17.7			16.4			13.7			11.4	
Approach LOS		B			B			B			B	

Intersection Summary					
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service		B	
HCM 2000 Volume to Capacity ratio	0.55				
Actuated Cycle Length (s)	55.0	Sum of lost time (s)		9.0	
Intersection Capacity Utilization	57.7%	ICU Level of Service		B	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	2	0	1	0	365	2	1	360	0
Future Volume (vph)	1	0	1	2	0	1	0	365	2	1	360	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.932			0.955			0.999				
Flt Protected		0.976			0.968							
Satd. Flow (prot)	0	1694	0	0	1722	0	0	1861	0	0	1863	0
Flt Permitted		0.976			0.968							
Satd. Flow (perm)	0	1694	0	0	1722	0	0	1861	0	0	1863	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		218.2			77.4			413.1			130.0	
Travel Time (s)		15.7			5.6			29.7			9.4	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	1	0	1	2	0	1	0	415	2	1	409	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2	0	0	3	0	0	417	0	0	410	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.7%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	1	2	0	1	0	365	2	1	360	0
Future Volume (Veh/h)	1	0	1	2	0	1	0	365	2	1	360	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	1	0	1	2	0	1	0	415	2	1	409	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	828	828	409	828	827	416	409			417		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	828	828	409	828	827	416	409			417		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	99	100	100	100			100		
cM capacity (veh/h)	290	306	642	290	307	637	1150			1142		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	2	3	417	410
Volume Left	1	2	0	1
Volume Right	1	1	2	0
cSH	399	354	1150	1142
Volume to Capacity	0.01	0.01	0.00	0.00
Queue Length 95th (m)	0.1	0.2	0.0	0.0
Control Delay (s)	14.1	15.3	0.0	0.0
Lane LOS	B	C		A
Approach Delay (s)	14.1	15.3	0.0	0.0
Approach LOS	B	C		

Intersection Summary				
Average Delay		0.1		
Intersection Capacity Utilization		29.7%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	0	15	50	0	21	16	335	17	7	287	6
Future Volume (vph)	6	0	15	50	0	21	16	335	17	7	287	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.904			0.960			0.994			0.997	
Flt Protected		0.986			0.966			0.998			0.999	
Satd. Flow (prot)	0	1660	0	0	1727	0	0	1848	0	0	1855	0
Flt Permitted		0.986			0.966			0.998			0.999	
Satd. Flow (perm)	0	1660	0	0	1727	0	0	1848	0	0	1855	0
Link Speed (k/h)		50			50			80			50	
Link Distance (m)		46.4			111.6			130.0			333.6	
Travel Time (s)		3.3			8.0			5.9			24.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	7	0	17	57	0	24	18	381	19	8	326	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	24	0	0	81	0	0	418	0	0	341	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.0%	ICU Level of Service A	
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	0	15	50	0	21	16	335	17	7	287	6
Future Volume (Veh/h)	6	0	15	50	0	21	16	335	17	7	287	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	7	0	17	57	0	24	18	381	19	8	326	7
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	796	782	330	789	776	390	333			400		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	796	782	330	789	776	390	333			400		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	98	81	100	96	99			99		
cM capacity (veh/h)	289	319	712	296	322	658	1226			1159		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	24	81	418	341
Volume Left	7	57	18	8
Volume Right	17	24	19	7
cSH	499	354	1226	1159
Volume to Capacity	0.05	0.23	0.01	0.01
Queue Length 95th (m)	1.2	7.0	0.4	0.2
Control Delay (s)	12.6	18.2	0.5	0.3
Lane LOS	B	C	A	A
Approach Delay (s)	12.6	18.2	0.5	0.3
Approach LOS	B	C		

Intersection Summary				
Average Delay		2.4		
Intersection Capacity Utilization		42.0%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	261	0	1	264	17	16	1	1	23	3	36
Future Volume (vph)	8	261	0	1	264	17	16	1	1	23	3	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt					0.992			0.993			0.921	
Flt Protected		0.999						0.957			0.982	
Satd. Flow (prot)	0	1827	0	0	1799	0	0	1806	0	0	1693	0
Flt Permitted		0.999						0.957			0.982	
Satd. Flow (perm)	0	1827	0	0	1799	0	0	1806	0	0	1693	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		264.2			459.4			60.6			189.0	
Travel Time (s)		19.0			33.1			4.4			13.6	
Confl. Peds. (#/hr)	1		6	6		1	4					4
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	4%	2%	0%	4%	17%	0%	0%	0%	4%	0%	0%
Adj. Flow (vph)	9	297	0	1	300	19	18	1	1	26	3	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	306	0	0	320	0	0	20	0	0	70	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)		0.0			0.0			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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	31.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	261	0	1	264	17	16	1	1	23	3	36
Future Volume (Veh/h)	8	261	0	1	264	17	16	1	1	23	3	36
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	9	297	0	1	300	19	18	1	1	26	3	41
Pedestrians		4						6			1	
Lane Width (m)		3.6						3.6			3.6	
Walking Speed (m/s)		1.2						1.2			1.2	
Percent Blockage		0						1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	320			303			679	643	303	629	634	314
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	320			303			679	643	303	629	634	314
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			95	100	100	93	99	94
cM capacity (veh/h)	1250			1263			339	389	738	386	394	728

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	306	320	20	70
Volume Left	9	1	18	26
Volume Right	0	19	1	41
cSH	1250	1263	351	533
Volume to Capacity	0.01	0.00	0.06	0.13
Queue Length 95th (m)	0.2	0.0	1.4	3.6
Control Delay (s)	0.3	0.0	15.9	12.8
Lane LOS	A	A	C	B
Approach Delay (s)	0.3	0.0	15.9	12.8
Approach LOS			C	B

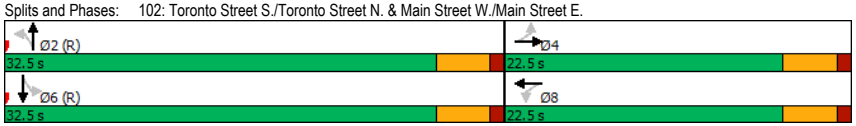
Intersection Summary					
Average Delay	1.8				
Intersection Capacity Utilization	31.1%	ICU Level of Service		A	
Analysis Period (min)	15				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	123	92	115	76	104	68	87	426	66	55	367	108
Future Volume (vph)	123	92	115	76	104	68	87	426	66	55	367	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor		0.99			0.99			1.00			0.99	
Frt		0.953			0.963			0.985			0.972	
Flt Protected		0.982			0.985			0.993			0.995	
Satd. Flow (prot)	0	1692	0	0	1740	0	0	1792	0	0	1715	0
Flt Permitted		0.749			0.789			0.855			0.900	
Satd. Flow (perm)	0	1290	0	0	1392	0	0	1543	0	0	1551	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		52			37			17			34	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		459.4			168.7			386.0			413.1	
Travel Time (s)		33.1			12.1			27.8			29.7	
Confl. Peds. (#/hr)	1		6	6		1	4					4
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	0%	4%	0%	7%	0%	5%	4%	0%	4%	8%	3%
Adj. Flow (vph)	140	105	131	86	118	77	99	484	75	63	417	123
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	376	0	0	281	0	0	658	0	0	603	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)		0.0			0.0			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
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		22.5	22.5		32.5	32.5		32.5	32.5	
Total Split (%)	40.9%	40.9%		40.9%	40.9%		59.1%	59.1%		59.1%	59.1%	
Maximum Green (s)	18.0	18.0		18.0	18.0		28.0	28.0		28.0	28.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		18.0			18.0			28.0			28.0	
Actuated g/C Ratio		0.33			0.33			0.51			0.51	
v/c Ratio		0.82			0.59			0.83			0.75	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		32.9			19.2			23.2			17.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		32.9			19.2			23.2			17.8	
LOS		C			B			C			B	
Approach Delay		32.9			19.2			23.2			17.8	
Approach LOS		C			B			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 22.8		Intersection LOS: C	
Intersection Capacity Utilization 81.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 102: Toronto Street S./Toronto Street N. & Main Street W./Main Street E.



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	376	281	658	603
v/c Ratio	0.82	0.59	0.83	0.75
Control Delay	32.9	19.2	23.2	17.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	32.9	19.2	23.2	17.8
Queue Length 50th (m)	30.6	20.5	51.8	42.8
Queue Length 95th (m)	#71.4	40.4	#109.1	#79.8
Internal Link Dist (m)	435.4	144.7	362.0	389.1
Turn Bay Length (m)				
Base Capacity (vph)	457	480	793	806
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.82	0.59	0.83	0.75

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	123	92	115	76	104	68	87	426	66	55	367	108
Future Volume (vph)	123	92	115	76	104	68	87	426	66	55	367	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.95			0.96			0.98			0.97	
Flt Protected		0.98			0.98			0.99			0.99	
Satd. Flow (prot)		1691			1738			1790			1716	
Flt Permitted		0.75			0.79			0.86			0.90	
Satd. Flow (perm)		1290			1392			1542			1552	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	140	105	131	86	118	77	99	484	75	62	417	123
RTOR Reduction (vph)	0	35	0	0	25	0	0	8	0	0	17	0
Lane Group Flow (vph)	0	341	0	0	256	0	0	650	0	0	586	0
Confl. Peds. (#/hr)	1		6	6		1	4					4
Heavy Vehicles (%)	7%	0%	4%	0%	7%	0%	5%	4%	0%	4%	8%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.0			18.0			28.0			28.0	
Effective Green, g (s)		18.0			18.0			28.0			28.0	
Actuated g/C Ratio		0.33			0.33			0.51			0.51	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		422			455			785			790	
v/s Ratio Prot												
v/s Ratio Perm		c0.26			0.18			c0.42			0.38	
v/c Ratio		0.81			0.56			0.83			0.74	
Uniform Delay, d1		16.9			15.3			11.5			10.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		15.3			5.0			9.8			6.2	
Delay (s)		32.2			20.2			21.2			16.9	
Level of Service		C			C			C			B	
Approach Delay (s)		32.2			20.2			21.2			16.9	
Approach LOS		C			C			C			B	

Intersection Summary

HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	81.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1	2	0	1	1	614	2	1	528	1
Future Volume (vph)	0	0	1	2	0	1	1	614	2	1	528	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.865			0.955							
Flt Protected					0.968							
Satd. Flow (prot)	0	1611	0	0	1722	0	0	1863	0	0	1863	0
Flt Permitted					0.968							
Satd. Flow (perm)	0	1611	0	0	1722	0	0	1863	0	0	1863	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		218.2			77.4			413.1			127.2	
Travel Time (s)		15.7			5.6			29.7			9.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	0	1	2	0	1	1	698	2	1	600	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	3	0	0	701	0	0	602	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	1	2	0	1	1	614	2	1	528	1
Future Volume (Veh/h)	0	0	1	2	0	1	1	614	2	1	528	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	0	1	2	0	1	1	698	2	1	600	1
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1304	1304	600	1304	1304	699	601			700		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1304	1304	600	1304	1304	699	601			700		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	99	100	100	100			100		
cM capacity (veh/h)	137	160	501	137	160	440	976			897		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1	3	701	602
Volume Left	0	2	1	1
Volume Right	1	1	2	1
cSH	501	177	976	897
Volume to Capacity	0.00	0.02	0.00	0.00
Queue Length 95th (m)	0.0	0.4	0.0	0.0
Control Delay (s)	12.2	25.6	0.0	0.0
Lane LOS	B	D	A	A
Approach Delay (s)	12.2	25.6	0.0	0.0
Approach LOS	B	D		

Intersection Summary				
Average Delay		0.1		
Intersection Capacity Utilization		43.2%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	0	28	30	0	16	32	527	51	23	465	14
Future Volume (vph)	15	0	28	30	0	16	32	527	51	23	465	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.912			0.953			0.989			0.996	
Flt Protected		0.983			0.968			0.997			0.998	
Satd. Flow (prot)	0	1670	0	0	1718	0	0	1837	0	0	1852	0
Flt Permitted		0.983			0.968			0.997			0.998	
Satd. Flow (perm)	0	1670	0	0	1718	0	0	1837	0	0	1852	0
Link Speed (k/h)		50			50			80			50	
Link Distance (m)		46.6			119.5			127.2			336.4	
Travel Time (s)		3.4			8.6			5.7			24.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	17	0	32	34	0	18	36	599	58	26	528	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	49	0	0	52	0	0	693	0	0	570	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.7%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	0	28	30	0	16	32	527	51	23	465	14
Future Volume (Veh/h)	15	0	28	30	0	16	32	527	51	23	465	14
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	17	0	32	34	0	18	36	599	58	26	528	16
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1306	1317	536	1320	1296	628	544			657		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1306	1317	536	1320	1296	628	544			657		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	86	100	94	72	100	96	96			97		
cM capacity (veh/h)	126	148	545	120	152	483	1025			931		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	49	52	693	570
Volume Left	17	34	36	26
Volume Right	32	18	58	16
cSH	252	162	1025	931
Volume to Capacity	0.19	0.32	0.04	0.03
Queue Length 95th (m)	5.6	10.4	0.9	0.7
Control Delay (s)	22.7	37.3	0.9	0.8
Lane LOS	C	E	A	A
Approach Delay (s)	22.7	37.3	0.9	0.8
Approach LOS	C	E		

Intersection Summary				
Average Delay		3.0		
Intersection Capacity Utilization		53.7%	ICU Level of Service	A
Analysis Period (min)		15		

Lanes, Volumes, Timings
101: Wellington Street S./Wellington Street N. & Main Street W.

07-09-2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	161	1	0	155	21	0	4	3	38	1	29
Future Volume (vph)	30	161	1	0	155	21	0	4	3	38	1	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.999			0.984			0.949			0.942	
Flt Protected		0.992									0.973	
Satd. Flow (prot)	0	1712	0	0	1706	0	0	1803	0	0	1550	0
Flt Permitted		0.992									0.973	
Satd. Flow (perm)	0	1712	0	0	1706	0	0	1803	0	0	1550	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		264.2			459.4			60.6			189.0	
Travel Time (s)		19.0			33.1			4.4			13.6	
Confl. Peds. (#/hr)	2		4	4		2	3		4	4		3
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	10%	10%	0%	2%	8%	21%	2%	0%	0%	16%	0%	8%
Adj. Flow (vph)	34	183	1	0	176	24	0	5	3	43	1	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	218	0	0	200	0	0	8	0	0	77	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)		0.0			0.0			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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	41.3%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
101: Wellington Street S./Wellington Street N. & Main Street W.

07-09-2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	161	1	0	155	21	0	4	3	38	1	29
Future Volume (Veh/h)	30	161	1	0	155	21	0	4	3	38	1	29
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	34	183	1	0	176	24	0	5	3	43	1	33
Pedestrians		3			4			4			2	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	202			188			480	458	192	451	446	193
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	202			188			480	458	192	451	446	193
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.3	6.5	6.3
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.6	4.0	3.4
p0 queue free %	97			100			100	99	100	91	100	96
cM capacity (veh/h)	1321			1382			462	487	850	476	495	830

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	218	200	8	77
Volume Left	34	0	0	43
Volume Right	1	24	3	33
cSH	1321	1382	580	583
Volume to Capacity	0.03	0.00	0.01	0.13
Queue Length 95th (m)	0.6	0.0	0.3	3.6
Control Delay (s)	1.4	0.0	11.3	12.1
Lane LOS	A		B	B
Approach Delay (s)	1.4	0.0	11.3	12.1
Approach LOS			B	B

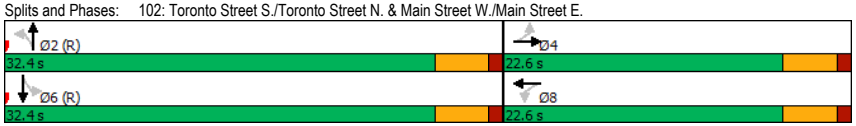
Intersection Summary				
Average Delay		2.6		
Intersection Capacity Utilization		41.3%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	83	91	68	66	44	81	278	61	43	296	43
Future Volume (vph)	63	83	91	68	66	44	81	278	61	43	296	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor		0.99			0.99			1.00			1.00	
Frt		0.948			0.967			0.980			0.985	
Flt Protected		0.987			0.981			0.990			0.994	
Satd. Flow (prot)	0	1635	0	0	1666	0	0	1630	0	0	1691	0
Flt Permitted		0.875			0.817			0.855			0.917	
Satd. Flow (perm)	0	1448	0	0	1387	0	0	1408	0	0	1559	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		61			32			22			17	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		459.4			168.7			386.0			413.1	
Travel Time (s)		33.1			12.1			27.8			29.7	
Confl. Peds. (#/hr)	3		1	1		3	1		1	1		1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	7%	12%	9%	7%	6%	18%	12%	9%	0%	10%	18%
Adj. Flow (vph)	72	94	103	77	75	50	92	316	69	49	336	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	269	0	0	202	0	0	477	0	0	434	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)		0.0			0.0			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
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.6	22.6		22.6	22.6		32.4	32.4		32.4	32.4	
Total Split (%)	41.1%	41.1%		41.1%	41.1%		58.9%	58.9%		58.9%	58.9%	
Maximum Green (s)	18.1	18.1		18.1	18.1		27.9	27.9		27.9	27.9	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		18.1			18.1			27.9			27.9	
Actuated g/C Ratio		0.33			0.33			0.51			0.51	
v/c Ratio		0.52			0.42			0.66			0.54	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		15.7			15.3			15.0			12.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		15.7			15.3			15.0			12.0	
LOS		B			B			B			B	
Approach Delay		15.7			15.3			15.0			12.0	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 14.2		Intersection LOS: B	
Intersection Capacity Utilization 60.2%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 102: Toronto Street S./Toronto Street N. & Main Street W./Main Street E.



Queues

102: Toronto Street S./Toronto Street N. & Main Street W./Main Street E.

07-09-2021

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	269	202	477	434
v/c Ratio	0.52	0.42	0.66	0.54
Control Delay	15.7	15.3	15.0	12.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.7	15.3	15.0	12.0
Queue Length 50th (m)	16.7	13.3	31.9	26.8
Queue Length 95th (m)	34.8	28.0	58.5	47.3
Internal Link Dist (m)	435.4	144.7	362.0	389.1
Turn Bay Length (m)				
Base Capacity (vph)	517	477	725	799
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.52	0.42	0.66	0.54

Intersection Summary

HCM Signalized Intersection Capacity Analysis

102: Toronto Street S./Toronto Street N. & Main Street W./Main Street E.

