City of Kawartha Lakes

Olde Gaol Site Beautification

C14-0659

TRANSPORTATION IMPACT STUDY

CIMA+ project number: C14-0659
02-10-2025 – Draft E01

City of Kawartha Lakes

Olde Gaol Site Beautification

C14-0659

TRANSPORTATION IMPACT STUDY

Prepared by: Ali Al-Saeed & Abdul Basith Siddiqui

Reviewed by: Eric McLaren, P.Eng., RSP1

Verified by: Ronauq Sabharwal, P. Eng.

400–3027 Harvester Road, Burlington, ON L7N 3G7 CANADA T 289 288-0287 F 289 288-0285

CIMA+ project number: C14-0659
02-10-2025 – Draft E01

Confidentiality and ownership

Table of contents

List of Tables

List of Figures

List of Appendices

1. Introduction

CIMA+ was retained by the City of Kawartha Lakes (hereafter referred to as "City") to undertake a Traffic Impact Study (TIS) as part of the Olde Gaol Site Beautification project for the proposed redesign of the accesses for the Kawartha Lakes City Hall (hereafter referred to as "City Hall") located in Lindsay, Ontario at 26 Francis Street. The City Hall is in a residential neighbourhood and is adjacent to the Kawartha Lakes Museum. Vehicular access to the site is currently provided via an entry-only driveway on Francis Street and a right-out-only driveway on Cambridge Street North. **Figure 1-1** shows the existing entry and exit points to the City Hall.

The redesign proposes reversing traffic flow within the site by reconfiguring the Cambridge Street North driveway as an entry-only access and the Francis Street driveway as an exit-only access. Two alternative configurations for Cambridge Street North are also under consideration, one of which maintains two-way traffic flow while the other considers conversion of the street to northbound-only traffic flow between Francis Street and Colborne Street West.

The objective of the study is to assess the impact of the proposed City Hall redesign on the existing roadway network and adjacent intersections. Mitigation measures will be recommended to accommodate the projected development traffic if the operational analysis indicates they are necessary.

The content of this TIS follows the approach and methodology presented in the City of Kawartha Lakes TIA guidelines as agreed in the Terms of Reference (ToR) with the City.

1.1 Study Area

Figure 1-1 shows the subject site along with the four intersections that are included in the study area. The study area focuses on these four intersections and the accesses into and out of the City Hall. All roads within the study area currently have posted/unposted speed limits of 50 km/h.

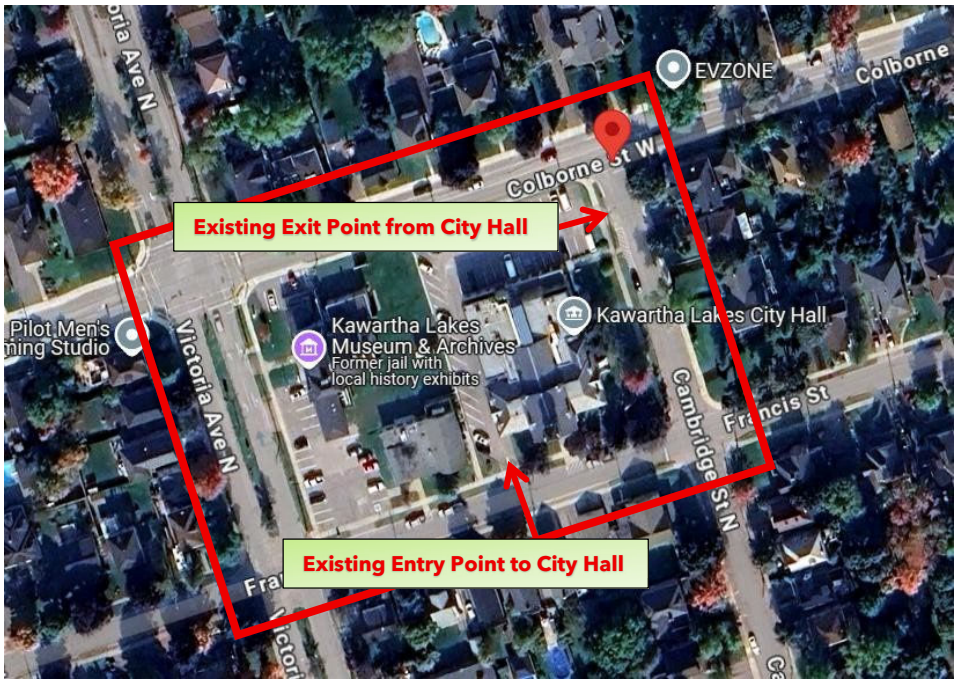


Figure 1-1: Map showing the study area and existing entry and exit points

The intersections and the roadway network included in the study area includes:

- Colborne Street West between Victoria Avenue North and Cambridge Street North
- Francis Street between Victoria Avenue North and Cambridge Street North
- Victoria Avenue North between Colborne Street West and Francis Street
- Cambridge Street North between Colborne Street West and Francis Street
- The signalized intersection of Colborne Street West at Victoria Avenue North
- The stop-controlled intersections at:
  - Colborne Street West and Cambridge Street North.
  - Cambridge Street North and Francis Street
  - Victoria Avenue North and Francis Street

Colborne Street West and Victoria Avenue North are classified as an arterial road and collector road, respectively. The remaining streets within the study area are local roads.

The turning movement and classification counts (TMCs) for the intersections of Cambridge Street North and Francis Street, and Victoria Avenue North and Francis Street were recorded on August 6, 2025, by Ontario Traffic Inc. (OTI). The TMC for the Colborne Street and Cambridge Street North intersection was collected by the City on the same day, while the TMC for the Victoria Avenue North and Colborne Street West intersection was collected by the City on August 1, 2024. A copy of the existing traffic counts is provided in **Appendix A**.

2. Development Context

The proposed redesign will move the entrance to the parking lot to Cambridge Street North and move the exit to the parking lot to Francis Street. With this reconfiguration, there is an opportunity for an exit-only gate to be installed at the driveway on Francis Street to prevent wrong-way entry into the site. There are two proposed alternatives for the configuration of Cambridge Street North between Francis Street and Colborne Street West. Both configurations will introduce angled on-street parking on the west side of the street, however, one alternative maintains two-way traffic flow while the other alternative restricts traffic flow to northbound-only with hatched pavement markings provided to visually narrow the street while still maintaining a minimum 6m width for emergency services.

Alternative 1 proposes to add 12 angled on-street parking spaces on the west side of Cambridge Street North while maintaining two-way traffic flow on Cambridge Street North, as shown in **Figure 2-1** below.

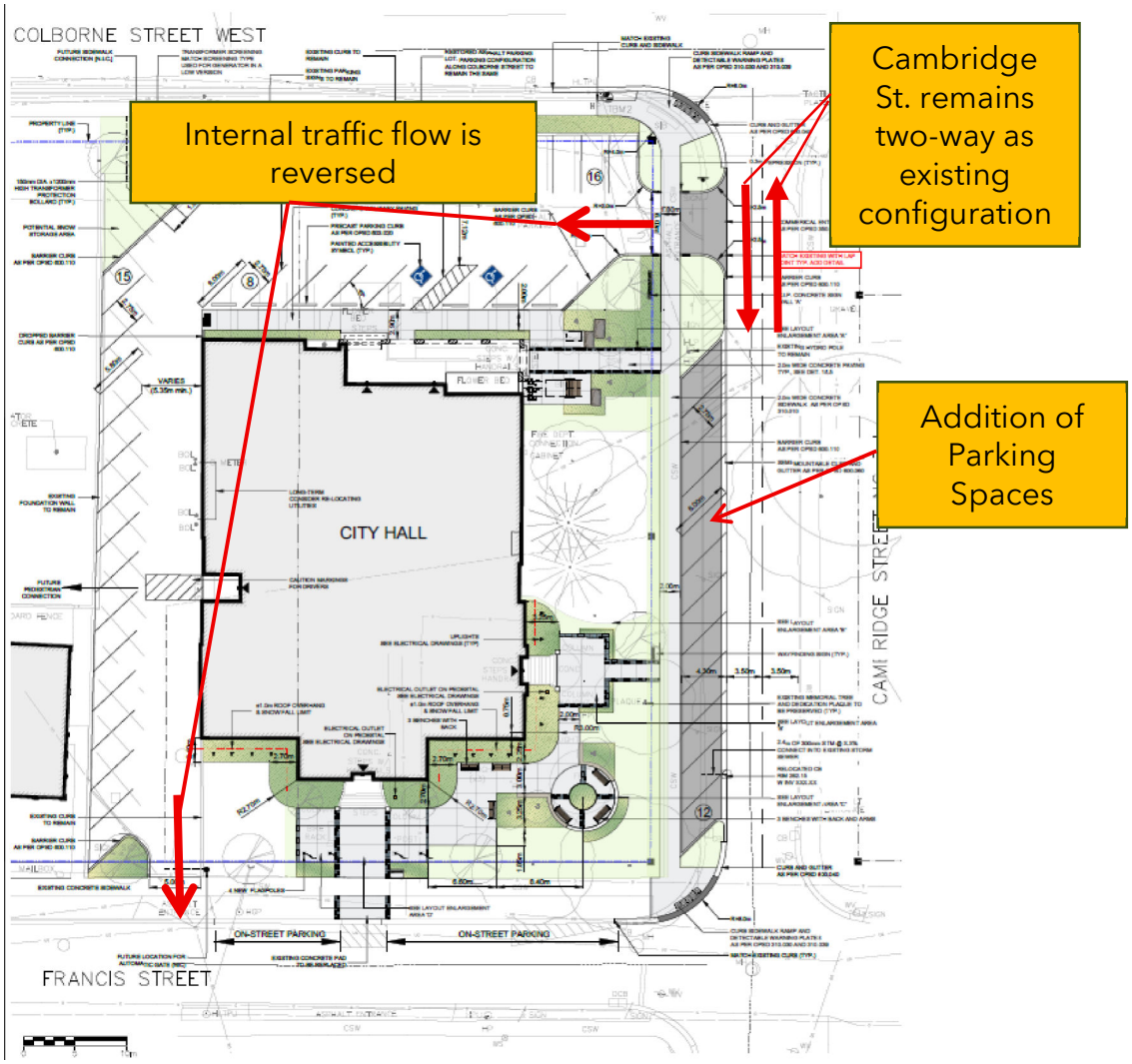


Figure 2-1: Alternative 1

Alternative 2 proposes to add 10 on-street parking spaces on Cambridge Street North and restricting traffic flow to northbound-only. Hatched pavement markings will visually narrow the street while still maintaining a minimum 6m width for emergency services. A northbound right and left-turn lane will be provided at the Colborne Street West and Cambridge Street North intersection. **Figure 2-2** below provides an overview of this alternative.

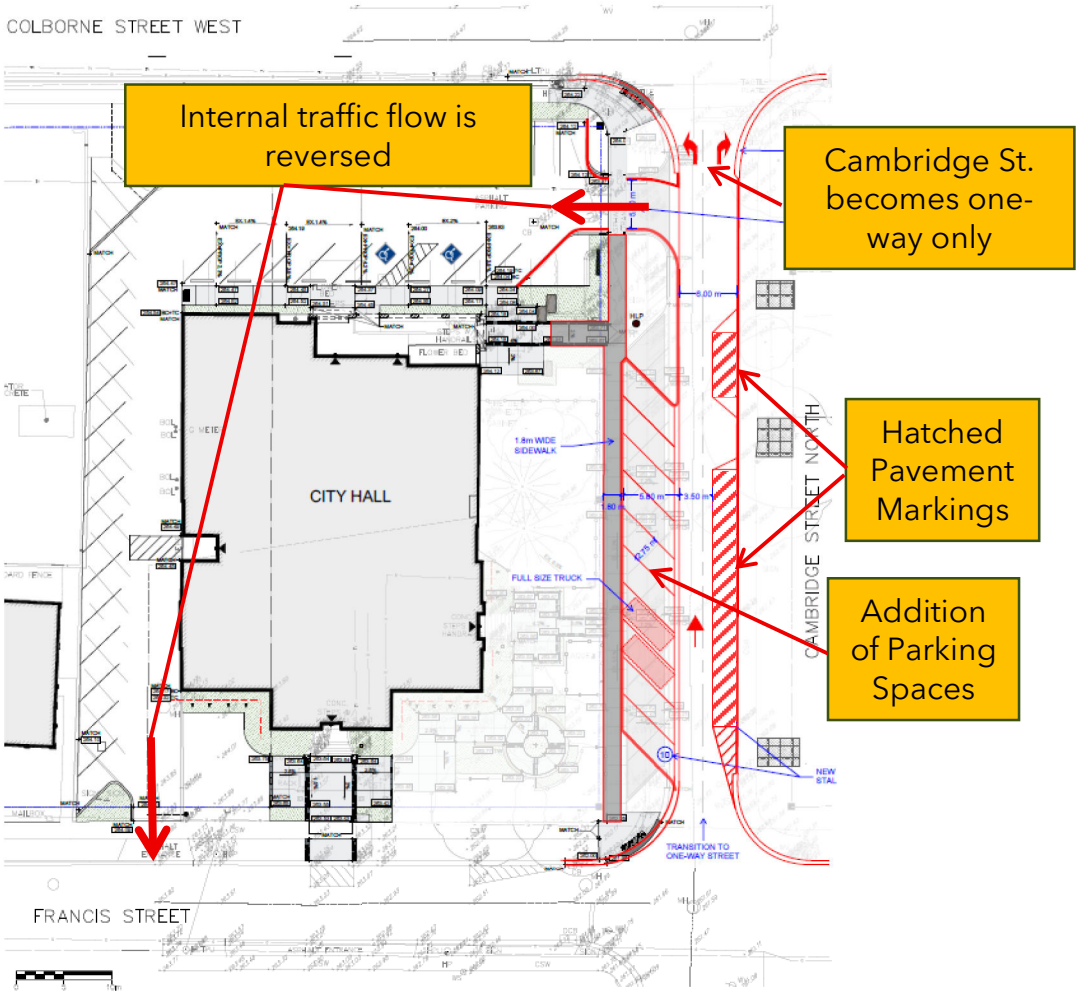


Figure 2-2: Alternative 2

3. Study Methodology

Intersection operations were assessed using the Synchro 11 software which utilizes the Highway Capacity Manual (HCM) 2000 methodology published by the Transportation Research Board National Research Council. Synchro 11 can analyze both signalized and unsignalized intersections in a road corridor or network considering the spacing, interaction, queues, and operations between intersections. Intersection operations performance metrics are reported in terms of Level of Service (LOS) and volume to capacity (v/c) ratios.

Level of Service is based on the average control delay per vehicle for a given movement. Delay is an indicator of how long a vehicle must wait to complete a movement and is represented by a letter between 'A' and 'F', with 'F' being the longest delay.

Table 3-1 summarizes the LOS criteria for signalized and unsignalized intersections.

Table 3-1: Intersection Level of Service Criteria

Level of Service	Average Control Delay Per Vehicle (second/vehicle)	
	Signalized Intersection	Unsignalized Intersection
A	≤10	≤10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

The SimTraffic software was used to calculate the 95th percentile queue length to analyze and assess the available storage capacity and to determine whether queue spillback or lane blockages will occur due to long queues. The available storage capacity was based on the best available data collected from aerial imagery.

Based on the City of Kawartha Lakes TIA Guidelines, critical movements are established based on the following criteria:

- Signalized intersections:
  - Volume to Capacity (v/c) ratio of 0.85 or greater for overall intersection operations, through movements and shared through/turning movements
  - v/c ratio of 0.95 or greater for exclusive turning movements
  - 95th percentile queue exceeds the available storage length
- Unsignalized intersections:
  - Level of Service of E or F.
  - 95th percentile queue exceeds the available storage length

It should be noted that the peak hour factor (PHF) was calculated from the provided turning movement counts (TMC's).

4. Existing Conditions

4.1 Field Investigation

A field investigation was conducted by CIMA+ on September 11th, 2025, with the intent of performing the following tasks:

- A sight distance review of the access/egress at the Kawartha Lakes City Hall to identify if there are any sightline deficiencies;
- Collect and confirm all necessary information to support the operational analysis in the event Google Maps aerial imagery is not up to date; and
- Observe road user behaviour to identify potential safety concerns.

The results of the sight distance review and safety assessment are summarized in the sub-sections below.

4.1.1 Sightline Assessment

The criterion for assessing sightlines is outlined in Chapter 9 of the Transportation Association of Canada Geometric Design Guide for Canadian Roads 2017 (TAC) includes the following:

- 4.4 metres setback from edge of the nearest travel lane.
- 0.6 metres to represent vehicle headlight height; and
- 1.08 metres to represent driver eye height for a driver of a passenger car; and
- 1.80 meters to represent driver eye height for a driver of a large singe unit truck or bus.

Additionally, the minimum stopping sight distance (SSD) and recommended intersection sight distance (ISD) were used to assess sightlines. The minimum stopping sight distance represents the minimum distance required in order for a motorist to stop in response to an unforeseen hazard, while the intersection sight distance provides sufficient time for the minor-road vehicle to accelerate from a stop and complete a left turn without unduly interfering with major road traffic operations.

In TAC Chapter 2, the minimum SSD on a level grade is a function of brake reaction time, design speed of roadway, and deceleration rate. The sections of Cambridge Street North and Francis Streets adjacent to the subject site have an unposted speed limit of 50 km/h, with an assumed design speed of 60 km/h (posted speed limit plus 10km/h). The result is a minimum SSD of **85 metres.**

The procedure for determining ISD at intersections depends on the type of traffic control. For the proposed site access, this study used the procedure for Case B – Intersections with Stop Control on the Minor Road. Case B1 for left-turns from a stop recommends a slightly more conservative sight distance compared to Case B2 for right-turns from a stop. Using the ISD formula provided in Chapter 9 for Case B1 and the time gap for a single-unit truck or bus to cross one lane, the resulting minimum ISD is approximately **160 metres**.

Results for the sightline assessments are shown in **Table 4-1**.

Table 4-1: Sight Distance Summary

Access	Direction Looking (Left/Right)	Sight Distance (m) from Eye Height	
		1.08 m	1.80 m
Cambridge Street North & City Hall Access	Right	165	165
	Left	**15**	**15**
Francis Street & City Hall Access	Right	170	165
	Left	170	165

The sight distance assessment indicates a potential issue with sightlines towards the left at the City Hall access on Cambridge Street North. The driveway is located near the Colborne Street West and Cambridge Street North intersection and therefore drivers exiting the driveway only have 15m of sight distance to react to vehicles on Colborne Street West turning eastbound right at the intersections. Furthermore, as shown in **Figure 4-1** the vegetation and building in the southeast quadrant of the intersection restrict the sight distance to react to vehicles turning westbound left at the intersection to 65m. Even considering the lower ISD requirements due to the slower speed at which drivers make right and left turns, the ISD requirements are not met. The SSD requirements are met, however, when considering the slower turning speeds.

It should be further noted that the driveway does not meet the minimum 15m corner clearance recommended in Figure 8.8.2 of the TAC Geometric Design Guide for Canadian Roads.

Figure 4-1: Cambridge Street North & City Hall Access Left Sightline

As shown in **Figure 4-2**, looking right the sightline is somewhat clear, drivers can see to the next intersection and beyond, with the vegetation pictured in the figure below only serving as a partial obstruction.

Figure 4-2: Cambridge Street North & City Hall Access Right Sightline

At the Francis Street & City Hall Access, sightlines were also reviewed assuming the entrance becomes an exit. The adjacent intersections are approximately 57 meters to the left and 67 meters to the right of the driveway. Both sightlines are clear, however, there could be obstruction to sightlines if there were vehicles parking on-street directly adjacent to the proposed exit.

4.1.2 Safety Assessment

As part of the site visit on September 11th, 2025, observations were recorded regarding potential safety issues within the study area. There were no safety issues noted at the Colborne Street West and Victoria Street North intersection, which is the only signalized intersection in the study area. However, several situations were observed on site which may lead to potentially unsafe conditions which should be considered as part of the redesign of the site:

- Despite the presence of no entry signage at the existing exit-only driveway (see **Figure 4-3**), a few drivers were observed entering via the exit-only driveway. The installation of an exit-only gate could mitigate this issue.

Figure 4-3: No Entry Signs at Cambridge Street North Driveway

- With the proposed reconfiguration of the Francis Street driveway as an exit-only access, there is the potential for on-street parking on the north side of the street to block the sightlines of drivers exiting the site. **Figure 4-4** shows the intersection sight distance triangles for this driveway. It is expected that the presence of stop-control on Francis Street at both Victoria Avenue North and Cambridge Street North will result in relatively slow vehicle speeds along this section of the street and therefore the potential for sightline blockages is not a significant concern.

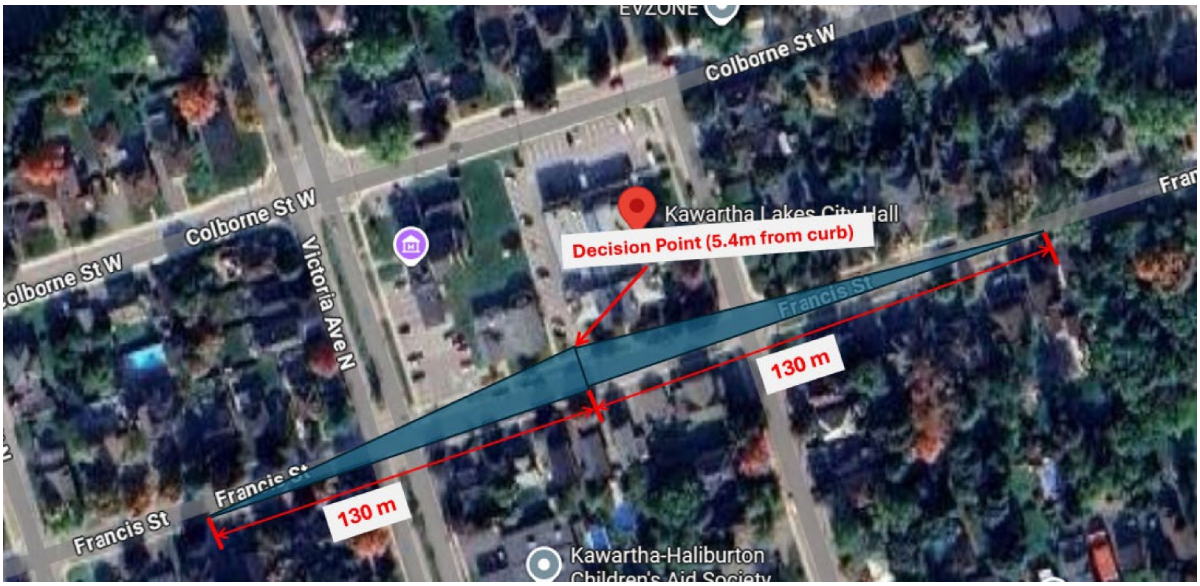


Figure 4-4: Sight Distance Triangles from Francis Street Driveway

- A driver was observed reversing out of the site via the entry-only driveway after failing to observe empty parking spaces on the west side of the building. The parking spaces on the west side of the building are shown in **Figure 4-5**. It is possible that the driver was unaware of additional parking available on the north side of the building. Providing signage to advise drivers of the presence of additional parking on the other side of the building may mitigate this issue. An entry-only gate may also prevent this type of behaviour but may result in queue spillback onto the public road network and is therefore not recommended.

