14 Agnes Street
Town of Caledon

Proposed Residential Development
Transportation Impact Study

Paradigm Transportation Solutions Limited

December 2023
230683 (220188)

ptsl.com

Project Summary

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14 Agnes Street, Town of Caledon Proposed Residential Development Transportation Impact Study

Client
Seaton Group
54 Fulton Avenue
Toronto, ON M4K 1X5

Client Contact
Jeremy Grant, OPPI, MCIP, RPP
Vice President

<< Original Signed By >>

Erica Bayley, P.Eng.

Consultant Project Team
Tom Willis, MMath
Wenting Li, M.A.Sc., P.Eng.
Erica Bayley, P.Eng.

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Paradigm Transportation Solutions Limited
5A-150 Pinebush Road
Cambridge ON N1R 8J8
p: 519.896.3163
905.381.2229
416.479.9684
www.ptsl.com

Executive Summary

Content

Paradigm Transportation Solutions Limited (Paradigm) was retained by Seaton Group (the client) to conduct a Transportation Impact Study for a proposed residential development at the municipal address of 14 Agnes Street in the Town of Caledon.

The Transportation Impact Study includes an assessment of the existing transportation network and analyzes existing and future traffic conditions (with and without the proposed development). This study provides a review of the proposed parking supply and a review of access and on-site circulation.

The findings, conclusions, and recommendations of this study are summarized below and outlined in further detail in the body of the report.

Development Concept

The subject site is located at 14 Agnes Street in the community of Alton, in the Town of Caledon. The site is currently undeveloped.

The property owner proposes to create a new residential subdivision with 67 townhouse units in 14 blocks, 11 blocks of five townhouse units and three blocks of four townhouse units.

Out of the 67 townhouse units, 26 units will have a single garage and a single driveway in front, indicating two parking spaces per unit. The remaining 41 units provide double garages and double driveways in front, indicating four parking spaces per unit. The development additionally proposes 14 visitor parking spaces at grade.

Vehicle access is proposed via a private road connected with Agnes Street. The road provides two travel lanes (one lane in each direction) and a 4.5-metre median separating the directional traffic. The site access intersection is planned to operate unsignalized with the minor road (site access) leg operating under stop control.

Sidewalks within the site are proposed, and a 1.5-metre sidewalk is proposed on the west side of Agnes Street between Queen Street West and Davis Drive to connect with the site.

A walkway in the northwest corner of the site is proposed and will be connected to a 1.5-metre sidewalk proposed on Emeline Street, which

will connect to the existing sidewalk on the south side of Queen Street West.

Conclusions

Based on the investigations carried out, it is concluded that:

- **Base Year (2022) Traffic Conditions**: The study area intersections operate with acceptable levels of service and well within capacity during the weekday AM and PM peak hours;
- **Development Trip Generation**: The development is estimated to generate 44 vehicular trips in the AM peak hour and 49 vehicular trips in the PM peak hour;
- **Background Traffic Conditions**: The study area intersections are forecast to operate with acceptable levels of service and well within capacity under the 2027 horizon;
- **Total Traffic Conditions**: The development of the subject site is forecast to have a negligible impact on traffic operations. The study intersections are forecast to operate at very similar levels of service as under background traffic conditions. All traffic movements are forecast to continue operating with acceptable levels of service and well within capacity.

  No geometric roadway or intersection improvements are required to support the proposed residential development;
- **Parking Review**: Vehicle parking supply for the proposed development does not meet the Town's Zoning By-law requirements with a deficit of three visitor parking spaces.

  Appropriate parking justification is provided to indicate deficit visitor parking spaces can be accommodated by additional resident parking supply; and
- **On-Site Circulation**: The site circulation assessment indicates a Passenger vehicle, fire truck and a Region of Peel Garbage Truck can enter, exit, and traverse the site without conflict.