07-09-2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	83	91	68	66	44	81	278	61	43	296	43
Future Volume (vph)	63	83	91	68	66	44	81	278	61	43	296	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.95			0.97			0.98			0.98	
Flt Protected		0.99			0.98			0.99			0.99	
Satd. Flow (prot)		1634			1665			1632			1691	
Flt Permitted		0.87			0.82			0.85			0.92	
Satd. Flow (perm)		1448			1386			1408			1559	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	72	94	103	77	75	50	92	316	69	49	336	49
RTOR Reduction (vph)	0	41	0	0	21	0	0	11	0	0	8	0
Lane Group Flow (vph)	0	228	0	0	181	0	0	466	0	0	426	0
Confl. Peds. (#/hr)	3		1	1		3	1		1	1		1
Heavy Vehicles (%)	3%	7%	12%	9%	7%	6%	18%	12%	9%	0%	10%	18%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.1			18.1			27.9			27.9	
Effective Green, g (s)		18.1			18.1			27.9			27.9	
Actuated g/C Ratio		0.33			0.33			0.51			0.51	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		476			456			714			790	
v/s Ratio Prot												
v/s Ratio Perm		c0.16			0.13			c0.33			0.27	
v/c Ratio		0.48			0.40			0.65			0.54	
Uniform Delay, d1		14.7			14.2			10.0			9.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.4			2.6			4.6			2.6	
Delay (s)		18.1			16.8			14.6			11.8	
Level of Service		B			B			B			B	
Approach Delay (s)		18.1			16.8			14.6			11.8	
Approach LOS		B			B			B			B	

Intersection Summary					
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service		B	
HCM 2000 Volume to Capacity ratio	0.58				
Actuated Cycle Length (s)	55.0	Sum of lost time (s)		9.0	
Intersection Capacity Utilization	60.2%	ICU Level of Service		B	
Analysis Period (min)	15				
c Critical Lane Group					

Lanes, Volumes, Timings
103: Toronto Street N. & A Street/Greenview Lane 07-09-2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	2	0	1	0	383	2	1	379	0
Future Volume (vph)	1	0	1	2	0	1	0	383	2	1	379	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.932			0.955			0.999				
Flt Protected		0.976			0.968							
Satd. Flow (prot)	0	1694	0	0	1722	0	0	1861	0	0	1863	0
Flt Permitted		0.976			0.968							
Satd. Flow (perm)	0	1694	0	0	1722	0	0	1861	0	0	1863	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		218.2			77.4			413.1			130.0	
Travel Time (s)		15.7			5.6			29.7			9.4	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	1	0	1	2	0	1	0	435	2	1	431	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2	0	0	3	0	0	437	0	0	432	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.7%		ICU Level of Service A	
Analysis Period (min) 15			

HCM Unsignalized Intersection Capacity Analysis
103: Toronto Street N. & A Street/Greenview Lane 07-09-2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	1	2	0	1	0	383	2	1	379	0
Future Volume (Veh/h)	1	0	1	2	0	1	0	383	2	1	379	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	1	0	1	2	0	1	0	435	2	1	431	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	870	870	431	870	869	436	431			437		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	870	870	431	870	869	436	431			437		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	99	100	100	100			100		
cM capacity (veh/h)	271	289	624	271	290	620	1129			1123		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	2	3	437	432
Volume Left	1	2	0	1
Volume Right	1	1	2	0
cSH	378	334	1129	1123
Volume to Capacity	0.01	0.01	0.00	0.00
Queue Length 95th (m)	0.1	0.2	0.0	0.0
Control Delay (s)	14.6	15.9	0.0	0.0
Lane LOS	B	C		A
Approach Delay (s)	14.6	15.9	0.0	0.0
Approach LOS	B	C		

Intersection Summary				
Average Delay		0.1		
Intersection Capacity Utilization		30.7%	ICU Level of Service	A
Analysis Period (min)		15		

Lanes, Volumes, Timings
104: Highway 10/Toronto Street N. & Private Driveway/Fairway Heights 07-09-2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	0	15	53	0	22	17	352	18	8	302	7
Future Volume (vph)	7	0	15	53	0	22	17	352	18	8	302	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.908			0.960			0.994			0.997	
Flt Protected		0.984			0.966			0.998			0.999	
Satd. Flow (prot)	0	1664	0	0	1727	0	0	1848	0	0	1855	0
Flt Permitted		0.984			0.966			0.998			0.999	
Satd. Flow (perm)	0	1664	0	0	1727	0	0	1848	0	0	1855	0
Link Speed (k/h)		50			50			80			50	
Link Distance (m)		46.4			111.6			130.0			333.6	
Travel Time (s)		3.3			8.0			5.9			24.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	8	0	17	60	0	25	19	400	20	9	343	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	25	0	0	85	0	0	439	0	0	360	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
104: Highway 10/Toronto Street N. & Private Driveway/Fairway Heights 07-09-2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	0	15	53	0	22	17	352	18	8	302	7
Future Volume (Veh/h)	7	0	15	53	0	22	17	352	18	8	302	7
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	8	0	17	60	0	25	19	400	20	9	343	8
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	838	823	347	830	817	410	351			420		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	838	823	347	830	817	410	351			420		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	98	78	100	96	98			99		
cM capacity (veh/h)	270	301	696	277	304	642	1208			1139		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	25	85	439	360
Volume Left	8	60	19	9
Volume Right	17	25	20	8
cSH	462	333	1208	1139
Volume to Capacity	0.05	0.26	0.02	0.01
Queue Length 95th (m)	1.4	8.0	0.4	0.2
Control Delay (s)	13.2	19.5	0.5	0.3
Lane LOS	B	C	A	A
Approach Delay (s)	13.2	19.5	0.5	0.3
Approach LOS	B	C		

Intersection Summary				
Average Delay	2.5			
Intersection Capacity Utilization	43.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	274	0	1	277	18	17	1	1	24	3	38
Future Volume (vph)	9	274	0	1	277	18	17	1	1	24	3	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt					0.992			0.994			0.920	
Flt Protected		0.998						0.957			0.982	
Satd. Flow (prot)	0	1825	0	0	1799	0	0	1807	0	0	1692	0
Flt Permitted		0.998						0.957			0.982	
Satd. Flow (perm)	0	1825	0	0	1799	0	0	1807	0	0	1692	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		264.2			459.4			60.6			189.0	
Travel Time (s)		19.0			33.1			4.4			13.6	
Confl. Peds. (#/hr)	1		6	6		1	4					4
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	4%	2%	0%	4%	17%	0%	0%	0%	4%	0%	0%
Adj. Flow (vph)	10	311	0	1	315	20	19	1	1	27	3	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	321	0	0	336	0	0	21	0	0	73	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)		0.0			0.0			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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	32.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	274	0	1	277	18	17	1	1	24	3	38
Future Volume (Veh/h)	9	274	0	1	277	18	17	1	1	24	3	38
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	10	311	0	1	315	20	19	1	1	27	3	43
Pedestrians		4						6			1	
Lane Width (m)		3.6						3.6			3.6	
Walking Speed (m/s)		1.2						1.2			1.2	
Percent Blockage		0						1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	336			317			712	675	317	660	665	330
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	336			317			712	675	317	660	665	330
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			94	100	100	93	99	94
cM capacity (veh/h)	1234			1248			320	373	725	368	378	713

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	321	336	21	73
Volume Left	10	1	19	27
Volume Right	0	20	1	43
cSH	1234	1248	331	515
Volume to Capacity	0.01	0.00	0.06	0.14
Queue Length 95th (m)	0.2	0.0	1.6	3.9
Control Delay (s)	0.3	0.0	16.6	13.1
Lane LOS	A	A	C	B
Approach Delay (s)	0.3	0.0	16.6	13.1
Approach LOS			C	B

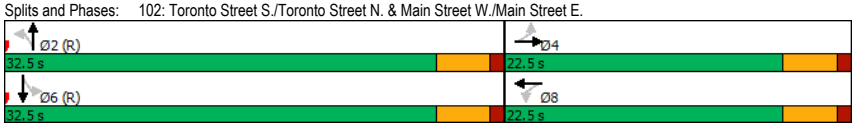
Intersection Summary				
Average Delay		1.9		
Intersection Capacity Utilization		32.7%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	97	120	80	109	72	92	447	70	57	386	114
Future Volume (vph)	129	97	120	80	109	72	92	447	70	57	386	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor		0.99			0.99			1.00			0.99	
Frt		0.953			0.963			0.984			0.972	
Flt Protected		0.982			0.985			0.992			0.995	
Satd. Flow (prot)	0	1693	0	0	1741	0	0	1789	0	0	1715	0
Flt Permitted		0.737			0.776			0.843			0.898	
Satd. Flow (perm)	0	1270	0	0	1370	0	0	1520	0	0	1548	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		51			37			17			34	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		459.4			168.7			386.0			413.1	
Travel Time (s)		33.1			12.1			27.8			29.7	
Confl. Peds. (#/hr)	1		6	6		1	4					4
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	0%	4%	0%	7%	0%	5%	4%	0%	4%	8%	3%
Adj. Flow (vph)	147	110	136	91	124	82	105	508	80	65	439	130
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	393	0	0	297	0	0	693	0	0	634	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)		0.0			0.0			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
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		22.5	22.5		32.5	32.5		32.5	32.5	
Total Split (%)	40.9%	40.9%		40.9%	40.9%		59.1%	59.1%		59.1%	59.1%	
Maximum Green (s)	18.0	18.0		18.0	18.0		28.0	28.0		28.0	28.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		18.0			18.0			28.0			28.0	
Actuated g/C Ratio		0.33			0.33			0.51			0.51	
v/c Ratio		0.88			0.63			0.89			0.79	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		39.5			20.7			28.7			20.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		39.5			20.7			28.7			20.0	
LOS		D			C			C			C	
Approach Delay		39.5			20.7			28.7			20.0	
Approach LOS		D			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 26.9		Intersection LOS: C	
Intersection Capacity Utilization 85.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 102: Toronto Street S./Toronto Street N. & Main Street W./Main Street E.



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	393	297	693	634
v/c Ratio	0.88	0.63	0.89	0.79
Control Delay	39.5	20.7	28.7	20.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	39.5	20.7	28.7	20.0
Queue Length 50th (m)	33.2	22.3	57.6	46.8
Queue Length 95th (m)	#77.0	43.6	#119.7	#100.6
Internal Link Dist (m)	435.4	144.7	362.0	389.1
Turn Bay Length (m)				
Base Capacity (vph)	449	473	782	804
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.88	0.63	0.89	0.79

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	97	120	80	109	72	92	447	70	57	386	114
Future Volume (vph)	129	97	120	80	109	72	92	447	70	57	386	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.95			0.96			0.98			0.97	
Flt Protected		0.98			0.98			0.99			0.99	
Satd. Flow (prot)		1692			1738			1790			1716	
Flt Permitted		0.74			0.78			0.84			0.90	
Satd. Flow (perm)		1270			1370			1519			1548	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	147	110	136	91	124	82	105	508	80	65	439	130
RTOR Reduction (vph)	0	34	0	0	25	0	0	8	0	0	17	0
Lane Group Flow (vph)	0	359	0	0	272	0	0	685	0	0	617	0
Confl. Peds. (#/hr)	1		6	6		1	4					4
Heavy Vehicles (%)	7%	0%	4%	0%	7%	0%	5%	4%	0%	4%	8%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.0			18.0			28.0			28.0	
Effective Green, g (s)		18.0			18.0			28.0			28.0	
Actuated g/C Ratio		0.33			0.33			0.51			0.51	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		415			448			773			788	
v/s Ratio Prot												
v/s Ratio Perm		c0.28			0.20			c0.45			0.40	
v/c Ratio		0.86			0.61			0.89			0.78	
Uniform Delay, d1		17.4			15.5			12.1			11.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		20.6			6.0			14.2			7.7	
Delay (s)		38.0			21.5			26.2			18.7	
Level of Service		D			C			C			B	
Approach Delay (s)		38.0			21.5			26.2			18.7	
Approach LOS		D			C			C			B	

Intersection Summary

HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	85.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1	2	0	1	1	645	2	1	555	1
Future Volume (vph)	0	0	1	2	0	1	1	645	2	1	555	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.865			0.955							
Flt Protected					0.968							
Satd. Flow (prot)	0	1611	0	0	1722	0	0	1863	0	0	1863	0
Flt Permitted					0.968							
Satd. Flow (perm)	0	1611	0	0	1722	0	0	1863	0	0	1863	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		218.2			77.4			413.1			127.2	
Travel Time (s)		15.7			5.6			29.7			9.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	0	1	2	0	1	1	733	2	1	631	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	3	0	0	736	0	0	633	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	44.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	1	2	0	1	1	645	2	1	555	1
Future Volume (Veh/h)	0	0	1	2	0	1	1	645	2	1	555	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	0	1	2	0	1	1	733	2	1	631	1
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1370	1370	632	1370	1370	734	632			735		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1370	1370	632	1370	1370	734	632			735		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	98	100	100	100			100		
cM capacity (veh/h)	123	146	481	123	146	420	951			870		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1	3	736	633
Volume Left	0	2	1	1
Volume Right	1	1	2	1
cSH	481	161	951	870
Volume to Capacity	0.00	0.02	0.00	0.00
Queue Length 95th (m)	0.1	0.5	0.0	0.0
Control Delay (s)	12.5	27.8	0.0	0.0
Lane LOS	B	D	A	A
Approach Delay (s)	12.5	27.8	0.0	0.0
Approach LOS	B	D		

Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	44.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	0	30	32	0	17	33	553	54	24	488	14
Future Volume (vph)	15	0	30	32	0	17	33	553	54	24	488	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.910			0.953			0.989			0.996	
Flt Protected		0.984			0.968			0.997			0.998	
Satd. Flow (prot)	0	1668	0	0	1718	0	0	1837	0	0	1852	0
Flt Permitted		0.984			0.968			0.997			0.998	
Satd. Flow (perm)	0	1668	0	0	1718	0	0	1837	0	0	1852	0
Link Speed (k/h)		50			50			80			50	
Link Distance (m)		46.6			119.5			127.2			336.4	
Travel Time (s)		3.4			8.6			5.7			24.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	17	0	34	36	0	19	38	628	61	27	555	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	51	0	0	55	0	0	727	0	0	598	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	0	30	32	0	17	33	553	54	24	488	14
Future Volume (Veh/h)	15	0	30	32	0	17	33	553	54	24	488	14
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	17	0	34	36	0	19	38	628	61	27	555	16
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1370	1382	563	1386	1360	658	571			689		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1370	1382	563	1386	1360	658	571			689		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	85	100	94	66	100	96	96			97		
cM capacity (veh/h)	112	134	526	107	139	464	1002			905		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	51	55	727	598
Volume Left	17	36	38	27
Volume Right	34	19	61	16
cSH	236	146	1002	905
Volume to Capacity	0.22	0.38	0.04	0.03
Queue Length 95th (m)	6.4	12.8	0.9	0.7
Control Delay (s)	24.4	43.9	1.0	0.8
Lane LOS	C	E	A	A
Approach Delay (s)	24.4	43.9	1.0	0.8
Approach LOS	C	E		

Intersection Summary				
Average Delay	3.4			
Intersection Capacity Utilization	56.1%	ICU Level of Service	B	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	153	1	0	147	57	0	4	3	47	1	29
Future Volume (vph)	34	153	1	0	147	57	0	4	3	47	1	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.999			0.962			0.949			0.949	
Flt Protected		0.991									0.970	
Satd. Flow (prot)	0	1711	0	0	1637	0	0	1803	0	0	1551	0
Flt Permitted		0.991									0.970	
Satd. Flow (perm)	0	1711	0	0	1637	0	0	1803	0	0	1551	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		264.2			459.4			60.6			189.0	
Travel Time (s)		19.0			33.1			4.4			13.6	
Confl. Peds. (#/hr)	2		4	4		2	3		4	4		3
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	10%	10%	0%	2%	8%	21%	2%	0%	0%	16%	0%	8%
Adj. Flow (vph)	39	174	1	0	167	65	0	5	3	53	1	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	214	0	0	232	0	0	8	0	0	87	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)		0.0			0.0			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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	153	1	0	147	57	0	4	3	47	1	29
Future Volume (Veh/h)	34	153	1	0	147	57	0	4	3	47	1	29
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	39	174	1	0	167	65	0	5	3	53	1	33
Pedestrians		3			4			4			2	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	234			179			492	490	182	464	458	204
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	234			179			492	490	182	464	458	204
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.3	6.5	6.3
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.6	4.0	3.4
p0 queue free %	97			100			100	99	100	89	100	96
cM capacity (veh/h)	1286			1392			451	465	859	465	484	818

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	214	232	8	87
Volume Left	39	0	0	53
Volume Right	1	65	3	33
cSH	1286	1392	561	556
Volume to Capacity	0.03	0.00	0.01	0.16
Queue Length 95th (m)	0.8	0.0	0.3	4.4
Control Delay (s)	1.7	0.0	11.5	12.7
Lane LOS	A		B	B
Approach Delay (s)	1.7	0.0	11.5	12.7
Approach LOS			B	B

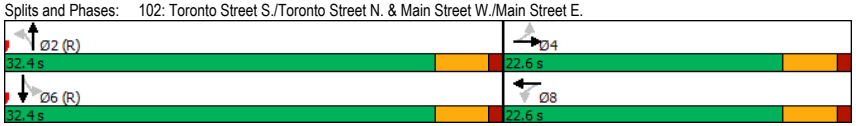
Intersection Summary				
Average Delay	2.9			
Intersection Capacity Utilization	43.2%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	81	91	65	70	42	94	265	58	41	282	54
Future Volume (vph)	64	81	91	65	70	42	94	265	58	41	282	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor		0.99			0.99			1.00			1.00	
Frt		0.948			0.968			0.981			0.981	
Flt Protected		0.987			0.982			0.989			0.995	
Satd. Flow (prot)	0	1635	0	0	1670	0	0	1627	0	0	1680	0
Flt Permitted		0.873			0.826			0.838			0.920	
Satd. Flow (perm)	0	1445	0	0	1405	0	0	1379	0	0	1553	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		61			30			21			22	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		459.4			168.7			386.0			413.1	
Travel Time (s)		33.1			12.1			27.8			29.7	
Confl. Peds. (#/hr)	3		1	1		3	1		1	1		1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	7%	12%	9%	7%	6%	18%	12%	9%	0%	10%	18%
Adj. Flow (vph)	73	92	103	74	80	48	107	301	66	47	320	61
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	268	0	0	202	0	0	474	0	0	428	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)		0.0			0.0			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
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.6	22.6		22.6	22.6		32.4	32.4		32.4	32.4	
Total Split (%)	41.1%	41.1%		41.1%	41.1%		58.9%	58.9%		58.9%	58.9%	
Maximum Green (s)	18.1	18.1		18.1	18.1		27.9	27.9		27.9	27.9	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		18.1			18.1			27.9			27.9	
Actuated g/C Ratio		0.33			0.33			0.51			0.51	
v/c Ratio		0.52			0.42			0.67			0.54	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		15.7			15.4			15.4			11.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		15.7			15.4			15.4			11.8	
LOS		B			B			B			B	
Approach Delay		15.7			15.4			15.4			11.8	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 14.3		Intersection LOS: B	
Intersection Capacity Utilization 63.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 102: Toronto Street S./Toronto Street N. & Main Street W./Main Street E.