Figure 4-5: Parking Spaces West of City Hall Building

- The northwest corner of the building creates a blind corner where a person walking along the north side of the building to their vehicle on the west side of the building and a driver travelling through the parking lot along the west side of the building may not be able to see each other in time to avoid a collision, as shown in **Figure 4-6**. This is a potentially dangerous situation, especially given that many senior citizens were observed going to and from the city hall while on site. Alternative 1 and 2 effectively eliminate the blind corner by reversing internal traffic flow. This places both drivers and pedestrians on the north side of the building where they can see each other before going around the corner. If internal traffic flow was not reversed, warning signs, speed humps, and/or a convex mirror would help mitigate this issue.

Figure 4-6: Blind Corner at Northwest Corner of City Hall Building

4.2 Traffic Operations

The following section summarizes traffic operations under existing conditions. Existing intersection operations were analyzed using the lane configurations illustrated in **Figure 4-7**.

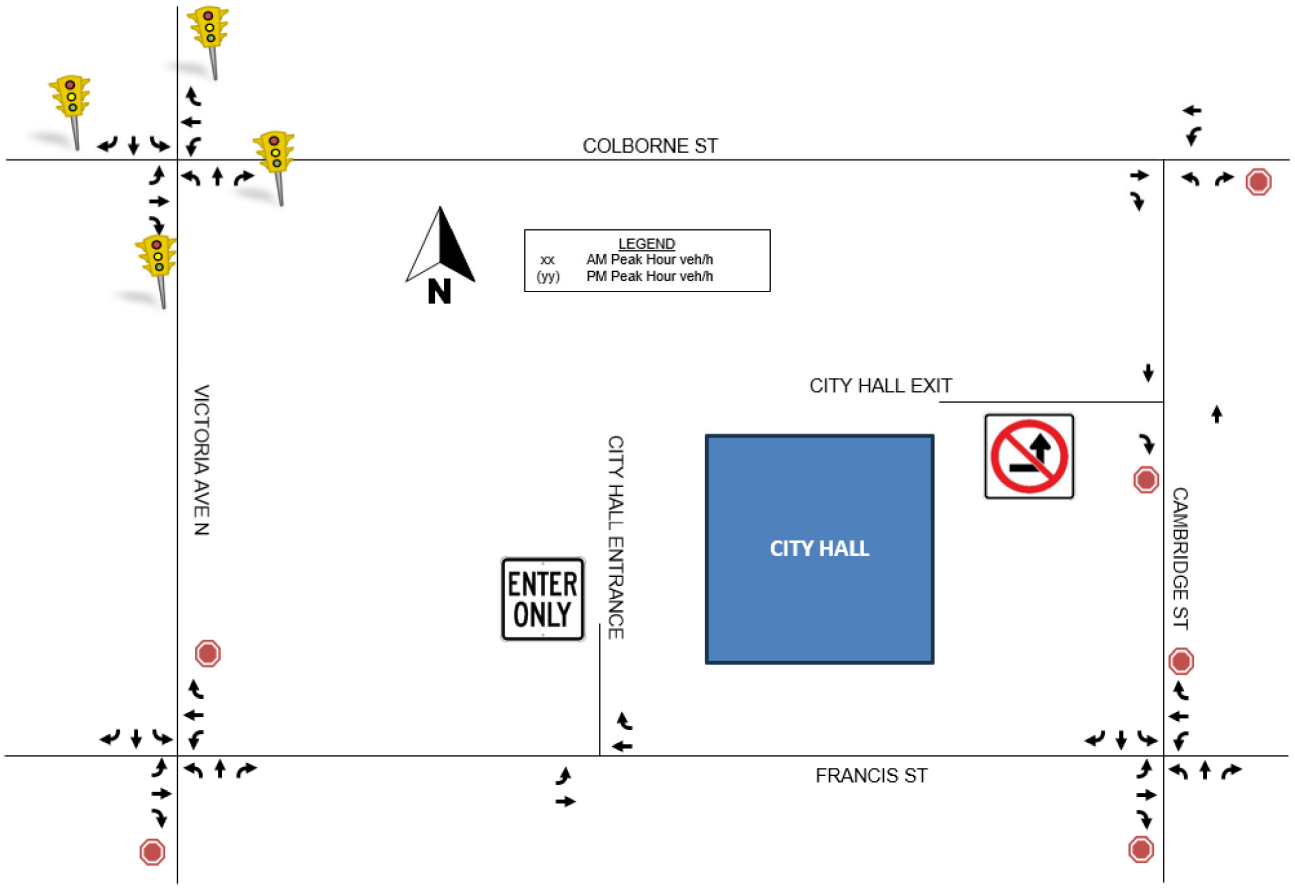


Figure 4-7: Existing Lane Configuration

Turning movement counts (TMCs) for the study area intersections were obtained from a number of sources, as noted in Section 1.1. Ontario Traffic Inc. (OTI) collected counts at the Cambridge Street North / Francis Street and Victoria Avenue North / Francis Street intersections, while the City of Kawartha Lakes provided counts for the Colborne Street West / Cambridge Street North and Colborne Street West / Victoria Avenue North intersections.

To estimate traffic volumes at the existing site entrance and exit, a volume balancing exercise was undertaken. This process involved reconciling the differences between observed counts at adjacent intersections to ensure that inflow and outflow volumes matched across the network. Given that the counts at the intersections of Colborne Street West / Cambridge Street North, Cambridge Street North / Francis Street and Victoria Avenue North / Francis Street were collected on the same day, it can be assumed that any imbalance was due to traffic entering/exiting the City Hall parking lot.

It should be noted that the traffic counts at Victoria and Colborne were from 2024 and not 2025 like the remainder of the data, and so these counts were grown by 3% as per the population growth projections for Lindsay, Ontario. A balancing process was subsequently

completed to reconcile any differences between inflow and outflow volumes with the adjacent intersections. The final balanced traffic volumes are shown in **Figure 4-8**.

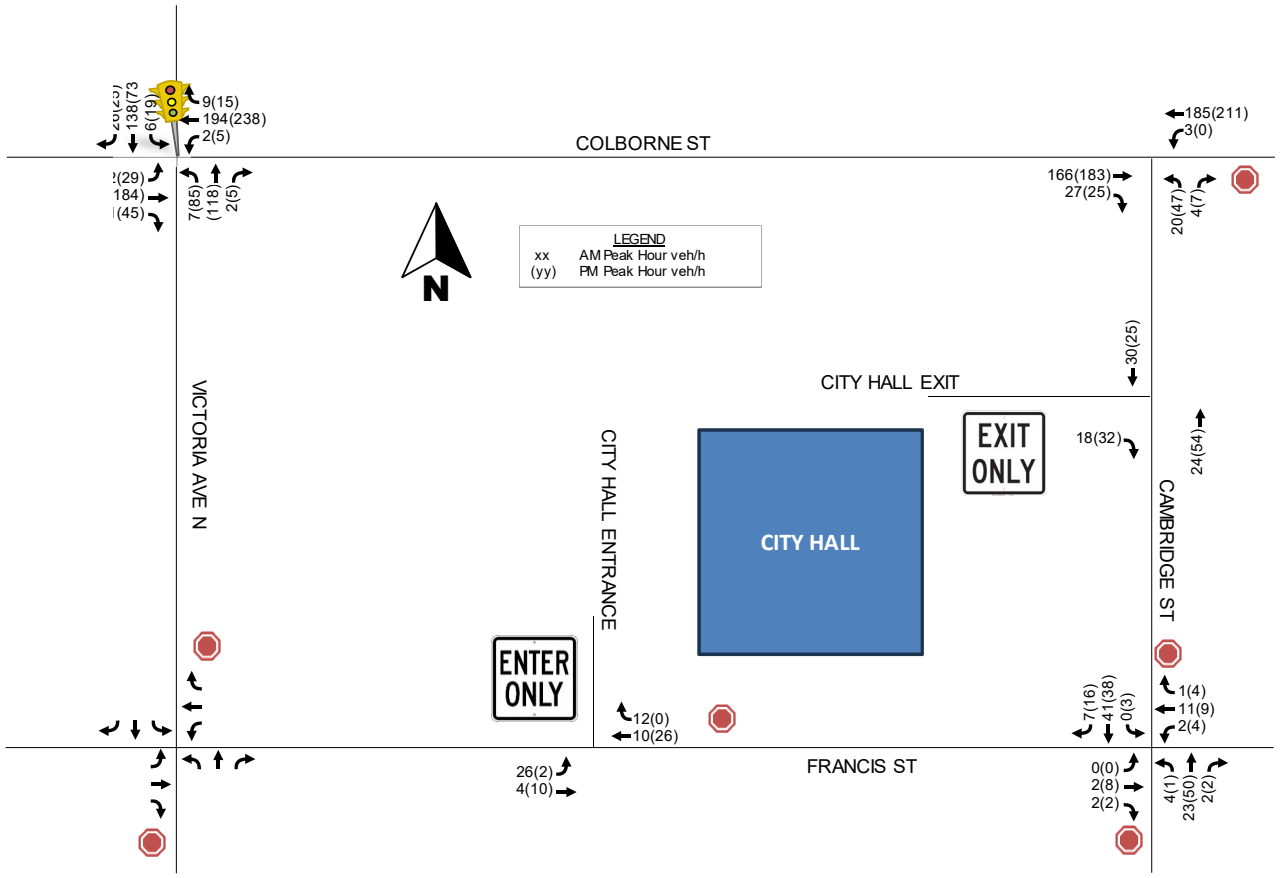


Figure 4-8: 2025 Existing Traffic Volumes

Traffic operations were analyzed using Synchro 11 and SimTraffic software. Volume to capacity ratio (v/c), level of service (LOS), delay, and 95th percentile queues were reviewed. The results are summarized in **Table 4-2**. It should be noted that the available storage capacity was measured based on aerial imagery and confirmed during the field visit. Synchro/SimTraffic outputs are available in **Appendix B**.

Table 4-2: Existing 2025 Traffic Operations [AM (PM)]

Intersection	Movement	Storage (m)	LOS	V/C	Delay (s)	95th Queue (m)
1: Victoria Ave & Colborne St	EBL	20	A (A)	0.04 (0.06)	4.5 (4.7)	10.6 (14.1)
	EBT+EBR	-	A (A)	0.24 (0.27)	5.3 (5.5)	33.0 (32.6)
	WBL	20	A (A)	(0.00) 0.01	4.4 (4.5)	3.2 (5.0)
	WBT+WBR	-	A (A)	0.20 (0.30)	5.2 (5.7)	28.2 (30.0)
	NBL	-	B (C)	0.14 (0.48)	19.3 (21.7)	15.2 (24.9)
	NBT+NBR	-	B (C)	0.21 (0.47)	19.6 (20.8)	20.6 (30.5)
	SBL	-	B (B)	0.03 (0.11)	18.6 (18.4)	6.9 (14.8)
	SBT+SBR	-	C (B)	0.51 (0.32)	22.1 (19.6)	33.0 (24.8)
	OVERALL	**-**	**B (B)**	**0.30 (0.35)**	**10.9 (11.3)**	**- (-)**
2: Cambridge St & Colborne St	EBT+EBR	-	- (-)	0.13 (0.13)	- (-)	1.3 (1.2)
	WBT+WBL	-	A (A)	- (-)	0.1 (-)	2.9 (0.0)
	NBL+NBR	-	B (B)	0.05 (0.10)	11.1 (11.8)	12.6 (13.9)
	OVERALL	**-**	**A (A)**	**- (-)**	**0.7 (1.4)**	**- (-)**
3: Victoria Ave & Francis St	EBL+EBT+EBR	-	B (B)	0.01 (0.01)	10.5 (10.7)	7.2 (6.2)
	WBL+WBT+WBR	-	B (B)	0.02 (0.04)	10.5 (10.0)	8.6 (11.8)
	NBL+NBT+NBR	-	A (A)	- (-)	0.1 (0.1)	1.3 (1.2)
	SBL+SBT+SBR	-	A (A)	0.01 (0.00)	0.8 (0.3)	2.9 (1.8)
	OVERALL	**-**	**A (A)**	**- (-)**	**1.1 (1.1)**	**- (-)**
4: Cambridge St & Francis St	EBL+EBT+EBR	-	A (A)	0.01 (0.01)	9.3 (9.5)	7.9 (8.0)
	WBL+WBT+WBR	-	A (A)	0.02 (0.02)	9.6 (9.4)	11.3 (12.1)
	NBL+NBT+NBR	-	A (A)	- (-)	1.0 (0.1)	1.3 (1.3)
	SBL+SBT+SBR	-	- (A)	- (-)	0.0 (0.4)	0.0 (1.9)
	OVERALL	**-**	**A (A)**	**- (-)**	**2.1 (2.1)**	**- (-)**
5: Francis St & City Hall Entrance	EBL+EBT	-	A (A)	0.02 (0.00)	6.4 (1.1)	2.3 (1.3)
	WBT+WBR	-	- (-)	0.01 (0.02)	- (-)	- (-)
	OVERALL	**-**	**- (-)**	**- (-)**	**- (-)**	**- (-)**
6: Cambridge St & City Hall Exit	EBR	-	A (A)	0.02 (0.03)	8.5 (8.6)	11.8 (14.4)
	NBT	-	- (-)	0.02 (0.03)	- (-)	3.0 (6.6)
	SBT	-	- (-)	0.02 (0.02)	- (-)	0.0 (1.2)
	OVERALL	**-**	**A (A)**	**- (-)**	**2.2 (2.5)**	**- (-)**

The results indicate that all movements are operating at an acceptable level of service and that all 95th percentile queues can be accommodated within the existing storage capacity.

5. Proposed Conditions

The following section summarizes 2025 traffic operations under the two alternative configurations. A qualitative review of the proposed on-street parking has also been completed.

As noted previously in Section 2, the two alternatives are as follows:

- **Alternative 1:** Internal traffic flow is inverted with entry via the Cambridge Street North driveway and exit via the Francis Street driveway. Cambridge Street North maintains its existing two-way traffic flow.
- **Alternative 2:** Internal traffic flow is inverted similar to Alternative 1, but Cambridge Street North is restricted to northbound traffic only between Francis Street and Colborne Street West.

It should be noted that the City of Kawartha Lakes Official Plan Schedule H-1 indicates that in the future a bridge may be provided across the Scugog River to connect Colborne Street West to Colborne Street East. This bridge connection could have a significant impact on traffic flows on Colborne Street West but given that this study is focused on Existing 2025 Traffic conditions only the impact of the bridge connection has not been accounted for in the analysis of proposed conditions.

5.1 Site-Generated Traffic

The City of Kawartha Lakes indicated that the redesigned City Hall was estimated to generate a total of 100 vehicle trips during the peak hours, comprised of 45 vehicles directly entering or exiting City Hall, 20 vehicles parking on Francis Street, 15 vehicles parking on Cambridge Street, and 20 vehicles parking on Colborne Street. Vehicles were assumed to enter and exit within the hour, resulting in 100 inbound trips and 100 outbound trips.

Based on a review of existing traffic patterns within the study area, it is expected that site-generated traffic will be distributed as follows:

- 30% to/from the West via Colborne Street West
- 30% to/from the East via Colborne Street West
- 15% in the AM peak and 20% in the PM peak to/from the North via Victoria Street North
- 20% in the AM peak and 15% in the PM peak to/from the South via Victoria Street North
- 5% to/from the South via Cambridge Street North

Vehicles parking on-street were assumed to approach the on-street parking from a logical direction and when departing they were assumed to continue in the same direction (e.g., travel westbound to park on the north side of the road then continue westbound when departing). Given this directional constraint, some site-generated trips loop around the block in order to park on-street.

Figure 5-1 and **Figure 5-2** illustrate the site-generated traffic volumes for Alternative 1 and 2, respectively. The assignment of trips for Alternative 2 has taken into consideration that Cambridge Street North is restricted to northbound traffic only between Francis Street and Colborne Street West under this alternative.

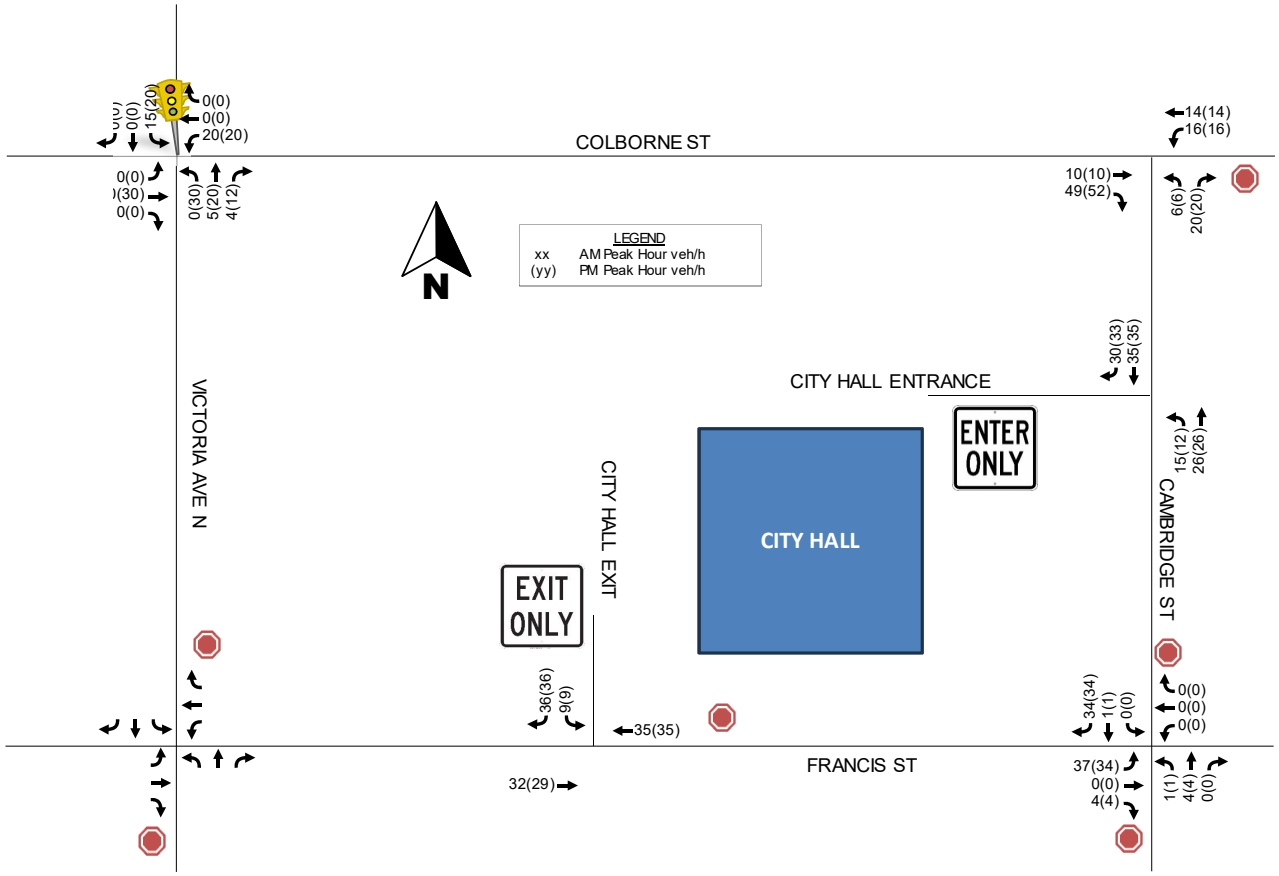


Figure 5-1: Alternative 1 Site-Generated Traffic

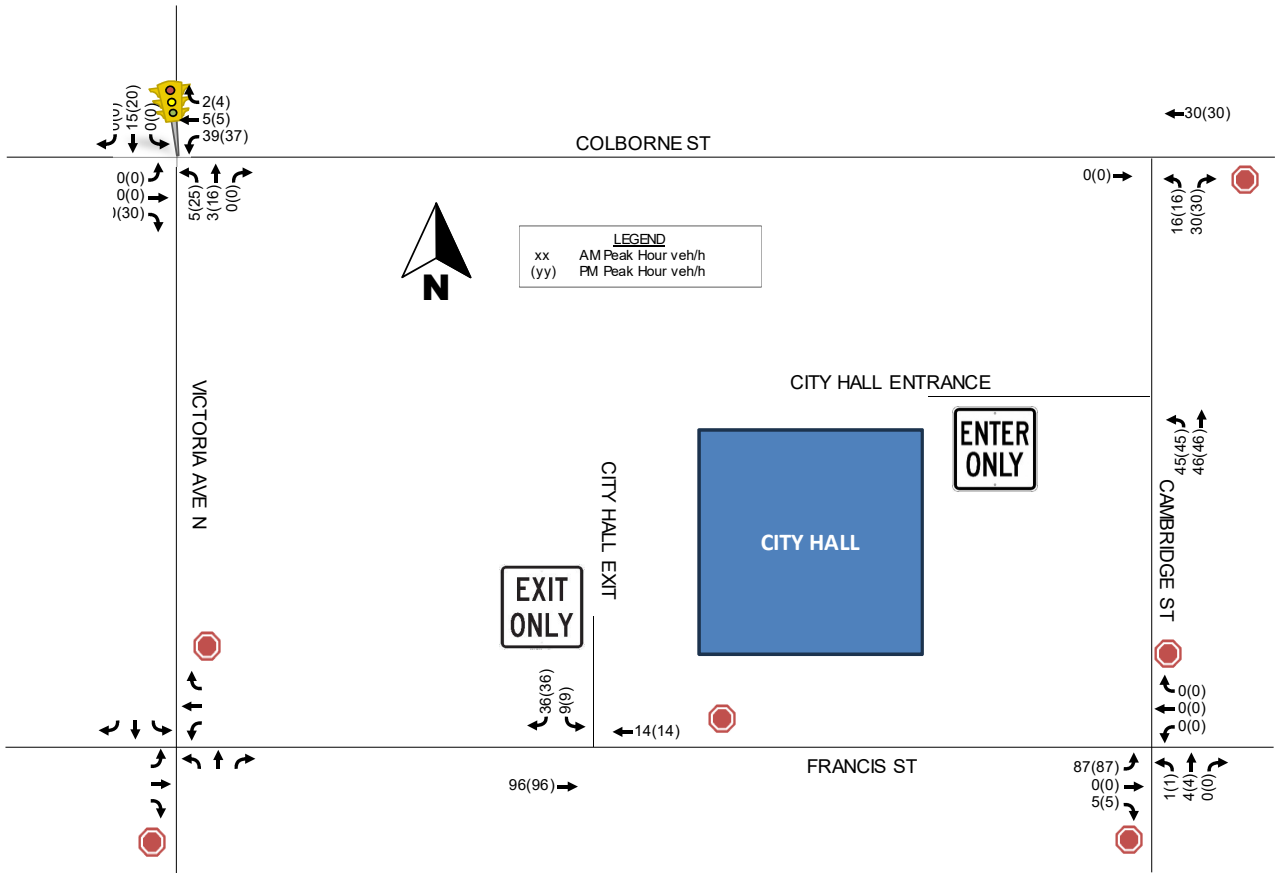


Figure 5-2: Alternative 2 Site-Generated Traffic

5.2 Total Traffic Volume Development

Total (Existing Plus Site-Generated) Traffic volumes for the two alternatives were developed through a stepwise process to ensure a fully balanced network. As a first step, all existing entering and exiting volumes associated with the City Hall site were removed from the base traffic counts. Beyond the site accesses, existing site-generated traffic was assumed to be distributed throughout the network in accordance with observed traffic patterns.