Recommendations

The following items are recommended based on the study results:

- The Town of Caledon recognize the conclusions drawn above; and
- From a transportation perspective, the required planning applications to allow the proposed residential development should be approved.

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1 Introduction

Seaton Group retained Paradigm Transportation Solutions Limited (Paradigm) to prepare this Transportation Impact Study (TIS), Parking Study, and Access and Circulation Review for a proposed residential development in the Town of Caledon. The proposed development is located at 14 Agnes Street in the community of Alton, in the Town of Caledon.

Figure 1.1 illustrates the location of the subject site, situated on the south-west side of Agnes Street, approximately 130 metres south-east of the intersection of Agnes Street and Queen Street West.

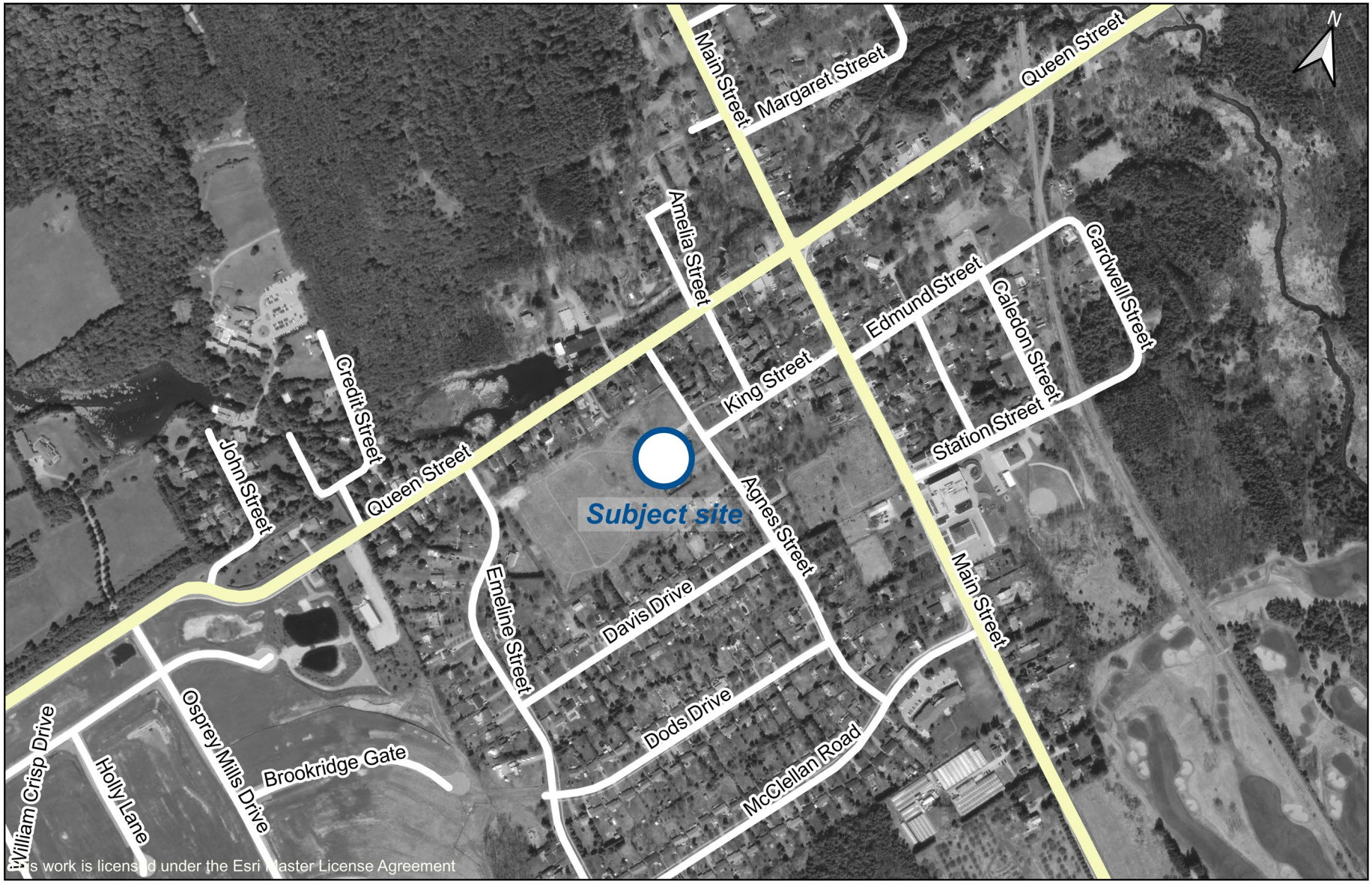
The scope of this study is as follows:

- **Transportation Impact Study**
  - A study area comprising the following intersections:
    - Emeline Street and Queen Street West (unsignalized)
    - Agnes Street and Queen Street West (unsignalized)
    - Agnes Street and King Street (unsignalized)
    - King Street/Edmund Street and Main Street (unsignalized)
    - Queen Street West and Main Street (unsignalized)
    - Agnes Street and McClellan Street (unsignalized)
    - McClellan Street and Main Street (unsignalized)
    - The new proposed private road connection with Agnes Street (proposed unsignalized)
  - Traffic forecasts for year 2027, representing five years from the date of the study; and
  - Analysis time periods comprising the weekday AM and PM peak hours.
- **Parking Study** to confirm the proposed vehicular parking spaces will be adequate for the proposed use(s); and
- **Access and Circulation Review** to confirm design vehicles will be able to navigate through the site without conflicts.

This study has been completed in accordance with the Town of Caledon *Transportation Impact Studies Terms of Reference and*

Guidelines [1] and direction provided by Town staff during pre-study consultation. **Appendix A** contains the pre-study consultation material and comments provided by Town staff.

[1] Town of Caledon, *Transportation Impact Studies Terms of Reference and Guidelines*, March 2017.



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Site Location

2 Existing Conditions

2.1 Roadways

The characteristics of the roads and intersections in the vicinity of the subject site are described below. Reference was made to the Town of Caledon *Official Plan*, *Schedule J – Long Range Road Network*.[2]

- **Main Street** is a north-south two-lane roadway within the study area limits. Main Street is classified as a collector north of Queen Street West, and a high-capacity arterial south of Queen Street West. The roadway has a posted speed limit of 40 km/h and is within a community safety zone south of Queen Street West. It is important to note that to accommodate urban/rural improvements in Alton Village in the Town of Caledon, an environmental assessment has been completed as of February 17, 2022.[3] The Town is considering improvements to 3.2 kilometres of road along Queen Street West and Main Street to pedestrian facilities, streetscapes, stormwater management and the bridge on Main Street;
- **Queen Street West** is an east-west two-lane collector roadway west of Main Street, which is within a community safety zone with a posted speed limit of 40 km/h. East of Main Street, Queen Street West is classified as a high capacity arterial with a posted speed limit of 50 km/h;
- **King Street** is an east-west two-lane local roadway within the study area limits. The roadway has a posted speed limit of 40 km/h. The road is delimited by Main Street from the east and Agnes Street from the west;
- **Agnes Street** is a north-south two-lane local roadway within the study area limits. The roadway has a posted speed limit of 40 km/h. The road is delimited by Queen Street West from the north and McClellan Road from the south;
- **Emeline Street** is a north-south two-lane local roadway within the study area limits. The roadway has a posted speed limit of 40 km/h. The road is delimited by Queen Street West from the north and McClellan Road from the south; and
- **McClellan Road** is an east-west two-lane local roadway within the study area limits. The roadway has a posted speed limit of

[2] Town of Caledon, *Official Plan, Schedule J – Long Range Road Network*, April 2018.