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	268	202	474	428
v/c Ratio	0.52	0.42	0.67	0.54
Control Delay	15.7	15.4	15.4	11.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.7	15.4	15.4	11.8
Queue Length 50th (m)	16.6	13.5	32.0	25.9
Queue Length 95th (m)	34.7	28.1	59.0	46.2
Internal Link Dist (m)	435.4	144.7	362.0	389.1
Turn Bay Length (m)				
Base Capacity (vph)	516	482	709	798
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.52	0.42	0.67	0.54

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	81	91	65	70	42	94	265	58	41	282	54
Future Volume (vph)	64	81	91	65	70	42	94	265	58	41	282	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.95			0.97			0.98			0.98	
Flt Protected		0.99			0.98			0.99			0.99	
Satd. Flow (prot)		1633			1670			1627			1679	
Flt Permitted		0.87			0.83			0.84			0.92	
Satd. Flow (perm)		1446			1405			1379			1554	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	73	92	103	74	80	48	107	301	66	47	320	61
RTOR Reduction (vph)	0	41	0	0	20	0	0	10	0	0	11	0
Lane Group Flow (vph)	0	227	0	0	182	0	0	464	0	0	417	0
Confl. Peds. (#/hr)	3		1	1		3	1		1	1		1
Heavy Vehicles (%)	3%	7%	12%	9%	7%	6%	18%	12%	9%	0%	10%	18%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.1			18.1			27.9			27.9	
Effective Green, g (s)		18.1			18.1			27.9			27.9	
Actuated g/C Ratio		0.33			0.33			0.51			0.51	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		475			462			699			788	
v/s Ratio Prot												
v/s Ratio Perm		c0.16			0.13			c0.34			0.27	
v/c Ratio		0.48			0.39			0.66			0.53	
Uniform Delay, d1		14.7			14.2			10.1			9.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.4			2.5			4.9			2.5	
Delay (s)		18.1			16.7			15.0			11.7	
Level of Service		B			B			B			B	
Approach Delay (s)		18.1			16.7			15.0			11.7	
Approach LOS		B			B			B			B	

Intersection Summary				
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.59			
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	9.0	
Intersection Capacity Utilization	63.7%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	2	0	1	0	369	2	1	373	0
Future Volume (vph)	1	0	1	2	0	1	0	369	2	1	373	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.932			0.955			0.999				
Flt Protected		0.976			0.968							
Satd. Flow (prot)	0	1694	0	0	1722	0	0	1861	0	0	1863	0
Flt Permitted		0.976			0.968							
Satd. Flow (perm)	0	1694	0	0	1722	0	0	1861	0	0	1863	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		218.2			77.4			413.1			130.0	
Travel Time (s)		15.7			5.6			29.7			9.4	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	1	0	1	2	0	1	0	419	2	1	424	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2	0	0	3	0	0	421	0	0	425	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.4%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	1	2	0	1	0	369	2	1	373	0
Future Volume (Veh/h)	1	0	1	2	0	1	0	369	2	1	373	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	1	0	1	2	0	1	0	419	2	1	424	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	847	847	424	847	846	420	424			421		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	847	847	424	847	846	420	424			421		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	99	100	100	100			100		
cM capacity (veh/h)	281	298	630	281	299	633	1135			1138		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	2	3	421	425
Volume Left	1	2	0	1
Volume Right	1	1	2	0
cSH	389	345	1135	1138
Volume to Capacity	0.01	0.01	0.00	0.00
Queue Length 95th (m)	0.1	0.2	0.0	0.0
Control Delay (s)	14.3	15.5	0.0	0.0
Lane LOS	B	C		A
Approach Delay (s)	14.3	15.5	0.0	0.0
Approach LOS	B	C		

Intersection Summary				
Average Delay		0.1		
Intersection Capacity Utilization		30.4%	ICU Level of Service	A
Analysis Period (min)		15		

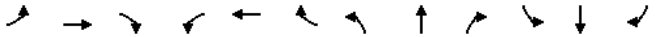
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	0	15	50	0	21	16	339	17	7	300	6
Future Volume (vph)	6	0	15	50	0	21	16	339	17	7	300	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.904			0.960			0.994			0.997	
Flt Protected		0.986			0.966			0.998			0.999	
Satd. Flow (prot)	0	1660	0	0	1727	0	0	1848	0	0	1855	0
Flt Permitted		0.986			0.966			0.998			0.999	
Satd. Flow (perm)	0	1660	0	0	1727	0	0	1848	0	0	1855	0
Link Speed (k/h)		50			50			80			50	
Link Distance (m)		46.4			111.6			130.0			333.6	
Travel Time (s)		3.3			8.0			5.9			24.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	7	0	17	57	0	24	18	385	19	8	341	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	24	0	0	81	0	0	422	0	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	0	15	50	0	21	16	339	17	7	300	6
Future Volume (Veh/h)	6	0	15	50	0	21	16	339	17	7	300	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	7	0	17	57	0	24	18	385	19	8	341	7
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	815	800	344	808	794	394	348			404		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	815	800	344	808	794	394	348			404		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	98	80	100	96	99			99		
cM capacity (veh/h)	281	311	698	287	314	655	1211			1155		

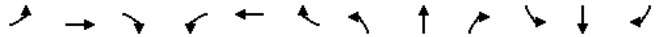
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	24	81	422	356
Volume Left	7	57	18	8
Volume Right	17	24	19	7
cSH	487	345	1211	1155
Volume to Capacity	0.05	0.24	0.01	0.01
Queue Length 95th (m)	1.2	7.2	0.4	0.2
Control Delay (s)	12.8	18.6	0.5	0.3
Lane LOS	B	C	A	A
Approach Delay (s)	12.8	18.6	0.5	0.3
Approach LOS	B	C		

Intersection Summary				
Average Delay		2.4		
Intersection Capacity Utilization		42.3%	ICU Level of Service	A
Analysis Period (min)		15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	261	0	1	264	32	16	1	1	56	3	44
Future Volume (vph)	12	261	0	1	264	32	16	1	1	56	3	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt					0.986			0.993			0.942	
Flt Protected		0.998						0.957			0.973	
Satd. Flow (prot)	0	1826	0	0	1778	0	0	1806	0	0	1704	0
Flt Permitted		0.998						0.957			0.973	
Satd. Flow (perm)	0	1826	0	0	1778	0	0	1806	0	0	1704	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		264.2			459.4			60.6			189.0	
Travel Time (s)		19.0			33.1			4.4			13.6	
Confl. Peds. (#/hr)	1		6	6		1	4					4
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	4%	2%	0%	4%	17%	0%	0%	0%	4%	0%	0%
Adj. Flow (vph)	14	297	0	1	300	36	18	1	1	64	3	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	311	0	0	337	0	0	20	0	0	117	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)		0.0			0.0			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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	36.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	261	0	1	264	32	16	1	1	56	3	44
Future Volume (Veh/h)	12	261	0	1	264	32	16	1	1	56	3	44
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	14	297	0	1	300	36	18	1	1	64	3	50
Pedestrians		4						6			1	
Lane Width (m)		3.6						3.6			3.6	
Walking Speed (m/s)		1.2						1.2			1.2	
Percent Blockage		0						1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	337			303			706	670	303	648	652	323
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	337			303			706	670	303	648	652	323
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			94	100	100	83	99	93
cM capacity (veh/h)	1232			1263			319	374	738	374	383	720

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	311	337	20	117
Volume Left	14	1	18	64
Volume Right	0	36	1	50
cSH	1232	1263	331	471
Volume to Capacity	0.01	0.00	0.06	0.25
Queue Length 95th (m)	0.3	0.0	1.5	7.8
Control Delay (s)	0.5	0.0	16.6	15.1
Lane LOS	A	A	C	C
Approach Delay (s)	0.5	0.0	16.6	15.1
Approach LOS			C	C

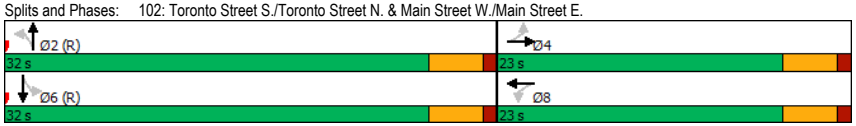
Intersection Summary				
Average Delay	2.9			
Intersection Capacity Utilization	36.1%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	138	96	129	76	107	68	93	426	66	55	367	114
Future Volume (vph)	138	96	129	76	107	68	93	426	66	55	367	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor		0.99			0.99			1.00			0.99	
Frt		0.952			0.964			0.985			0.971	
Flt Protected		0.981			0.985			0.992			0.995	
Satd. Flow (prot)	0	1687	0	0	1741	0	0	1790	0	0	1714	0
Flt Permitted		0.744			0.782			0.839			0.901	
Satd. Flow (perm)	0	1279	0	0	1381	0	0	1514	0	0	1552	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		55			37			17			35	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		459.4			168.7			386.0			413.1	
Travel Time (s)		33.1			12.1			27.8			29.7	
Confl. Peds. (#/hr)	1		6	6		1	4					4
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	0%	4%	0%	7%	0%	5%	4%	0%	4%	8%	3%
Adj. Flow (vph)	157	109	147	86	122	77	106	484	75	63	417	130
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	413	0	0	285	0	0	665	0	0	610	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)		0.0			0.0			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
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0		32.0	32.0		32.0	32.0	
Total Split (%)	41.8%	41.8%		41.8%	41.8%		58.2%	58.2%		58.2%	58.2%	
Maximum Green (s)	18.5	18.5		18.5	18.5		27.5	27.5		27.5	27.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		18.5			18.5			27.5			27.5	
Actuated g/C Ratio		0.34			0.34			0.50			0.50	
v/c Ratio		0.89			0.58			0.87			0.77	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		40.1			18.8			27.4			19.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		40.1			18.8			27.4			19.2	
LOS		D			B			C			B	
Approach Delay		40.1			18.8			27.4			19.2	
Approach LOS		D			B			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 26.3		Intersection LOS: C	
Intersection Capacity Utilization 86.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 102: Toronto Street S./Toronto Street N. & Main Street W./Main Street E.



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	413	285	665	610
v/c Ratio	0.89	0.58	0.87	0.77
Control Delay	40.1	18.8	27.4	19.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	40.1	18.8	27.4	19.2
Queue Length 50th (m)	34.8	20.6	54.9	44.4
Queue Length 95th (m)	#80.1	40.7	#114.4	#95.5
Internal Link Dist (m)	435.4	144.7	362.0	389.1
Turn Bay Length (m)				
Base Capacity (vph)	466	489	765	793
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.89	0.58	0.87	0.77

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	138	96	129	76	107	68	93	426	66	55	367	114
Future Volume (vph)	138	96	129	76	107	68	93	426	66	55	367	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.95			0.96			0.98			0.97	
Flt Protected		0.98			0.99			0.99			0.99	
Satd. Flow (prot)		1687			1739			1789			1714	
Flt Permitted		0.74			0.78			0.84			0.90	
Satd. Flow (perm)		1279			1380			1513			1553	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	157	109	147	86	122	77	106	484	75	62	417	130
RTOR Reduction (vph)	0	37	0	0	25	0	0	9	0	0	18	0
Lane Group Flow (vph)	0	377	0	0	260	0	0	657	0	0	593	0
Confl. Peds. (#/hr)	1		6	6		1	4					4
Heavy Vehicles (%)	7%	0%	4%	0%	7%	0%	5%	4%	0%	4%	8%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.5			18.5			27.5			27.5	
Effective Green, g (s)		18.5			18.5			27.5			27.5	
Actuated g/C Ratio		0.34			0.34			0.50			0.50	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		430			464			756			776	
v/s Ratio Prot												
v/s Ratio Perm		c0.29			0.19			c0.43			0.38	
v/c Ratio		0.88			0.56			0.87			0.76	
Uniform Delay, d1		17.2			14.9			12.2			11.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		21.3			4.8			12.9			7.0	
Delay (s)		38.5			19.8			25.1			18.1	
Level of Service		D			B			C			B	
Approach Delay (s)		38.5			19.8			25.1			18.1	
Approach LOS		D			B			C			B	

Intersection Summary

HCM 2000 Control Delay	25.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1	2	0	1	1	629	2	1	534	1
Future Volume (vph)	0	0	1	2	0	1	1	629	2	1	534	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.865			0.955							
Flt Protected					0.968							
Satd. Flow (prot)	0	1611	0	0	1722	0	0	1863	0	0	1863	0
Flt Permitted					0.968							
Satd. Flow (perm)	0	1611	0	0	1722	0	0	1863	0	0	1863	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		218.2			77.4			413.1			127.2	
Travel Time (s)		15.7			5.6			29.7			9.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	0	1	2	0	1	1	715	2	1	607	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	3	0	0	718	0	0	609	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	1	2	0	1	1	629	2	1	534	1
Future Volume (Veh/h)	0	0	1	2	0	1	1	629	2	1	534	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	0	1	2	0	1	1	715	2	1	607	1
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1328	1328	608	1328	1328	716	608			717		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1328	1328	608	1328	1328	716	608			717		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	98	100	100	100			100		
cM capacity (veh/h)	132	155	496	132	155	430	970			884		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1	3	718	609
Volume Left	0	2	1	1
Volume Right	1	1	2	1
cSH	496	171	970	884
Volume to Capacity	0.00	0.02	0.00	0.00
Queue Length 95th (m)	0.0	0.4	0.0	0.0
Control Delay (s)	12.3	26.4	0.0	0.0
Lane LOS	B	D	A	A
Approach Delay (s)	12.3	26.4	0.0	0.0
Approach LOS	B	D		

Intersection Summary				
Average Delay		0.1		
Intersection Capacity Utilization		44.0%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	0	28	30	0	16	32	542	51	23	471	14
Future Volume (vph)	15	0	28	30	0	16	32	542	51	23	471	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.912			0.953			0.989			0.996	
Flt Protected		0.983			0.968			0.997			0.998	
Satd. Flow (prot)	0	1670	0	0	1718	0	0	1837	0	0	1852	0
Flt Permitted		0.983			0.968			0.997			0.998	
Satd. Flow (perm)	0	1670	0	0	1718	0	0	1837	0	0	1852	0
Link Speed (k/h)		50			50			80			50	
Link Distance (m)		46.6			119.5			127.2			336.4	
Travel Time (s)		3.4			8.6			5.7			24.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	17	0	32	34	0	18	36	616	58	26	535	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	49	0	0	52	0	0	710	0	0	577	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 54.6%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	0	28	30	0	16	32	542	51	23	471	14
Future Volume (Veh/h)	15	0	28	30	0	16	32	542	51	23	471	14
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	17	0	32	34	0	18	36	616	58	26	535	16
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1330	1341	543	1344	1320	645	551			674		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1330	1341	543	1344	1320	645	551			674		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	86	100	94	71	100	96	96			97		
cM capacity (veh/h)	121	143	540	115	147	472	1019			917		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	49	52	710	577
Volume Left	17	34	36	26
Volume Right	32	18	58	16
cSH	245	156	1019	917
Volume to Capacity	0.20	0.33	0.04	0.03
Queue Length 95th (m)	5.8	10.8	0.9	0.7
Control Delay (s)	23.4	39.1	0.9	0.8
Lane LOS	C	E	A	A
Approach Delay (s)	23.4	39.1	0.9	0.8
Approach LOS	C	E		

Intersection Summary				
Average Delay		3.1		
Intersection Capacity Utilization	54.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	153	1	0	147	57	0	4	3	47	1	29
Future Volume (vph)	34	153	1	0	147	57	0	4	3	47	1	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.999			0.962			0.949			0.949	
Flt Protected		0.991									0.970	
Satd. Flow (prot)	0	1711	0	0	1637	0	0	1803	0	0	1551	0
Flt Permitted		0.991									0.970	
Satd. Flow (perm)	0	1711	0	0	1637	0	0	1803	0	0	1551	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		264.2			459.4			60.6			189.0	
Travel Time (s)		19.0			33.1			4.4			13.6	
Confl. Peds. (#/hr)	2		4	4		2	3		4	4		3
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	10%	10%	0%	2%	8%	21%	2%	0%	0%	16%	0%	8%
Adj. Flow (vph)	39	174	1	0	167	65	0	5	3	53	1	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	214	0	0	232	0	0	8	0	0	87	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)		0.0			0.0			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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	153	1	0	147	57	0	4	3	47	1	29
Future Volume (Veh/h)	34	153	1	0	147	57	0	4	3	47	1	29
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	39	174	1	0	167	65	0	5	3	53	1	33
Pedestrians		3			4			4			2	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	234			179			492	490	182	464	458	204
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	234			179			492	490	182	464	458	204
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.3	6.5	6.3
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.6	4.0	3.4
p0 queue free %	97			100			100	99	100	89	100	96
cM capacity (veh/h)	1286			1392			451	465	859	465	484	818

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	214	232	8	87
Volume Left	39	0	0	53
Volume Right	1	65	3	33
cSH	1286	1392	561	556
Volume to Capacity	0.03	0.00	0.01	0.16
Queue Length 95th (m)	0.8	0.0	0.3	4.4
Control Delay (s)	1.7	0.0	11.5	12.7
Lane LOS	A		B	B
Approach Delay (s)	1.7	0.0	11.5	12.7
Approach LOS			B	B

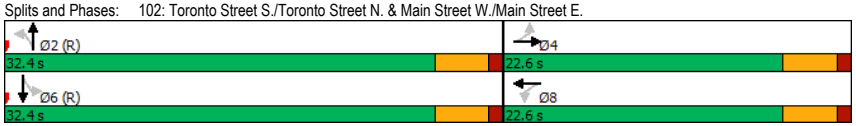
Intersection Summary					
Average Delay	2.9				
Intersection Capacity Utilization	43.2%	ICU Level of Service		A	
Analysis Period (min)	15				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	81	91	65	70	42	94	265	58	41	282	54
Future Volume (vph)	64	81	91	65	70	42	94	265	58	41	282	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor		0.99			0.99			1.00			1.00	
Frt		0.948			0.968			0.981			0.981	
Flt Protected		0.987			0.982			0.989			0.995	
Satd. Flow (prot)	0	1635	0	0	1670	0	0	1627	0	0	1680	0
Flt Permitted		0.873			0.826			0.838			0.920	
Satd. Flow (perm)	0	1445	0	0	1405	0	0	1379	0	0	1553	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		61			30			21			22	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		459.4			168.7			386.0			413.1	
Travel Time (s)		33.1			12.1			27.8			29.7	
Confl. Peds. (#/hr)	3		1	1		3	1		1	1		1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	7%	12%	9%	7%	6%	18%	12%	9%	0%	10%	18%
Adj. Flow (vph)	73	92	103	74	80	48	107	301	66	47	320	61
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	268	0	0	202	0	0	474	0	0	428	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)		0.0			0.0			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
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.6	22.6		22.6	22.6		32.4	32.4		32.4	32.4	
Total Split (%)	41.1%	41.1%		41.1%	41.1%		58.9%	58.9%		58.9%	58.9%	
Maximum Green (s)	18.1	18.1		18.1	18.1		27.9	27.9		27.9	27.9	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		18.1			18.1			27.9			27.9	
Actuated g/C Ratio		0.33			0.33			0.51			0.51	
v/c Ratio		0.52			0.42			0.67			0.54	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		15.7			15.4			15.4			11.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		15.7			15.4			15.4			11.8	
LOS		B			B			B			B	
Approach Delay		15.7			15.4			15.4			11.8	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 14.3		Intersection LOS: B	
Intersection Capacity Utilization 63.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 102: Toronto Street S./Toronto Street N. & Main Street W./Main Street E.



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	268	202	474	428
v/c Ratio	0.52	0.42	0.67	0.54
Control Delay	15.7	15.4	15.4	11.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.7	15.4	15.4	11.8
Queue Length 50th (m)	16.6	13.5	32.0	25.9
Queue Length 95th (m)	34.7	28.1	59.0	46.2
Internal Link Dist (m)	435.4	144.7	362.0	389.1
Turn Bay Length (m)				
Base Capacity (vph)	516	482	709	798
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.52	0.42	0.67	0.54

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	81	91	65	70	42	94	265	58	41	282	54
Future Volume (vph)	64	81	91	65	70	42	94	265	58	41	282	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.95			0.97			0.98			0.98	
Flt Protected		0.99			0.98			0.99			0.99	
Satd. Flow (prot)		1633			1670			1627			1679	
Flt Permitted		0.87			0.83			0.84			0.92	
Satd. Flow (perm)		1446			1405			1379			1554	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	73	92	103	74	80	48	107	301	66	47	320	61
RTOR Reduction (vph)	0	41	0	0	20	0	0	10	0	0	11	0
Lane Group Flow (vph)	0	227	0	0	182	0	0	464	0	0	417	0
Confl. Peds. (#/hr)	3		1	1		3	1		1	1		1
Heavy Vehicles (%)	3%	7%	12%	9%	7%	6%	18%	12%	9%	0%	10%	18%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.1			18.1			27.9			27.9	
Effective Green, g (s)		18.1			18.1			27.9			27.9	
Actuated g/C Ratio		0.33			0.33			0.51			0.51	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		475			462			699			788	
v/s Ratio Prot												
v/s Ratio Perm		c0.16			0.13			c0.34			0.27	
v/c Ratio		0.48			0.39			0.66			0.53	
Uniform Delay, d1		14.7			14.2			10.1			9.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.4			2.5			4.9			2.5	
Delay (s)		18.1			16.7			15.0			11.7	
Level of Service		B			B			B			B	
Approach Delay (s)		18.1			16.7			15.0			11.7	
Approach LOS		B			B			B			B	

Intersection Summary					
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service		B	
HCM 2000 Volume to Capacity ratio	0.59				
Actuated Cycle Length (s)	55.0	Sum of lost time (s)		9.0	
Intersection Capacity Utilization	63.7%	ICU Level of Service		B	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	2	0	1	0	369	2	1	373	0
Future Volume (vph)	1	0	1	2	0	1	0	369	2	1	373	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.932			0.955			0.999				
Flt Protected		0.976			0.968							
Satd. Flow (prot)	0	1694	0	0	1722	0	0	1861	0	0	1863	0
Flt Permitted		0.976			0.968							
Satd. Flow (perm)	0	1694	0	0	1722	0	0	1861	0	0	1863	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		218.2			77.4			413.1			130.0	
Travel Time (s)		15.7			5.6			29.7			9.4	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	1	0	1	2	0	1	0	419	2	1	424	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2	0	0	3	0	0	421	0	0	425	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.4%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	1	2	0	1	0	369	2	1	373	0
Future Volume (Veh/h)	1	0	1	2	0	1	0	369	2	1	373	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	1	0	1	2	0	1	0	419	2	1	424	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	847	847	424	847	846	420	424			421		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	847	847	424	847	846	420	424			421		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	99	100	100	100			100		
cM capacity (veh/h)	281	298	630	281	299	633	1135			1138		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	2	3	421	425
Volume Left	1	2	0	1
Volume Right	1	1	2	0
cSH	389	345	1135	1138
Volume to Capacity	0.01	0.01	0.00	0.00
Queue Length 95th (m)	0.1	0.2	0.0	0.0
Control Delay (s)	14.3	15.5	0.0	0.0
Lane LOS	B	C		A
Approach Delay (s)	14.3	15.5	0.0	0.0
Approach LOS	B	C		