Next, the Alternative 1 and 2 site-generated traffic volumes were introduced into the network (see **Figure 5-1** and **Figure 5-2**). Additionally, for Alternative 2 all southbound traffic on Cambridge Street North between Francis Street and Colborne Street West was reassigned to Victoria Avenue North.

The resulting Total Traffic volumes for Alternative 1 and 2 are shown in **Figure 5-3** and **Figure 5-4**.

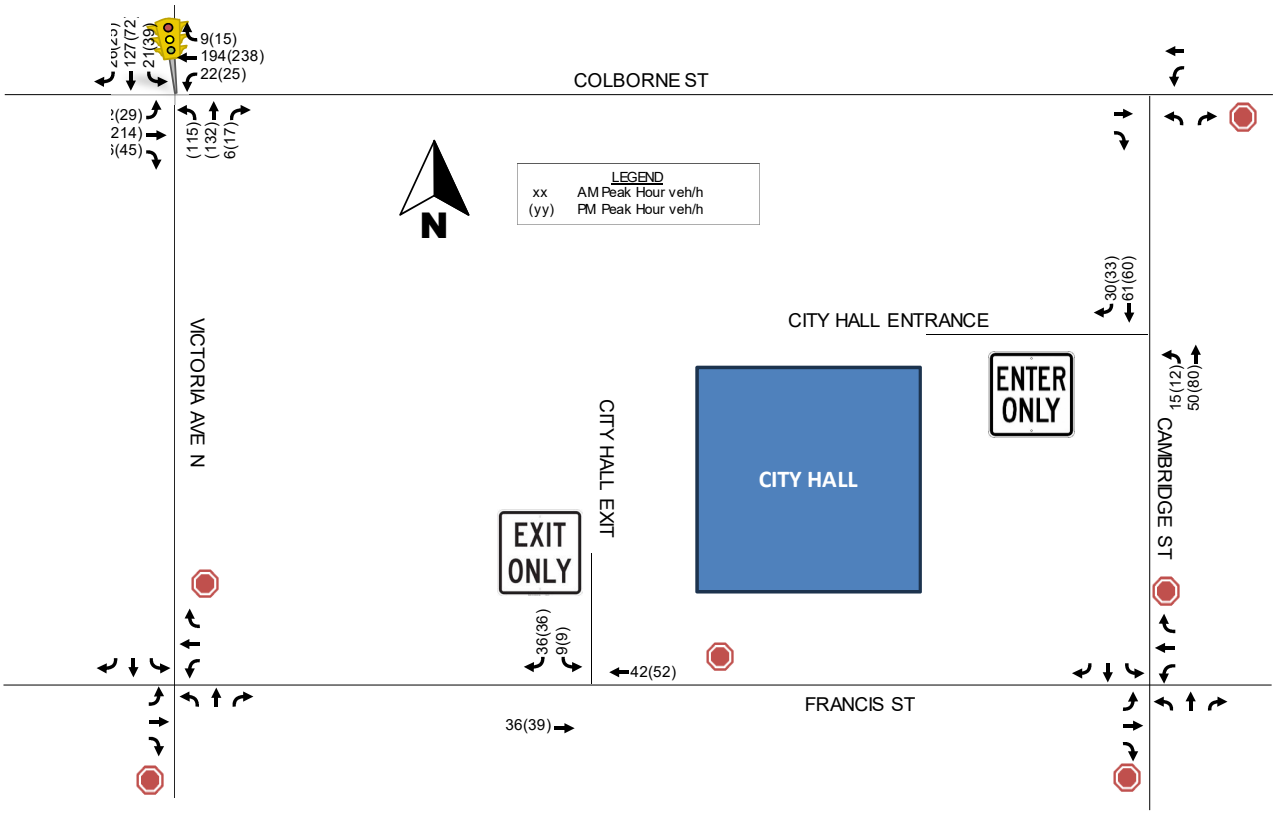


Figure 5-3: Alternative 1 Total Traffic Volumes

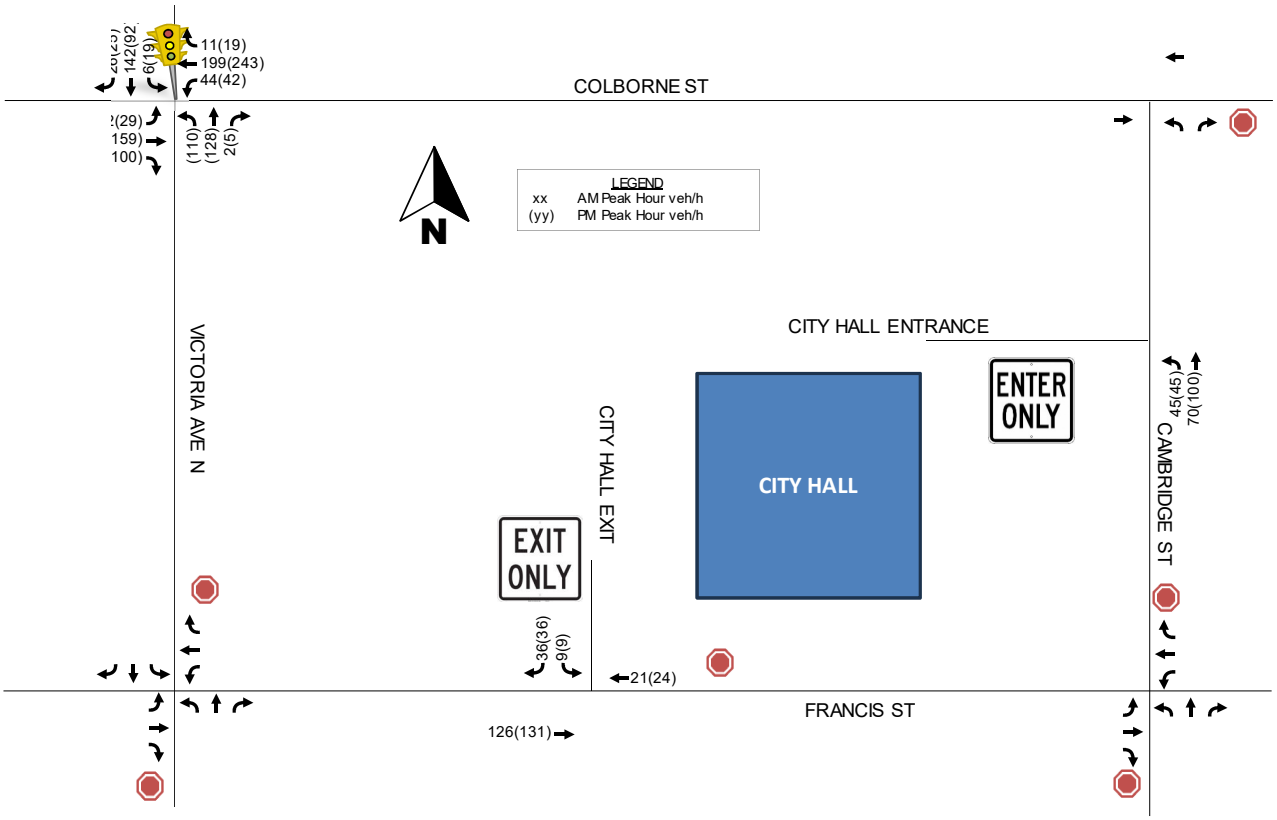


Figure 5-4: Alternative 2 Total Traffic Volumes

5.3 Traffic Operation Results

Traffic operations were analyzed using Synchro 11 and SimTraffic software. Volume to capacity ratio (v/c), level of service (LOS), delay, and 95th percentile queues were reviewed.

5.3.1 Alternative 1 (Two-Way Cambridge Street North) Results

Table 5-1 shows the Synchro 11 and SimTraffic results for Alternative 1. Synchro/SimTraffic outputs are available in **Appendix C**.

Table 5-1: Alternative 1 Traffic Operations [AM(PM)]

Intersection	Movement	Storage (m)	LOS	V/C	Delay (s)	95th Queue (m)
1: Victoria Ave & Colborne St	EBL	20	A (A)	0.03 (0.07)	4.5 (6.3)	11.8 (12.2)
	EBT+EBR	-	A (A)	0.26 (0.34)	5.4 (7.6)	35.3 (38.2)
	WBL	20	A (A)	0.04 (0.06)	4.5 (6.2)	11.8 (11.6)
	WBT+WBR	-	A (A)	0.20 (0.33)	5.1 (7.6)	27.9 (34.4)
	NBL	-	C (B)	0.29 (0.49)	20.5 (19.7)	21.7 (30.2)
	NBT+NBR	-	C (B)	0.28 (0.42)	20.0 (18.5)	26.5 (33.2)
	SBL	-	B (B)	0.10 (0.18)	19.0 (17.0)	12.4 (18.9)
	SBT+SBR	-	C (B)	0.48 (0.24)	21.7 (17.2)	32.2 (26.0)
	OVERALL	**-**	**B (B)**	**0.31 (0.39)**	**11.3 (12.0)**	**- (-)**
2: Cambridge St & Colborne St	EBT+EBR	-	A (A)	0.17 (0.17)	0.0 (0.0)	0.8 (0.0)
	WBT+WBL	-	A (A)	0.02 (0.01)	0.8 (0.7)	9.6 (11.4)
	NBL+NBR	-	B (B)	0.09 (0.15)	11.4 (12.4)	14.3 (16.0)
	OVERALL	**-**	**A (A)**	**- (-)**	**1.5 (2.0)**	**- (-)**
3: Victoria Ave & Francis St	EBL+EBT+EBR	-	B (B)	0.01 (0.01)	10.7 (11.3)	3.9 (7.6)
	WBL+WBT+WBR	-	A (B)	0.11 (0.13)	9.9 (10.4)	13.1 (12.8)
	NBL+NBT+NBR	-	A (A)	- (-)	0.1 (0.1)	1.3 (1.8)
	SBL+SBT+SBR	-	A (A)	0.01 (0.02)	0.7 (1.2)	3.1 (5.8)
	OVERALL	**-**	**A (A)**	**- (-)**	**2.4 (2.6)**	**- (-)**
4: Cambridge St & Francis St	EBL+EBT+EBR	-	A (A)	0.07 (0.06)	9.4 (9.5)	16.2 (14.5)
	WBL+WBT+WBR	-	A (A)	0.01 (0.02)	9.5 (9.5)	9.1 (11.2)
	NBL+NBT+NBR	-	A (A)	- (-)	0.7 (0.2)	1.3 (0.0)
	SBL+SBT+SBR	-	A (A)	- (-)	0.0 (0.1)	- (-)
	OVERALL	**-**	**A (A)**	**- (-)**	**3.6 (3.5)**	**- (-)**
	EBT	-	A (A)	0.02 (0.02)	- (-)	- (-)
	WBT	-	A (A)	0.03 (0.03)	- (-)	- (-)

Intersection	Movement	Storage (m)	LOS	V/C	Delay (s)	95th Queue (m)
5: Francis St & City Hall Entrance	SBL+SBR	-	A (A)	0.05 (0.05)	8.8 (8.8)	13.1 (14.8)
	OVERALL	**-**	**A (A)**	**- (-)**	**3.2 (2.9)**	**- (-)**
6: Cambridge St & City Hall Exit	NBL+NBT	-	A (A)	0.01 (0.01)	1.8 (1.0)	5.1 (9.8)
	SBT+SBR	-	- (-)	0.06 (0.06)	- (-)	4.0 (1.3)
	OVERALL	**-**	**A (A)**	**- (-)**	**0.7 (0.5)**	**- (-)**

The traffic operation results indicate that all movements are operating well within capacity under Alternative 1.

5.3.2 Alternative 2 (Northbound-Only Cambridge Street North) Results

Table 5-2 shows the Synchro 11 and SimTraffic results for Alternative 2. Synchro/SimTraffic outputs are available in **Appendix D**.

Table 5-2: Alternative 2 Traffic Operations [AM(PM)]

Intersection	Movement	Storage (m)	LOS	V/C	Delay (s)	95th Queue (m)
1: Victoria Ave & Colborne St	EBL	20	A (A)	0.04 (0.07)	5.6 (6.3)	11.8 (12.6)
	EBT+EBR	-	A (A)	0.27 (0.33)	6.7 (7.5)	34.8 (34.8)
	WBL	20	A (A)	0.08 (0.10)	5.8 (6.4)	17.1 (17.8)
	WBT+WBR	-	A (A)	0.22 (0.35)	6.4 (7.6)	29.3 (34.8)
	NBL	-	B (B)	0.21 (0.48)	18.1 (19.6)	18.7 (30.9)
	NBT+NBR	-	B (B)	0.20 (0.38)	17.8 (18.2)	20.8 (30.6)
	SBL	-	B (B)	0.02 (0.09)	16.8 (16.4)	6.1 (12.0)
	SBT+SBR	-	B (B)	0.42 (0.31)	19.4 (17.7)	34.8 (26.8)
	OVERALL	**-**	**B (B)**	**0.32 (0.39)**	**10.9 (11.7)**	**- (-)**
2: Cambridge St & Colborne St	EBT	-	A (A)	0.11 (0.12)	- (-)	- (-)
	WBT	-	A (A)	0.15 (0.16)	- (-)	- (-)
	NBL+NBR	-	B (B)	0.07 (0.12)	10.6 (11.3)	13.4 (16.1)
	OVERALL	**-**	**A (A)**	**- (-)**	**1.6 (2.2)**	**- (-)**
3: Victoria Ave & Francis St	EBL+EBT+EBR	-	B (B)	0.01 (0.02)	12.0 (13.3)	6.2 (6.9)
	WBL+WBT+WBR	-	B (B)	0.09 (0.11)	10.8 (11.1)	12.6 (13.8)
	NBL+NBT+NBR	-	A (A)	- (-)	0.1 (0.1)	2.2 (2.3)
	SBL+SBT+SBR	-	A (A)	0.08 (0.09)	3.2 (4.1)	7.9 (11.5)
	OVERALL	**-**	**A (A)**	**- (-)**	**3.4 (3.5)**	**- (-)**
	EBL+EBT+EBR	-	A (A)	0.17 (0.15)	9.6 (9.5)	21.3 (15.8)

Intersection	Movement	Storage (m)	LOS	V/C	Delay (s)	95th Queue (m)
4: Cambridge St & Francis St	WBL+WBT+WBR	-	A (A)	0.01 (0.02)	9.2 (9.3)	7.2 (11.1)
	NBL+NBT+NBR	-	A (A)	- (-)	0.7 (0.2)	- (-)
	OVERALL	**-**	**A (A)**	**- (-)**	**7.8 (6.8)**	**- (-)**
5: Francis St & City Hall Entrance	EBT	-	A (A)	0.08 (0.08)	- (-)	- (-)
	WBT	-	A (A)	0.01 (0.02)	- (-)	- (-)
	SBL+SBR	-	A (A)	0.05 (0.05)	8.8 (8.8)	13.3 (14.7)
	OVERALL	**-**	**A (A)**	**- (-)**	**2.1 (2.0)**	**- (-)**
6: Cambridge St & City Hall Exit	NBL+NBT	-	A (A)	0.03 (0.03)	3.0 (2.4)	7.3 (9.3)
	OVERALL	**-**	**A (A)**	**- (-)**	**3.0 (2.4)**	**- (-)**

As observed for Alternative 1, the traffic operations analysis results for Alternative 2 indicate that all movements will be operating well within capacity and no storage capacity issues are anticipated.

5.4 Parking Review

A potential concern associated with the on-street parking around City Hall is that drivers may encounter a situation in which all on-street parking on Cambridge Street North or Francis Street is occupied. In this event, drivers may choose to make a 3-point turn to backtrack and enter the City Hall's off-street parking lot rather than circle around the block. Although this type of driving behaviour is undesirable and can interrupt traffic flow, these are local roads where maintaining uninterrupted traffic flow is not a high priority and traffic volumes are relatively low. As such, no mitigation measures are recommended to prevent this type of driving behaviour.

On-street parking is also provided on Colborne Street West, but it is not expected that drivers will attempt 3-point turns on Colborne Street West if all on-street parking is full given that it is a busy arterial road. In this situation, drivers are more likely to choose to circle around the block to find alternative parking arrangements.

5.5 Recommendations

Traffic operations for both Alternative 1 and 2 are well below critical thresholds. This suggests that from a traffic operations perspective, both alternatives are equally viable. The sightline and safety review also generally indicate that the proposed redesign will address a number of safety issues that were observed. With respect to parking, some minor concerns have been noted, but no mitigation measures are recommended.

A potential safety concern associated with Alternative 1, however, is the short throat length of the entrance driveway and the minimal separation between the driveway and Colborne Street West. If there were ever any internal circulation blockages (e.g., a vehicle reversing out of a parking space and temporarily blocking the drive aisle), there would only be sufficient throat length for one vehicle to queue before the queue would spillback and block traffic on Cambridge Street North. Vehicles turning from Colborne Street West to Cambridge Street North may not be expecting to encounter stopped vehicles immediately after completing their turn which could increase the risk for collisions. For this reason, Alternative 2 is the preferred alternative from a transportation safety perspective. The probability and potential severity of this safety issue is not significant, however, and therefore Alternative 1 is supportable if it is the preferred alternative due to non-transportation-related reasons.

6. Conclusion

Two alternative configurations are proposed for the redesign of the City of Kawartha Lakes City Hall. Alternative 1 proposes to invert internal traffic flow by making the Cambridge Street North driveway into an entrance and changing the Francis Street driveway into an exit. Alternative 2 is similar to Alternative 1, but it also proposes to restrict Cambridge Street North to northbound-only traffic between Francis Street and Colborne Street West.

The City of Kawartha Lakes has estimated that the redesigned City Hall will generate 100 vehicle trips during the peak hours, of which 45 will use the internal parking lot, 20 will park on-street on Colborne Street West, 20 will park on-street on Francis Street, and 15 will park on-street on Cambridge Street North. For the purposes of this study, it was assumed that all vehicles would enter and exit the site within less than an hour. The results of the intersection capacity analysis indicate that traffic operations under both alternatives are well below critical thresholds.

Both alternative configurations are expected to mitigate many of the sightline and safety concerns that were observed during the site visit. Some minor concerns were also noted with respect to parking, but no mitigation measures were recommended. Alternative 1, however, potentially introduces a new safety hazard due to the combination of the short throat length at the entrance driveway and the proximity of the driveway to Colborne Street West. For this reason, Alternative 2 is the preferred alternative from a transportation safety perspective. The probability and potential severity of this safety hazard is not significant, however, and therefore Alternative 1 is supportable if it is the preferred alternative due to non-transportation-related reasons.

A

Appendix A Turning Movement Counts

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #25-253 - CIMA+

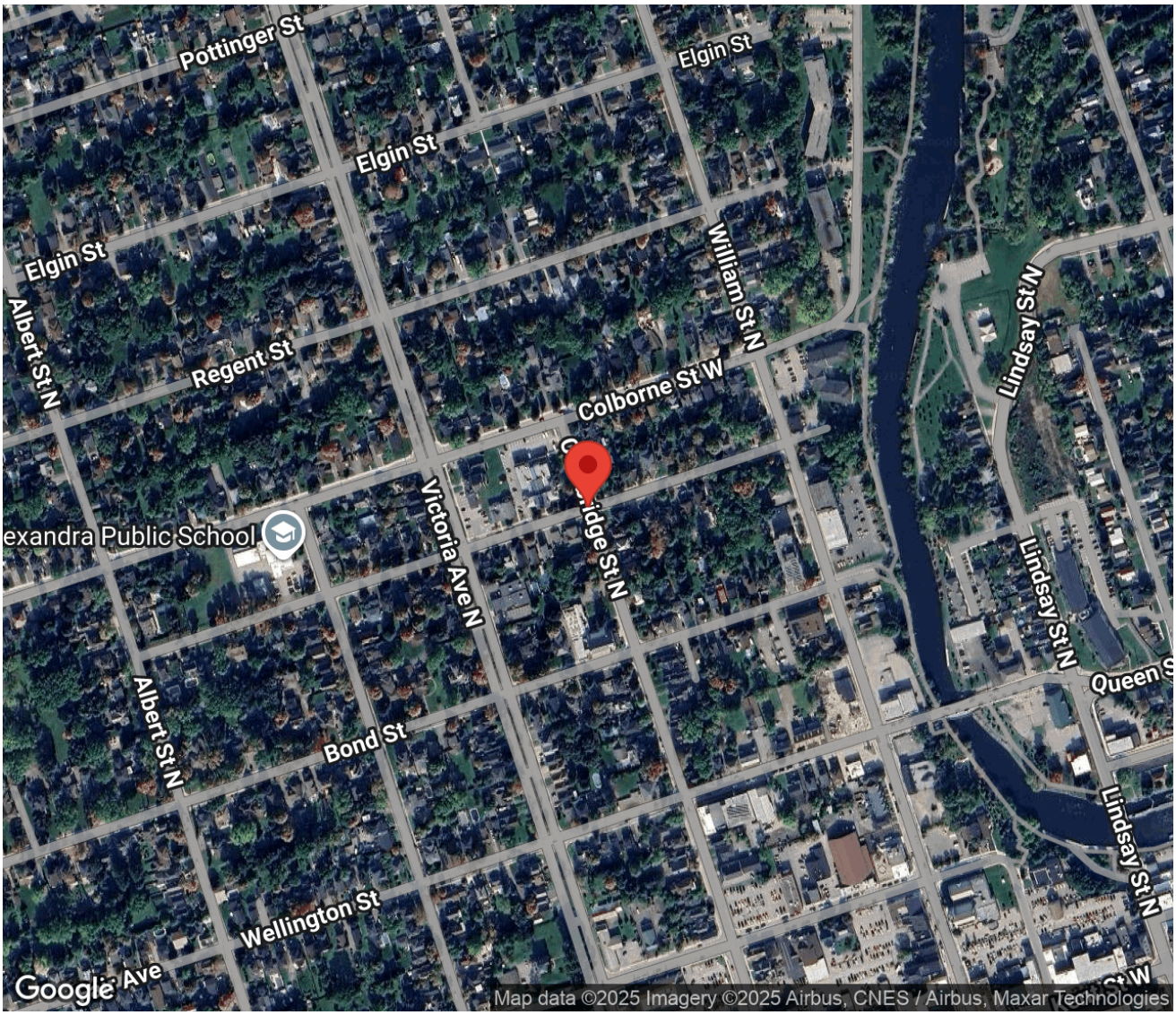
Intersection Count Report

Intersection:	Cambridge St N & Francis St
Municipality:	Kawartha Lakes
Count Date:	Wednesday, Aug 06, 2025
Site Code:	2525300001
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	07:00-10:00, 12:00-14:00, 15:00-18:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Cambridge St N & Francis St
Site Code:	2525300001
Municipality:	Kawartha Lakes
Count Date:	Aug 06, 2025