[3] R.V.Anderson Associates Limited, *Village of Alton – Main Street North & Queen Street West Municipal Class Environmental Assessment*, 17 February 2022.

40 km/h. The road is delimited by Main Street from the east and Emeline Street from the west.

Figure 2.1 illustrates the existing lane configurations and traffic control at the study area intersections.

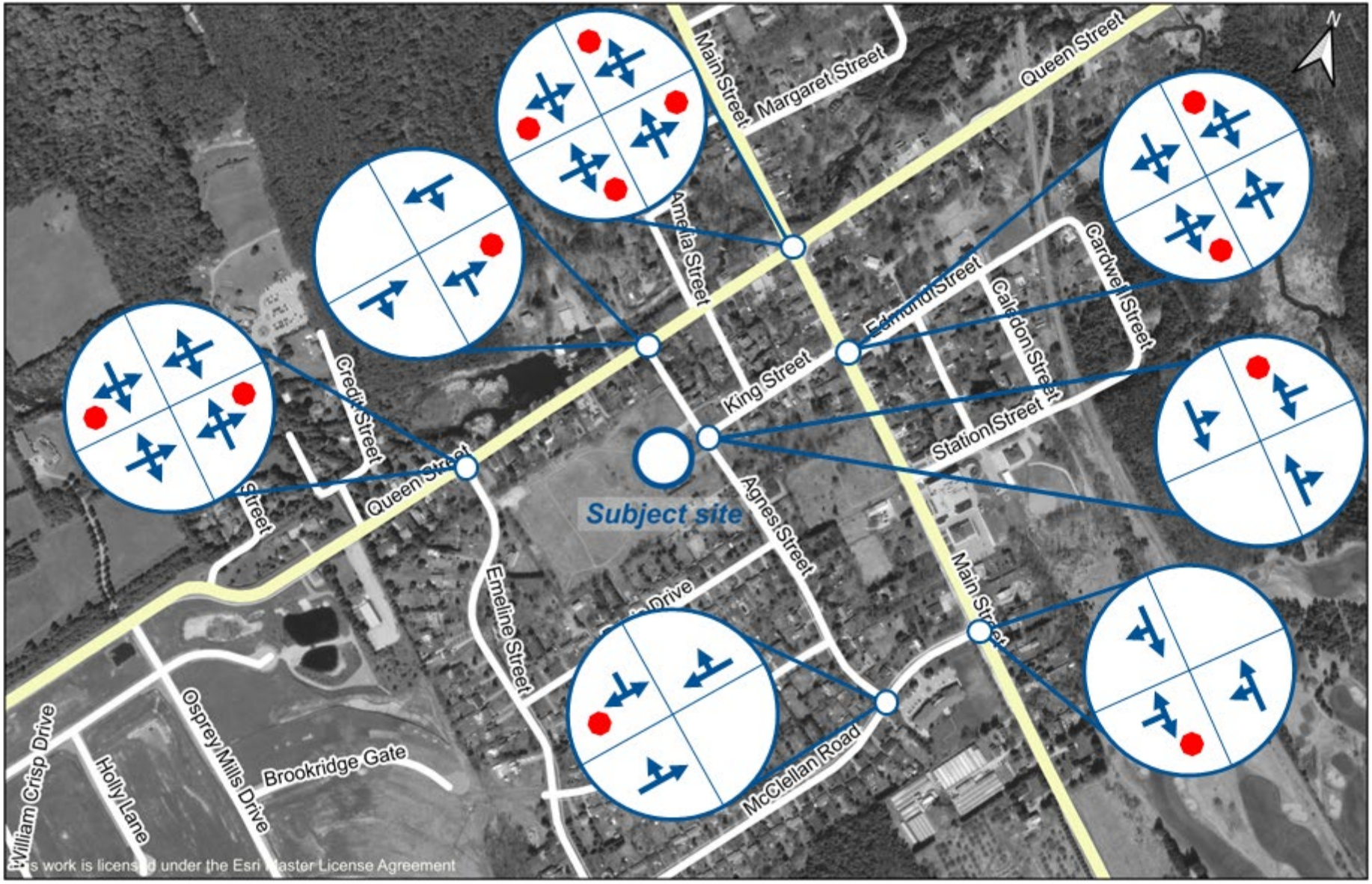
2.2 Transit

The Town of Caledon does not run any regular transit service within the study area. There are two on-demand specialized transit services provided currently:

- **TransHelp** is a specialized transit service that provides specific trips, flexible trips, subscription trips, return trips and cross-boundary trips to people with disabilities across Peel Region;[4] and
- **Caledon Community Services (CCS)** is a door-to-door transportation service available for seniors and people with disabilities (unable to drive on their own).[5]

[4] Region of Peel, *My Trips*, Accessed 7 December 2022. https://www.peelregion.ca/transhelp/my-trips#fares

[5] Caledon Community Services, *Specialized Transportation Application*, Accessed 7 December 2022. https://ccs4u.org/specialized-transportation-application



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Existing Lane Configurations and Traffic Control

2.3 Active Transportation

2.3.1 Walking

Pedestrian sidewalks are provided on the south side of Queen Street West, both sides of Main Street south of Queen Street West, and on the east side of Main Street north of Queen Street West, and on the north side of McClellan Road within the study area limits.

It is noted that 1.5-metre sidewalks are proposed on the west side of Agnes Street between Queen Street West and Davis Drive, and on Emeline Street to connect with the site proposed sidewalks and walkway.

There are ladder crosswalk pavement markings at the intersection of Main Street and Queen Street West, as well as stop bar markings on all intersections. All intersections are one/two-way stop-controlled, except for the intersection of Main Street and Queen Street West, which is four-way stop-controlled.

The site is near limited employment, food, cultural and recreational opportunities, notably along Queen St West and Main Street. There are limited walkable destinations for prospective residents of the proposed development, and most destinations require a car (indicated by a Walk Score of 6).[6] The study area is mostly surrounded by low-density detached houses and townhomes.

2.3.2 Cycling

According to cycling facility descriptions in the Town of Caledon *Transportation Master Plan*,[7] on-road cycling facilities are provided along Main Street and Queen Street West.

Main Street (south of Queen Street West) provides side-by-side shared use where bicycle and vehicles share the lane in a side-by-side manner. Sharrows are provided at the sides of the lane.

Queen Street West (east of Main Street) provides single file shared use where travel lanes are too narrow for cyclists and drivers to operate side-by-side. The sharrows are placed in the centre of the lane.

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6 Walk Score, *14 Agnes Street: A location in Caledon,* Accessed 7 December 2022. https://www.walkscore.com/score/14-agnes-st-alton-on-canada

7 Town of Caledon, *Transportation Master Plan*, October 2017, p651 of PDF.

Any other study streets do not provide cycling facilities, requiring cyclists and other road users to share the travelled roadway with motorists.

Based on the Town *Transportation Master Plan Figure 4.7 – Recommended Cycling Network*,[8] Queen Street West (west of Main Street) is identified as a shared on-road cycling route and Main Street is identified as regional cycling route (south of Queen Street West) and shared on-road cycling route (north of Queen Street West).