Intersection Summary				
Average Delay		0.1		
Intersection Capacity Utilization		30.4%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	0	15	50	0	21	16	339	17	7	300	6
Future Volume (vph)	6	0	15	50	0	21	16	339	17	7	300	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.904			0.960			0.994			0.997	
Flt Protected		0.986			0.966			0.998			0.999	
Satd. Flow (prot)	0	1660	0	0	1727	0	0	1848	0	0	1855	0
Flt Permitted		0.986			0.966			0.998			0.999	
Satd. Flow (perm)	0	1660	0	0	1727	0	0	1848	0	0	1855	0
Link Speed (k/h)		50			50			80			50	
Link Distance (m)		46.4			111.6			130.0			333.6	
Travel Time (s)		3.3			8.0			5.9			24.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	7	0	17	57	0	24	18	385	19	8	341	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	24	0	0	81	0	0	422	0	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	0	15	50	0	21	16	339	17	7	300	6
Future Volume (Veh/h)	6	0	15	50	0	21	16	339	17	7	300	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	7	0	17	57	0	24	18	385	19	8	341	7
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	815	800	344	808	794	394	348			404		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	815	800	344	808	794	394	348			404		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	98	80	100	96	99			99		
cM capacity (veh/h)	281	311	698	287	314	655	1211			1155		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	24	81	422	356
Volume Left	7	57	18	8
Volume Right	17	24	19	7
cSH	487	345	1211	1155
Volume to Capacity	0.05	0.24	0.01	0.01
Queue Length 95th (m)	1.2	7.2	0.4	0.2
Control Delay (s)	12.8	18.6	0.5	0.3
Lane LOS	B	C	A	A
Approach Delay (s)	12.8	18.6	0.5	0.3
Approach LOS	B	C		

Intersection Summary				
Average Delay		2.4		
Intersection Capacity Utilization		42.3%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	274	0	1	277	33	17	1	1	57	3	46
Future Volume (vph)	13	274	0	1	277	33	17	1	1	57	3	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt					0.986			0.994			0.941	
Flt Protected		0.998						0.957			0.974	
Satd. Flow (prot)	0	1827	0	0	1778	0	0	1807	0	0	1704	0
Flt Permitted		0.998						0.957			0.974	
Satd. Flow (perm)	0	1827	0	0	1778	0	0	1807	0	0	1704	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		264.2			459.4			60.6			189.0	
Travel Time (s)		19.0			33.1			4.4			13.6	
Confl. Peds. (#/hr)	1		6	6		1	4					4
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	4%	2%	0%	4%	17%	0%	0%	0%	4%	0%	0%
Adj. Flow (vph)	15	311	0	1	315	38	19	1	1	65	3	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	326	0	0	354	0	0	21	0	0	120	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)		0.0			0.0			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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	37.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	274	0	1	277	33	17	1	1	57	3	46
Future Volume (Veh/h)	13	274	0	1	277	33	17	1	1	57	3	46
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	15	311	0	1	315	38	19	1	1	65	3	52
Pedestrians		4						6			1	
Lane Width (m)		3.6						3.6			3.6	
Walking Speed (m/s)		1.2						1.2			1.2	
Percent Blockage		0						1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	354			317			740	703	317	680	684	339
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	354			317			740	703	317	680	684	339
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			94	100	100	82	99	93
cM capacity (veh/h)	1215			1248			301	358	725	356	367	705

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	326	354	21	120
Volume Left	15	1	19	65
Volume Right	0	38	1	52
cSH	1215	1248	312	453
Volume to Capacity	0.01	0.00	0.07	0.26
Queue Length 95th (m)	0.3	0.0	1.7	8.4
Control Delay (s)	0.5	0.0	17.4	15.8
Lane LOS	A	A	C	C
Approach Delay (s)	0.5	0.0	17.4	15.8
Approach LOS			C	C

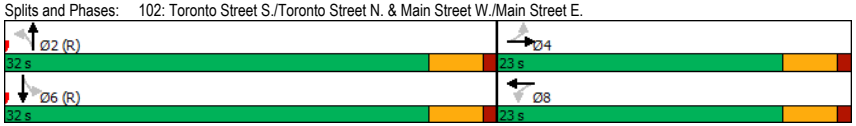
Intersection Summary				
Average Delay		3.0		
Intersection Capacity Utilization		37.7%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	144	101	134	80	112	72	98	447	70	57	386	120
Future Volume (vph)	144	101	134	80	112	72	98	447	70	57	386	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor		0.99			0.99			1.00			0.99	
Frt		0.952			0.963			0.985			0.971	
Flt Protected		0.981			0.985			0.992			0.995	
Satd. Flow (prot)	0	1688	0	0	1740	0	0	1790	0	0	1714	0
Flt Permitted		0.734			0.769			0.827			0.898	
Satd. Flow (perm)	0	1262	0	0	1357	0	0	1492	0	0	1547	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		54			37			17			35	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		459.4			168.7			386.0			413.1	
Travel Time (s)		33.1			12.1			27.8			29.7	
Confl. Peds. (#/hr)	1		6	6		1	4					4
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	0%	4%	0%	7%	0%	5%	4%	0%	4%	8%	3%
Adj. Flow (vph)	164	115	152	91	127	82	111	508	80	65	439	136
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	431	0	0	300	0	0	699	0	0	640	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)		0.0			0.0			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
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0		32.0	32.0		32.0	32.0	
Total Split (%)	41.8%	41.8%		41.8%	41.8%		58.2%	58.2%		58.2%	58.2%	
Maximum Green (s)	18.5	18.5		18.5	18.5		27.5	27.5		27.5	27.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		18.5			18.5			27.5			27.5	
Actuated g/C Ratio		0.34			0.34			0.50			0.50	
v/c Ratio		0.94			0.62			0.93			0.81	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		48.8			20.2			35.1			21.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		48.8			20.2			35.1			21.7	
LOS		D			C			D			C	
Approach Delay		48.8			20.2			35.1			21.7	
Approach LOS		D			C			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 31.6		Intersection LOS: C	
Intersection Capacity Utilization 90.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 102: Toronto Street S./Toronto Street N. & Main Street W./Main Street E.



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	431	300	699	640
v/c Ratio	0.94	0.62	0.93	0.81
Control Delay	48.8	20.2	35.1	21.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	48.8	20.2	35.1	21.7
Queue Length 50th (m)	37.7	22.2	61.0	48.6
Queue Length 95th (m)	#86.0	43.8	#124.7	#103.9
Internal Link Dist (m)	435.4	144.7	362.0	389.1
Turn Bay Length (m)				
Base Capacity (vph)	460	481	754	791
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.94	0.62	0.93	0.81

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	144	101	134	80	112	72	98	447	70	57	386	120
Future Volume (vph)	144	101	134	80	112	72	98	447	70	57	386	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.95			0.96			0.98			0.97	
Flt Protected		0.98			0.99			0.99			0.99	
Satd. Flow (prot)		1688			1738			1789			1714	
Flt Permitted		0.73			0.77			0.83			0.90	
Satd. Flow (perm)		1263			1357			1491			1547	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	164	115	152	91	127	82	111	508	80	65	439	136
RTOR Reduction (vph)	0	36	0	0	25	0	0	9	0	0	18	0
Lane Group Flow (vph)	0	395	0	0	275	0	0	691	0	0	623	0
Confl. Peds. (#/hr)	1		6	6		1	4					4
Heavy Vehicles (%)	7%	0%	4%	0%	7%	0%	5%	4%	0%	4%	8%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.5			18.5			27.5			27.5	
Effective Green, g (s)		18.5			18.5			27.5			27.5	
Actuated g/C Ratio		0.34			0.34			0.50			0.50	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		424			456			745			773	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.20			c0.46			0.40	
v/c Ratio		0.93			0.60			0.93			0.81	
Uniform Delay, d1		17.6			15.2			12.8			11.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		29.6			5.8			19.3			8.8	
Delay (s)		47.2			21.0			32.1			20.3	
Level of Service		D			C			C			C	
Approach Delay (s)		47.2			21.0			32.1			20.3	
Approach LOS		D			C			C			C	

Intersection Summary				
HCM 2000 Control Delay	30.0	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.93			
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	9.0	
Intersection Capacity Utilization	90.2%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1	2	0	1	1	660	2	1	561	1
Future Volume (vph)	0	0	1	2	0	1	1	660	2	1	561	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.865			0.955							
Flt Protected					0.968							
Satd. Flow (prot)	0	1611	0	0	1722	0	0	1863	0	0	1863	0
Flt Permitted					0.968							
Satd. Flow (perm)	0	1611	0	0	1722	0	0	1863	0	0	1863	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		218.2			77.4			413.1			127.2	
Travel Time (s)		15.7			5.6			29.7			9.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	0	1	2	0	1	1	750	2	1	638	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	3	0	0	753	0	0	640	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	45.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	1	2	0	1	1	660	2	1	561	1
Future Volume (Veh/h)	0	0	1	2	0	1	1	660	2	1	561	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	0	1	2	0	1	1	750	2	1	638	1
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1394	1394	638	1394	1394	751	639			752		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1394	1394	638	1394	1394	751	639			752		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	98	100	100	100			100		
cM capacity (veh/h)	118	141	476	118	141	411	945			858		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1	3	753	640
Volume Left	0	2	1	1
Volume Right	1	1	2	1
cSH	476	155	945	858
Volume to Capacity	0.00	0.02	0.00	0.00
Queue Length 95th (m)	0.1	0.5	0.0	0.0
Control Delay (s)	12.6	28.6	0.0	0.0
Lane LOS	B	D	A	A
Approach Delay (s)	12.6	28.6	0.0	0.0
Approach LOS	B	D		

Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	45.6%	ICU Level of Service		A
Analysis Period (min)	15			

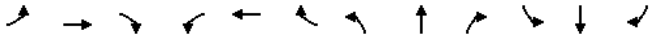
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	0	30	32	0	17	33	568	54	24	494	14
Future Volume (vph)	15	0	30	32	0	17	33	568	54	24	494	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.910			0.953			0.989			0.996	
Flt Protected		0.984			0.968			0.997			0.998	
Satd. Flow (prot)	0	1668	0	0	1718	0	0	1837	0	0	1852	0
Flt Permitted		0.984			0.968			0.997			0.998	
Satd. Flow (perm)	0	1668	0	0	1718	0	0	1837	0	0	1852	0
Link Speed (k/h)		50			50			80			50	
Link Distance (m)		46.6			119.5			127.2			336.4	
Travel Time (s)		3.4			8.6			5.7			24.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	17	0	34	36	0	19	38	645	61	27	561	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	51	0	0	55	0	0	744	0	0	604	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	0	30	32	0	17	33	568	54	24	494	14
Future Volume (Veh/h)	15	0	30	32	0	17	33	568	54	24	494	14
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	17	0	34	36	0	19	38	645	61	27	561	16
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1394	1405	569	1408	1382	676	577			706		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1394	1405	569	1408	1382	676	577			706		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	84	100	93	65	100	96	96			97		
cM capacity (veh/h)	108	130	522	103	134	454	996			892		

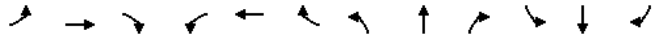
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	51	55	744	604
Volume Left	17	36	38	27
Volume Right	34	19	61	16
cSH	229	141	996	892
Volume to Capacity	0.22	0.39	0.04	0.03
Queue Length 95th (m)	6.6	13.3	1.0	0.7
Control Delay (s)	25.1	46.2	1.0	0.8
Lane LOS	D	E	A	A
Approach Delay (s)	25.1	46.2	1.0	0.8
Approach LOS	D	E		

Intersection Summary				
Average Delay	3.5			
Intersection Capacity Utilization	57.0%	ICU Level of Service	B	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	159	1	0	149	20	0	4	3	36	1	27
Future Volume (vph)	28	159	1	0	149	20	0	4	3	36	1	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.999			0.984			0.949			0.943	
Flt Protected		0.993									0.973	
Satd. Flow (prot)	0	1714	0	0	1707	0	0	1803	0	0	1551	0
Flt Permitted		0.993									0.973	
Satd. Flow (perm)	0	1714	0	0	1707	0	0	1803	0	0	1551	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		264.2			459.4			60.6			189.0	
Travel Time (s)		19.0			33.1			4.4			13.6	
Confl. Peds. (#/hr)	2		4	4		2	3		4	4		3
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	10%	10%	0%	2%	8%	21%	2%	0%	0%	16%	0%	8%
Adj. Flow (vph)	32	181	1	0	169	23	0	5	3	41	1	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	214	0	0	192	0	0	8	0	0	73	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)		0.0			0.0			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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	40.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	159	1	0	149	20	0	4	3	36	1	27
Future Volume (Veh/h)	28	159	1	0	149	20	0	4	3	36	1	27
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	32	181	1	0	169	23	0	5	3	41	1	31
Pedestrians		3			4			4			2	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	194			186			464	444	190	438	432	186
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	194			186			464	444	190	438	432	186
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.3	6.5	6.3
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.6	4.0	3.4
p0 queue free %	98			100			100	99	100	92	100	96
cM capacity (veh/h)	1330			1384			475	497	852	487	504	838

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	214	192	8	73
Volume Left	32	0	0	41
Volume Right	1	23	3	31
cSH	1330	1384	589	593
Volume to Capacity	0.02	0.00	0.01	0.12
Queue Length 95th (m)	0.6	0.0	0.3	3.4
Control Delay (s)	1.3	0.0	11.2	11.9
Lane LOS	A		B	B
Approach Delay (s)	1.3	0.0	11.2	11.9
Approach LOS			B	B

Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	40.5%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	79	86	65	63	48	77	283	58	43	287	43
Future Volume (vph)	66	79	86	65	63	48	77	283	58	43	287	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor		0.99			0.99			1.00			1.00	
Frt		0.950			0.963			0.981			0.984	
Flt Protected		0.986			0.982			0.991			0.994	
Satd. Flow (prot)	0	1639	0	0	1661	0	0	1634	0	0	1689	0
Flt Permitted		0.874			0.813			0.861			0.916	
Satd. Flow (perm)	0	1451	0	0	1374	0	0	1420	0	0	1556	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		52			33			21			17	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		459.4			168.7			386.0			413.1	
Travel Time (s)		33.1			12.1			27.8			29.7	
Confl. Peds. (#/hr)	3		1	1		3	1		1	1		1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	7%	12%	9%	7%	6%	18%	12%	9%	0%	10%	18%
Adj. Flow (vph)	75	90	98	74	72	55	88	322	66	49	326	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	263	0	0	201	0	0	476	0	0	424	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)		0.0			0.0			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
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0		37.0	37.0		37.0	37.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%		61.7%	61.7%		61.7%	61.7%	
Maximum Green (s)	18.5	18.5		18.5	18.5		32.5	32.5		32.5	32.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		18.5			18.5			32.5			32.5	
Actuated g/C Ratio		0.31			0.31			0.54			0.54	
v/c Ratio		0.54			0.45			0.61			0.50	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		18.7			17.7			13.2			10.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.7			17.7			13.2			10.8	
LOS		B			B			B			B	
Approach Delay		18.7			17.7			13.2			10.8	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 14.2		Intersection LOS: B	
Intersection Capacity Utilization 59.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 102: Toronto Street S./Toronto Street N. & Main Street W./Main Street E.

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	263	201	476	424
v/c Ratio	0.54	0.45	0.61	0.50
Control Delay	18.7	17.7	13.2	10.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.7	17.7	13.2	10.8
Queue Length 50th (m)	19.5	15.1	32.3	26.4
Queue Length 95th (m)	39.0	31.1	57.2	45.5
Internal Link Dist (m)	435.4	144.7	362.0	389.1
Turn Bay Length (m)				
Base Capacity (vph)	483	446	778	850
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.54	0.45	0.61	0.50

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	79	86	65	63	48	77	283	58	43	287	43
Future Volume (vph)	66	79	86	65	63	48	77	283	58	43	287	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.95			0.96			0.98			0.98	
Flt Protected		0.99			0.98			0.99			0.99	
Satd. Flow (prot)		1637			1660			1634			1690	
Flt Permitted		0.87			0.81			0.86			0.92	
Satd. Flow (perm)		1450			1374			1420			1556	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	75	90	98	74	72	55	88	322	66	49	326	49
RTOR Reduction (vph)	0	36	0	0	23	0	0	10	0	0	8	0
Lane Group Flow (vph)	0	227	0	0	178	0	0	466	0	0	416	0
Confl. Peds. (#/hr)	3		1	1		3	1		1	1		1
Heavy Vehicles (%)	3%	7%	12%	9%	7%	6%	18%	12%	9%	0%	10%	18%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.5			18.5			32.5			32.5	
Effective Green, g (s)		18.5			18.5			32.5			32.5	
Actuated g/C Ratio		0.31			0.31			0.54			0.54	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		447			423			769			842	
v/s Ratio Prot												
v/s Ratio Perm		c0.16			0.13			c0.33			0.27	
v/c Ratio		0.51			0.42			0.61			0.49	
Uniform Delay, d1		17.0			16.5			9.4			8.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		4.1			3.1			3.5			2.1	
Delay (s)		21.1			19.6			12.9			10.7	
Level of Service		C			B			B			B	
Approach Delay (s)		21.1			19.6			12.9			10.7	
Approach LOS		C			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	10	2	0	1	30	365	2	1	360	13
Future Volume (vph)	5	0	10	2	0	1	30	365	2	1	360	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.913			0.955			0.999			0.995	
Flt Protected		0.983			0.968			0.996				
Satd. Flow (prot)	0	1672	0	0	1722	0	0	1853	0	0	1853	0
Flt Permitted		0.983			0.968			0.996				
Satd. Flow (perm)	0	1672	0	0	1722	0	0	1853	0	0	1853	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		218.2			77.4			413.1			130.0	
Travel Time (s)		15.7			5.6			29.7			9.4	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	6	0	11	2	0	1	34	415	2	1	409	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	17	0	0	3	0	0	451	0	0	425	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	10	2	0	1	30	365	2	1	360	13
Future Volume (Veh/h)	5	0	10	2	0	1	30	365	2	1	360	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	6	0	11	2	0	1	34	415	2	1	409	15
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	904	904	416	914	910	416	424			417		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	904	904	416	914	910	416	424			417		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	98	99	100	100	97			100		
cM capacity (veh/h)	252	268	636	244	266	637	1135			1142		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	17	3	451	425
Volume Left	6	2	34	1
Volume Right	11	1	2	15
cSH	413	307	1135	1142
Volume to Capacity	0.04	0.01	0.03	0.00
Queue Length 95th (m)	1.0	0.2	0.7	0.0
Control Delay (s)	14.1	16.8	0.9	0.0
Lane LOS	B	C	A	A
Approach Delay (s)	14.1	16.8	0.9	0.0
Approach LOS	B	C		