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Cambridge St N & Francis St
Site Code:	2525300001
Municipality:	Kawartha Lakes
Count Date:	Aug 06, 2025

Cambridge St N - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	0	9	2	0	11	1	3	9	0	0	12	1	23
08:00 - 09:00	0	35	7	0	42	3	4	14	2	0	20	3	62
09:00 - 10:00	0	26	4	0	30	2	1	26	0	0	27	0	57
BREAK													
12:00 - 13:00	1	29	13	0	43	3	4	39	0	0	43	3	86
13:00 - 14:00	1	39	7	0	47	0	2	27	2	0	31	4	78
BREAK													
15:00 - 16:00	5	37	4	0	46	0	1	38	0	0	39	0	85
16:00 - 17:00	2	38	10	0	50	0	3	44	2	0	49	1	99
17:00 - 18:00	4	23	2	0	29	2	0	39	3	0	42	0	71
GRAND TOTAL	**13**	**236**	**49**	**0**	**298**	**11**	**18**	**236**	**9**	**0**	**263**	**12**	**561**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Cambridge St N & Francis St
Site Code:	2525300001
Municipality:	Kawartha Lakes
Count Date:	Aug 06, 2025

Francis St - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	1	3	0	0	4	0	0	1	1	0	2	3	6
08:00 - 09:00	2	11	1	0	14	9	0	2	2	0	4	3	18
09:00 - 10:00	1	4	0	0	5	3	2	5	2	0	9	1	14
BREAK													
12:00 - 13:00	1	5	2	0	8	1	1	1	5	0	7	13	15
13:00 - 14:00	2	4	4	0	10	0	1	3	3	0	7	14	17
BREAK													
15:00 - 16:00	1	2	2	0	5	0	0	1	1	0	2	2	7
16:00 - 17:00	4	4	1	0	9	4	1	9	2	0	12	10	21
17:00 - 18:00	4	3	5	0	12	3	0	4	2	0	6	3	18
GRAND TOTAL	**16**	**36**	**15**	**0**	**67**	**20**	**5**	**26**	**18**	**0**	**49**	**49**	**116**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Cambridge St N & Francis St
Site Code: 2525300001
Municipality: Kawartha Lakes
Count Date: Aug 06, 2025

North Approach - Cambridge St N

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	0
07:15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
07:30	0	2	1	0	3	0	0	1	0	1	0	0	0	0	0	0
07:45	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0
08:00	0	10	3	0	13	0	0	0	0	0	0	0	0	0	0	1
08:15	0	13	0	0	13	0	0	0	0	0	0	0	0	0	0	0
08:30	0	4	1	0	5	0	1	0	0	1	0	0	0	0	0	1
08:45	0	7	3	0	10	0	0	0	0	0	0	0	0	0	0	1
09:00	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0
09:15	0	11	0	0	11	0	0	0	0	0	0	0	0	0	0	1
09:30	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	0
09:45	0	4	4	0	8	0	0	0	0	0	0	0	0	0	0	1
SUBTOTAL	0	68	12	0	80	0	2	1	0	3	0	0	0	0	0	6

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Cambridge St N & Francis St
Site Code: 2525300001
Municipality: Kawartha Lakes
Count Date: Aug 06, 2025

North Approach - Cambridge St N

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
12:00	1	8	6	0	15	0	0	0	0	0	0	0	0	0	0	0
12:15	0	10	2	0	12	0	0	0	0	0	0	0	0	0	0	0
12:30	0	8	3	0	11	0	0	0	0	0	0	0	0	0	0	3
12:45	0	3	2	0	5	0	0	0	0	0	0	0	0	0	0	0
13:00	1	6	2	0	9	0	0	0	0	0	0	0	0	0	0	0
13:15	0	11	3	0	14	0	0	0	0	0	0	0	0	0	0	0
13:30	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	0
13:45	0	9	2	0	11	0	1	0	0	1	0	2	0	0	2	0
SUBTOTAL	2	65	20	0	87	0	1	0	0	1	0	2	0	0	2	3

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Cambridge St N & Francis St
Site Code: 2525300001
Municipality: Kawartha Lakes
Count Date: Aug 06, 2025

North Approach - Cambridge St N

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
15:00	4	8	1	0	13	0	1	0	0	1	0	2	0	0	2	0
15:15	1	6	2	0	9	0	1	0	0	1	0	0	0	0	0	0
15:30	0	11	1	0	12	0	0	0	0	0	0	0	0	0	0	0
15:45	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	0
16:00	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	0
16:15	0	7	1	0	8	0	0	0	0	0	0	0	0	0	0	0
16:30	1	12	6	0	19	1	1	0	0	2	0	0	0	0	0	0
16:45	0	10	3	0	13	0	0	0	0	0	0	0	0	0	0	0
17:00	1	8	2	0	11	0	0	0	0	0	0	0	0	0	0	0
17:15	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0
17:30	3	2	0	0	5	0	0	0	0	0	0	0	0	0	0	1
17:45	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	1
SUBTOTAL	10	91	16	0	117	1	3	0	0	4	0	4	0	0	4	2
GRAND TOTAL	12	224	48	0	284	1	6	1	0	8	0	6	0	0	6	11

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Cambridge St N & Francis St
Site Code: 2525300001
Municipality: Kawartha Lakes
Count Date: Aug 06, 2025

South Approach - Cambridge St N

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0	0
07:15	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
07:30	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0
07:45	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	1
08:00	3	3	0	0	6	0	0	0	0	0	0	0	0	0	0	0
08:15	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	1
08:30	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	2
08:45	0	4	1	0	5	0	0	1	0	1	0	0	0	0	0	0
09:00	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
09:15	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0
09:30	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	0
09:45	1	11	0	0	12	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	8	49	1	0	58	0	0	1	0	1	0	0	0	0	0	4

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Cambridge St N & Francis St
Site Code: 2525300001
Municipality: Kawartha Lakes
Count Date: Aug 06, 2025

South Approach - Cambridge St N

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
12:00	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0
12:15	1	4	0	0	5	0	0	0	0	0	0	0	0	0	0	0
12:30	0	13	0	0	13	0	1	0	0	1	0	1	0	0	1	3
12:45	3	13	0	0	16	0	0	0	0	0	0	0	0	0	0	0
13:00	2	5	0	0	7	0	0	0	0	0	0	0	0	0	0	4
13:15	0	8	1	0	9	0	1	0	0	1	0	0	0	0	0	0
13:30	0	7	1	0	8	0	0	0	0	0	0	0	0	0	0	0
13:45	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	6	63	2	0	71	0	2	0	0	2	0	1	0	0	1	7

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Cambridge St N & Francis St
Site Code: 2525300001
Municipality: Kawartha Lakes
Count Date: Aug 06, 2025

South Approach - Cambridge St N

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
15:00	1	11	0	0	12	0	1	0	0	1	0	0	0	0	0	0
15:15	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	0
15:30	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0
15:45	0	11	0	0	11	0	0	0	0	0	0	2	0	0	2	0
16:00	2	10	0	0	12	0	0	0	0	0	0	0	0	0	0	0
16:15	0	8	1	0	9	0	0	0	0	0	0	0	0	0	0	0
16:30	0	19	1	0	20	0	0	0	0	0	0	0	0	0	0	1
16:45	1	7	0	0	8	0	0	0	0	0	0	0	0	0	0	0
17:00	0	15	0	0	15	0	0	1	0	1	0	0	0	0	0	0
17:15	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	0
17:30	0	9	2	0	11	0	0	0	0	0	0	0	0	0	0	0
17:45	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	4	118	4	0	126	0	1	1	0	2	0	2	0	0	2	1
GRAND TOTAL	18	230	7	0	255	0	3	2	0	5	0	3	0	0	3	12

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Cambridge St N & Francis St
Site Code: 2525300001
Municipality: Kawartha Lakes
Count Date: Aug 06, 2025

East Approach - Francis St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
07:30	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
07:45	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
08:00	0	5	1	0	6	0	0	0	0	0	0	0	0	0	0	0
08:15	2	5	0	0	7	0	0	0	0	0	0	0	0	0	0	3
08:30	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	4
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
09:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
09:15	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
09:30	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SUBTOTAL	4	18	1	0	23	0	0	0	0	0	0	0	0	0	0	12

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Cambridge St N & Francis St
Site Code: 2525300001
Municipality: Kawartha Lakes
Count Date: Aug 06, 2025

East Approach - Francis St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
12:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
12:15	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
12:30	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0
12:45	0	2	1	0	3	0	0	0	0	0	0	0	0	0	0	1
13:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
13:15	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	0
13:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
13:45	2	1	1	0	4	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	3	9	6	0	18	0	0	0	0	0	0	0	0	0	0	1

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Cambridge St N & Francis St
Site Code: 2525300001
Municipality: Kawartha Lakes
Count Date: Aug 06, 2025

East Approach - Francis St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
15:00	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
15:15	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
15:30	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
16:30	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	2
16:45	2	2	1	0	5	0	0	0	0	0	0	0	0	0	0	0
17:00	0	2	1	0	3	0	0	0	0	0	0	0	0	0	0	1
17:15	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0
17:30	3	0	2	0	5	0	0	0	0	0	0	0	0	0	0	0
17:45	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
SUBTOTAL	9	9	7	0	25	0	0	1	0	1	0	0	0	0	0	7
GRAND TOTAL	16	36	14	0	66	0	0	1	0	1	0	0	0	0	0	20

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Cambridge St N & Francis St
Site Code: 2525300001
Municipality: Kawartha Lakes
Count Date: Aug 06, 2025

West Approach - Francis St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
07:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
08:45	0	2	1	0	3	0	0	0	0	0	0	0	0	0	0	0
09:00	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
09:15	1	1	1	0	3	0	0	0	0	0	0	0	0	0	0	1
09:30	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0
09:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	2	8	5	0	15	0	0	0	0	0	0	0	0	0	0	7

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Cambridge St N & Francis St
Site Code: 2525300001
Municipality: Kawartha Lakes
Count Date: Aug 06, 2025

West Approach - Francis St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
12:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	8
12:15	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	1
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
12:45	1	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
13:15	0	2	0	0	2	1	0	0	0	1	0	0	0	0	0	1
13:30	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
13:45	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	10
SUBTOTAL	1	4	8	0	13	1	0	0	0	1	0	0	0	0	0	27

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Cambridge St N & Francis St
Site Code: 2525300001
Municipality: Kawartha Lakes
Count Date: Aug 06, 2025

West Approach - Francis St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
15:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
16:00	1	2	1	0	4	0	0	0	0	0	0	0	0	0	0	1
16:15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3
16:30	0	5	1	0	6	0	0	0	0	0	0	0	0	0	0	5
16:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
17:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
17:15	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0
17:30	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	3
17:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	1	14	5	0	20	0	0	0	0	0	0	0	0	0	0	15
GRAND TOTAL	4	26	18	0	48	1	0	0	0	1	0	0	0	0	0	49

Peak Hour Diagram

Specified Period
From: 07:00:00
To: 10:00:00

One Hour Peak
From: 08:00:00
To: 09:00:00

Intersection: Cambridge St N & Francis St
Site Code: 2525300001
Count Date: Aug 06, 2025

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Cambridge St N runs N/S

North Approach

	Out	In	Total
Cars	41	15	56
Trucks	1	0	1
Bicycles	0	0	0
	42	**15**	**57**

Cambridge St N

Bicycles	0	0	0	0
Trucks	0	1	0	0
Cars	7	34	0	0
Totals	**7**	**35**	**0**	**0**

East Approach

	Out	In	Total
Cars	14	3	17
Trucks	0	1	1
Bicycles	0	0	0
	14	**4**	**18**

Peds: 3

Francis St

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	0	0	**0**
0	0	2	**2**
0	0	2	**2**

Peds: 3

Peds: 9

Francis St

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	1	1	0	0
	11	11	0	0
	2	2	0	0

Peds: 3

West Approach

	Out	In	Total
Cars	4	22	26
Trucks	0	0	0
Bicycles	0	0	0
	4	**22**	**26**

Cambridge St N

Totals	**4**	**14**	**2**	**0**
Cars	4	14	1	0
Trucks	0	0	1	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	19	38	57
Trucks	1	1	2
Bicycles	0	0	0
	20	**39**	**59**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Cambridge St N & Francis St
Site Code: 2525300001
Count Date: Aug 06, 2025
Period: 07:00 - 10:00

Peak Hour Data (08:00 - 09:00)

Start Time	North Approach Cambridge St N						South Approach Cambridge St N						East Approach Francis St						West Approach Francis St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
08:00	0	10	3	0	1	13	3	3	0	0	0	6	0	5	1	0	0	6	0	0	0	0	0	0	25
08:15	0	13	0	0	0	13	0	5	0	0	1	5	2	5	0	0	3	7	0	0	1	0	0	1	26
08:30	0	5	1	0	1	6	1	2	0	0	2	3	0	1	0	0	4	1	0	0	0	0	3	0	10
08:45	0	7	3	0	1	10	0	4	2	0	0	6	0	0	0	0	2	0	0	2	1	0	0	3	19
Grand Total	**0**	**35**	**7**	**0**	**3**	**42**	**4**	**14**	**2**	**0**	**3**	**20**	**2**	**11**	**1**	**0**	**9**	**14**	**0**	**2**	**2**	**0**	**3**	**4**	**80**
Approach %	0	83.3	16.7	0		-	20	70	10	0		-	14.3	78.6	7.1	0		-	0	50	50	0		-	
Totals %	0	43.8	8.8	0		52.5	5	17.5	2.5	0		25	2.5	13.8	1.3	0		17.5	0	2.5	2.5	0		5	
PHF	**0**	**0.67**	**0.58**	**0**		**0.81**	**0.33**	**0.7**	**0.25**	**0**		**0.83**	**0.25**	**0.55**	**0.25**	**0**		**0.5**	**0**	**0.25**	**0.5**	**0**		**0.33**	**0.77**
Cars	0	34	7	0		41	4	14	1	0		19	2	11	1	0		14	0	2	2	0		4	78
% Cars	0	97.1	100	0		97.6	100	100	50	0		95	100	100	100	0		100	0	100	100	0		100	97.5
Trucks	0	1	0	0		1	0	0	1	0		1	0	0	0	0		0	0	0	0	0		0	2
% Trucks	0	2.9	0	0		2.4	0	0	50	0		5	0	0	0	0		0	0	0	0	0		0	2.5
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					3	-					3	-					9	-					3	-	18
% Peds					16.7	-					16.7	-					50	-					16.7	-	

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period		One Hour Peak	
From:	12:00:00	From:	12:30:00
To:	14:00:00	To:	13:30:00

Intersection: Cambridge St N & Francis St
Site Code: 2525300001
Count Date: Aug 06, 2025

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Cambridge St N runs N/S

North Approach

	Out	In	Total
Cars	39	44	83
Trucks	0	3	3
Bicycles	0	1	1
	39	**48**	**87**

Cambridge St N

Bicycles	0	0	0	0
Trucks	0	0	0	0
Cars	10	28	1	0
Totals	**10**	**28**	**1**	**0**

East Approach

	Out	In	Total
Cars	10	4	14
Trucks	0	0	0
Bicycles	0	0	0
	10	**4**	**14**

Peds: 3

Francis St

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	1	1	**2**
0	0	2	**2**
0	0	3	**3**

Peds: 8

Peds: 1

Francis St

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	4	4	0	0
	6	6	0	0
	0	0	0	0

Peds: 7

West Approach

	Out	In	Total
Cars	6	21	27
Trucks	1	0	1
Bicycles	0	0	0
	7	**21**	**28**

Cambridge St N

Totals	**5**	**42**	**1**	**0**
Cars	5	39	1	0
Trucks	0	2	0	0
Bicycles	0	1	0	0

South Approach

	Out	In	Total
Cars	45	31	76
Trucks	2	0	2
Bicycles	1	0	1
	48	**31**	**79**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Cambridge St N & Francis St
Site Code: 2525300001
Count Date: Aug 06, 2025
Period: 12:00 - 14:00

Peak Hour Data (12:30 - 13:30)

Start Time	North Approach Cambridge St N						South Approach Cambridge St N						East Approach Francis St						West Approach Francis St						Total Vehicles
	↰	↑	↱	↶	Peds	Total	↰	↑	↱	↶	Peds	Total	↰	↑	↱	↶	Peds	Total	↰	↑	↱	↶	Peds	Total	
12:30	0	8	3	0	3	11	0	15	0	0	3	15	0	1	1	0	0	2	0	0	0	0	4	0	28
12:45	0	3	2	0	0	5	3	13	0	0	0	16	0	2	1	0	1	3	1	0	3	0	0	4	28
13:00	1	6	2	0	0	9	2	5	0	0	4	7	0	0	1	0	0	1	0	0	0	0	3	0	17
13:15	0	11	3	0	0	14	0	9	1	0	0	10	0	3	1	0	0	4	1	2	0	0	1	3	31
Grand Total	**1**	**28**	**10**	**0**	**3**	**39**	**5**	**42**	**1**	**0**	**7**	**48**	**0**	**6**	**4**	**0**	**1**	**10**	**2**	**2**	**3**	**0**	**8**	**7**	**104**
Approach %	2.6	71.8	25.6	0		-	10.4	87.5	2.1	0		-	0	60	40	0		-	28.6	28.6	42.9	0		-	
Totals %	1	26.9	9.6	0		37.5	4.8	40.4	1	0		46.2	0	5.8	3.8	0		9.6	1.9	1.9	2.9	0		6.7	
PHF	**0.25**	**0.64**	**0.83**	**0**		**0.7**	**0.42**	**0.7**	**0.25**	**0**		**0.75**	**0**	**0.5**	**1**	**0**		**0.63**	**0.5**	**0.25**	**0.25**	**0**		**0.44**	**0.84**
Cars	1	28	10	0		39	5	39	1	0		45	0	6	4	0		10	1	2	3	0		6	100
% Cars	100	100	100	0		100	100	92.9	100	0		93.8	0	100	100	0		100	50	100	100	0		85.7	96.2
Trucks	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	1	0	0	0		1	3
% Trucks	0	0	0	0		0	0	4.8	0	0		4.2	0	0	0	0		0	50	0	0	0		14.3	2.9
Bicycles	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	0	0	0	0		0	1
% Bicycles	0	0	0	0		0	0	2.4	0	0		2.1	0	0	0	0		0	0	0	0	0		0	1
Peds					3	-					7	-					1	-					8	-	19
% Peds					15.8	-					36.8	-					5.3	-					42.1	-	

Peak Hour Diagram

Specified Period
From: 15:00:00
To: 18:00:00

One Hour Peak
From: 16:30:00
To: 17:30:00

Intersection: Cambridge St N & Francis St
Site Code: 2525300001
Count Date: Aug 06, 2025

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Cambridge St N runs N/S

North Approach

	Out	In	Total
Cars	50	54	104
Trucks	2	0	2
Bicycles	0	0	0
	52	**54**	**106**

Cambridge St N

Bicycles	0	0	0	0
Trucks	0	1	1	0
Cars	11	37	2	0
Totals	**11**	**38**	**3**	**0**

East Approach

	Out	In	Total
Cars	14	11	25
Trucks	0	2	2
Bicycles	0	0	0
	14	**13**	**27**

Peds: 0

Francis St

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	0	0	**0**
0	0	8	**8**
0	0	2	**2**

Peds: 6

N
W E
S

Peds: 3

Francis St

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	4	4	0	0
	6	6	0	0
	4	4	0	0

Peds: 1

West Approach

	Out	In	Total
Cars	10	18	28
Trucks	0	0	0
Bicycles	0	0	0
	10	**18**	**28**

Cambridge St N

Totals	**1**	**50**	**2**	**0**
Cars	1	50	1	0
Trucks	0	0	1	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	52	43	95
Trucks	1	1	2
Bicycles	0	0	0
	53	**44**	**97**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Cambridge St N & Francis St
Site Code: 2525300001
Count Date: Aug 06, 2025
Period: 15:00 - 18:00

Peak Hour Data (16:30 - 17:30)

Start Time	North Approach Cambridge St N						South Approach Cambridge St N						East Approach Francis St						West Approach Francis St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
16:30	2	13	6	0	0	21	0	19	1	0	1	20	2	1	0	0	2	3	0	5	1	0	5	6	50
16:45	0	10	3	0	0	13	1	7	0	0	0	8	2	2	1	0	0	5	0	1	0	0	1	1	27
17:00	1	8	2	0	0	11	0	15	1	0	0	16	0	2	1	0	1	3	0	1	0	0	0	1	31
17:15	0	7	0	0	0	7	0	9	0	0	0	9	0	1	2	0	0	3	0	1	1	0	0	2	21
Grand Total	**3**	**38**	**11**	**0**	**0**	**52**	**1**	**50**	**2**	**0**	**1**	**53**	**4**	**6**	**4**	**0**	**3**	**14**	**0**	**8**	**2**	**0**	**6**	**10**	**129**
Approach %	5.8	73.1	21.2	0		-	1.9	94.3	3.8	0		-	28.6	42.9	28.6	0		-	0	80	20	0		-	
Totals %	2.3	29.5	8.5	0		40.3	0.8	38.8	1.6	0		41.1	3.1	4.7	3.1	0		10.9	0	6.2	1.6	0		7.8	
PHF	**0.38**	**0.73**	**0.46**	**0**		**0.62**	**0.25**	**0.66**	**0.5**	**0**		**0.66**	**0.5**	**0.75**	**0.5**	**0**		**0.7**	**0**	**0.4**	**0.5**	**0**		**0.42**	**0.65**
Cars	2	37	11	0		50	1	50	1	0		52	4	6	4	0		14	0	8	2	0		10	126
% Cars	66.7	97.4	100	0		96.2	100	100	50	0		98.1	100	100	100	0		100	0	100	100	0		100	97.7
Trucks	1	1	0	0		2	0	0	1	0		1	0	0	0	0		0	0	0	0	0		0	3
% Trucks	33.3	2.6	0	0		3.8	0	0	50	0		1.9	0	0	0	0		0	0	0	0	0		0	2.3
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					0	-					1	-					3	-					6	-	10
% Peds					0	-					10	-					30	-					60	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #25-253 - CIMA+

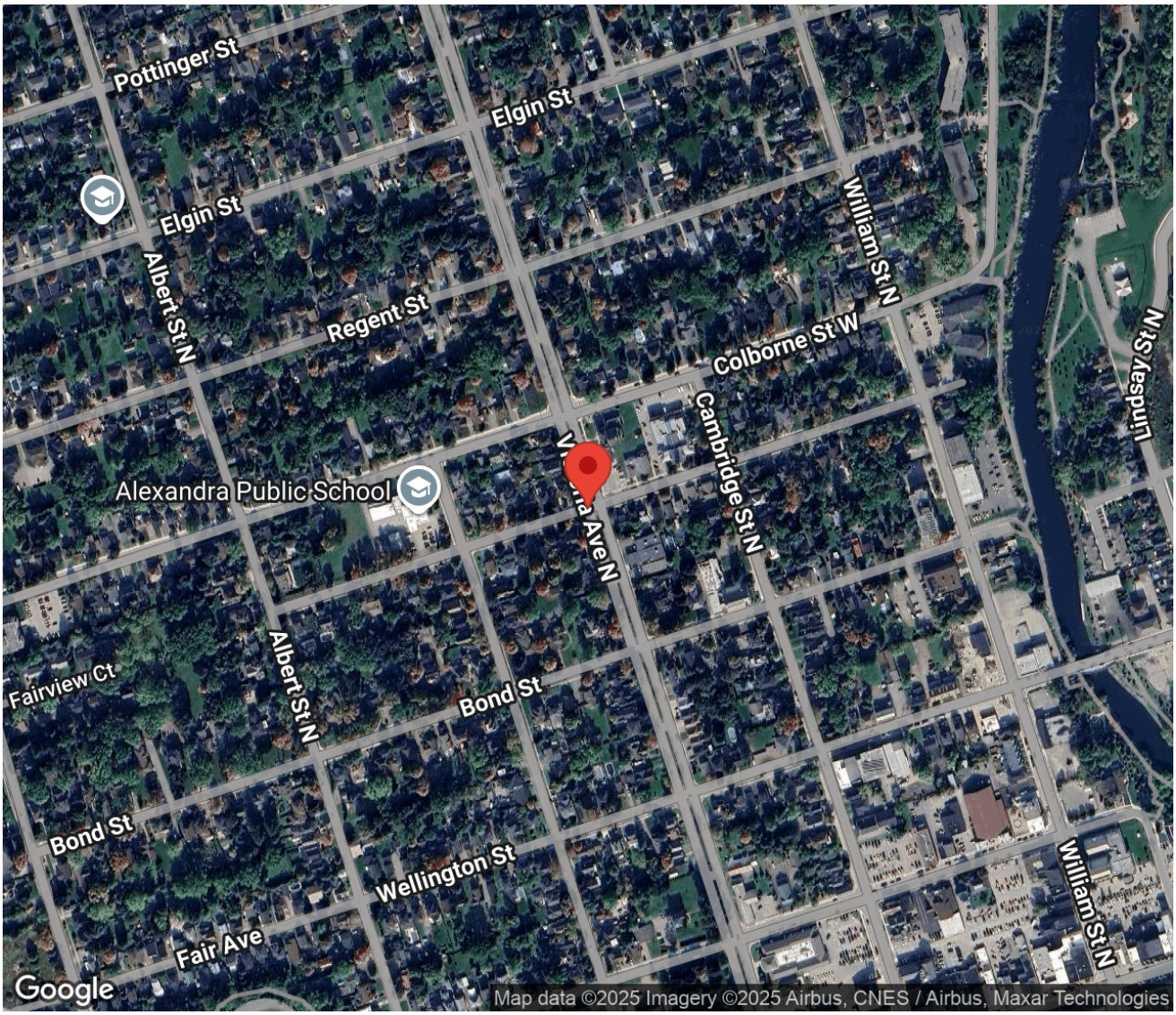
Intersection Count Report

Intersection:	Victoria Ave N & Francis St
Municipality:	Kawartha Lakes
Count Date:	Wednesday, Aug 06, 2025
Site Code:	2525300002
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	07:00-10:00, 12:00-14:00, 15:00-18:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Victoria Ave N & Francis St
Site Code:	2525300002
Municipality:	Kawartha Lakes
Count Date:	Aug 06, 2025



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Victoria Ave N & Francis St
Site Code:	2525300002
Municipality:	Kawartha Lakes
Count Date:	Aug 06, 2025

Victoria Ave N - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	2	106	1	0	109	2	0	39	2	0	41	1	150
08:00 - 09:00	19	178	4	0	201	0	1	62	9	0	72	1	273
09:00 - 10:00	7	175	1	0	183	1	2	67	6	0	75	2	258
BREAK													
12:00 - 13:00	8	163	1	0	172	6	4	141	10	0	155	0	327
13:00 - 14:00	17	145	2	0	164	1	4	128	15	0	147	2	311
BREAK													
15:00 - 16:00	5	141	1	0	147	0	0	150	3	0	153	1	300
16:00 - 17:00	6	118	0	0	124	2	2	171	2	0	175	0	299
17:00 - 18:00	8	102	5	0	115	2	6	158	5	0	169	0	284
GRAND TOTAL	**72**	**1128**	**15**	**0**	**1215**	**14**	**19**	**916**	**52**	**0**	**987**	**7**	**2202**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Victoria Ave N & Francis St
Site Code:	2525300002
Municipality:	Kawartha Lakes
Count Date:	Aug 06, 2025

Francis St - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	2	1	1	0	4	4	0	1	0	0	1	2	5
08:00 - 09:00	3	4	3	0	10	5	2	2	2	0	6	4	16
09:00 - 10:00	3	2	1	0	6	3	0	1	2	0	3	2	9
BREAK													
12:00 - 13:00	5	7	9	0	21	6	3	6	2	0	11	10	32
13:00 - 14:00	1	3	10	0	14	7	0	2	0	0	2	12	16
BREAK													
15:00 - 16:00	3	4	3	0	10	1	1	3	2	0	6	2	16
16:00 - 17:00	2	3	16	0	21	4	1	4	1	0	6	1	27
17:00 - 18:00	3	6	8	0	17	3	0	4	3	0	7	2	24
GRAND TOTAL	**22**	**30**	**51**	**0**	**103**	**33**	**7**	**23**	**12**	**0**	**42**	**35**	**145**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Victoria Ave N & Francis St
Site Code: 2525300002
Municipality: Kawartha Lakes
Count Date: Aug 06, 2025

North Approach - Victoria Ave N

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
07:00	0	14	0	0	14	0	3	0	0	3	1	0	0	0	1	0
07:15	0	24	0	0	24	0	1	0	0	1	0	0	0	0	0	0
07:30	0	28	0	0	28	0	0	0	0	0	0	0	0	0	0	1
07:45	1	35	0	0	36	0	0	0	0	0	0	1	1	0	2	1
08:00	5	42	1	0	48	0	1	0	0	1	0	0	0	0	0	0
08:15	8	44	3	0	55	0	1	0	0	1	0	0	0	0	0	0
08:30	2	45	0	0	47	0	0	0	0	0	0	0	0	0	0	0
08:45	4	43	0	0	47	0	2	0	0	2	0	0	0	0	0	0
09:00	3	38	0	0	41	0	2	0	0	2	0	0	0	0	0	0
09:15	3	42	0	0	45	0	2	0	0	2	0	2	0	0	2	1
09:30	0	31	0	0	31	0	1	0	0	1	0	0	0	0	0	0
09:45	1	55	1	0	57	0	1	0	0	1	0	1	0	0	1	0
SUBTOTAL	27	441	5	0	473	0	14	0	0	14	1	4	1	0	6	3

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Victoria Ave N & Francis St
Site Code: 2525300002
Municipality: Kawartha Lakes
Count Date: Aug 06, 2025

North Approach - Victoria Ave N

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
12:00	2	24	0	0	26	0	2	0	0	2	0	0	0	0	0	0
12:15	0	35	0	0	35	0	3	0	0	3	0	0	0	0	0	0
12:30	3	38	0	0	41	0	1	0	0	1	0	1	0	0	1	3
12:45	3	58	1	0	62	0	1	0	0	1	0	0	0	0	0	3
13:00	3	34	0	0	37	0	1	0	0	1	0	2	0	0	2	0
13:15	3	28	0	0	31	1	2	1	0	4	0	0	0	0	0	1
13:30	6	35	0	0	41	0	0	0	0	0	0	0	0	0	0	0
13:45	4	41	1	0	46	0	2	0	0	2	0	0	0	0	0	0
SUBTOTAL	24	293	2	0	319	1	12	1	0	14	0	3	0	0	3	7

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Victoria Ave N & Francis St
Site Code: 2525300002
Municipality: Kawartha Lakes
Count Date: Aug 06, 2025

North Approach - Victoria Ave N

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
15:00	2	37	0	0	39	0	1	0	0	1	1	1	0	0	2	0
15:15	2	25	0	0	27	0	3	0	0	3	0	2	0	0	2	0
15:30	0	36	1	0	37	0	1	0	0	1	0	1	0	0	1	0
15:45	0	33	0	0	33	0	1	0	0	1	0	0	0	0	0	0
16:00	1	30	0	0	31	0	1	0	0	1	0	0	0	0	0	0
16:15	2	36	0	0	38	0	3	0	0	3	0	0	0	0	0	0
16:30	3	28	0	0	31	0	0	0	0	0	0	1	0	0	1	2
16:45	0	18	0	0	18	0	1	0	0	1	0	0	0	0	0	0
17:00	0	21	1	0	22	0	2	0	0	2	0	1	0	0	1	0
17:15	3	28	1	0	32	0	1	0	0	1	0	0	0	0	0	0
17:30	3	24	1	0	28	0	2	0	0	2	0	0	0	0	0	0
17:45	2	21	1	0	24	0	2	1	0	3	0	0	0	0	0	2
SUBTOTAL	18	337	5	0	360	0	18	1	0	19	1	6	0	0	7	4
GRAND TOTAL	69	1071	12	0	1152	1	44	2	0	47	2	13	1	0	16	14

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Victoria Ave N & Francis St
Site Code: 2525300002
Municipality: Kawartha Lakes
Count Date: Aug 06, 2025

South Approach - Victoria Ave N

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0
07:15	0	8	0	0	8	0	1	0	0	1	0	1	0	0	1	1
07:30	0	15	1	0	16	0	1	0	0	1	0	0	0	0	0	0
07:45	0	7	1	0	8	0	1	0	0	1	0	0	0	0	0	0
08:00	0	9	2	0	11	0	1	0	0	1	0	0	0	0	0	0
08:15	0	12	3	0	15	0	0	0	0	0	0	0	0	0	0	1
08:30	1	15	2	0	18	0	2	0	0	2	0	0	0	0	0	0
08:45	0	22	2	0	24	0	1	0	0	1	0	0	0	0	0	0
09:00	0	12	1	0	13	0	2	0	0	2	0	0	0	0	0	0
09:15	0	13	2	0	15	0	2	0	0	2	0	0	0	0	0	1
09:30	1	18	0	0	19	0	3	1	0	4	0	0	0	0	0	1
09:45	1	14	2	0	17	0	2	0	0	2	0	1	0	0	1	0
SUBTOTAL	3	150	16	0	169	0	16	1	0	17	0	2	0	0	2	4

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Victoria Ave N & Francis St
Site Code: 2525300002
Municipality: Kawartha Lakes
Count Date: Aug 06, 2025

South Approach - Victoria Ave N

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
12:00	2	41	0	0	43	0	1	0	0	1	0	0	0	0	0	0
12:15	0	36	3	0	39	0	0	0	0	0	0	0	0	0	0	0
12:30	0	34	4	0	38	0	1	0	0	1	0	0	0	0	0	0
12:45	2	27	3	0	32	0	1	0	0	1	0	0	0	0	0	0
13:00	1	29	3	0	33	0	4	0	0	4	0	0	0	0	0	1
13:15	1	33	0	0	34	0	2	0	0	2	0	0	0	0	0	0
13:30	0	27	6	0	33	0	2	0	0	2	0	0	0	0	0	0
13:45	2	29	6	0	37	0	2	0	0	2	0	0	0	0	0	1
SUBTOTAL	8	256	25	0	289	0	13	0	0	13	0	0	0	0	0	2

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Victoria Ave N & Francis St
Site Code: 2525300002
Municipality: Kawartha Lakes
Count Date: Aug 06, 2025

South Approach - Victoria Ave N

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
15:00	0	35	0	0	35	0	1	1	0	2	0	0	0	0	0	0
15:15	0	38	0	0	38	0	0	0	0	0	0	1	0	0	1	1
15:30	0	41	2	0	43	0	3	0	0	3	0	0	0	0	0	0
15:45	0	30	0	0	30	0	1	0	0	1	0	0	0	0	0	0
16:00	0	39	0	0	39	0	1	0	0	1	0	1	0	0	1	0
16:15	1	38	0	0	39	0	2	0	0	2	0	1	0	0	1	0
16:30	1	43	2	0	46	0	1	0	0	1	0	0	0	0	0	0
16:45	0	41	0	0	41	0	2	0	0	2	0	2	0	0	2	0
17:00	0	59	1	0	60	0	0	0	0	0	0	0	0	0	0	0
17:15	2	34	1	0	37	0	0	0	0	0	0	0	0	0	0	0
17:30	2	32	2	0	36	0	2	0	0	2	0	0	0	0	0	0
17:45	2	29	0	0	31	0	2	0	0	2	0	0	1	0	1	0
SUBTOTAL	8	459	8	0	475	0	15	1	0	16	0	5	1	0	6	1
GRAND TOTAL	19	865	49	0	933	0	44	2	0	46	0	7	1	0	8	7

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Victoria Ave N & Francis St
Site Code: 2525300002
Municipality: Kawartha Lakes
Count Date: Aug 06, 2025

East Approach - Francis St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
07:15	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
07:30	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
07:45	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
08:00	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	1
08:15	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	2
08:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
08:45	1	2	2	0	5	0	0	0	0	0	0	0	0	0	0	1
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
09:15	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
09:30	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0
09:45	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	8	7	5	0	20	0	0	0	0	0	0	0	0	0	0	12

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Victoria Ave N & Francis St
Site Code: 2525300002
Municipality: Kawartha Lakes
Count Date: Aug 06, 2025

East Approach - Francis St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
12:00	1	2	4	0	7	0	0	0	0	0	0	0	0	0	0	3
12:15	2	4	3	0	9	0	0	0	0	0	0	0	0	0	0	0
12:30	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0
12:45	1	1	1	0	3	0	0	0	0	0	0	0	0	0	0	3
13:00	1	3	3	0	7	0	0	0	0	0	0	0	1	0	1	6
13:15	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	1
13:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
13:45	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	6	10	18	0	34	0	0	0	0	0	0	0	1	0	1	13

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Victoria Ave N & Francis St
Site Code: 2525300002
Municipality: Kawartha Lakes
Count Date: Aug 06, 2025

East Approach - Francis St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
15:00	0	2	2	0	4	0	0	0	0	0	0	0	0	0	0	1
15:15	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
15:30	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0
15:45	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0
16:00	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0
16:15	1	1	1	0	3	0	0	0	0	0	0	0	0	0	0	0
16:30	1	0	11	0	12	0	0	0	0	0	0	0	0	0	0	1
16:45	0	1	3	0	4	0	0	0	0	0	0	0	0	0	0	3
17:00	2	2	3	0	7	0	0	0	0	0	0	0	0	0	0	1
17:15	0	2	2	0	4	0	0	0	0	0	0	1	0	0	1	2
17:30	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0
17:45	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	8	12	27	0	47	0	0	0	0	0	0	1	0	0	1	8
GRAND TOTAL	22	29	50	0	101	0	0	0	0	0	0	1	1	0	2	33

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Victoria Ave N & Francis St
Site Code: 2525300002
Municipality: Kawartha Lakes
Count Date: Aug 06, 2025

West Approach - Francis St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
08:30	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0
08:45	1	1	1	0	3	0	0	0	0	0	0	0	0	0	0	0
09:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
09:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
09:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	2	4	4	0	10	0	0	0	0	0	0	0	0	0	0	8

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Victoria Ave N & Francis St
Site Code: 2525300002
Municipality: Kawartha Lakes
Count Date: Aug 06, 2025

West Approach - Francis St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
12:00	2	3	0	0	5	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
12:30	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	6
12:45	1	2	1	0	4	0	0	0	0	0	0	0	0	0	0	3
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
13:15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
13:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
SUBTOTAL	3	8	2	0	13	0	0	0	0	0	0	0	0	0	0	22

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Victoria Ave N & Francis St
Site Code: 2525300002
Municipality: Kawartha Lakes
Count Date: Aug 06, 2025

West Approach - Francis St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
15:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
15:15	0	2	2	0	4	0	0	0	0	0	0	0	0	0	0	0
15:30	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0
16:30	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	1
16:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
17:15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
17:30	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0
17:45	0	1	1	0	2	0	0	0	0	0	0	1	0	0	1	2
SUBTOTAL	2	10	6	0	18	0	0	0	0	0	0	1	0	0	1	5
GRAND TOTAL	7	22	12	0	41	0	0	0	0	0	0	1	0	0	1	35

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period		One Hour Peak	
From:	07:00:00	From:	08:00:00
To:	10:00:00	To:	09:00:00

Intersection: Victoria Ave N & Francis St
Site Code: 2525300002
Count Date: Aug 06, 2025

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Victoria Ave N runs N/S

North Approach

	Out	In	Total
Cars	197	63	260
Trucks	4	4	8
Bicycles	0	0	0
	201	**67**	**268**

Victoria Ave N

Bicycles	0	0	0	0
Trucks	0	4	0	0
Cars	4	174	19	0
Totals	**4**	**178**	**19**	**0**

East Approach

	Out	In	Total
Cars	10	30	40
Trucks	0	0	0
Bicycles	0	0	0
	10	**30**	**40**

Peds: 0

Francis St

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	0	2	**2**
0	0	2	**2**
0	0	2	**2**

Peds: 4

Peds: 5

Francis St

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	3	3	0	0
	4	4	0	0
	3	3	0	0

Peds: 1

West Approach

	Out	In	Total
Cars	6	9	15
Trucks	0	0	0
Bicycles	0	0	0
	6	**9**	**15**

Victoria Ave N

Totals	**1**	**62**	**9**	**0**
Cars	1	58	9	0
Trucks	0	4	0	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	68	179	247
Trucks	4	4	8
Bicycles	0	0	0
	72	**183**	**255**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Victoria Ave N & Francis St
Site Code: 2525300002
Count Date: Aug 06, 2025
Period: 07:00 - 10:00

Peak Hour Data (08:00 - 09:00)

Start Time	North Approach Victoria Ave N						South Approach Victoria Ave N						East Approach Francis St						West Approach Francis St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
08:00	5	43	1	0	0	49	0	10	2	0	0	12	1	1	0	0	1	2	0	1	0	0	1	1	64
08:15	8	45	3	0	0	56	0	12	3	0	1	15	1	1	0	0	2	2	0	0	0	0	3	0	73
08:30	2	45	0	0	0	47	1	17	2	0	0	20	0	0	1	0	1	1	1	0	1	0	0	2	70
08:45	4	45	0	0	0	49	0	23	2	0	0	25	1	2	2	0	1	5	1	1	1	0	0	3	82
Grand Total	**19**	**178**	**4**	**0**	**0**	**201**	**1**	**62**	**9**	**0**	**1**	**72**	**3**	**4**	**3**	**0**	**5**	**10**	**2**	**2**	**2**	**0**	**4**	**6**	**289**
Approach %	9.5	88.6	2	0		-	1.4	86.1	12.5	0		-	30	40	30	0		-	33.3	33.3	33.3	0		-	
Totals %	6.6	61.6	1.4	0		69.6	0.3	21.5	3.1	0		24.9	1	1.4	1	0		3.5	0.7	0.7	0.7	0		2.1	
PHF	**0.59**	**0.99**	**0.33**	**0**		**0.9**	**0.25**	**0.67**	**0.75**	**0**		**0.72**	**0.75**	**0.5**	**0.38**	**0**		**0.5**	**0.5**	**0.5**	**0.5**	**0**		**0.5**	**0.88**
Cars	19	174	4	0		197	1	58	9	0		68	3	4	3	0		10	2	2	2	0		6	281
% Cars	100	97.8	100	0		98	100	93.5	100	0		94.4	100	100	100	0		100	100	100	100	0		100	97.2
Trucks	0	4	0	0		4	0	4	0	0		4	0	0	0	0		0	0	0	0	0		0	8
% Trucks	0	2.2	0	0		2	0	6.5	0	0		5.6	0	0	0	0		0	0	0	0	0		0	2.8
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					0	-					1	-					5	-					4	-	10
% Peds					0	-					10	-					50	-					40	-	

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period
From: 12:00:00
To: 14:00:00

One Hour Peak
From: 12:15:00
To: 13:15:00

Intersection: Victoria Ave N & Francis St
Site Code: 2525300002
Count Date: Aug 06, 2025

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Victoria Ave N runs N/S

North Approach

	Out	In	Total
Cars	175	135	310
Trucks	6	6	12
Bicycles	3	1	4
	184	**142**	**326**

Victoria Ave N

Bicycles	0	3	0	0
Trucks	0	6	0	0
Cars	1	165	9	0
Totals	**1**	**174**	**9**	**0**

East Approach

	Out	In	Total
Cars	21	25	46
Trucks	0	0	0
Bicycles	1	0	1
	22	**25**	**47**

Francis St

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	0	1	**1**	
0	0	3	**3**	
0	0	2	**2**	

Peds: 6
Peds: 13
Peds: 9
Peds: 1

Francis St

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	9	8	0	1
	8	8	0	0
	5	5	0	0

West Approach

	Out	In	Total
Cars	6	12	18
Trucks	0	0	0
Bicycles	0	0	0
	6	**12**	**18**

Victoria Ave N

Totals	**3**	**132**	**13**	**0**
Cars	3	126	13	0
Trucks	0	6	0	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	142	172	314
Trucks	6	6	12
Bicycles	0	3	3
	148	**181**	**329**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Victoria Ave N & Francis St
Site Code: 2525300002
Count Date: Aug 06, 2025
Period: 12:00 - 14:00

Peak Hour Data (12:15 - 13:15)