Intersection Summary				
Average Delay	0.8			
Intersection Capacity Utilization	52.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	0	15	50	0	21	16	339	17	7	300	6
Future Volume (vph)	6	0	15	50	0	21	16	339	17	7	300	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.904			0.960			0.994			0.997	
Flt Protected		0.986			0.966			0.998			0.999	
Satd. Flow (prot)	0	1660	0	0	1727	0	0	1848	0	0	1855	0
Flt Permitted		0.986			0.966			0.998			0.999	
Satd. Flow (perm)	0	1660	0	0	1727	0	0	1848	0	0	1855	0
Link Speed (k/h)		50			50			80			50	
Link Distance (m)		46.4			111.6			130.0			333.6	
Travel Time (s)		3.3			8.0			5.9			24.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	7	0	17	57	0	24	18	385	19	8	341	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	24	0	0	81	0	0	422	0	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	0	15	50	0	21	16	339	17	7	300	6
Future Volume (Veh/h)	6	0	15	50	0	21	16	339	17	7	300	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	7	0	17	57	0	24	18	385	19	8	341	7
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	815	800	344	808	794	394	348			404		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	815	800	344	808	794	394	348			404		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	98	80	100	96	99			99		
cM capacity (veh/h)	281	311	698	287	314	655	1211			1155		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	24	81	422	356
Volume Left	7	57	18	8
Volume Right	17	24	19	7
cSH	487	345	1211	1155
Volume to Capacity	0.05	0.24	0.01	0.01
Queue Length 95th (m)	1.2	7.2	0.4	0.2
Control Delay (s)	12.8	18.6	0.5	0.3
Lane LOS	B	C	A	A
Approach Delay (s)	12.8	18.6	0.5	0.3
Approach LOS	B	C		

Intersection Summary				
Average Delay		2.4		
Intersection Capacity Utilization	42.3%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	265	0	1	272	17	16	1	1	23	3	36
Future Volume (vph)	8	265	0	1	272	17	16	1	1	23	3	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt					0.992			0.993			0.921	
Flt Protected		0.999						0.957			0.982	
Satd. Flow (prot)	0	1827	0	0	1800	0	0	1806	0	0	1693	0
Flt Permitted		0.999						0.957			0.982	
Satd. Flow (perm)	0	1827	0	0	1800	0	0	1806	0	0	1693	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		264.2			459.4			60.6			189.0	
Travel Time (s)		19.0			33.1			4.4			13.6	
Confl. Peds. (#/hr)	1		6	6		1	4					4
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	4%	2%	0%	4%	17%	0%	0%	0%	4%	0%	0%
Adj. Flow (vph)	9	301	0	1	309	19	18	1	1	26	3	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	310	0	0	329	0	0	20	0	0	70	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)		0.0			0.0			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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	31.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	265	0	1	272	17	16	1	1	23	3	36
Future Volume (Veh/h)	8	265	0	1	272	17	16	1	1	23	3	36
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	9	301	0	1	309	19	18	1	1	26	3	41
Pedestrians		4						6			1	
Lane Width (m)		3.6						3.6			3.6	
Walking Speed (m/s)		1.2						1.2			1.2	
Percent Blockage		0						1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	329			307			692	656	307	642	646	324
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	329			307			692	656	307	642	646	324
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			95	100	100	93	99	94
cM capacity (veh/h)	1241			1259			332	382	734	379	387	719

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	310	329	20	70
Volume Left	9	1	18	26
Volume Right	0	19	1	41
cSH	1241	1259	344	525
Volume to Capacity	0.01	0.00	0.06	0.13
Queue Length 95th (m)	0.2	0.0	1.5	3.7
Control Delay (s)	0.3	0.0	16.1	12.9
Lane LOS	A	A	C	B
Approach Delay (s)	0.3	0.0	16.1	12.9
Approach LOS			C	B

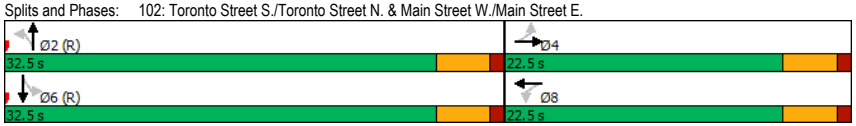
Intersection Summary					
Average Delay		1.8			
Intersection Capacity Utilization		31.3%	ICU Level of Service		A
Analysis Period (min)		15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	92	115	76	104	71	87	432	66	59	382	116
Future Volume (vph)	127	92	115	76	104	71	87	432	66	59	382	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor		0.99			0.99			1.00			0.99	
Frt		0.953			0.962			0.985			0.972	
Flt Protected		0.981			0.985			0.993			0.995	
Satd. Flow (prot)	0	1690	0	0	1739	0	0	1792	0	0	1716	0
Flt Permitted		0.742			0.790			0.849			0.897	
Satd. Flow (perm)	0	1278	0	0	1393	0	0	1532	0	0	1547	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		51			39			17			35	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		459.4			168.7			386.0			413.1	
Travel Time (s)		33.1			12.1			27.8			29.7	
Confl. Peds. (#/hr)	1		6	6		1	4					4
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	0%	4%	0%	7%	0%	5%	4%	0%	4%	8%	3%
Adj. Flow (vph)	144	105	131	86	118	81	99	491	75	67	434	132
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	380	0	0	285	0	0	665	0	0	633	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)		0.0			0.0			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
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		22.5	22.5		32.5	32.5		32.5	32.5	
Total Split (%)	40.9%	40.9%		40.9%	40.9%		59.1%	59.1%		59.1%	59.1%	
Maximum Green (s)	18.0	18.0		18.0	18.0		28.0	28.0		28.0	28.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		18.0			18.0			28.0			28.0	
Actuated g/C Ratio		0.33			0.33			0.51			0.51	
v/c Ratio		0.84			0.59			0.84			0.79	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		35.1			19.2			24.4			19.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		35.1			19.2			24.4			19.9	
LOS		D			B			C			B	
Approach Delay		35.1			19.2			24.4			19.9	
Approach LOS		D			B			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 24.3		Intersection LOS: C	
Intersection Capacity Utilization 81.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 102: Toronto Street S./Toronto Street N. & Main Street W./Main Street E.



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	380	285	665	633
v/c Ratio	0.84	0.59	0.84	0.79
Control Delay	35.1	19.2	24.4	19.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	35.1	19.2	24.4	19.9
Queue Length 50th (m)	31.3	20.7	53.0	46.5
Queue Length 95th (m)	#73.0	41.0	#111.7	#100.3
Internal Link Dist (m)	435.4	144.7	362.0	389.1
Turn Bay Length (m)				
Base Capacity (vph)	452	482	788	804
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.84	0.59	0.84	0.79

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	92	115	76	104	71	87	432	66	59	382	116
Future Volume (vph)	127	92	115	76	104	71	87	432	66	59	382	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.95			0.96			0.98			0.97	
Flt Protected		0.98			0.99			0.99			0.99	
Satd. Flow (prot)		1691			1736			1791			1715	
Flt Permitted		0.74			0.79			0.85			0.90	
Satd. Flow (perm)		1279			1393			1532			1547	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	144	105	131	86	118	81	99	491	75	67	434	132
RTOR Reduction (vph)	0	34	0	0	26	0	0	8	0	0	17	0
Lane Group Flow (vph)	0	346	0	0	259	0	0	657	0	0	616	0
Confl. Peds. (#/hr)	1		6	6		1	4					4
Heavy Vehicles (%)	7%	0%	4%	0%	7%	0%	5%	4%	0%	4%	8%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.0			18.0			28.0			28.0	
Effective Green, g (s)		18.0			18.0			28.0			28.0	
Actuated g/C Ratio		0.33			0.33			0.51			0.51	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		418			455			779			787	
v/s Ratio Prot												
v/s Ratio Perm		c0.27			0.19			c0.43			0.40	
v/c Ratio		0.83			0.57			0.84			0.78	
Uniform Delay, d1		17.1			15.3			11.6			11.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		16.9			5.1			10.8			7.6	
Delay (s)		34.0			20.4			22.4			18.6	
Level of Service		C			C			C			B	
Approach Delay (s)		34.0			20.4			22.4			18.6	
Approach LOS		C			C			C			B	

Intersection Summary

HCM 2000 Control Delay	23.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	81.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	0	28	2	0	1	14	614	2	1	528	7
Future Volume (vph)	14	0	28	2	0	1	14	614	2	1	528	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.910			0.955						0.998	
Flt Protected		0.984			0.968			0.999				
Satd. Flow (prot)	0	1668	0	0	1722	0	0	1861	0	0	1859	0
Flt Permitted		0.984			0.968			0.999				
Satd. Flow (perm)	0	1668	0	0	1722	0	0	1861	0	0	1859	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		218.2			77.4			413.1			127.2	
Travel Time (s)		15.7			5.6			29.7			9.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	16	0	32	2	0	1	16	698	2	1	600	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	48	0	0	3	0	0	716	0	0	609	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.1%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	0	28	2	0	1	14	614	2	1	528	7
Future Volume (Veh/h)	14	0	28	2	0	1	14	614	2	1	528	7
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	16	0	32	2	0	1	16	698	2	1	600	8
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1338	1338	604	1369	1341	699	608			700		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1338	1338	604	1369	1341	699	608			700		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	88	100	94	98	100	100	98			100		
cM capacity (veh/h)	128	150	498	114	150	440	970			897		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	48	3	716	609
Volume Left	16	2	16	1
Volume Right	32	1	2	8
cSH	254	152	970	897
Volume to Capacity	0.19	0.02	0.02	0.00
Queue Length 95th (m)	5.5	0.5	0.4	0.0
Control Delay (s)	22.5	29.2	0.4	0.0
Lane LOS	C	D	A	A
Approach Delay (s)	22.5	29.2	0.4	0.0
Approach LOS	C	D		

Intersection Summary				
Average Delay		1.1		
Intersection Capacity Utilization		53.1%	ICU Level of Service	A
Analysis Period (min)		15		

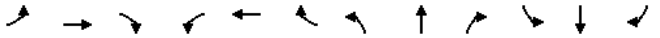
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	0	28	30	0	16	32	541	51	23	471	14
Future Volume (vph)	15	0	28	30	0	16	32	541	51	23	471	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.912			0.953			0.989			0.996	
Flt Protected		0.983			0.968			0.997			0.998	
Satd. Flow (prot)	0	1670	0	0	1718	0	0	1837	0	0	1852	0
Flt Permitted		0.983			0.968			0.997			0.998	
Satd. Flow (perm)	0	1670	0	0	1718	0	0	1837	0	0	1852	0
Link Speed (k/h)		50			50			80			50	
Link Distance (m)		46.6			119.5			127.2			336.4	
Travel Time (s)		3.4			8.6			5.7			24.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	17	0	32	34	0	18	36	615	58	26	535	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	49	0	0	52	0	0	709	0	0	577	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 54.5%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	0	28	30	0	16	32	541	51	23	471	14
Future Volume (Veh/h)	15	0	28	30	0	16	32	541	51	23	471	14
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	17	0	32	34	0	18	36	615	58	26	535	16
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1329	1340	543	1343	1319	644	551			673		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1329	1340	543	1343	1319	644	551			673		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	86	100	94	71	100	96	96			97		
cM capacity (veh/h)	121	143	540	116	147	473	1019			918		

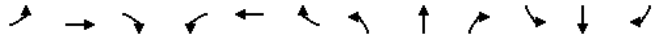
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	49	52	709	577
Volume Left	17	34	36	26
Volume Right	32	18	58	16
cSH	245	157	1019	918
Volume to Capacity	0.20	0.33	0.04	0.03
Queue Length 95th (m)	5.8	10.8	0.9	0.7
Control Delay (s)	23.3	39.0	0.9	0.8
Lane LOS	C	E	A	A
Approach Delay (s)	23.3	39.0	0.9	0.8
Approach LOS	C	E		

Intersection Summary				
Average Delay		3.1		
Intersection Capacity Utilization		54.5%	ICU Level of Service	A
Analysis Period (min)		15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	167	1	0	157	21	0	4	3	38	1	29
Future Volume (vph)	30	167	1	0	157	21	0	4	3	38	1	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.999			0.984			0.949			0.942	
Flt Protected		0.993									0.973	
Satd. Flow (prot)	0	1714	0	0	1707	0	0	1803	0	0	1550	0
Flt Permitted		0.993									0.973	
Satd. Flow (perm)	0	1714	0	0	1707	0	0	1803	0	0	1550	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		264.2			459.4			60.6			189.0	
Travel Time (s)		19.0			33.1			4.4			13.6	
Confl. Peds. (#/hr)	2		4	4		2	3		4	4		3
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	10%	10%	0%	2%	8%	21%	2%	0%	0%	16%	0%	8%
Adj. Flow (vph)	34	190	1	0	178	24	0	5	3	43	1	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	225	0	0	202	0	0	8	0	0	77	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)		0.0			0.0			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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	41.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	167	1	0	157	21	0	4	3	38	1	29
Future Volume (Veh/h)	30	167	1	0	157	21	0	4	3	38	1	29
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	34	190	1	0	178	24	0	5	3	43	1	33
Pedestrians		3			4			4			2	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	204			195			489	466	198	460	455	195
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	204			195			489	466	198	460	455	195
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.3	6.5	6.3
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.6	4.0	3.4
p0 queue free %	97			100			100	99	100	91	100	96
cM capacity (veh/h)	1319			1373			455	482	842	469	489	828

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	225	202	8	77
Volume Left	34	0	0	43
Volume Right	1	24	3	33
cSH	1319	1373	574	577
Volume to Capacity	0.03	0.00	0.01	0.13
Queue Length 95th (m)	0.6	0.0	0.3	3.7
Control Delay (s)	1.4	0.0	11.4	12.2
Lane LOS	A		B	B
Approach Delay (s)	1.4	0.0	11.4	12.2
Approach LOS			B	B

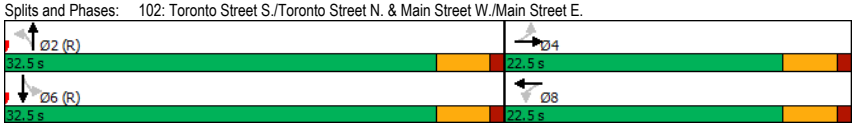
Intersection Summary				
Average Delay		2.6		
Intersection Capacity Utilization		41.7%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	83	91	68	66	50	81	296	61	45	301	45
Future Volume (vph)	69	83	91	68	66	50	81	296	61	45	301	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor		0.99			0.99			1.00			1.00	
Frt		0.949			0.963			0.981			0.984	
Flt Protected		0.986			0.982			0.991			0.994	
Satd. Flow (prot)	0	1637	0	0	1661	0	0	1634	0	0	1689	0
Flt Permitted		0.871			0.818			0.859			0.912	
Satd. Flow (perm)	0	1445	0	0	1383	0	0	1416	0	0	1549	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		58			36			21			17	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		459.4			168.7			386.0			413.1	
Travel Time (s)		33.1			12.1			27.8			29.7	
Confl. Peds. (#/hr)	3		1	1		3	1		1	1		1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	7%	12%	9%	7%	6%	18%	12%	9%	0%	10%	18%
Adj. Flow (vph)	78	94	103	77	75	57	92	336	69	51	342	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	275	0	0	209	0	0	497	0	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)		0.0			0.0			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
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		22.5	22.5		32.5	32.5		32.5	32.5	
Total Split (%)	40.9%	40.9%		40.9%	40.9%		59.1%	59.1%		59.1%	59.1%	
Maximum Green (s)	18.0	18.0		18.0	18.0		28.0	28.0		28.0	28.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		18.0			18.0			28.0			28.0	
Actuated g/C Ratio		0.33			0.33			0.51			0.51	
v/c Ratio		0.54			0.44			0.68			0.56	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		16.4			15.4			15.6			12.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		16.4			15.4			15.6			12.2	
LOS		B			B			B			B	
Approach Delay		16.4			15.4			15.6			12.2	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 14.7		Intersection LOS: B	
Intersection Capacity Utilization 61.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 102: Toronto Street S./Toronto Street N. & Main Street W./Main Street E.



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	275	209	497	444
v/c Ratio	0.54	0.44	0.68	0.56
Control Delay	16.4	15.4	15.6	12.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	16.4	15.4	15.6	12.2
Queue Length 50th (m)	17.6	13.6	33.8	27.7
Queue Length 95th (m)	36.2	28.7	62.0	48.7
Internal Link Dist (m)	435.4	144.7	362.0	389.1
Turn Bay Length (m)				
Base Capacity (vph)	511	476	731	796
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.54	0.44	0.68	0.56

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	83	91	68	66	50	81	296	61	45	301	45
Future Volume (vph)	69	83	91	68	66	50	81	296	61	45	301	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.95			0.96			0.98			0.98	
Flt Protected		0.99			0.98			0.99			0.99	
Satd. Flow (prot)		1636			1660			1634			1690	
Flt Permitted		0.87			0.82			0.86			0.91	
Satd. Flow (perm)		1445			1383			1416			1550	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	78	94	103	77	75	57	92	336	69	51	342	51
RTOR Reduction (vph)	0	39	0	0	24	0	0	10	0	0	8	0
Lane Group Flow (vph)	0	236	0	0	185	0	0	487	0	0	436	0
Confl. Peds. (#/hr)	3		1	1		3	1		1	1		1
Heavy Vehicles (%)	3%	7%	12%	9%	7%	6%	18%	12%	9%	0%	10%	18%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.0			18.0			28.0			28.0	
Effective Green, g (s)		18.0			18.0			28.0			28.0	
Actuated g/C Ratio		0.33			0.33			0.51			0.51	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		472			452			720			789	
v/s Ratio Prot												
v/s Ratio Perm		c0.16			0.13			c0.34			0.28	
v/c Ratio		0.50			0.41			0.68			0.55	
Uniform Delay, d1		14.9			14.4			10.1			9.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.8			2.7			5.0			2.8	
Delay (s)		18.6			17.1			15.1			12.0	
Level of Service		B			B			B			B	
Approach Delay (s)		18.6			17.1			15.1			12.0	
Approach LOS		B			B			B			B	

Intersection Summary					
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service		B	
HCM 2000 Volume to Capacity ratio	0.61				
Actuated Cycle Length (s)	55.0	Sum of lost time (s)		9.0	
Intersection Capacity Utilization	61.6%	ICU Level of Service		B	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	0	10	2	0	1	30	383	2	1	379	13
Future Volume (vph)	5	0	10	2	0	1	30	383	2	1	379	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.913			0.955			0.999			0.995	
Flt Protected		0.983			0.968			0.996				
Satd. Flow (prot)	0	1672	0	0	1722	0	0	1853	0	0	1853	0
Flt Permitted		0.983			0.968			0.996				
Satd. Flow (perm)	0	1672	0	0	1722	0	0	1853	0	0	1853	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		218.2			77.4			413.1			130.0	
Travel Time (s)		15.7			5.6			29.7			9.4	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	6	0	11	2	0	1	34	435	2	1	431	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	17	0	0	3	0	0	471	0	0	447	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.4%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	0	10	2	0	1	30	383	2	1	379	13
Future Volume (Veh/h)	5	0	10	2	0	1	30	383	2	1	379	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	6	0	11	2	0	1	34	435	2	1	431	15
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	946	946	438	956	952	436	446			437		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	946	946	438	956	952	436	446			437		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	98	99	100	100	97			100		
cM capacity (veh/h)	235	253	618	228	251	620	1114			1123		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	17	3	471	447
Volume Left	6	2	34	1
Volume Right	11	1	2	15
cSH	393	289	1114	1123
Volume to Capacity	0.04	0.01	0.03	0.00
Queue Length 95th (m)	1.1	0.3	0.8	0.0
Control Delay (s)	14.6	17.6	0.9	0.0
Lane LOS	B	C	A	A
Approach Delay (s)	14.6	17.6	0.9	0.0
Approach LOS	B	C		

Intersection Summary				
Average Delay		0.8		
Intersection Capacity Utilization		53.4%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	0	15	53	0	22	17	356	18	8	315	7
Future Volume (vph)	7	0	15	53	0	22	17	356	18	8	315	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.908			0.960			0.994			0.997	
Flt Protected		0.984			0.966			0.998			0.999	
Satd. Flow (prot)	0	1664	0	0	1727	0	0	1848	0	0	1855	0
Flt Permitted		0.984			0.966			0.998			0.999	
Satd. Flow (perm)	0	1664	0	0	1727	0	0	1848	0	0	1855	0
Link Speed (k/h)		50			50			80			50	
Link Distance (m)		46.4			111.6			130.0			333.6	
Travel Time (s)		3.3			8.0			5.9			24.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	8	0	17	60	0	25	19	405	20	9	358	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	25	0	0	85	0	0	444	0	0	375	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	0	15	53	0	22	17	356	18	8	315	7
Future Volume (Veh/h)	7	0	15	53	0	22	17	356	18	8	315	7
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	8	0	17	60	0	25	19	405	20	9	358	8
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	858	843	362	850	837	415	366			425		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	858	843	362	850	837	415	366			425		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	98	78	100	96	98			99		
cM capacity (veh/h)	261	293	683	269	296	637	1193			1134		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	25	85	444	375
Volume Left	8	60	19	9
Volume Right	17	25	20	8
cSH	450	324	1193	1134
Volume to Capacity	0.06	0.26	0.02	0.01
Queue Length 95th (m)	1.4	8.3	0.4	0.2
Control Delay (s)	13.5	20.0	0.5	0.3
Lane LOS	B	C	A	A
Approach Delay (s)	13.5	20.0	0.5	0.3
Approach LOS	B	C		