Start Time	North Approach Victoria Ave N						South Approach Victoria Ave N						East Approach Francis St						West Approach Francis St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
12:15	0	38	0	0	0	38	0	36	3	0	0	39	2	4	3	0	0	9	0	0	1	0	1	1	87
12:30	3	40	0	0	3	43	0	35	4	0	0	39	1	0	1	0	0	2	0	1	0	0	6	1	85
12:45	3	59	1	0	3	63	2	28	3	0	0	33	1	1	1	0	3	3	1	2	1	0	3	4	103
13:00	3	37	0	0	0	40	1	33	3	0	1	37	1	3	4	0	6	8	0	0	0	0	3	0	85
Grand Total	**9**	**174**	**1**	**0**	**6**	**184**	**3**	**132**	**13**	**0**	**1**	**148**	**5**	**8**	**9**	**0**	**9**	**22**	**1**	**3**	**2**	**0**	**13**	**6**	**360**
Approach %	4.9	94.6	0.5	0		-	2	89.2	8.8	0		-	22.7	36.4	40.9	0		-	16.7	50	33.3	0		-	
Totals %	2.5	48.3	0.3	0		51.1	0.8	36.7	3.6	0		41.1	1.4	2.2	2.5	0		6.1	0.3	0.8	0.6	0		1.7	
PHF	**0.75**	**0.74**	**0.25**	**0**		**0.73**	**0.38**	**0.92**	**0.81**	**0**		**0.95**	**0.63**	**0.5**	**0.56**	**0**		**0.61**	**0.25**	**0.38**	**0.5**	**0**		**0.38**	**0.87**
Cars	9	165	1	0		175	3	126	13	0		142	5	8	8	0		21	1	3	2	0		6	344
% Cars	100	94.8	100	0		95.1	100	95.5	100	0		95.9	100	100	88.9	0		95.5	100	100	100	0		100	95.6
Trucks	0	6	0	0		6	0	6	0	0		6	0	0	0	0		0	0	0	0	0		0	12
% Trucks	0	3.4	0	0		3.3	0	4.5	0	0		4.1	0	0	0	0		0	0	0	0	0		0	3.3
Bicycles	0	3	0	0		3	0	0	0	0		0	0	0	1	0		1	0	0	0	0		0	4
% Bicycles	0	1.7	0	0		1.6	0	0	0	0		0	0	0	11.1	0		4.5	0	0	0	0		0	1.1
Peds					6	-					1	-					9	-					13	-	29
% Peds					20.7	-					3.4	-					31	-					44.8	-	

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period		One Hour Peak	
From:	15:00:00	From:	16:15:00
To:	18:00:00	To:	17:15:00

Intersection: Victoria Ave N & Francis St
Site Code: 2525300002
Count Date: Aug 06, 2025

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Victoria Ave N runs N/S

North Approach

	Out	In	Total
Cars	109	200	309
Trucks	6	5	11
Bicycles	2	3	5
	117	**208**	**325**

Victoria Ave N

Bicycles	0	2	0	0
Trucks	0	6	0	0
Cars	1	103	5	0
Totals	**1**	**111**	**5**	**0**

East Approach

	Out	In	Total
Cars	26	12	38
Trucks	0	0	0
Bicycles	0	0	0
	26	**12**	**38**

Peds: 2

Francis St

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	0	1	**1**
0	0	4	**4**
0	0	2	**2**

Peds: 1

Peds: 5

Francis St

Totals	Cars	Trucks	Bicycles
0	0	0	0
18	18	0	0
4	4	0	0
4	4	0	0

Peds: 0

West Approach

	Out	In	Total
Cars	7	7	14
Trucks	0	0	0
Bicycles	0	0	0
	7	**7**	**14**

Victoria Ave N

Totals	**2**	**189**	**3**	**0**
Cars	2	181	3	0
Trucks	0	5	0	0
Bicycles	0	3	0	0

South Approach

	Out	In	Total
Cars	186	109	295
Trucks	5	6	11
Bicycles	3	2	5
	194	**117**	**311**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Victoria Ave N & Francis St
Site Code: 2525300002
Count Date: Aug 06, 2025
Period: 15:00 - 18:00

Peak Hour Data (16:15 - 17:15)

Start Time	North Approach Victoria Ave N						South Approach Victoria Ave N						East Approach Francis St						West Approach Francis St						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
16:15	2	39	0	0	0	41	1	41	0	0	0	42	1	1	1	0	0	3	1	2	0	0	0	3	89
16:30	3	29	0	0	2	32	1	44	2	0	0	47	1	0	11	0	1	12	0	1	1	0	1	2	93
16:45	0	19	0	0	0	19	0	45	0	0	0	45	0	1	3	0	3	4	0	1	0	0	0	1	69
17:00	0	24	1	0	0	25	0	59	1	0	0	60	2	2	3	0	1	7	0	0	1	0	0	1	93
Grand Total	**5**	**111**	**1**	**0**	**2**	**117**	**2**	**189**	**3**	**0**	**0**	**194**	**4**	**4**	**18**	**0**	**5**	**26**	**1**	**4**	**2**	**0**	**1**	**7**	**344**
Approach %	4.3	94.9	0.9	0		-	1	97.4	1.5	0		-	15.4	15.4	69.2	0		-	14.3	57.1	28.6	0		-	
Totals %	1.5	32.3	0.3	0		34	0.6	54.9	0.9	0		56.4	1.2	1.2	5.2	0		7.6	0.3	1.2	0.6	0		2	
PHF	**0.42**	**0.71**	**0.25**	**0**		**0.71**	**0.5**	**0.8**	**0.38**	**0**		**0.81**	**0.5**	**0.5**	**0.41**	**0**		**0.54**	**0.25**	**0.5**	**0.5**	**0**		**0.58**	**0.92**
Cars	5	103	1	0		109	2	181	3	0		186	4	4	18	0		26	1	4	2	0		7	328
% Cars	100	92.8	100	0		93.2	100	95.8	100	0		95.9	100	100	100	0		100	100	100	100	0		100	95.3
Trucks	0	6	0	0		6	0	5	0	0		5	0	0	0	0		0	0	0	0	0		0	11
% Trucks	0	5.4	0	0		5.1	0	2.6	0	0		2.6	0	0	0	0		0	0	0	0	0		0	3.2
Bicycles	0	2	0	0		2	0	3	0	0		3	0	0	0	0		0	0	0	0	0		0	5
% Bicycles	0	1.8	0	0		1.7	0	1.6	0	0		1.5	0	0	0	0		0	0	0	0	0		0	1.5
Peds					2	-					0	-					5	-					1	-	8
% Peds					25	-					0	-					62.5	-					12.5	-	

Turning Movement Count Report

Report Generated Using Turning Movement Count for Android by PortableStudies.com

Study Information

Study Summary

Count Name
Colbourne St and Victoria Ave
Location
Colbourne st and Victoria ave, Not Available
Performed By
Unknown
Date
Thursday, August 1, 2024

Notes

U = U Turn L = Left Turn T = Thru R = Right Turn
P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2
Veh = Total Vehicles for Approach

Peak Hour Volume	
833	
% Bank 1	**% Bank 2**
100.0%	0.0%
% Bank 3	**% Bank 4**
0.0%	0.0%
Pedestrians Volume	
10	

Peak Hour Data

Time Period	West Approach Colborne St							East Approach Colborne St							South Approach Victoria Ave							North Approach Victoria Ave							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
12:10 PM	0	9	54	14	0	0	77	0	3	55	2	0	1	60	0	14	22	4	0	0	40	0	3	32	8	0	0	43	220	1
12:25 PM	0	7	51	8	0	0	66	0	1	54	6	0	0	61	0	8	11	2	0	0	21	0	2	19	7	0	1	28	176	1
12:40 PM	0	9	41	12	0	2	62	0	2	70	2	0	0	74	0	9	21	0	0	1	30	0	4	32	6	0	1	42	208	4
12:55 PM	0	11	50	18	1	0	79	1	0	59	5	1	0	65	0	5	32	1	1	1	38	0	1	34	12	0	0	47	229	4

Vehicle Movement Summary

Movement / Details	West Approach Colborne St							East Approach Colborne St							South Approach Victoria Ave							North Approach Victoria Ave							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	36	196	52	1	2	284	1	6	238	15	1	1	260	0	36	86	7	1	2	129	0	10	117	33	0	2	160	833	10
PHF	-	0.82	0.91	0.72	0.25	0.25	0.90	0.25	0.50	0.85	0.63	0.25	0.25	0.88	-	0.64	0.67	0.44	0.25	0.50	0.81	-	0.63	0.86	0.69	-	0.50	0.85	0.91	0.63
% Bank 1	0.0%	100.0%	100.0%	100.0%				100.0%	100.0%	100.0%	100.0%				0.0%	100.0%	100.0%	100.0%				0.0%	100.0%	100.0%	100.0%					
% Bank 2	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%					
% Bank 3	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%					
% Bank 4	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%					

Need a custom report?

Contact:
support@portablestudies.com

Combined																										
Time Period	West Approach Colborne St						East Approach Colborne St						South Approach Victoria Ave						North Approach Victoria Ave						Total	
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	Vehicles	Peds
7:55 AM	0	6	17	5	1	0	0	0	38	1	0	2	0	6	6	0	0	0	0	1	13	5	0	0	98	3
8:10 AM	0	5	31	12	0	1	0	0	52	2	0	0	0	5	11	1	1	0	0	0	24	8	0	0	151	2
8:25 AM	0	3	43	19	1	0	0	0	50	2	1	1	0	7	14	0	1	0	0	3	22	10	0	0	173	4
8:40 AM	0	4	45	19	0	0	0	0	50	1	2	2	0	7	12	0	0	0	0	2	35	12	0	0	187	4
8:55 AM	0	5	42	8	0	1	0	1	34	0	0	0	0	4	21	1	0	0	0	1	38	4	0	0	159	1
9:10 AM	0	5	49	7	1	1	0	0	51	4	0	0	0	8	11	0	0	0	0	1	20	6	0	0	162	2
9:25 AM	0	7	43	17	0	0	0	0	52	3	2	1	1	7	17	0	0	0	0	1	23	3	0	0	174	3
9:40 AM	0	2	41	18	0	1	0	1	35	3	0	1	1	9	11	0	0	0	0	3	24	14	0	0	162	2
9:55 AM	0	7	42	11	0	0	0	3	42	2	0	0	0	13	14	1	0	1	0	5	20	9	0	0	169	1
10:10 AM	0	7	38	17	0	0	0	2	44	4	1	1	0	10	12	2	0	0	0	3	17	10	0	1	166	3
10:25 AM	0	10	49	11	0	0	0	0	65	5	0	1	0	12	11	1	0	0	0	3	14	2	0	0	183	1
10:40 AM	0	9	37	19	0	0	0	2	49	1	0	1	0	12	15	4	0	0	0	4	18	12	0	0	182	1
10:55 AM	0	12	51	17	0	0	0	0	51	0	2	1	0	9	17	1	0	0	0	2	23	12	0	0	195	3
11:10 AM	0	11	47	15	0	0	0	0	54	4	0	0	0	17	22	0	0	0	0	2	22	6	1	0	200	1
11:25 AM	0	16	45	12	0	0	0	1	40	3	0	1	0	9	22	2	0	0	0	7	16	4	0	0	177	1
11:40 AM	0	6	42	14	2	0	0	0	40	1	0	0	0	10	20	0	0	0	0	7	21	7	0	0	168	2
11:55 AM	0	11	57	8	2	0	0	2	58	3	0	0	1	12	17	1	0	0	0	1	27	11	0	0	209	2
12:10 PM	0	9	54	14	0	0	0	3	55	2	0	1	0	14	22	4	0	0	0	3	32	8	0	0	220	1
12:25 PM	0	7	51	8	0	0	0	1	54	6	0	0	0	8	11	2	0	0	0	2	19	7	0	1	176	1
12:40 PM	0	9	41	12	0	2	0	2	70	2	0	0	0	9	21	0	0	1	0	4	32	6	0	1	208	4
12:55 PM	0	11	50	18	1	0	1	0	59	5	1	0	0	5	32	1	1	1	0	1	34	12	0	0	229	4
1:10 PM	0	12	54	14	1	0	0	1	44	0	0	1	0	8	22	0	0	0	0	2	26	6	0	0	189	2
1:25 PM	0	7	36	12	0	0	0	1	46	4	2	0	0	17	16	1	0	1	0	6	30	14	0	0	190	3
1:40 PM	0	8	44	23	0	0	0	0	49	1	1	0	0	12	25	3	0	0	0	5	22	11	0	0	203	1
1:55 PM	0	10	52	17	0	0	0	1	50	2	0	1	0	12	23	1	0	0	0	1	19	14	0	0	202	1
2:10 PM	0	10	49	15	0	0	0	0	45	3	0	0	0	10	15	2	0	0	0	5	22	8	0	0	184	0
2:25 PM	0	13	53	12	0	0	0	0	45	3	0	0	0	10	21	0	0	0	0	1	20	8	0	0	186	0
2:40 PM	0	12	49	8	1	1	0	0	49	5	1	0	0	13	26	1	0	0	0	2	20	6	0	0	191	3
2:55 PM	0	6	48	15	0	0	0	1	75	2	0	0	1	14	22	1	0	0	1	4	20	14	0	0	224	0
3:10 PM	0	15	54	9	0	0	0	3	61	6	1	0	0	18	23	1	0	0	0	5	18	3	1	1	216	3
3:25 PM	0	5	52	12	0	1	0	0	53	4	0	1	0	10	14	0	0	1	0	3	18	5	0	1	176	4
3:40 PM	0	2	13	3	0	0	0	0	26	1	0	1	0	6	8	0	0	1	0	3	6	2	0	0	70	2

Turning Movement Count Report

Report Generated Using Turning Movement Count for Android by PortableStudies.com

Study Information

Study Summary

Count Name
Colborne-Cambridge 8 hour TMC
Location
Colborne St W and Cambridge St N
Performed By
Unknown
Date
Wednesday, August 6, 2025

Notes

U = U Turn L = Left Turn T = Thru R = Right Turn
P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2
Veh = Total Vehicles for Approach

Peak Hour Volume	
473	
% Bank 1	**% Bank 2**
100.0%	0.0%
% Bank 3	**% Bank 4**
0.0%	0.0%
Pedestrians Volume	
1	

Peak Hour Data

Time Period	Eastbound							Westbound							Northbound							Southbound							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
12:00 PM	0	0	50	6	0	0	56	0	1	51	0	0	0	52	0	5	0	2	0	0	7	0	0	0	0	0	0	0	115	0
12:15 PM	0	0	56	12	0	0	68	0	0	46	0	0	0	46	0	3	0	1	0	0	4	0	0	0	0	0	0	0	118	0
12:30 PM	0	0	54	7	0	1	61	0	1	43	0	0	0	44	0	5	0	4	0	0	9	0	0	0	0	0	0	0	114	1
12:45 PM	0	0	50	7	0	0	57	0	2	57	0	0	0	59	0	6	0	4	0	0	10	0	0	0	0	0	0	0	126	0

Vehicle Movement Summary

Movement / Details	Eastbound							Westbound							Northbound							Southbound							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	0	210	32	0	1	242	0	4	197	0	0	0	201	0	19	0	11	0	0	30	0	0	0	0	0	0	0	473	1
PHF	-	-	0.94	0.67	-	0.25	0.89	-	0.50	0.86	-	-	-	0.85	-	0.79	-	0.69	-	-	0.75	-	-	-	-	-	-	-	0.94	0.25
% Bank 1	0.0%	0.0%	100.0%	100.0%				0.0%	100.0%	100.0%	0.0%				0.0%	100.0%	0.0%	100.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 2	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%				**Need a custom report?**	
% Bank 3	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%				**Contact: support@portablestudies.com**	
% Bank 4	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%					

Combined																										
Time Period	Eastbound						Westbound						Northbound						Southbound						Total	
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	Vehicles	Peds
8:30 AM	0	0	31	4	0	0	0	2	58	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	99	0
8:45 AM	0	0	35	4	0	0	0	2	47	0	0	0	0	3	0	1	0	0	0	0	0	0	0	0	92	0
9:00 AM	0	0	23	2	0	0	0	1	45	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	74	0
9:15 AM	0	0	32	8	0	0	0	1	51	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	99	0
9:30 AM	0	0	41	4	0	0	0	0	43	0	0	0	0	3	0	2	0	0	0	0	0	0	0	0	93	0
9:45 AM	0	0	45	7	0	0	0	1	45	0	0	0	0	7	0	2	0	0	0	0	0	0	0	0	107	0
10:00 AM	0	0	43	5	0	0	0	2	45	0	0	0	0	3	0	1	0	0	0	0	0	0	0	0	99	0
10:15 AM	0	0	26	4	0	0	0	1	47	0	0	0	0	4	0	1	0	0	0	0	0	0	0	0	83	0
10:30 AM	0	0	48	13	0	0	0	1	43	0	0	0	0	6	0	2	0	1	0	0	0	0	0	0	113	1
10:45 AM	0	0	52	7	0	0	0	1	55	0	0	0	0	10	0	2	1	0	0	0	0	0	0	0	127	1
11:00 AM	0	0	50	4	0	0	0	2	38	0	0	0	0	7	0	1	1	0	0	0	0	0	0	0	102	1
11:15 AM	0	0	43	2	0	0	0	1	38	0	0	0	0	4	0	1	1	0	0	0	0	0	0	0	89	1
11:30 AM	0	0	42	7	0	0	0	1	51	0	0	0	0	6	0	0	0	1	0	0	0	0	0	0	107	1
11:45 AM	0	0	56	3	0	0	0	0	48	0	0	0	0	9	0	1	0	0	0	0	0	0	0	0	117	0
12:00 PM	0	0	50	6	0	0	0	1	51	0	0	0	0	5	0	2	0	0	0	0	0	0	0	0	115	0
12:15 PM	0	0	56	12	0	0	0	0	46	0	0	0	0	3	0	1	0	0	0	0	0	0	0	0	118	0
12:30 PM	0	0	54	7	0	1	0	1	43	0	0	0	0	5	0	4	0	0	0	0	0	0	0	0	114	1
12:45 PM	0	0	50	7	0	0	0	2	57	0	0	0	0	6	0	4	0	0	0	0	0	0	0	0	126	0
1:00 PM	0	0	58	5	0	0	0	2	41	0	0	0	0	8	0	1	0	1	0	0	0	0	0	0	115	1
1:15 PM	0	0	38	9	0	0	0	0	50	0	0	0	0	7	0	1	0	0	0	0	0	0	0	0	105	0
1:30 PM	0	0	53	5	0	0	0	0	52	0	0	0	0	5	0	2	0	0	0	0	0	0	0	0	117	0
1:45 PM	0	0	40	4	0	0	0	1	63	0	0	0	0	13	0	1	0	0	0	0	0	0	0	1	122	1
2:00 PM	0	0	54	6	0	0	0	2	44	0	0	0	0	2	0	3	0	0	0	0	0	0	0	0	111	0
2:15 PM	0	0	37	4	0	0	0	1	36	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	82	0
2:30 PM	0	0	31	7	0	0	0	0	56	0	0	0	0	8	0	3	0	0	0	0	0	0	0	0	105	0
2:45 PM	0	0	46	6	0	0	0	0	35	0	0	0	0	7	0	2	0	1	0	0	0	0	0	0	96	1
3:00 PM	0	0	42	8	0	0	0	0	44	0	0	0	0	10	0	1	0	0	0	0	0	0	0	0	105	0
3:15 PM	0	0	41	2	0	0	0	1	40	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	90	0
3:30 PM	0	0	42	10	0	1	0	0	53	0	0	0	0	5	0	2	0	0	0	0	0	0	0	0	112	1
3:45 PM	0	0	52	4	0	0	0	0	49	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	115	0
4:00 PM	0	0	44	5	0	0	0	0	67	0	0	0	0	7	0	1	0	0	0	0	0	0	0	0	124	0
4:15 PM	0	0	45	6	0	0	0	0	42	0	0	0	0	5	0	1	1	0	0	0	0	0	0	0	99	1

B

Appendix B
Existing Synchro and SimTraffic Outputs

Intersection: 1: Victoria Ave & Colborne St

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	14.4	41.8	8.8	35.0	18.0	24.8	10.3	42.8
Average Queue (m)	3.0	17.7	0.4	14.2	5.8	9.3	1.5	18.1
95th Queue (m)	10.6	33.0	3.2	28.2	15.2	20.6	6.9	33.0
Link Distance (m)		66.0		106.7	72.0	72.0	133.0	133.0
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)	20.0		20.0					
Storage Blk Time (%)	0	5		3				
Queuing Penalty (veh)	0	1		0				

Intersection: 2: Cambridge St & Colborne St

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (m)	1.9	5.4	9.3
Average Queue (m)	0.1	0.3	5.3
95th Queue (m)	1.3	2.9	12.6
Link Distance (m)	106.7	99.9	2.1
Upstream Blk Time (%)			2
Queuing Penalty (veh)			0
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Victoria Ave & Francis St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	8.8	8.4	1.8	7.0
Average Queue (m)	1.6	2.4	0.1	0.3
95th Queue (m)	7.2	8.6	1.3	2.9
Link Distance (m)	53.5	47.8	26.5	72.0
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Cambridge St & Francis St

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (m)	16.5	10.7	1.8
Average Queue (m)	1.3	3.8	0.1
95th Queue (m)	7.9	11.3	1.3
Link Distance (m)	43.8	113.5	121.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Francis St & City Hall Entrance

Movement	EB
Directions Served	LT
Maximum Queue (m)	5.4
Average Queue (m)	0.2
95th Queue (m)	2.3
Link Distance (m)	47.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Cambridge St & City Hall Exit

Movement	EB	NB
Directions Served	R	T
Maximum Queue (m)	11.7	5.4
Average Queue (m)	4.3	0.3
95th Queue (m)	11.8	3.0
Link Distance (m)	37.1	55.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 2

Intersection: 1: Victoria Ave & Colborne St

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	17.6	43.5	8.9	36.1	29.5	37.2	21.6	32.8
Average Queue (m)	5.6	16.7	0.8	16.1	12.9	16.6	5.3	12.0
95th Queue (m)	14.1	32.6	5.0	30.0	24.9	30.5	14.8	24.8
Link Distance (m)		66.0		106.7	72.0	72.0	133.0	133.0
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)	20.0		20.0					
Storage Blk Time (%)	0	4		3				
Queuing Penalty (veh)	0	1		0				

Intersection: 2: Cambridge St & Colborne St

Movement	EB	NB
Directions Served	TR	LR
Maximum Queue (m)	1.8	13.1
Average Queue (m)	0.1	8.1
95th Queue (m)	1.2	13.9
Link Distance (m)	106.7	2.1
Upstream Blk Time (%)		5
Queuing Penalty (veh)		2
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Victoria Ave & Francis St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	8.8	9.7	1.7	3.6
Average Queue (m)	1.2	5.3	0.1	0.1
95th Queue (m)	6.2	11.8	1.2	1.8
Link Distance (m)	53.5	47.8	26.5	72.0
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Cambridge St & Francis St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	9.2	12.0	1.8	3.7
Average Queue (m)	2.0	4.4	0.1	0.1
95th Queue (m)	8.0	12.1	1.3	1.9
Link Distance (m)	43.8	113.5	121.2	55.6
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: Francis St & City Hall Entrance

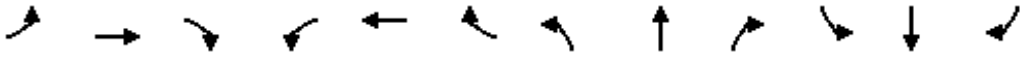
Movement	EB
Directions Served	LT
Maximum Queue (m)	1.8
Average Queue (m)	0.1
95th Queue (m)	1.3
Link Distance (m)	47.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Cambridge St & City Hall Exit

Movement	EB	NB	SB
Directions Served	R	T	T
Maximum Queue (m)	17.2	12.0	1.7
Average Queue (m)	6.4	1.2	0.1
95th Queue (m)	14.4	6.6	1.2
Link Distance (m)	37.1	55.6	2.1
Upstream Blk Time (%)			0
Queuing Penalty (veh)			0
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 4



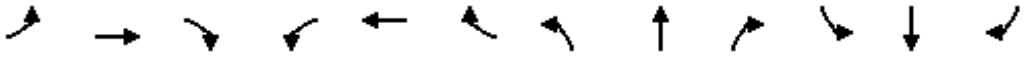
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	185	61	2	194	9	27	64	2	6	138	26
Future Volume (vph)	22	185	61	2	194	9	27	64	2	6	138	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.99		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1776		1752	1832		1752	1837		1752	1800	
Flt Permitted	0.62	1.00		0.59	1.00		0.64	1.00		0.71	1.00	
Satd. Flow (perm)	1142	1776		1094	1832		1187	1837		1310	1800	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	24	203	67	2	213	10	30	70	2	7	152	29
RTOR Reduction (vph)	0	13	0	0	2	0	0	2	0	0	13	0
Lane Group Flow (vph)	24	257	0	2	221	0	30	70	0	7	168	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	33.0	33.0		33.0	33.0		10.1	10.1		10.1	10.1	
Effective Green, g (s)	33.0	33.0		33.0	33.0		10.1	10.1		10.1	10.1	
Actuated g/C Ratio	0.60	0.60		0.60	0.60		0.18	0.18		0.18	0.18	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	683	1063		655	1097		217	336		240	329	
v/s Ratio Prot		c0.14			0.12			0.04			c0.09	
v/s Ratio Perm	0.02			0.00			0.03			0.01		
v/c Ratio	0.04	0.24		0.00	0.20		0.14	0.21		0.03	0.51	
Uniform Delay, d1	4.5	5.2		4.4	5.0		18.9	19.1		18.5	20.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.2		0.0	0.1		0.4	0.4		0.1	1.8	
Delay (s)	4.6	5.3		4.4	5.2		19.3	19.5		18.5	22.0	
Level of Service	A	A		A	A		B	B		B	C	
Approach Delay (s)		5.3			5.2			19.5			21.9	
Approach LOS		A			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	55.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	166	27	3	185	20	4
Future Volume (Veh/h)	166	27	3	185	20	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	191	31	3	213	23	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	127					
pX, platoon unblocked						
vC, conflicting volume			222		426	206
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			222		426	206
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		96	99
cM capacity (veh/h)			1341		582	831

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	222	216	28
Volume Left	0	3	23
Volume Right	31	0	5
cSH	1700	1341	615
Volume to Capacity	0.13	0.00	0.05
Queue Length 95th (m)	0.0	0.1	1.1
Control Delay (s)	0.0	0.1	11.1
Lane LOS		A	B
Approach Delay (s)	0.0	0.1	11.1
Approach LOS			B

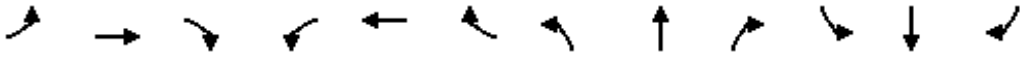
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	22.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	2	2	3	4	3	1	88	9	19	178	4
Future Volume (Veh/h)	2	2	2	3	4	3	1	88	9	19	178	4
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)	2	2	2	3	5	3	1	100	10	22	202	5
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)											91	
pX, platoon unblocked	0.94	0.94	0.94	0.94	0.94		0.94					
vC, conflicting volume	361	360	204	358	358	105	207			110		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	289	289	123	287	286	105	126			110		
tC, single (s)	7.1	6.6	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.1	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	99	100	100			99		
cM capacity (veh/h)	614	569	878	619	577	955	1386			1493		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	6	11	111	229
Volume Left	2	3	1	22
Volume Right	2	3	10	5
cSH	663	661	1386	1493
Volume to Capacity	0.01	0.02	0.00	0.01
Queue Length 95th (m)	0.2	0.4	0.0	0.4
Control Delay (s)	10.5	10.5	0.1	0.8
Lane LOS	B	B	A	A
Approach Delay (s)	10.5	10.5	0.1	0.8
Approach LOS	B	B		

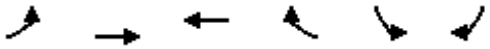
Intersection Summary				
Average Delay	1.1			
Intersection Capacity Utilization	27.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2	2	2	11	1	4	23	2	0	41	7
Future Volume (Veh/h)	0	2	2	2	11	1	4	23	2	0	41	7
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	0	3	3	3	14	1	5	30	3	0	53	9
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	107	100	58	104	104	32	62			33		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	107	100	58	104	104	32	62			33		
tC, single (s)	7.1	6.5	6.7	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.8	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	98	100	100			100		
cM capacity (veh/h)	862	791	889	874	782	1048	1554			1592		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	6	18	38	62
Volume Left	0	3	5	0
Volume Right	3	1	3	9
cSH	837	808	1554	1592
Volume to Capacity	0.01	0.02	0.00	0.00
Queue Length 95th (m)	0.2	0.5	0.1	0.0
Control Delay (s)	9.3	9.6	1.0	0.0
Lane LOS	A	A	A	
Approach Delay (s)	9.3	9.6	1.0	0.0
Approach LOS	A	A		

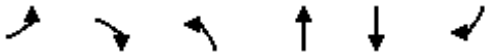
Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	14.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	26	4	10	12	0	0
Future Volume (Veh/h)	26	4	10	12	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	28	4	11	13	0	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	24				78	18
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	24				78	18
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	100
cM capacity (veh/h)	1604				914	1067

Direction, Lane #	EB 1	WB 1
Volume Total	32	24
Volume Left	28	0
Volume Right	0	13
cSH	1604	1700
Volume to Capacity	0.02	0.01
Queue Length 95th (m)	0.4	0.0
Control Delay (s)	6.4	0.0
Lane LOS	A	
Approach Delay (s)	6.4	0.0
Approach LOS		

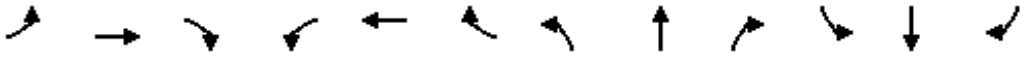
Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	11.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	18	0	24	30	0
Future Volume (Veh/h)	0	18	0	24	30	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	20	0	26	33	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	59	33	33			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	59	33	33			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	100			
cM capacity (veh/h)	953	1046	1592			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	20	26	33
Volume Left	0	0	0
Volume Right	20	0	0
cSH	1046	1700	1700
Volume to Capacity	0.02	0.02	0.02
Queue Length 95th (m)	0.5	0.0	0.0
Control Delay (s)	8.5	0.0	0.0
Lane LOS	A		
Approach Delay (s)	8.5	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		



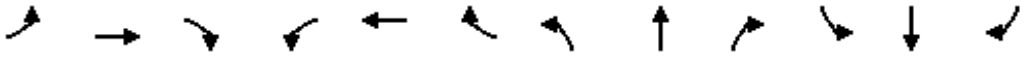
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	184	45	5	238	15	85	118	5	19	73	25
Future Volume (vph)	29	184	45	5	238	15	85	118	5	19	73	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	1773		1736	1811		1736	1817		1736	1758	
Flt Permitted	0.56	1.00		0.58	1.00		0.68	1.00		0.66	1.00	
Satd. Flow (perm)	1028	1773		1057	1811		1234	1817		1199	1758	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	38	239	58	6	309	19	110	153	6	25	95	32
RTOR Reduction (vph)	0	10	0	0	2	0	0	2	0	0	23	0
Lane Group Flow (vph)	38	287	0	6	326	0	110	157	0	25	104	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	31.3	31.3		31.3	31.3		9.8	9.8		9.8	9.8	
Effective Green, g (s)	31.3	31.3		31.3	31.3		9.8	9.8		9.8	9.8	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.18	0.18		0.18	0.18	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	605	1045		623	1067		227	335		221	324	
v/s Ratio Prot		0.16			c0.18			0.09			0.06	
v/s Ratio Perm	0.04			0.01			c0.09			0.02		
v/c Ratio	0.06	0.27		0.01	0.31		0.48	0.47		0.11	0.32	
Uniform Delay, d1	4.6	5.3		4.5	5.5		19.4	19.3		18.0	18.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.2		0.0	0.2		2.2	1.4		0.3	0.8	
Delay (s)	4.7	5.5		4.5	5.7		21.6	20.7		18.3	19.6	
Level of Service	A	A		A	A		C	C		B	B	
Approach Delay (s)		5.4			5.7			21.1			19.4	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	53.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	50.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	183	25	0	211	47	7
Future Volume (Veh/h)	183	25	0	211	47	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	201	27	0	232	52	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)	127					
pX, platoon unblocked						
vC, conflicting volume			228		446	214
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			228		446	214
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		91	99
cM capacity (veh/h)			1328		568	823

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	228	232	60
Volume Left	0	0	52
Volume Right	27	0	8
cSH	1700	1328	592
Volume to Capacity	0.13	0.00	0.10
Queue Length 95th (m)	0.0	0.0	2.7
Control Delay (s)	0.0	0.0	11.8
Lane LOS			B
Approach Delay (s)	0.0	0.0	11.8
Approach LOS			B

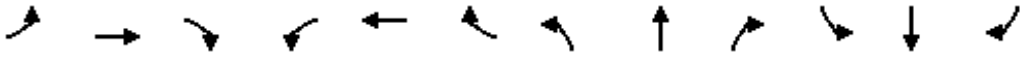
Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	21.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	4	2	4	4	18	2	189	3	5	117	1
Future Volume (Veh/h)	1	4	2	4	4	18	2	189	3	5	117	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	4	2	4	4	20	2	205	3	5	127	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)											91	
pX, platoon unblocked												
vC, conflicting volume	370	350	128	352	348	206	128			208		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	370	350	128	352	348	206	128			208		
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	99	100	99	99	98	100			100		
cM capacity (veh/h)	571	570	928	600	572	834	1458			1363		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	7	28	210	133
Volume Left	1	4	2	5
Volume Right	2	20	3	1
cSH	641	744	1458	1363
Volume to Capacity	0.01	0.04	0.00	0.00
Queue Length 95th (m)	0.3	0.9	0.0	0.1
Control Delay (s)	10.7	10.0	0.1	0.3
Lane LOS	B	B	A	A
Approach Delay (s)	10.7	10.0	0.1	0.3
Approach LOS	B	B		

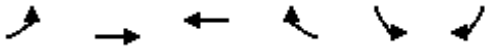
Intersection Summary				
Average Delay	1.1			
Intersection Capacity Utilization	20.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	8	2	4	9	4	1	50	2	3	38	16
Future Volume (Veh/h)	0	8	2	4	9	4	1	50	2	3	38	16
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	9	2	4	10	4	1	54	2	3	41	17
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	122	114	50	119	121	55	58			56		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	122	114	50	119	121	55	58			56		
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	99	100	100	99	100	100			100		
cM capacity (veh/h)	840	775	1019	846	767	1012	1546			1549		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	11	18	57	61
Volume Left	0	4	1	3
Volume Right	2	4	2	17
cSH	810	829	1546	1549
Volume to Capacity	0.01	0.02	0.00	0.00
Queue Length 95th (m)	0.3	0.5	0.0	0.0
Control Delay (s)	9.5	9.4	0.1	0.4
Lane LOS	A	A	A	A
Approach Delay (s)	9.5	9.4	0.1	0.4
Approach LOS	A	A		

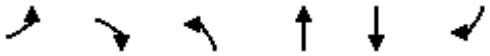
Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	15.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	10	26	0	0	0
Future Volume (Veh/h)	2	10	26	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	11	28	0	0	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	28				43	28
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	28				43	28
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1585				967	1047

Direction, Lane #	EB 1	WB 1
Volume Total	13	28
Volume Left	2	0
Volume Right	0	0
cSH	1585	1700
Volume to Capacity	0.00	0.02
Queue Length 95th (m)	0.0	0.0
Control Delay (s)	1.1	0.0
Lane LOS	A	
Approach Delay (s)	1.1	0.0
Approach LOS		

Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	6.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	32	0	54	25	0
Future Volume (Veh/h)	0	32	0	54	25	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	35	0	59	27	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	86	27	27			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	86	27	27			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	100			
cM capacity (veh/h)	915	1048	1587			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	35	59	27
Volume Left	0	0	0
Volume Right	35	0	0
cSH	1048	1700	1700
Volume to Capacity	0.03	0.03	0.02
Queue Length 95th (m)	0.8	0.0	0.0
Control Delay (s)	8.6	0.0	0.0
Lane LOS	A		
Approach Delay (s)	8.6	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

C

Appendix C
Alternative 1 Synchro and SimTraffic Outputs

Intersection: 1: Victoria Ave & Colborne St

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	17.2	50.9	14.0	31.0	25.7	32.8	15.2	39.5
Average Queue (m)	3.1	18.0	3.9	14.5	10.9	13.2	4.3	17.7
95th Queue (m)	11.8	35.3	11.8	27.9	21.7	26.5	12.4	32.2
Link Distance (m)		66.0		106.7	72.0	72.0	133.0	133.0
Upstream Blk Time (%)		0						
Queuing Penalty (veh)		0						
Storage Bay Dist (m)	20.0		20.0					
Storage Blk Time (%)	0	4	0	3				
Queuing Penalty (veh)	1	1	0	1				

Intersection: 2: Cambridge St & Colborne St

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (m)	1.2	17.2	15.2
Average Queue (m)	0.0	1.8	7.1
95th Queue (m)	0.8	9.6	14.3
Link Distance (m)	106.7	99.9	-1.4
Upstream Blk Time (%)			1
Queuing Penalty (veh)			0
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Victoria Ave & Francis St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	8.8	14.9	1.8	8.4
Average Queue (m)	0.5	8.4	0.1	0.3
95th Queue (m)	3.9	13.1	1.3	3.1
Link Distance (m)	53.5	45.7	26.5	72.0
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Cambridge St & Francis St

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (m)	19.1	9.2	1.8
Average Queue (m)	7.8	2.5	0.1
95th Queue (m)	16.2	9.1	1.3
Link Distance (m)	45.7	113.5	121.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Francis St & City Hall Entrance

Movement	SB
Directions Served	LR
Maximum Queue (m)	12.1
Average Queue (m)	7.0
95th Queue (m)	13.1
Link Distance (m)	48.9
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Cambridge St & City Hall Exit

Movement	NB	SB
Directions Served	LT	TR
Maximum Queue (m)	8.4	5.6
Average Queue (m)	0.8	0.2
95th Queue (m)	5.1	4.0
Link Distance (m)	59.1	-1.4
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 3

Intersection: 1: Victoria Ave & Colborne St

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	13.8	52.6	16.8	42.9	36.0	39.2	23.0	34.5
Average Queue (m)	4.2	19.7	3.4	18.7	17.5	17.7	8.3	12.6
95th Queue (m)	12.2	38.2	11.6	34.4	30.2	33.2	18.9	26.0
Link Distance (m)		66.0		106.7	72.0	72.0	133.0	133.0
Upstream Blk Time (%)		0						
Queuing Penalty (veh)		0						
Storage Bay Dist (m)	20.0		20.0					
Storage Blk Time (%)	0	4	0	5				
Queuing Penalty (veh)	0	1	0	1				

Intersection: 2: Cambridge St & Colborne St

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (m)	22.0	19.8
Average Queue (m)	2.3	9.4
95th Queue (m)	11.4	16.0
Link Distance (m)	99.9	-1.4
Upstream Blk Time (%)		3
Queuing Penalty (veh)		2
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Victoria Ave & Francis St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	8.8	13.9	3.5	11.7
Average Queue (m)	1.8	8.5	0.1	0.8
95th Queue (m)	7.6	12.8	1.8	5.8
Link Distance (m)	53.5	45.7	26.5	72.0
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Cambridge St & Francis St

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (m)	16.0	9.3
Average Queue (m)	7.8	3.9
95th Queue (m)	14.5	11.2
Link Distance (m)	45.7	113.5
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Francis St & City Hall Entrance

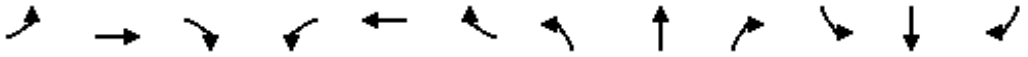
Movement	SB
Directions Served	LR
Maximum Queue (m)	17.2
Average Queue (m)	6.5
95th Queue (m)	14.8
Link Distance (m)	48.9
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Cambridge St & City Hall Exit

Movement	NB	SB
Directions Served	LT	TR
Maximum Queue (m)	13.5	1.3
Average Queue (m)	2.3	0.1
95th Queue (m)	9.8	1.3
Link Distance (m)	59.1	-1.4
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 5



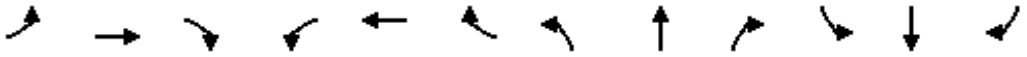
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	211	56	22	194	9	57	78	16	21	127	26
Future Volume (vph)	22	211	56	22	194	9	57	78	16	21	127	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1786		1752	1832		1752	1797		1752	1797	
Flt Permitted	0.62	1.00		0.58	1.00		0.65	1.00		0.69	1.00	
Satd. Flow (perm)	1142	1786		1070	1832		1200	1797		1272	1797	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	24	232	62	24	213	10	63	86	18	23	140	29
RTOR Reduction (vph)	0	10	0	0	2	0	0	15	0	0	14	0
Lane Group Flow (vph)	24	284	0	24	221	0	63	89	0	23	155	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	32.9	32.9		32.9	32.9		9.9	9.9		9.9	9.9	
Effective Green, g (s)	32.9	32.9		32.9	32.9		9.9	9.9		9.9	9.9	
Actuated g/C Ratio	0.60	0.60		0.60	0.60		0.18	0.18		0.18	0.18	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	685	1072		642	1099		216	324		229	324	
v/s Ratio Prot		c0.16			0.12			0.05			c0.09	
v/s Ratio Perm	0.02			0.02			0.05			0.02		
v/c Ratio	0.04	0.26		0.04	0.20		0.29	0.28		0.10	0.48	
Uniform Delay, d1	4.5	5.2		4.5	5.0		19.4	19.4		18.7	20.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.2		0.0	0.1		1.0	0.6		0.3	1.5	
Delay (s)	4.5	5.4		4.5	5.1		20.4	20.0		19.0	21.7	
Level of Service	A	A		A	A		C	B		B	C	
Approach Delay (s)		5.3			5.0			20.2			21.3	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	54.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	176	72	19	199	26	24
Future Volume (Veh/h)	176	72	19	199	26	24
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	202	83	22	229	30	28
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	127					
pX, platoon unblocked			0.99		0.99	0.99
vC, conflicting volume			285		516	244
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			269		504	227
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		94	96
cM capacity (veh/h)			1272		510	799

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	285	251	58
Volume Left	0	22	30
Volume Right	83	0	28
cSH	1700	1272	618
Volume to Capacity	0.17	0.02	0.09
Queue Length 95th (m)	0.0	0.4	2.5
Control Delay (s)	0.0	0.8	11.4
Lane LOS		A	B
Approach Delay (s)	0.0	0.8	11.4
Approach LOS			B

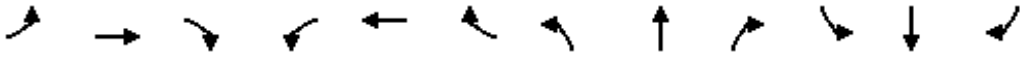
Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	36.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	0	2	17	3	58	1	91	18	18	183	4
Future Volume (Veh/h)	2	0	2	17	3	58	1	91	18	18	183	4
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)	2	0	2	19	3	66	1	103	20	20	208	5
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)											91	
pX, platoon unblocked	0.95	0.95	0.95	0.95	0.95		0.95					
vC, conflicting volume	433	376	210	368	368	113	213			123		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	377	317	143	309	309	113	146			123		
tC, single (s)	7.1	6.6	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.1	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	97	99	93	100			99		
cM capacity (veh/h)	508	555	864	608	567	945	1377			1477		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	4	88	124	233
Volume Left	2	19	1	20
Volume Right	2	66	20	5
cSH	640	827	1377	1477
Volume to Capacity	0.01	0.11	0.00	0.01
Queue Length 95th (m)	0.2	2.8	0.0	0.3
Control Delay (s)	10.7	9.9	0.1	0.7
Lane LOS	B	A	A	A
Approach Delay (s)	10.7	9.9	0.1	0.7
Approach LOS	B	A		

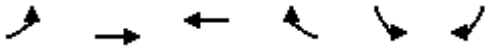
Intersection Summary				
Average Delay	2.4			
Intersection Capacity Utilization	29.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	2	6	2	5	1	3	27	2	0	27	34
Future Volume (Veh/h)	37	2	6	2	5	1	3	27	2	0	27	34
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	48	3	8	3	6	1	4	35	3	0	35	44
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	106	103	57	111	124	36	79			38		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	106	103	57	111	124	36	79			38		
tC, single (s)	7.1	6.5	6.7	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.8	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	100	99	100	99	100	100			100		
cM capacity (veh/h)	871	789	889	860	763	1042	1532			1585		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	59	10	42	79
Volume Left	48	3	4	0
Volume Right	8	1	3	44
cSH	869	812	1532	1585
Volume to Capacity	0.07	0.01	0.00	0.00
Queue Length 95th (m)	1.7	0.3	0.1	0.0
Control Delay (s)	9.4	9.5	0.7	0.0
Lane LOS	A	A	A	
Approach Delay (s)	9.4	9.5	0.7	0.0
Approach LOS	A	A		

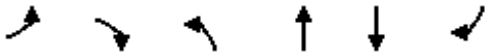
Intersection Summary				
Average Delay	3.6			
Intersection Capacity Utilization	17.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	36	42	0	9	36
Future Volume (Veh/h)	0	36	42	0	9	36
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	39	46	0	10	39
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	46				85	46
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	46				85	46
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	96
cM capacity (veh/h)	1575				921	1029

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	39	46	49
Volume Left	0	0	10
Volume Right	0	0	39
cSH	1700	1700	1005
Volume to Capacity	0.02	0.03	0.05
Queue Length 95th (m)	0.0	0.0	1.2
Control Delay (s)	0.0	0.0	8.8
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.8
Approach LOS			A

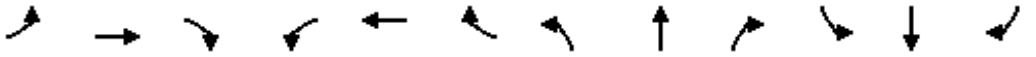
Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	15	50	61	30
Future Volume (Veh/h)	0	0	15	50	61	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	16	54	66	33
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	168	82	99			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	168	82	99			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	99			
cM capacity (veh/h)	818	983	1507			