Intersection Summary				
Average Delay		2.6		
Intersection Capacity Utilization	43.3%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	278	0	1	285	18	17	1	1	24	3	38
Future Volume (vph)	9	278	0	1	285	18	17	1	1	24	3	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt					0.992			0.994			0.920	
Flt Protected		0.998						0.957			0.982	
Satd. Flow (prot)	0	1825	0	0	1799	0	0	1807	0	0	1692	0
Flt Permitted		0.998						0.957			0.982	
Satd. Flow (perm)	0	1825	0	0	1799	0	0	1807	0	0	1692	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		264.2			459.4			60.6			189.0	
Travel Time (s)		19.0			33.1			4.4			13.6	
Confl. Peds. (#/hr)	1		6	6		1	4					4
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	4%	2%	0%	4%	17%	0%	0%	0%	4%	0%	0%
Adj. Flow (vph)	10	316	0	1	324	20	19	1	1	27	3	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	326	0	0	345	0	0	21	0	0	73	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)		0.0			0.0			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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	32.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	278	0	1	285	18	17	1	1	24	3	38
Future Volume (Veh/h)	9	278	0	1	285	18	17	1	1	24	3	38
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	10	316	0	1	324	20	19	1	1	27	3	43
Pedestrians		4						6			1	
Lane Width (m)		3.6						3.6			3.6	
Walking Speed (m/s)		1.2						1.2			1.2	
Percent Blockage		0						1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	345			322			726	689	322	674	679	339
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	345			322			726	689	322	674	679	339
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			94	100	100	92	99	94
cM capacity (veh/h)	1224			1243			313	366	720	360	371	705

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	326	345	21	73
Volume Left	10	1	19	27
Volume Right	0	20	1	43
cSH	1224	1243	324	506
Volume to Capacity	0.01	0.00	0.06	0.14
Queue Length 95th (m)	0.2	0.0	1.7	4.0
Control Delay (s)	0.3	0.0	16.9	13.3
Lane LOS	A	A	C	B
Approach Delay (s)	0.3	0.0	16.9	13.3
Approach LOS			C	B

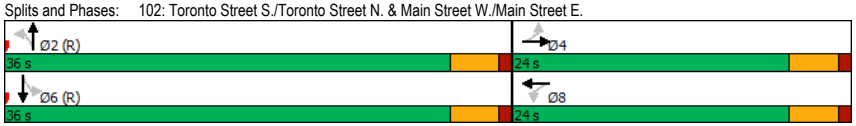
Intersection Summary					
Average Delay	1.9				
Intersection Capacity Utilization	32.9%	ICU Level of Service		A	
Analysis Period (min)	15				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	97	120	80	109	75	92	453	70	61	401	122
Future Volume (vph)	133	97	120	80	109	75	92	453	70	61	401	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor		0.99			0.99			1.00			0.99	
Frt		0.954			0.962			0.985			0.972	
Flt Protected		0.981			0.985			0.993			0.995	
Satd. Flow (prot)	0	1692	0	0	1739	0	0	1792	0	0	1715	0
Flt Permitted		0.722			0.771			0.835			0.892	
Satd. Flow (perm)	0	1245	0	0	1359	0	0	1507	0	0	1538	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46			35			16			33	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		459.4			168.7			386.0			413.1	
Travel Time (s)		33.1			12.1			27.8			29.7	
Confl. Peds. (#/hr)	1		6	6		1	4					4
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	0%	4%	0%	7%	0%	5%	4%	0%	4%	8%	3%
Adj. Flow (vph)	151	110	136	91	124	85	105	515	80	69	456	139
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	397	0	0	300	0	0	700	0	0	664	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)		0.0			0.0			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
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	24.0	24.0		24.0	24.0		36.0	36.0		36.0	36.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		60.0%	60.0%		60.0%	60.0%	
Maximum Green (s)	19.5	19.5		19.5	19.5		31.5	31.5		31.5	31.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		19.5			19.5			31.5			31.5	
Actuated g/C Ratio		0.32			0.32			0.52			0.52	
v/c Ratio		0.91			0.65			0.88			0.81	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		47.1			22.9			27.8			21.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		47.1			22.9			27.8			21.3	
LOS		D			C			C			C	
Approach Delay		47.1			22.9			27.8			21.3	
Approach LOS		D			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 28.7		Intersection LOS: C	
Intersection Capacity Utilization 85.9%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 102: Toronto Street S./Toronto Street N. & Main Street W./Main Street E.



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	397	300	700	664
v/c Ratio	0.91	0.65	0.88	0.81
Control Delay	47.1	22.9	27.8	21.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	47.1	22.9	27.8	21.3
Queue Length 50th (m)	38.6	25.5	63.5	54.8
Queue Length 95th (m)	#85.5	48.3	#127.9	#113.3
Internal Link Dist (m)	435.4	144.7	362.0	389.1
Turn Bay Length (m)				
Base Capacity (vph)	435	465	798	823
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.91	0.65	0.88	0.81

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	97	120	80	109	75	92	453	70	61	401	122
Future Volume (vph)	133	97	120	80	109	75	92	453	70	61	401	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.95			0.96			0.98			0.97	
Flt Protected		0.98			0.99			0.99			0.99	
Satd. Flow (prot)		1691			1736			1790			1714	
Flt Permitted		0.72			0.77			0.84			0.89	
Satd. Flow (perm)		1244			1359			1506			1537	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	151	110	136	91	124	85	105	515	80	69	456	139
RTOR Reduction (vph)	0	31	0	0	24	0	0	8	0	0	16	0
Lane Group Flow (vph)	0	366	0	0	276	0	0	692	0	0	648	0
Confl. Peds. (#/hr)	1		6	6		1	4					4
Heavy Vehicles (%)	7%	0%	4%	0%	7%	0%	5%	4%	0%	4%	8%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		19.5			19.5			31.5			31.5	
Effective Green, g (s)		19.5			19.5			31.5			31.5	
Actuated g/C Ratio		0.32			0.32			0.52			0.52	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		404			441			790			806	
v/s Ratio Prot												
v/s Ratio Perm		c0.29			0.20			c0.46			0.42	
v/c Ratio		0.91			0.63			0.88			0.80	
Uniform Delay, d1		19.4			17.2			12.5			11.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		26.4			6.6			13.1			8.4	
Delay (s)		45.8			23.8			25.6			20.1	
Level of Service		D			C			C			C	
Approach Delay (s)		45.8			23.8			25.6			20.1	
Approach LOS		D			C			C			C	

Intersection Summary

HCM 2000 Control Delay	27.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	85.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	0	28	2	0	1	14	645	2	1	555	7
Future Volume (vph)	14	0	28	2	0	1	14	645	2	1	555	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.910			0.955						0.998	
Flt Protected		0.984			0.968			0.999				
Satd. Flow (prot)	0	1668	0	0	1722	0	0	1861	0	0	1859	0
Flt Permitted		0.984			0.968			0.999				
Satd. Flow (perm)	0	1668	0	0	1722	0	0	1861	0	0	1859	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		218.2			77.4			413.1			127.2	
Travel Time (s)		15.7			5.6			29.7			9.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	16	0	32	2	0	1	16	733	2	1	631	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	48	0	0	3	0	0	751	0	0	640	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	0	28	2	0	1	14	645	2	1	555	7
Future Volume (Veh/h)	14	0	28	2	0	1	14	645	2	1	555	7
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	16	0	32	2	0	1	16	733	2	1	631	8
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1404	1404	635	1435	1407	734	639			735		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1404	1404	635	1435	1407	734	639			735		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	86	100	93	98	100	100	98			100		
cM capacity (veh/h)	115	137	478	103	136	420	945			870		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	48	3	751	640
Volume Left	16	2	16	1
Volume Right	32	1	2	8
cSH	233	137	945	870
Volume to Capacity	0.21	0.02	0.02	0.00
Queue Length 95th (m)	6.0	0.5	0.4	0.0
Control Delay (s)	24.4	31.9	0.4	0.0
Lane LOS	C	D	A	A
Approach Delay (s)	24.4	31.9	0.4	0.0
Approach LOS	C	D		

Intersection Summary				
Average Delay		1.1		
Intersection Capacity Utilization	54.8%	ICU Level of Service		A
Analysis Period (min)	15			

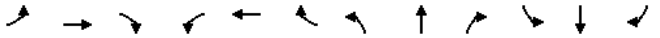
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	0	30	32	0	17	33	567	54	24	494	14
Future Volume (vph)	15	0	30	32	0	17	33	567	54	24	494	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.910			0.953			0.989			0.996	
Flt Protected		0.984			0.968			0.997			0.998	
Satd. Flow (prot)	0	1668	0	0	1718	0	0	1837	0	0	1852	0
Flt Permitted		0.984			0.968			0.997			0.998	
Satd. Flow (perm)	0	1668	0	0	1718	0	0	1837	0	0	1852	0
Link Speed (k/h)		50			50			80			50	
Link Distance (m)		46.6			119.5			127.2			336.4	
Travel Time (s)		3.4			8.6			5.7			24.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	17	0	34	36	0	19	38	644	61	27	561	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	51	0	0	55	0	0	743	0	0	604	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 56.9%		ICU Level of Service B	
Analysis Period (min) 15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	0	30	32	0	17	33	567	54	24	494	14
Future Volume (Veh/h)	15	0	30	32	0	17	33	567	54	24	494	14
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	17	0	34	36	0	19	38	644	61	27	561	16
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1392	1404	569	1408	1382	674	577			705		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1392	1404	569	1408	1382	674	577			705		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	84	100	93	65	100	96	96			97		
cM capacity (veh/h)	108	130	522	103	134	454	996			893		

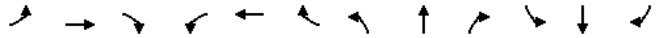
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	51	55	743	604
Volume Left	17	36	38	27
Volume Right	34	19	61	16
cSH	230	141	996	893
Volume to Capacity	0.22	0.39	0.04	0.03
Queue Length 95th (m)	6.6	13.3	1.0	0.7
Control Delay (s)	25.1	46.1	1.0	0.8
Lane LOS	D	E	A	A
Approach Delay (s)	25.1	46.1	1.0	0.8
Approach LOS	D	E		

Intersection Summary				
Average Delay		3.5		
Intersection Capacity Utilization	56.9%	ICU Level of Service	B	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	159	1	0	149	20	0	4	3	36	1	27
Future Volume (vph)	28	159	1	0	149	20	0	4	3	36	1	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.999			0.984			0.949			0.943	
Flt Protected		0.993									0.973	
Satd. Flow (prot)	0	1714	0	0	1707	0	0	1803	0	0	1551	0
Flt Permitted		0.993									0.973	
Satd. Flow (perm)	0	1714	0	0	1707	0	0	1803	0	0	1551	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		264.2			459.4			60.6			189.0	
Travel Time (s)		19.0			33.1			4.4			13.6	
Confl. Peds. (#/hr)	2		4	4		2	3		4	4		3
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	10%	10%	0%	2%	8%	21%	2%	0%	0%	16%	0%	8%
Adj. Flow (vph)	32	181	1	0	169	23	0	5	3	41	1	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	214	0	0	192	0	0	8	0	0	73	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)		0.0			0.0			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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	40.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	159	1	0	149	20	0	4	3	36	1	27
Future Volume (Veh/h)	28	159	1	0	149	20	0	4	3	36	1	27
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	32	181	1	0	169	23	0	5	3	41	1	31
Pedestrians		3			4			4			2	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	194			186			464	444	190	438	432	186
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	194			186			464	444	190	438	432	186
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.3	6.5	6.3
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.6	4.0	3.4
p0 queue free %	98			100			100	99	100	92	100	96
cM capacity (veh/h)	1330			1384			475	497	852	487	504	838

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	214	192	8	73
Volume Left	32	0	0	41
Volume Right	1	23	3	31
cSH	1330	1384	589	593
Volume to Capacity	0.02	0.00	0.01	0.12
Queue Length 95th (m)	0.6	0.0	0.3	3.4
Control Delay (s)	1.3	0.0	11.2	11.9
Lane LOS	A		B	B
Approach Delay (s)	1.3	0.0	11.2	11.9
Approach LOS			B	B

Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	40.5%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	79	86	65	63	48	77	283	58	43	287	43
Future Volume (vph)	66	79	86	65	63	48	77	283	58	43	287	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor		0.99			0.99			1.00			1.00	
Frt		0.950			0.963			0.981			0.984	
Flt Protected		0.986			0.982			0.991			0.994	
Satd. Flow (prot)	0	1639	0	0	1661	0	0	1634	0	0	1689	0
Flt Permitted		0.874			0.813			0.861			0.916	
Satd. Flow (perm)	0	1451	0	0	1374	0	0	1420	0	0	1556	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		52			33			21			17	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		459.4			168.7			386.0			413.1	
Travel Time (s)		33.1			12.1			27.8			29.7	
Confl. Peds. (#/hr)	3		1	1		3	1		1	1		1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	7%	12%	9%	7%	6%	18%	12%	9%	0%	10%	18%
Adj. Flow (vph)	75	90	98	74	72	55	88	322	66	49	326	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	263	0	0	201	0	0	476	0	0	424	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)		0.0			0.0			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
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0		37.0	37.0		37.0	37.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%		61.7%	61.7%		61.7%	61.7%	
Maximum Green (s)	18.5	18.5		18.5	18.5		32.5	32.5		32.5	32.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		18.5			18.5			32.5			32.5	
Actuated g/C Ratio		0.31			0.31			0.54			0.54	
v/c Ratio		0.54			0.45			0.61			0.50	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		18.7			17.7			13.2			10.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.7			17.7			13.2			10.8	
LOS		B			B			B			B	
Approach Delay		18.7			17.7			13.2			10.8	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 14.2		Intersection LOS: B	
Intersection Capacity Utilization 59.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 102: Toronto Street S./Toronto Street N. & Main Street W./Main Street E.

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	263	201	476	424
v/c Ratio	0.54	0.45	0.61	0.50
Control Delay	18.7	17.7	13.2	10.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	18.7	17.7	13.2	10.8
Queue Length 50th (m)	19.5	15.1	32.3	26.4
Queue Length 95th (m)	39.0	31.1	57.2	45.5
Internal Link Dist (m)	435.4	144.7	362.0	389.1
Turn Bay Length (m)				
Base Capacity (vph)	483	446	778	850
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.54	0.45	0.61	0.50

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	79	86	65	63	48	77	283	58	43	287	43
Future Volume (vph)	66	79	86	65	63	48	77	283	58	43	287	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.95			0.96			0.98			0.98	
Flt Protected		0.99			0.98			0.99			0.99	
Satd. Flow (prot)		1637			1660			1634			1690	
Flt Permitted		0.87			0.81			0.86			0.92	
Satd. Flow (perm)		1450			1374			1420			1556	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	75	90	98	74	72	55	88	322	66	49	326	49
RTOR Reduction (vph)	0	36	0	0	23	0	0	10	0	0	8	0
Lane Group Flow (vph)	0	227	0	0	178	0	0	466	0	0	416	0
Confl. Peds. (#/hr)	3		1	1		3	1		1	1		1
Heavy Vehicles (%)	3%	7%	12%	9%	7%	6%	18%	12%	9%	0%	10%	18%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.5			18.5			32.5			32.5	
Effective Green, g (s)		18.5			18.5			32.5			32.5	
Actuated g/C Ratio		0.31			0.31			0.54			0.54	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		447			423			769			842	
v/s Ratio Prot												
v/s Ratio Perm		c0.16			0.13			c0.33			0.27	
v/c Ratio		0.51			0.42			0.61			0.49	
Uniform Delay, d1		17.0			16.5			9.4			8.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		4.1			3.1			3.5			2.1	
Delay (s)		21.1			19.6			12.9			10.7	
Level of Service		C			B			B			B	
Approach Delay (s)		21.1			19.6			12.9			10.7	
Approach LOS		C			B			B			B	

Intersection Summary					
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service		B	
HCM 2000 Volume to Capacity ratio	0.57				
Actuated Cycle Length (s)	60.0	Sum of lost time (s)		9.0	
Intersection Capacity Utilization	59.0%	ICU Level of Service		B	
Analysis Period (min)	15				
c Critical Lane Group					

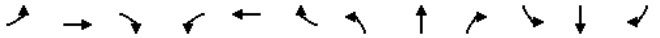
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	2	0	1	0	395	2	1	369	0
Future Volume (vph)	1	0	1	2	0	1	0	395	2	1	369	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.932			0.955			0.999				
Flt Protected		0.976			0.968							
Satd. Flow (prot)	0	1694	0	0	1722	0	0	1861	0	0	1863	0
Flt Permitted		0.976			0.968							
Satd. Flow (perm)	0	1694	0	0	1722	0	0	1861	0	0	1863	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		218.2			77.4			413.1			130.0	
Travel Time (s)		15.7			5.6			29.7			9.4	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	1	0	1	2	0	1	0	449	2	1	419	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2	0	0	3	0	0	451	0	0	420	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	30.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	1	2	0	1	0	395	2	1	369	0
Future Volume (Veh/h)	1	0	1	2	0	1	0	395	2	1	369	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	1	0	1	2	0	1	0	449	2	1	419	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	872	872	419	872	871	450	419			451		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	872	872	419	872	871	450	419			451		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	99	100	100	100			100		
cM capacity (veh/h)	270	289	634	270	289	609	1140			1109		

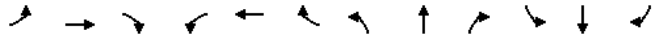
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	2	3	451	420
Volume Left	1	2	0	1
Volume Right	1	1	2	0
cSH	379	332	1140	1109
Volume to Capacity	0.01	0.01	0.00	0.00
Queue Length 95th (m)	0.1	0.2	0.0	0.0
Control Delay (s)	14.5	15.9	0.0	0.0
Lane LOS	B	C		A
Approach Delay (s)	14.5	15.9	0.0	0.0
Approach LOS	B	C		

Intersection Summary				
Average Delay		0.1		
Intersection Capacity Utilization	30.9%	ICU Level of Service		A
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	0	15	50	0	21	16	339	17	7	300	6
Future Volume (vph)	6	0	15	50	0	21	16	339	17	7	300	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.904			0.960			0.994			0.997	
Flt Protected		0.986			0.966			0.998			0.999	
Satd. Flow (prot)	0	1660	0	0	1727	0	0	1848	0	0	1855	0
Flt Permitted		0.986			0.966			0.998			0.999	
Satd. Flow (perm)	0	1660	0	0	1727	0	0	1848	0	0	1855	0
Link Speed (k/h)		50			50			80			50	
Link Distance (m)		46.4			111.6			130.0			333.6	
Travel Time (s)		3.3			8.0			5.9			24.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	7	0	17	57	0	24	18	385	19	8	341	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	24	0	0	81	0	0	422	0	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	0	15	50	0	21	16	339	17	7	300	6
Future Volume (Veh/h)	6	0	15	50	0	21	16	339	17	7	300	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	7	0	17	57	0	24	18	385	19	8	341	7
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	815	800	344	808	794	394	348			404		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	815	800	344	808	794	394	348			404		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	98	80	100	96	99			99		
cM capacity (veh/h)	281	311	698	287	314	655	1211			1155		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	24	81	422	356
Volume Left	7	57	18	8
Volume Right	17	24	19	7
cSH	487	345	1211	1155
Volume to Capacity	0.05	0.24	0.01	0.01
Queue Length 95th (m)	1.2	7.2	0.4	0.2
Control Delay (s)	12.8	18.6	0.5	0.3
Lane LOS	B	C	A	A
Approach Delay (s)	12.8	18.6	0.5	0.3
Approach LOS	B	C		