Direction, Lane #	NB 1	SB 1
Volume Total	70	99
Volume Left	16	0
Volume Right	0	33
cSH	1507	1700
Volume to Capacity	0.01	0.06
Queue Length 95th (m)	0.3	0.0
Control Delay (s)	1.8	0.0
Lane LOS	A	
Approach Delay (s)	1.8	0.0
Approach LOS		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	13.5%	ICU Level of Service	A
Analysis Period (min)	15		



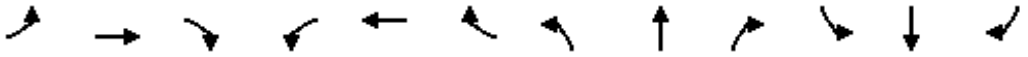
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	214	45	25	238	15	115	132	17	39	72	25
Future Volume (vph)	29	214	45	25	238	15	115	132	17	39	72	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	1780		1736	1811		1736	1796		1736	1757	
Flt Permitted	0.56	1.00		0.56	1.00		0.68	1.00		0.64	1.00	
Satd. Flow (perm)	1028	1780		1020	1811		1235	1796		1162	1757	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	38	278	58	32	309	19	149	171	22	51	94	32
RTOR Reduction (vph)	0	9	0	0	3	0	0	8	0	0	22	0
Lane Group Flow (vph)	38	327	0	32	325	0	149	185	0	51	104	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	30.1	30.1		30.1	30.1		13.9	13.9		13.9	13.9	
Effective Green, g (s)	30.1	30.1		30.1	30.1		13.9	13.9		13.9	13.9	
Actuated g/C Ratio	0.54	0.54		0.54	0.54		0.25	0.25		0.25	0.25	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	552	956		548	973		306	445		288	436	
v/s Ratio Prot		c0.18			0.18			0.10			0.06	
v/s Ratio Perm	0.04			0.03			c0.12			0.04		
v/c Ratio	0.07	0.34		0.06	0.33		0.49	0.42		0.18	0.24	
Uniform Delay, d1	6.2	7.3		6.2	7.3		18.0	17.6		16.6	16.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.3		0.1	0.3		1.7	0.9		0.4	0.4	
Delay (s)	6.3	7.6		6.2	7.6		19.7	18.5		17.0	17.2	
Level of Service	A	A		A	A		B	B		B	B	
Approach Delay (s)		7.5			7.5			19.0			17.1	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	56.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	193	77	16	225	53	27
Future Volume (Veh/h)	193	77	16	225	53	27
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	212	85	18	247	58	30
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	127					
pX, platoon unblocked			0.98		0.98	0.98
vC, conflicting volume			297		538	254
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			269		515	226
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		88	96
cM capacity (veh/h)			1254		499	793

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	297	265	88
Volume Left	0	18	58
Volume Right	85	0	30
cSH	1700	1254	571
Volume to Capacity	0.17	0.01	0.15
Queue Length 95th (m)	0.0	0.3	4.3
Control Delay (s)	0.0	0.7	12.4
Lane LOS		A	B
Approach Delay (s)	0.0	0.7	12.4
Approach LOS			B

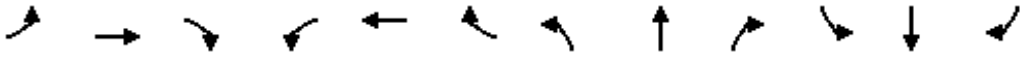
Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	36.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	4	2	13	3	72	2	190	16	19	122	1
Future Volume (Veh/h)	1	4	2	13	3	72	2	190	16	19	122	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	4	2	14	3	78	2	207	17	21	133	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)											91	
pX, platoon unblocked												
vC, conflicting volume	474	404	134	399	396	216	134			224		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	474	404	134	399	396	216	134			224		
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	99	100	97	99	91	100			98		
cM capacity (veh/h)	448	525	921	553	532	824	1451			1345		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	7	95	226	155
Volume Left	1	14	2	21
Volume Right	2	78	17	1
cSH	582	757	1451	1345
Volume to Capacity	0.01	0.13	0.00	0.02
Queue Length 95th (m)	0.3	3.4	0.0	0.4
Control Delay (s)	11.3	10.4	0.1	1.2
Lane LOS	B	B	A	A
Approach Delay (s)	11.3	10.4	0.1	1.2
Approach LOS	B	B		

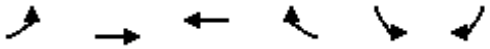
Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	33.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	8	6	4	9	4	2	54	2	1	18	41
Future Volume (Veh/h)	34	8	6	4	9	4	2	54	2	1	18	41
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	37	9	7	4	10	4	2	59	2	1	20	45
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	118	110	42	120	131	60	65			61		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	118	110	42	120	131	60	65			61		
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 %	96	99	99	100	99	100	100			100		
cM capacity (veh/h)	845	779	1028	841	758	1005	1537			1542		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	53	18	63	66
Volume Left	37	4	2	1
Volume Right	7	4	2	45
cSH	853	821	1537	1542
Volume to Capacity	0.06	0.02	0.00	0.00
Queue Length 95th (m)	1.6	0.5	0.0	0.0
Control Delay (s)	9.5	9.5	0.2	0.1
Lane LOS	A	A	A	A
Approach Delay (s)	9.5	9.5	0.2	0.1
Approach LOS	A	A		

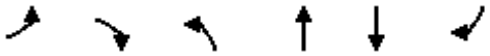
Intersection Summary				
Average Delay	3.5			
Intersection Capacity Utilization	17.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	39	52	0	9	36
Future Volume (Veh/h)	0	39	52	0	9	36
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	42	57	0	10	39
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	57				99	57
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	57				99	57
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	96
cM capacity (veh/h)	1547				900	1009

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	42	57	49
Volume Left	0	0	10
Volume Right	0	0	39
cSH	1700	1700	985
Volume to Capacity	0.02	0.03	0.05
Queue Length 95th (m)	0.0	0.0	1.3
Control Delay (s)	0.0	0.0	8.8
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.8
Approach LOS			A

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	12	80	60	33
Future Volume (Veh/h)	0	0	12	80	60	33
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	13	87	65	36
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	196	83	101			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	196	83	101			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	99			
cM capacity (veh/h)	786	976	1491			

Direction, Lane #	NB 1	SB 1
Volume Total	100	101
Volume Left	13	0
Volume Right	0	36
cSH	1491	1700
Volume to Capacity	0.01	0.06
Queue Length 95th (m)	0.2	0.0
Control Delay (s)	1.0	0.0
Lane LOS	A	
Approach Delay (s)	1.0	0.0
Approach LOS		

Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	14.9%	ICU Level of Service	A	
Analysis Period (min)	15			

D

Appendix D
Alternative 2 Synchro and SimTraffic Outputs

Intersection: 1: Victoria Ave & Colborne St

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	16.3	42.6	23.1	38.3	23.8	23.2	10.3	45.2
Average Queue (m)	3.4	18.4	7.0	15.2	8.6	10.5	1.2	19.1
95th Queue (m)	11.8	34.8	17.1	29.3	18.7	20.8	6.1	34.8
Link Distance (m)		66.0		110.3	72.0	72.0	133.0	133.0
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)	20.0		20.0					
Storage Blk Time (%)	0	5	0	3				
Queuing Penalty (veh)	0	1	1	1				

Intersection: 2: Cambridge St & Colborne St

Movement	NB
Directions Served	L
Maximum Queue (m)	15.3
Average Queue (m)	8.5
95th Queue (m)	13.4
Link Distance (m)	-1.5
Upstream Blk Time (%)	1
Queuing Penalty (veh)	1
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Victoria Ave & Francis St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	8.8	13.4	5.3	10.5
Average Queue (m)	1.2	7.3	0.2	1.8
95th Queue (m)	6.2	12.6	2.2	7.9
Link Distance (m)	53.5	45.7	26.5	72.0
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Cambridge St & Francis St

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (m)	27.0	9.2
Average Queue (m)	12.5	1.6
95th Queue (m)	21.3	7.2
Link Distance (m)	45.3	113.5
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Francis St & City Hall Entrance

Movement	SB
Directions Served	LR
Maximum Queue (m)	13.3
Average Queue (m)	6.7
95th Queue (m)	13.3
Link Distance (m)	48.9
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Cambridge St & City Hall Exit

Movement	NB
Directions Served	LT
Maximum Queue (m)	11.9
Average Queue (m)	1.5
95th Queue (m)	7.3
Link Distance (m)	59.2
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 5

Intersection: 1: Victoria Ave & Colborne St

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	15.6	45.7	23.9	43.7	38.7	37.3	11.5	31.0
Average Queue (m)	4.2	18.5	6.9	18.9	17.0	16.4	4.1	14.7
95th Queue (m)	12.6	34.8	17.8	34.8	30.9	30.6	12.0	26.8
Link Distance (m)		66.0		110.3	72.0	72.0	133.0	133.0
Upstream Blk Time (%)		0						
Queuing Penalty (veh)		0						
Storage Bay Dist (m)	20.0		20.0					
Storage Blk Time (%)	0	4	1	5				
Queuing Penalty (veh)	0	1	2	2				

Intersection: 2: Cambridge St & Colborne St

Movement	NB
Directions Served	L
Maximum Queue (m)	19.7
Average Queue (m)	10.2
95th Queue (m)	16.1
Link Distance (m)	-1.5
Upstream Blk Time (%)	3
Queuing Penalty (veh)	3
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Victoria Ave & Francis St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	8.8	17.2	3.6	15.4
Average Queue (m)	1.5	8.1	0.2	3.5
95th Queue (m)	6.9	13.8	2.3	11.5
Link Distance (m)	53.5	45.7	26.5	72.0
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Cambridge St & Francis St

Movement	EB	WB
Directions Served	LTR	LTR
Maximum Queue (m)	19.3	9.3
Average Queue (m)	9.6	3.8
95th Queue (m)	15.8	11.1
Link Distance (m)	45.3	113.5
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: Francis St & City Hall Entrance

Movement	SB
Directions Served	LR
Maximum Queue (m)	19.0
Average Queue (m)	7.6
95th Queue (m)	14.7
Link Distance (m)	48.9
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Cambridge St & City Hall Exit

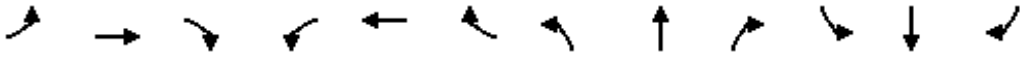
Movement	NB
Directions Served	LT
Maximum Queue (m)	11.9
Average Queue (m)	2.2
95th Queue (m)	9.3
Link Distance (m)	59.2
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 9

HCM Signalized Intersection Capacity Analysis
1: Victoria Ave & Colborne St

09-26-2025



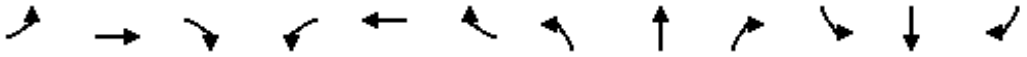
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	158	109	44	199	11	52	76	2	6	142	26
Future Volume (vph)	22	158	109	44	199	11	52	76	2	6	142	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.99		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1732		1752	1830		1752	1838		1752	1801	
Flt Permitted	0.61	1.00		0.58	1.00		0.64	1.00		0.70	1.00	
Satd. Flow (perm)	1134	1732		1070	1830		1182	1838		1293	1801	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	24	174	120	48	219	12	57	84	2	7	156	29
RTOR Reduction (vph)	0	30	0	0	2	0	0	2	0	0	12	0
Lane Group Flow (vph)	24	264	0	48	229	0	57	84	0	7	173	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	31.2	31.2		31.2	31.2		12.8	12.8		12.8	12.8	
Effective Green, g (s)	31.2	31.2		31.2	31.2		12.8	12.8		12.8	12.8	
Actuated g/C Ratio	0.56	0.56		0.56	0.56		0.23	0.23		0.23	0.23	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	631	964		596	1019		270	420		295	411	
v/s Ratio Prot		c0.15			0.12			0.05			c0.10	
v/s Ratio Perm	0.02			0.04			0.05			0.01		
v/c Ratio	0.04	0.27		0.08	0.22		0.21	0.20		0.02	0.42	
Uniform Delay, d1	5.6	6.5		5.7	6.3		17.5	17.5		16.8	18.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.2		0.1	0.2		0.5	0.3		0.0	0.9	
Delay (s)	5.6	6.7		5.8	6.4		18.0	17.8		16.8	19.4	
Level of Service	A	A		A	A		B	B		B	B	
Approach Delay (s)		6.6			6.3			17.9			19.3	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	56.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	166	0	0	218	36	34
Future Volume (Veh/h)	166	0	0	218	36	34
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	191	0	0	251	41	39
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						3
Median type	None			None		
Median storage veh)						
Upstream signal (m)	127					
pX, platoon unblocked						
vC, conflicting volume			191		442	191
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			191		442	191
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		93	95
cM capacity (veh/h)			1377		571	848

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	191	251	80
Volume Left	0	0	41
Volume Right	0	0	39
cSH	1700	1700	1114
Volume to Capacity	0.11	0.15	0.07
Queue Length 95th (m)	0.0	0.0	1.9
Control Delay (s)	0.0	0.0	10.6
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.6
Approach LOS			B

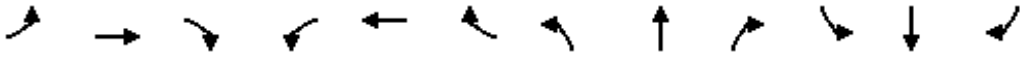
Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	21.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	0	2	14	3	40	1	88	21	105	186	4
Future Volume (Veh/h)	2	0	2	14	3	40	1	88	21	105	186	4
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)	2	0	2	16	3	45	1	100	24	119	211	5
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)											91	
pX, platoon unblocked	0.94	0.94	0.94	0.94	0.94		0.94					
vC, conflicting volume	612	578	214	568	568	112	216			124		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	558	522	135	511	511	112	138			124		
tC, single (s)	7.1	6.6	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.1	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	100	96	99	95	100			92		
cM capacity (veh/h)	371	393	866	420	403	947	1375			1475		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	4	64	125	335
Volume Left	2	16	1	119
Volume Right	2	45	24	5
cSH	520	688	1375	1475
Volume to Capacity	0.01	0.09	0.00	0.08
Queue Length 95th (m)	0.2	2.5	0.0	2.1
Control Delay (s)	12.0	10.8	0.1	3.2
Lane LOS	B	B	A	A
Approach Delay (s)	12.0	10.8	0.1	3.2
Approach LOS	B	B		

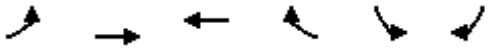
Intersection Summary				
Average Delay	3.4			
Intersection Capacity Utilization	32.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	2	33	2	5	1	3	27	2	0	0	0
Future Volume (Veh/h)	87	2	33	2	5	1	3	27	2	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	113	3	43	3	6	1	4	35	3	0	0	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	48	46	0	89	44	36	0			38		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	48	46	0	89	44	36	0			38		
tC, single (s)	7.1	6.5	6.7	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.8	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	88	100	96	100	99	100	100			100		
cM capacity (veh/h)	949	848	960	857	843	1042	1636			1585		

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	159	10	42
Volume Left	113	3	4
Volume Right	43	1	3
cSH	950	864	1636
Volume to Capacity	0.17	0.01	0.00
Queue Length 95th (m)	4.8	0.3	0.1
Control Delay (s)	9.6	9.2	0.7
Lane LOS	A	A	A
Approach Delay (s)	9.6	9.2	0.7
Approach LOS	A	A	

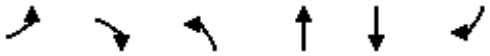
Intersection Summary				
Average Delay	7.8			
Intersection Capacity Utilization	23.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	126	21	0	9	36
Future Volume (Veh/h)	0	126	21	0	9	36
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	137	23	0	10	39
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	23				160	23
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	23				160	23
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	96
cM capacity (veh/h)	1605				836	1060

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	137	23	49
Volume Left	0	0	10
Volume Right	0	0	39
cSH	1700	1700	1005
Volume to Capacity	0.08	0.01	0.05
Queue Length 95th (m)	0.0	0.0	1.2
Control Delay (s)	0.0	0.0	8.8
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.8
Approach LOS			A

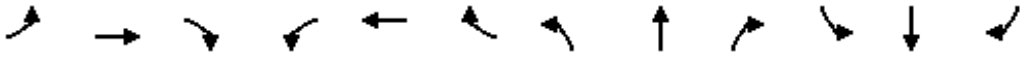
Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	16.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	45	70	0	0
Future Volume (Veh/h)	0	0	45	70	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	49	76	0	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	174	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	174	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	97			
cM capacity (veh/h)	796	1091	1636			

Direction, Lane #	NB 1
Volume Total	125
Volume Left	49
Volume Right	0
cSH	1636
Volume to Capacity	0.03
Queue Length 95th (m)	0.7
Control Delay (s)	3.0
Lane LOS	A
Approach Delay (s)	3.0
Approach LOS	

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	9.5%	ICU Level of Service	A
Analysis Period (min)	15		



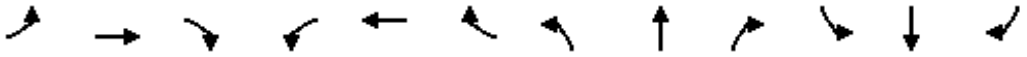
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	159	100	42	243	19	110	128	5	19	92	25
Future Volume (vph)	29	159	100	42	243	19	110	128	5	19	92	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.99		1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	1721		1736	1807		1736	1817		1736	1769	
Flt Permitted	0.56	1.00		0.56	1.00		0.66	1.00		0.65	1.00	
Satd. Flow (perm)	1014	1721		1020	1807		1208	1817		1185	1769	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	38	206	130	55	316	25	143	166	6	25	119	32
RTOR Reduction (vph)	0	28	0	0	4	0	0	2	0	0	17	0
Lane Group Flow (vph)	38	308	0	55	337	0	143	170	0	25	134	0
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	30.1	30.1		30.1	30.1		13.8	13.8		13.8	13.8	
Effective Green, g (s)	30.1	30.1		30.1	30.1		13.8	13.8		13.8	13.8	
Actuated g/C Ratio	0.54	0.54		0.54	0.54		0.25	0.25		0.25	0.25	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	546	926		549	973		298	448		292	436	
v/s Ratio Prot		0.18			c0.19			0.09			0.08	
v/s Ratio Perm	0.04			0.05			c0.12			0.02		
v/c Ratio	0.07	0.33		0.10	0.35		0.48	0.38		0.09	0.31	
Uniform Delay, d1	6.2	7.3		6.3	7.3		18.0	17.5		16.2	17.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.3		0.1	0.3		1.7	0.7		0.2	0.5	
Delay (s)	6.3	7.5		6.4	7.6		19.6	18.2		16.4	17.7	
Level of Service	A	A		A	A		B	B		B	B	
Approach Delay (s)		7.4			7.4			18.9			17.5	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	55.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	183	0	0	241	63	37
Future Volume (Veh/h)	183	0	0	241	63	37
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	201	0	0	265	69	41
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						3
Median type	None			None		
Median storage veh)						
Upstream signal (m)	127					
pX, platoon unblocked						
vC, conflicting volume			201		466	201
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			201		466	201
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		88	95
cM capacity (veh/h)			1359		553	837

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	201	265	110
Volume Left	0	0	69
Volume Right	0	0	41
cSH	1700	1700	882
Volume to Capacity	0.12	0.16	0.12
Queue Length 95th (m)	0.0	0.0	3.4
Control Delay (s)	0.0	0.0	11.3
Lane LOS			B
Approach Delay (s)	0.0	0.0	11.3
Approach LOS			B

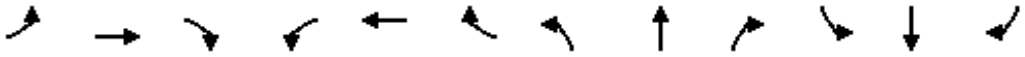
Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	22.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	4	2	12	3	52	2	189	17	110	123	1
Future Volume (Veh/h)	1	4	2	12	3	52	2	189	17	110	123	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	4	2	13	3	57	2	205	18	120	134	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)											91	
pX, platoon unblocked												
vC, conflicting volume	651	602	134	596	593	214	135			223		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	651	602	134	596	593	214	135			223		
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	99	100	97	99	93	100			91		
cM capacity (veh/h)	331	375	920	385	381	826	1449			1346		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	7	73	225	255
Volume Left	1	13	2	120
Volume Right	2	57	18	1
cSH	442	660	1449	1346
Volume to Capacity	0.02	0.11	0.00	0.09
Queue Length 95th (m)	0.4	3.0	0.0	2.3
Control Delay (s)	13.3	11.1	0.1	4.1
Lane LOS	B	B	A	A
Approach Delay (s)	13.3	11.1	0.1	4.1
Approach LOS	B	B		

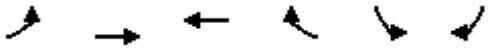
Intersection Summary				
Average Delay	3.5			
Intersection Capacity Utilization	39.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	9	31	4	9	4	2	54	2	0	0	0
Future Volume (Veh/h)	87	9	31	4	9	4	2	54	2	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	95	10	34	4	10	4	2	59	2	0	0	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	73	65	0	103	64	60	0			61		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	73	65	0	103	64	60	0			61		
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	99	97	100	99	100	100			100		
cM capacity (veh/h)	905	825	1085	841	826	1005	1623			1542		

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	139	18	63
Volume Left	95	4	2
Volume Right	34	4	2
cSH	936	864	1623
Volume to Capacity	0.15	0.02	0.00
Queue Length 95th (m)	4.2	0.5	0.0
Control Delay (s)	9.5	9.3	0.2
Lane LOS	A	A	A
Approach Delay (s)	9.5	9.3	0.2
Approach LOS	A	A	

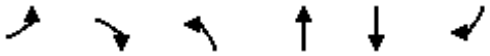
Intersection Summary					
Average Delay	6.8				
Intersection Capacity Utilization	23.9%	ICU Level of Service		A	
Analysis Period (min)	15				



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	131	24	0	9	36
Future Volume (Veh/h)	0	131	24	0	9	36
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	142	26	0	10	39
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	26				168	26
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	26				168	26
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	96
cM capacity (veh/h)	1588				822	1050

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	142	26	49
Volume Left	0	0	10
Volume Right	0	0	39
cSH	1700	1700	994
Volume to Capacity	0.08	0.02	0.05
Queue Length 95th (m)	0.0	0.0	1.2
Control Delay (s)	0.0	0.0	8.8
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.8
Approach LOS			A

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	16.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	45	100	0	0
Future Volume (Veh/h)	0	0	45	100	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	49	109	0	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	207	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	207	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	97			
cM capacity (veh/h)	758	1085	1623			

Direction, Lane #	NB 1
Volume Total	158
Volume Left	49
Volume Right	0
cSH	1623
Volume to Capacity	0.03
Queue Length 95th (m)	0.7
Control Delay (s)	2.4
Lane LOS	A
Approach Delay (s)	2.4
Approach LOS	

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	11.1%	ICU Level of Service	A
Analysis Period (min)	15		