Intersection Summary				
Average Delay		2.4		
Intersection Capacity Utilization	42.3%	ICU Level of Service		A
Analysis Period (min)	15			

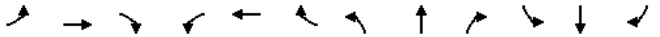
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	9	30	367	362	13
Future Volume (vph)	4	9	30	367	362	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.910				0.995	
Flt Protected	0.984			0.996		
Satd. Flow (prot)	1668	0	0	1855	1853	0
Flt Permitted	0.984			0.996		
Satd. Flow (perm)	1668	0	0	1855	1853	0
Link Speed (k/h)	50			80	80	
Link Distance (m)	686.9			333.6	189.1	
Travel Time (s)	49.5			15.0	8.5	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	5	10	34	417	411	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	0	0	451	426	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	9	30	367	362	13
Future Volume (Veh/h)	4	9	30	367	362	13
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	5	10	34	417	411	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	904	418	426			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	904	418	426			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	98	97			
cM capacity (veh/h)	298	635	1133			

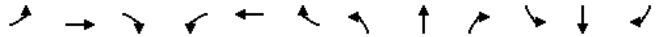
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	15	451	426
Volume Left	5	34	0
Volume Right	10	0	15
cSH	461	1133	1700
Volume to Capacity	0.03	0.03	0.25
Queue Length 95th (m)	0.8	0.7	0.0
Control Delay (s)	13.1	0.9	0.0
Lane LOS	B	A	
Approach Delay (s)	13.1	0.9	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	264	0	1	272	17	16	1	1	23	3	36
Future Volume (vph)	8	264	0	1	272	17	16	1	1	23	3	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt					0.992			0.993			0.921	
Flt Protected		0.999						0.957			0.982	
Satd. Flow (prot)	0	1827	0	0	1800	0	0	1806	0	0	1693	0
Flt Permitted		0.999						0.957			0.982	
Satd. Flow (perm)	0	1827	0	0	1800	0	0	1806	0	0	1693	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		264.2			459.4			60.6			189.0	
Travel Time (s)		19.0			33.1			4.4			13.6	
Confl. Peds. (#/hr)	1		6	6		1	4					4
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	4%	2%	0%	4%	17%	0%	0%	0%	4%	0%	0%
Adj. Flow (vph)	9	300	0	1	309	19	18	1	1	26	3	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	309	0	0	329	0	0	20	0	0	70	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)		0.0			0.0			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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	31.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	264	0	1	272	17	16	1	1	23	3	36
Future Volume (Veh/h)	8	264	0	1	272	17	16	1	1	23	3	36
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	9	300	0	1	309	19	18	1	1	26	3	41
Pedestrians		4						6			1	
Lane Width (m)		3.6						3.6			3.6	
Walking Speed (m/s)		1.2						1.2			1.2	
Percent Blockage		0						1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	329			306			691	655	306	641	646	324
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	329			306			691	655	306	641	646	324
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			95	100	100	93	99	94
cM capacity (veh/h)	1241			1260			333	383	735	379	388	719

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	309	329	20	70
Volume Left	9	1	18	26
Volume Right	0	19	1	41
cSH	1241	1260	344	525
Volume to Capacity	0.01	0.00	0.06	0.13
Queue Length 95th (m)	0.2	0.0	1.5	3.7
Control Delay (s)	0.3	0.0	16.1	12.9
Lane LOS	A	A	C	B
Approach Delay (s)	0.3	0.0	16.1	12.9
Approach LOS			C	B

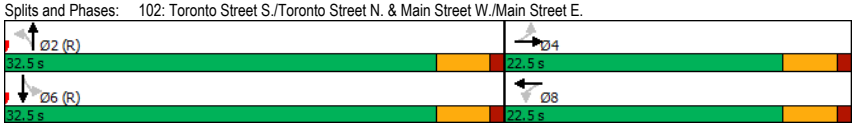
Intersection Summary					
Average Delay		1.8			
Intersection Capacity Utilization		31.3%	ICU Level of Service		A
Analysis Period (min)		15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	92	115	76	104	71	87	433	66	59	382	116
Future Volume (vph)	126	92	115	76	104	71	87	433	66	59	382	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor		0.99			0.99			1.00			0.99	
Frt		0.953			0.962			0.985			0.972	
Flt Protected		0.981			0.985			0.993			0.995	
Satd. Flow (prot)	0	1690	0	0	1739	0	0	1792	0	0	1716	0
Flt Permitted		0.743			0.790			0.850			0.897	
Satd. Flow (perm)	0	1280	0	0	1393	0	0	1534	0	0	1547	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		51			39			17			35	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		459.4			168.7			386.0			413.1	
Travel Time (s)		33.1			12.1			27.8			29.7	
Confl. Peds. (#/hr)	1		6	6		1	4					4
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	0%	4%	0%	7%	0%	5%	4%	0%	4%	8%	3%
Adj. Flow (vph)	143	105	131	86	118	81	99	492	75	67	434	132
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	379	0	0	285	0	0	666	0	0	633	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)		0.0			0.0			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
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		22.5	22.5		32.5	32.5		32.5	32.5	
Total Split (%)	40.9%	40.9%		40.9%	40.9%		59.1%	59.1%		59.1%	59.1%	
Maximum Green (s)	18.0	18.0		18.0	18.0		28.0	28.0		28.0	28.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		18.0			18.0			28.0			28.0	
Actuated g/C Ratio		0.33			0.33			0.51			0.51	
v/c Ratio		0.84			0.59			0.84			0.79	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		34.6			19.2			24.4			19.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		34.6			19.2			24.4			19.9	
LOS		C			B			C			B	
Approach Delay		34.6			19.2			24.4			19.9	
Approach LOS		C			B			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 24.2		Intersection LOS: C	
Intersection Capacity Utilization 81.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 102: Toronto Street S./Toronto Street N. & Main Street W./Main Street E.



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	379	285	666	633
v/c Ratio	0.84	0.59	0.84	0.79
Control Delay	34.6	19.2	24.4	19.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	34.6	19.2	24.4	19.9
Queue Length 50th (m)	31.1	20.7	53.1	46.5
Queue Length 95th (m)	#72.6	41.0	#111.8	#100.3
Internal Link Dist (m)	435.4	144.7	362.0	389.1
Turn Bay Length (m)				
Base Capacity (vph)	453	482	789	804
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.84	0.59	0.84	0.79

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	92	115	76	104	71	87	433	66	59	382	116
Future Volume (vph)	126	92	115	76	104	71	87	433	66	59	382	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.95			0.96			0.98			0.97	
Flt Protected		0.98			0.99			0.99			0.99	
Satd. Flow (prot)		1691			1736			1791			1715	
Flt Permitted		0.74			0.79			0.85			0.90	
Satd. Flow (perm)		1281			1393			1533			1546	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	143	105	131	86	118	81	99	492	75	67	434	132
RTOR Reduction (vph)	0	34	0	0	26	0	0	8	0	0	17	0
Lane Group Flow (vph)	0	345	0	0	259	0	0	658	0	0	616	0
Confl. Peds. (#/hr)	1		6	6		1	4					4
Heavy Vehicles (%)	7%	0%	4%	0%	7%	0%	5%	4%	0%	4%	8%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.0			18.0			28.0			28.0	
Effective Green, g (s)		18.0			18.0			28.0			28.0	
Actuated g/C Ratio		0.33			0.33			0.51			0.51	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		419			455			780			787	
v/s Ratio Prot												
v/s Ratio Perm		c0.27			0.19			c0.43			0.40	
v/c Ratio		0.82			0.57			0.84			0.78	
Uniform Delay, d1		17.0			15.3			11.6			11.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		16.5			5.1			10.8			7.6	
Delay (s)		33.5			20.4			22.4			18.6	
Level of Service		C			C			C			B	
Approach Delay (s)		33.5			20.4			22.4			18.6	
Approach LOS		C			C			C			B	

Intersection Summary

HCM 2000 Control Delay	23.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1	2	0	1	1	627	2	1	555	1
Future Volume (vph)	0	0	1	2	0	1	1	627	2	1	555	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.865			0.955							
Flt Protected					0.968							
Satd. Flow (prot)	0	1611	0	0	1722	0	0	1863	0	0	1863	0
Flt Permitted					0.968							
Satd. Flow (perm)	0	1611	0	0	1722	0	0	1863	0	0	1863	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		218.2			77.4			413.1			127.2	
Travel Time (s)		15.7			5.6			29.7			9.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	0	1	2	0	1	1	713	2	1	631	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	3	0	0	716	0	0	633	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	43.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	1	2	0	1	1	627	2	1	555	1
Future Volume (Veh/h)	0	0	1	2	0	1	1	627	2	1	555	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	0	1	2	0	1	1	713	2	1	631	1
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1350	1350	632	1350	1350	714	632			715		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1350	1350	632	1350	1350	714	632			715		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	98	100	100	100			100		
cM capacity (veh/h)	127	150	481	127	150	431	951			885		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1	3	716	633
Volume Left	0	2	1	1
Volume Right	1	1	2	1
cSH	481	166	951	885
Volume to Capacity	0.00	0.02	0.00	0.00
Queue Length 95th (m)	0.1	0.4	0.0	0.0
Control Delay (s)	12.5	27.1	0.0	0.0
Lane LOS	B	D	A	A
Approach Delay (s)	12.5	27.1	0.0	0.0
Approach LOS	B	D		

Intersection Summary				
Average Delay		0.1		
Intersection Capacity Utilization		43.9%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	0	28	30	0	16	32	541	51	23	471	14
Future Volume (vph)	15	0	28	30	0	16	32	541	51	23	471	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.912			0.953			0.989			0.996	
Flt Protected		0.983			0.968			0.997			0.998	
Satd. Flow (prot)	0	1670	0	0	1718	0	0	1837	0	0	1852	0
Flt Permitted		0.983			0.968			0.997			0.998	
Satd. Flow (perm)	0	1670	0	0	1718	0	0	1837	0	0	1852	0
Link Speed (k/h)		50			50			80			50	
Link Distance (m)		46.6			119.5			127.2			336.4	
Travel Time (s)		3.4			8.6			5.7			24.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	17	0	32	34	0	18	36	615	58	26	535	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	49	0	0	52	0	0	709	0	0	577	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 54.5%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	0	28	30	0	16	32	541	51	23	471	14
Future Volume (Veh/h)	15	0	28	30	0	16	32	541	51	23	471	14
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	17	0	32	34	0	18	36	615	58	26	535	16
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1329	1340	543	1343	1319	644	551			673		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1329	1340	543	1343	1319	644	551			673		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	86	100	94	71	100	96	96			97		
cM capacity (veh/h)	121	143	540	116	147	473	1019			918		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	49	52	709	577
Volume Left	17	34	36	26
Volume Right	32	18	58	16
cSH	245	157	1019	918
Volume to Capacity	0.20	0.33	0.04	0.03
Queue Length 95th (m)	5.8	10.8	0.9	0.7
Control Delay (s)	23.3	39.0	0.9	0.8
Lane LOS	C	E	A	A
Approach Delay (s)	23.3	39.0	0.9	0.8
Approach LOS	C	E		

Intersection Summary				
Average Delay		3.1		
Intersection Capacity Utilization		54.5%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	14	27	13	615	530	6
Future Volume (vph)	14	27	13	615	530	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.911				0.998	
Flt Protected	0.983			0.999		
Satd. Flow (prot)	1668	0	0	1861	1859	0
Flt Permitted	0.983			0.999		
Satd. Flow (perm)	1668	0	0	1861	1859	0
Link Speed (k/h)	50			80	80	
Link Distance (m)	673.3			336.4	189.1	
Travel Time (s)	48.5			15.1	8.5	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	16	31	15	699	602	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	47	0	0	714	609	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	14	27	13	615	530	6
Future Volume (Veh/h)	14	27	13	615	530	6
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	16	31	15	699	602	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1334	606	609			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1334	606	609			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	90	94	98			
cM capacity (veh/h)	167	497	970			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	47	714	609
Volume Left	16	15	0
Volume Right	31	0	7
cSH	297	970	1700
Volume to Capacity	0.16	0.02	0.36
Queue Length 95th (m)	4.4	0.4	0.0
Control Delay (s)	19.4	0.4	0.0
Lane LOS	C	A	
Approach Delay (s)	19.4	0.4	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	167	1	0	157	21	0	4	3	38	1	29
Future Volume (vph)	30	167	1	0	157	21	0	4	3	38	1	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.999			0.984			0.949			0.942	
Flt Protected		0.993									0.973	
Satd. Flow (prot)	0	1714	0	0	1707	0	0	1803	0	0	1550	0
Flt Permitted		0.993									0.973	
Satd. Flow (perm)	0	1714	0	0	1707	0	0	1803	0	0	1550	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		264.2			459.4			60.6			189.0	
Travel Time (s)		19.0			33.1			4.4			13.6	
Confl. Peds. (#/hr)	2		4	4		2	3		4	4		3
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	10%	10%	0%	2%	8%	21%	2%	0%	0%	16%	0%	8%
Adj. Flow (vph)	34	190	1	0	178	24	0	5	3	43	1	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	225	0	0	202	0	0	8	0	0	77	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)		0.0			0.0			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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	41.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	167	1	0	157	21	0	4	3	38	1	29
Future Volume (Veh/h)	30	167	1	0	157	21	0	4	3	38	1	29
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	34	190	1	0	178	24	0	5	3	43	1	33
Pedestrians		3			4			4			2	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	204			195			489	466	198	460	455	195
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	204			195			489	466	198	460	455	195
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.3	6.5	6.3
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.6	4.0	3.4
p0 queue free %	97			100			100	99	100	91	100	96
cM capacity (veh/h)	1319			1373			455	482	842	469	489	828

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	225	202	8	77
Volume Left	34	0	0	43
Volume Right	1	24	3	33
cSH	1319	1373	574	577
Volume to Capacity	0.03	0.00	0.01	0.13
Queue Length 95th (m)	0.6	0.0	0.3	3.7
Control Delay (s)	1.4	0.0	11.4	12.2
Lane LOS	A		B	B
Approach Delay (s)	1.4	0.0	11.4	12.2
Approach LOS			B	B

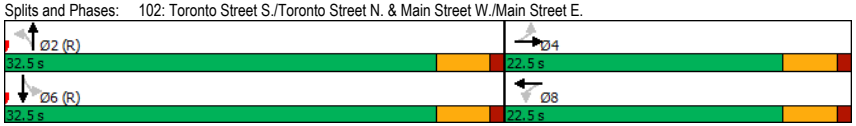
Intersection Summary				
Average Delay		2.6		
Intersection Capacity Utilization		41.7%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	83	91	68	66	50	81	296	61	45	301	45
Future Volume (vph)	69	83	91	68	66	50	81	296	61	45	301	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor		0.99			0.99			1.00			1.00	
Frt		0.949			0.963			0.981			0.984	
Flt Protected		0.986			0.982			0.991			0.994	
Satd. Flow (prot)	0	1637	0	0	1661	0	0	1634	0	0	1689	0
Flt Permitted		0.871			0.818			0.859			0.912	
Satd. Flow (perm)	0	1445	0	0	1383	0	0	1416	0	0	1549	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		58			36			21			17	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		459.4			168.7			386.0			413.1	
Travel Time (s)		33.1			12.1			27.8			29.7	
Confl. Peds. (#/hr)	3		1	1		3	1		1	1		1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	7%	12%	9%	7%	6%	18%	12%	9%	0%	10%	18%
Adj. Flow (vph)	78	94	103	77	75	57	92	336	69	51	342	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	275	0	0	209	0	0	497	0	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)		0.0			0.0			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
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		22.5	22.5		32.5	32.5		32.5	32.5	
Total Split (%)	40.9%	40.9%		40.9%	40.9%		59.1%	59.1%		59.1%	59.1%	
Maximum Green (s)	18.0	18.0		18.0	18.0		28.0	28.0		28.0	28.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		18.0			18.0			28.0			28.0	
Actuated g/C Ratio		0.33			0.33			0.51			0.51	
v/c Ratio		0.54			0.44			0.68			0.56	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		16.4			15.4			15.6			12.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		16.4			15.4			15.6			12.2	
LOS		B			B			B			B	
Approach Delay		16.4			15.4			15.6			12.2	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 14.7		Intersection LOS: B	
Intersection Capacity Utilization 61.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 102: Toronto Street S./Toronto Street N. & Main Street W./Main Street E.



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	275	209	497	444
v/c Ratio	0.54	0.44	0.68	0.56
Control Delay	16.4	15.4	15.6	12.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	16.4	15.4	15.6	12.2
Queue Length 50th (m)	17.6	13.6	33.8	27.7
Queue Length 95th (m)	36.2	28.7	62.0	48.7
Internal Link Dist (m)	435.4	144.7	362.0	389.1
Turn Bay Length (m)				
Base Capacity (vph)	511	476	731	796
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.54	0.44	0.68	0.56

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	83	91	68	66	50	81	296	61	45	301	45
Future Volume (vph)	69	83	91	68	66	50	81	296	61	45	301	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.95			0.96			0.98			0.98	
Flt Protected		0.99			0.98			0.99			0.99	
Satd. Flow (prot)		1636			1660			1634			1690	
Flt Permitted		0.87			0.82			0.86			0.91	
Satd. Flow (perm)		1445			1383			1416			1550	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	78	94	103	77	75	57	92	336	69	51	342	51
RTOR Reduction (vph)	0	39	0	0	24	0	0	10	0	0	8	0
Lane Group Flow (vph)	0	236	0	0	185	0	0	487	0	0	436	0
Confl. Peds. (#/hr)	3		1	1		3	1		1	1		1
Heavy Vehicles (%)	3%	7%	12%	9%	7%	6%	18%	12%	9%	0%	10%	18%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.0			18.0			28.0			28.0	
Effective Green, g (s)		18.0			18.0			28.0			28.0	
Actuated g/C Ratio		0.33			0.33			0.51			0.51	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		472			452			720			789	
v/s Ratio Prot												
v/s Ratio Perm		c0.16			0.13			c0.34			0.28	
v/c Ratio		0.50			0.41			0.68			0.55	
Uniform Delay, d1		14.9			14.4			10.1			9.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.8			2.7			5.0			2.8	
Delay (s)		18.6			17.1			15.1			12.0	
Level of Service		B			B			B			B	
Approach Delay (s)		18.6			17.1			15.1			12.0	
Approach LOS		B			B			B			B	

Intersection Summary				
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.61			
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	9.0	
Intersection Capacity Utilization	61.6%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	1	2	0	1	0	413	2	1	388	0
Future Volume (vph)	1	0	1	2	0	1	0	413	2	1	388	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.932			0.955			0.999				
Flt Protected		0.976			0.968							
Satd. Flow (prot)	0	1694	0	0	1722	0	0	1861	0	0	1863	0
Flt Permitted		0.976			0.968							
Satd. Flow (perm)	0	1694	0	0	1722	0	0	1861	0	0	1863	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		218.2			77.4			413.1			130.0	
Travel Time (s)		15.7			5.6			29.7			9.4	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	1	0	1	2	0	1	0	469	2	1	441	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2	0	0	3	0	0	471	0	0	442	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	31.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	1	2	0	1	0	413	2	1	388	0
Future Volume (Veh/h)	1	0	1	2	0	1	0	413	2	1	388	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	1	0	1	2	0	1	0	469	2	1	441	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	914	914	441	914	913	470	441			471		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	914	914	441	914	913	470	441			471		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	99	100	100	100			100		
cM capacity (veh/h)	253	273	616	253	273	594	1119			1091		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	2	3	471	442
Volume Left	1	2	0	1
Volume Right	1	1	2	0
cSH	359	313	1119	1091
Volume to Capacity	0.01	0.01	0.00	0.00
Queue Length 95th (m)	0.1	0.2	0.0	0.0
Control Delay (s)	15.1	16.6	0.0	0.0
Lane LOS	C	C		A
Approach Delay (s)	15.1	16.6	0.0	0.0
Approach LOS	C	C		

Intersection Summary				
Average Delay		0.1		
Intersection Capacity Utilization		31.9%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	0	15	53	0	22	17	356	18	8	315	7
Future Volume (vph)	7	0	15	53	0	22	17	356	18	8	315	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.908			0.960			0.994			0.997	
Flt Protected		0.984			0.966			0.998			0.999	
Satd. Flow (prot)	0	1664	0	0	1727	0	0	1848	0	0	1855	0
Flt Permitted		0.984			0.966			0.998			0.999	
Satd. Flow (perm)	0	1664	0	0	1727	0	0	1848	0	0	1855	0
Link Speed (k/h)		50			50			80			50	
Link Distance (m)		46.4			111.6			130.0			333.6	
Travel Time (s)		3.3			8.0			5.9			24.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	8	0	17	60	0	25	19	405	20	9	358	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	25	0	0	85	0	0	444	0	0	375	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	43.3%	ICU Level of Service A	
Analysis Period (min)	15		

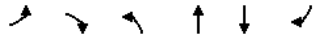
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	0	15	53	0	22	17	356	18	8	315	7
Future Volume (Veh/h)	7	0	15	53	0	22	17	356	18	8	315	7
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	8	0	17	60	0	25	19	405	20	9	358	8
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	858	843	362	850	837	415	366			425		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	858	843	362	850	837	415	366			425		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	98	78	100	96	98			99		
cM capacity (veh/h)	261	293	683	269	296	637	1193			1134		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	25	85	444	375
Volume Left	8	60	19	9
Volume Right	17	25	20	8
cSH	450	324	1193	1134
Volume to Capacity	0.06	0.26	0.02	0.01
Queue Length 95th (m)	1.4	8.3	0.4	0.2
Control Delay (s)	13.5	20.0	0.5	0.3
Lane LOS	B	C	A	A
Approach Delay (s)	13.5	20.0	0.5	0.3
Approach LOS	B	C		

Intersection Summary				
Average Delay		2.6		
Intersection Capacity Utilization	43.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	9	30	386	380	13
Future Volume (vph)	4	9	30	386	380	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.910				0.995	
Flt Protected	0.984			0.996		
Satd. Flow (prot)	1668	0	0	1855	1853	0
Flt Permitted	0.984			0.996		
Satd. Flow (perm)	1668	0	0	1855	1853	0
Link Speed (k/h)	50			80	80	
Link Distance (m)	684.9			333.6	189.1	
Travel Time (s)	49.3			15.0	8.5	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	5	10	34	439	432	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	0	0	473	447	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	55.0%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	9	30	386	380	13
Future Volume (Veh/h)	4	9	30	386	380	13
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	5	10	34	439	432	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	946	440	447			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	946	440	447			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	98	97			
cM capacity (veh/h)	281	617	1113			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	15	473	447
Volume Left	5	34	0
Volume Right	10	0	15
cSH	441	1113	1700
Volume to Capacity	0.03	0.03	0.26
Queue Length 95th (m)	0.8	0.8	0.0
Control Delay (s)	13.4	0.9	0.0
Lane LOS	B	A	
Approach Delay (s)	13.4	0.9	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	55.0%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	277	0	1	285	18	17	1	1	24	3	38
Future Volume (vph)	9	277	0	1	285	18	17	1	1	24	3	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt					0.992			0.994			0.920	
Flt Protected		0.998						0.957			0.982	
Satd. Flow (prot)	0	1825	0	0	1799	0	0	1807	0	0	1692	0
Flt Permitted		0.998						0.957			0.982	
Satd. Flow (perm)	0	1825	0	0	1799	0	0	1807	0	0	1692	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		264.2			459.4			60.6			189.0	
Travel Time (s)		19.0			33.1			4.4			13.6	
Confl. Peds. (#/hr)	1		6	6		1	4					4
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	4%	2%	0%	4%	17%	0%	0%	0%	4%	0%	0%
Adj. Flow (vph)	10	315	0	1	324	20	19	1	1	27	3	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	325	0	0	345	0	0	21	0	0	73	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)		0.0			0.0			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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	32.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	277	0	1	285	18	17	1	1	24	3	38
Future Volume (Veh/h)	9	277	0	1	285	18	17	1	1	24	3	38
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	10	315	0	1	324	20	19	1	1	27	3	43
Pedestrians		4						6			1	
Lane Width (m)		3.6						3.6			3.6	
Walking Speed (m/s)		1.2						1.2			1.2	
Percent Blockage		0						1			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	345			321			726	688	321	674	678	339
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	345			321			726	688	321	674	678	339
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			94	100	100	93	99	94
cM capacity (veh/h)	1224			1244			314	366	721	360	371	705

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	325	345	21	73
Volume Left	10	1	19	27
Volume Right	0	20	1	43
cSH	1224	1244	325	507
Volume to Capacity	0.01	0.00	0.06	0.14
Queue Length 95th (m)	0.2	0.0	1.7	4.0
Control Delay (s)	0.3	0.0	16.9	13.3
Lane LOS	A	A	C	B
Approach Delay (s)	0.3	0.0	16.9	13.3
Approach LOS			C	B

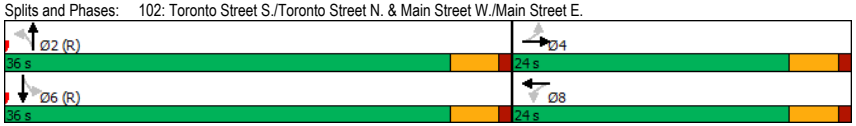
Intersection Summary				
Average Delay	1.9			
Intersection Capacity Utilization	32.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	97	120	80	109	75	92	454	70	61	401	122
Future Volume (vph)	132	97	120	80	109	75	92	454	70	61	401	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor		0.99			0.99			1.00			0.99	
Frt		0.954			0.962			0.985			0.972	
Flt Protected		0.981			0.985			0.993			0.995	
Satd. Flow (prot)	0	1692	0	0	1739	0	0	1792	0	0	1715	0
Flt Permitted		0.723			0.771			0.835			0.892	
Satd. Flow (perm)	0	1246	0	0	1359	0	0	1507	0	0	1538	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46			35			16			33	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		459.4			168.7			386.0			413.1	
Travel Time (s)		33.1			12.1			27.8			29.7	
Confl. Peds. (#/hr)	1		6	6		1	4					4
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	0%	4%	0%	7%	0%	5%	4%	0%	4%	8%	3%
Adj. Flow (vph)	150	110	136	91	124	85	105	516	80	69	456	139
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	396	0	0	300	0	0	701	0	0	664	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)		0.0			0.0			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
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	24.0	24.0		24.0	24.0		36.0	36.0		36.0	36.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		60.0%	60.0%		60.0%	60.0%	
Maximum Green (s)	19.5	19.5		19.5	19.5		31.5	31.5		31.5	31.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		19.5			19.5			31.5			31.5	
Actuated g/C Ratio		0.32			0.32			0.52			0.52	
v/c Ratio		0.91			0.65			0.88			0.81	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		46.3			22.9			27.9			21.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		46.3			22.9			27.9			21.3	
LOS		D			C			C			C	
Approach Delay		46.3			22.9			27.9			21.3	
Approach LOS		D			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 28.6		Intersection LOS: C	
Intersection Capacity Utilization 85.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 102: Toronto Street S./Toronto Street N. & Main Street W./Main Street E.



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	396	300	701	664
v/c Ratio	0.91	0.65	0.88	0.81
Control Delay	46.3	22.9	27.9	21.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	46.3	22.9	27.9	21.3
Queue Length 50th (m)	38.4	25.5	63.7	54.8
Queue Length 95th (m)	#85.3	48.3	#127.9	#113.3
Internal Link Dist (m)	435.4	144.7	362.0	389.1
Turn Bay Length (m)				
Base Capacity (vph)	436	465	798	823
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.91	0.65	0.88	0.81

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	97	120	80	109	75	92	454	70	61	401	122
Future Volume (vph)	132	97	120	80	109	75	92	454	70	61	401	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5			4.5			4.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.95			0.96			0.98			0.97	
Flt Protected		0.98			0.99			0.99			0.99	
Satd. Flow (prot)		1691			1736			1790			1714	
Flt Permitted		0.72			0.77			0.84			0.89	
Satd. Flow (perm)		1246			1360			1507			1537	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	150	110	136	91	124	85	105	516	80	69	456	139
RTOR Reduction (vph)	0	31	0	0	24	0	0	8	0	0	16	0
Lane Group Flow (vph)	0	365	0	0	276	0	0	693	0	0	648	0
Confl. Peds. (#/hr)	1		6	6		1	4					4
Heavy Vehicles (%)	7%	0%	4%	0%	7%	0%	5%	4%	0%	4%	8%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		19.5			19.5			31.5			31.5	
Effective Green, g (s)		19.5			19.5			31.5			31.5	
Actuated g/C Ratio		0.32			0.32			0.52			0.52	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Lane Grp Cap (vph)		404			442			791			806	
v/s Ratio Prot												
v/s Ratio Perm		c0.29			0.20			c0.46			0.42	
v/c Ratio		0.90			0.63			0.88			0.80	
Uniform Delay, d1		19.3			17.2			12.5			11.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		26.0			6.5			13.1			8.4	
Delay (s)		45.4			23.7			25.6			20.1	
Level of Service		D			C			C			C	
Approach Delay (s)		45.4			23.7			25.6			20.1	
Approach LOS		D			C			C			C	

Intersection Summary

HCM 2000 Control Delay	27.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	85.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1	2	0	1	1	658	2	1	582	1
Future Volume (vph)	0	0	1	2	0	1	1	658	2	1	582	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.865			0.955							
Flt Protected					0.968							
Satd. Flow (prot)	0	1611	0	0	1722	0	0	1863	0	0	1863	0
Flt Permitted					0.968							
Satd. Flow (perm)	0	1611	0	0	1722	0	0	1863	0	0	1863	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		218.2			77.4			413.1			127.2	
Travel Time (s)		15.7			5.6			29.7			9.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	0	1	2	0	1	1	748	2	1	661	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	3	0	0	751	0	0	663	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	1	2	0	1	1	658	2	1	582	1
Future Volume (Veh/h)	0	0	1	2	0	1	1	658	2	1	582	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	0	1	2	0	1	1	748	2	1	661	1
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1416	1416	662	1416	1415	749	662			750		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1416	1416	662	1416	1415	749	662			750		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	98	100	100	100			100		
cM capacity (veh/h)	114	137	462	114	137	412	927			859		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1	3	751	663
Volume Left	0	2	1	1
Volume Right	1	1	2	1
cSH	462	151	927	859
Volume to Capacity	0.00	0.02	0.00	0.00
Queue Length 95th (m)	0.1	0.5	0.0	0.0
Control Delay (s)	12.8	29.4	0.0	0.0
Lane LOS	B	D	A	A
Approach Delay (s)	12.8	29.4	0.0	0.0
Approach LOS	B	D		

Intersection Summary				
Average Delay		0.1		
Intersection Capacity Utilization		45.5%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	0	30	32	0	17	33	567	54	24	494	14
Future Volume (vph)	15	0	30	32	0	17	33	567	54	24	494	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.910			0.953			0.989			0.996	
Flt Protected		0.984			0.968			0.997			0.998	
Satd. Flow (prot)	0	1668	0	0	1718	0	0	1837	0	0	1852	0
Flt Permitted		0.984			0.968			0.997			0.998	
Satd. Flow (perm)	0	1668	0	0	1718	0	0	1837	0	0	1852	0
Link Speed (k/h)		50			50			80			50	
Link Distance (m)		46.6			119.5			127.2			336.4	
Travel Time (s)		3.4			8.6			5.7			24.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	17	0	34	36	0	19	38	644	61	27	561	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	51	0	0	55	0	0	743	0	0	604	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)		0.0			0.0			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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 56.9%		ICU Level of Service B	
Analysis Period (min) 15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	0	30	32	0	17	33	567	54	24	494	14
Future Volume (Veh/h)	15	0	30	32	0	17	33	567	54	24	494	14
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	17	0	34	36	0	19	38	644	61	27	561	16
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1392	1404	569	1408	1382	674	577			705		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1392	1404	569	1408	1382	674	577			705		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	84	100	93	65	100	96	96			97		
cM capacity (veh/h)	108	130	522	103	134	454	996			893		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	51	55	743	604
Volume Left	17	36	38	27
Volume Right	34	19	61	16
cSH	230	141	996	893
Volume to Capacity	0.22	0.39	0.04	0.03
Queue Length 95th (m)	6.6	13.3	1.0	0.7
Control Delay (s)	25.1	46.1	1.0	0.8
Lane LOS	D	E	A	A
Approach Delay (s)	25.1	46.1	1.0	0.8
Approach LOS	D	E		

Intersection Summary				
Average Delay		3.5		
Intersection Capacity Utilization	56.9%	ICU Level of Service	B	
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	14	27	13	646	557	6
Future Volume (vph)	14	27	13	646	557	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.911				0.999	
Flt Protected	0.983			0.999		
Satd. Flow (prot)	1668	0	0	1861	1861	0
Flt Permitted	0.983			0.999		
Satd. Flow (perm)	1668	0	0	1861	1861	0
Link Speed (k/h)	50			80	80	
Link Distance (m)	666.5			336.4	189.1	
Travel Time (s)	48.0			15.1	8.5	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	16	31	15	734	633	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	47	0	0	749	640	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

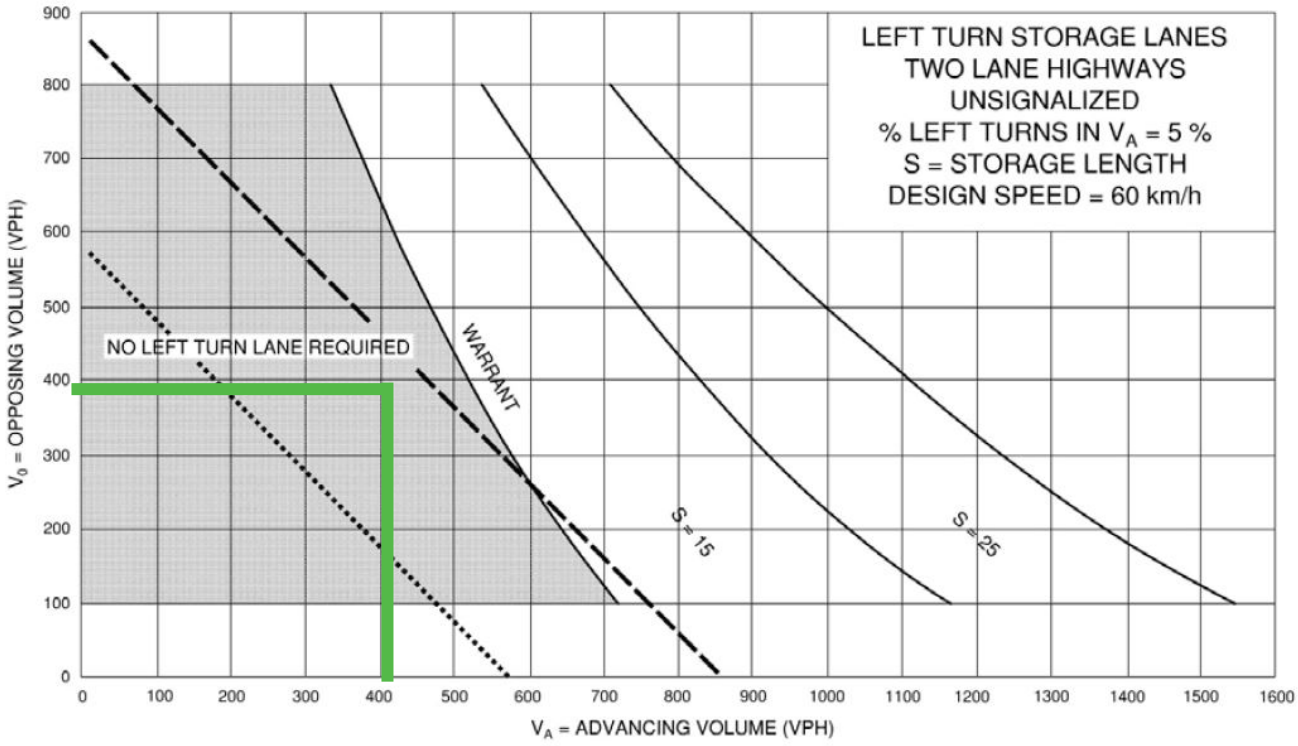
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	14	27	13	646	557	6
Future Volume (Veh/h)	14	27	13	646	557	6
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	16	31	15	734	633	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1400	636	640			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1400	636	640			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	94	98			
cM capacity (veh/h)	152	478	944			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	47	749	640
Volume Left	16	15	0
Volume Right	31	0	7
cSH	276	944	1700
Volume to Capacity	0.17	0.02	0.38
Queue Length 95th (m)	4.8	0.4	0.0
Control Delay (s)	20.7	0.4	0.0
Lane LOS	C	A	
Approach Delay (s)	20.7	0.4	0.0
Approach LOS	C		

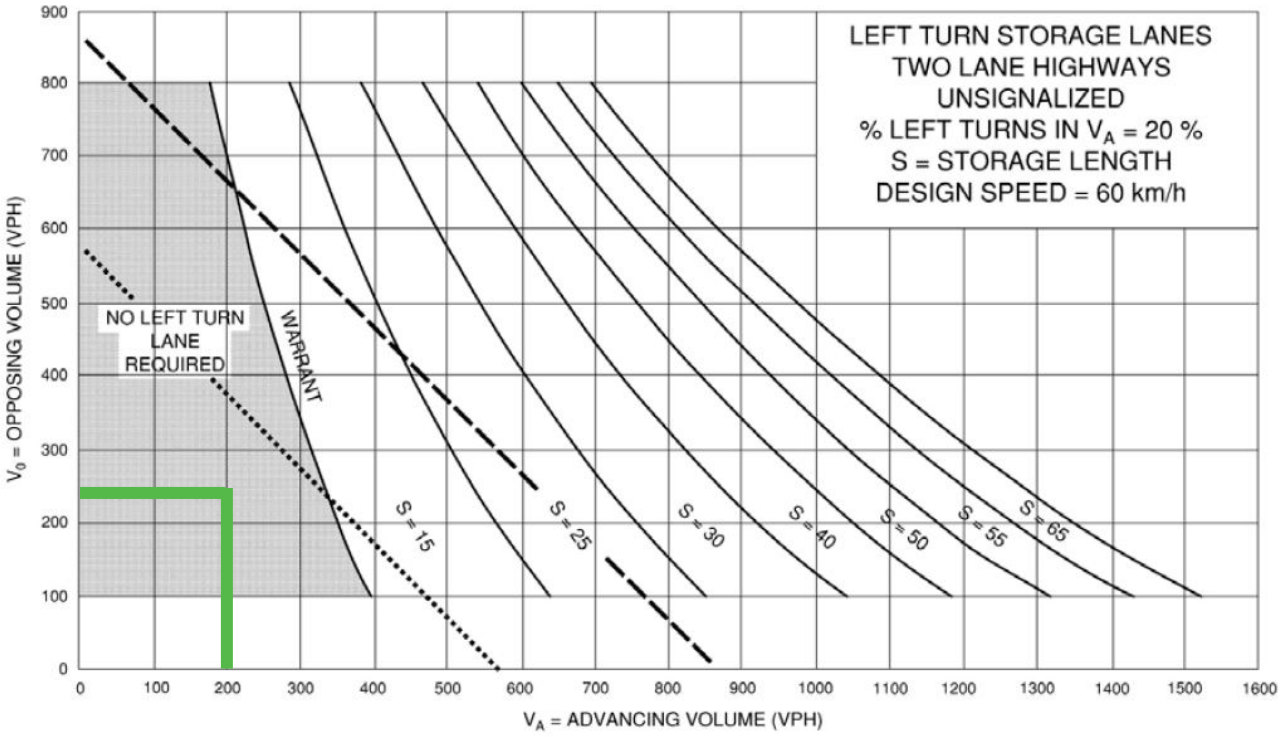
Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix E

Left-Tune Lane Warrant Nomographs



Left-Turn Lane Warrant Nomograph
Street A/Greenview Lane and Highway 10
NB – AM Peak Hour 2031 Scenario 2



Left-Turn Lane Warrant Nomograph
Wellington Street and Highway 10
NB – AM Peak Hour 2031 Scenario 1