2.4 Data Collection

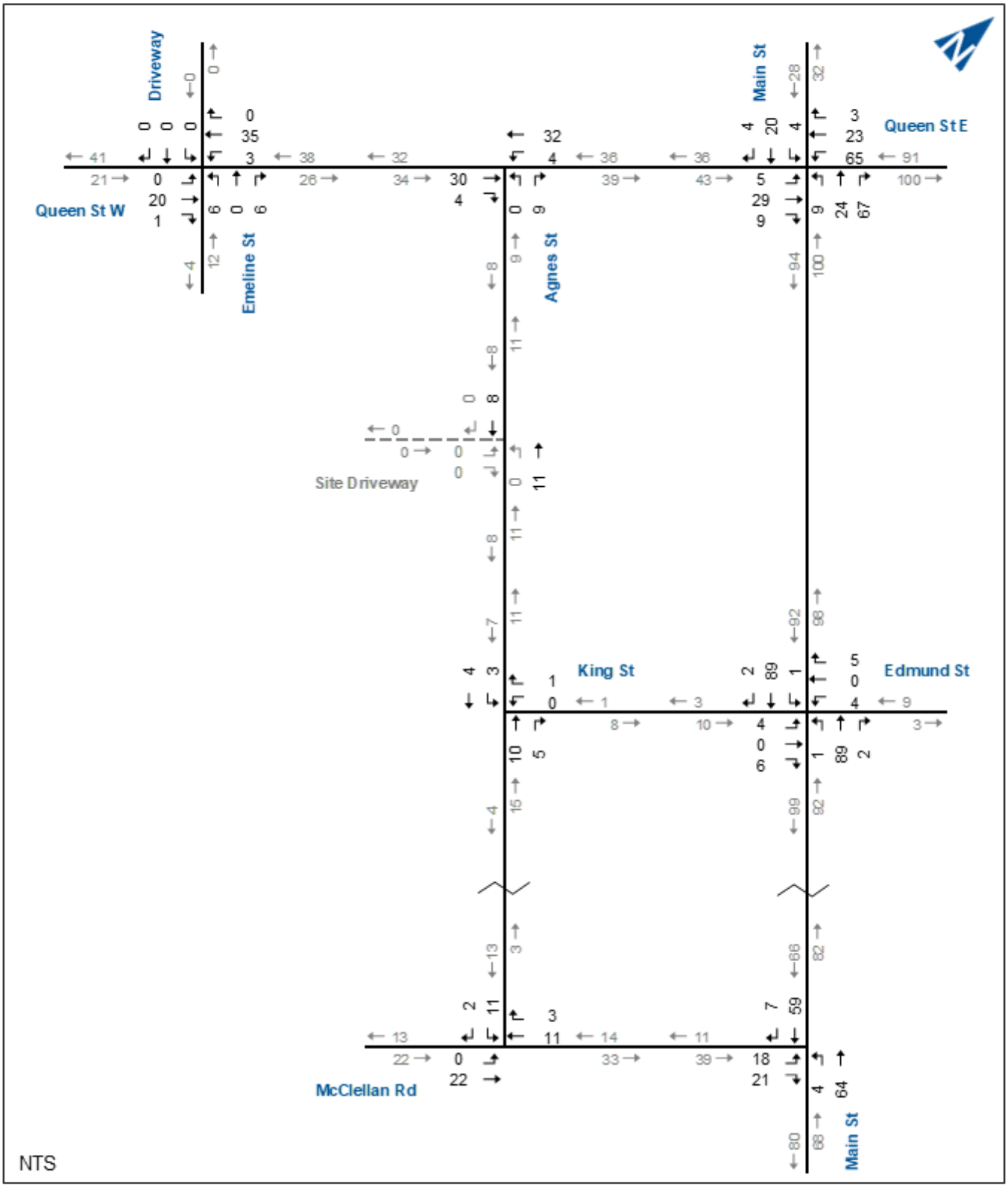
To assess intersection operations, turning movement counts (TMCs) are used to quantify the movement of vehicles, pedestrians, trucks, buses, and cyclists through an intersection. Existing traffic data at an intersection or on a road section forms the foundation for operational analysis. The counts are usually collected during peak periods to complete level of service (LOS) analysis under its worst-case operating conditions.

Paradigm collected TMCs at the study area intersections on Wednesday, October 12, 2022, and Wednesday, November 23, 2022 during the AM and PM peak periods. The data was counted in 15-minute intervals and vehicles were classified by type.

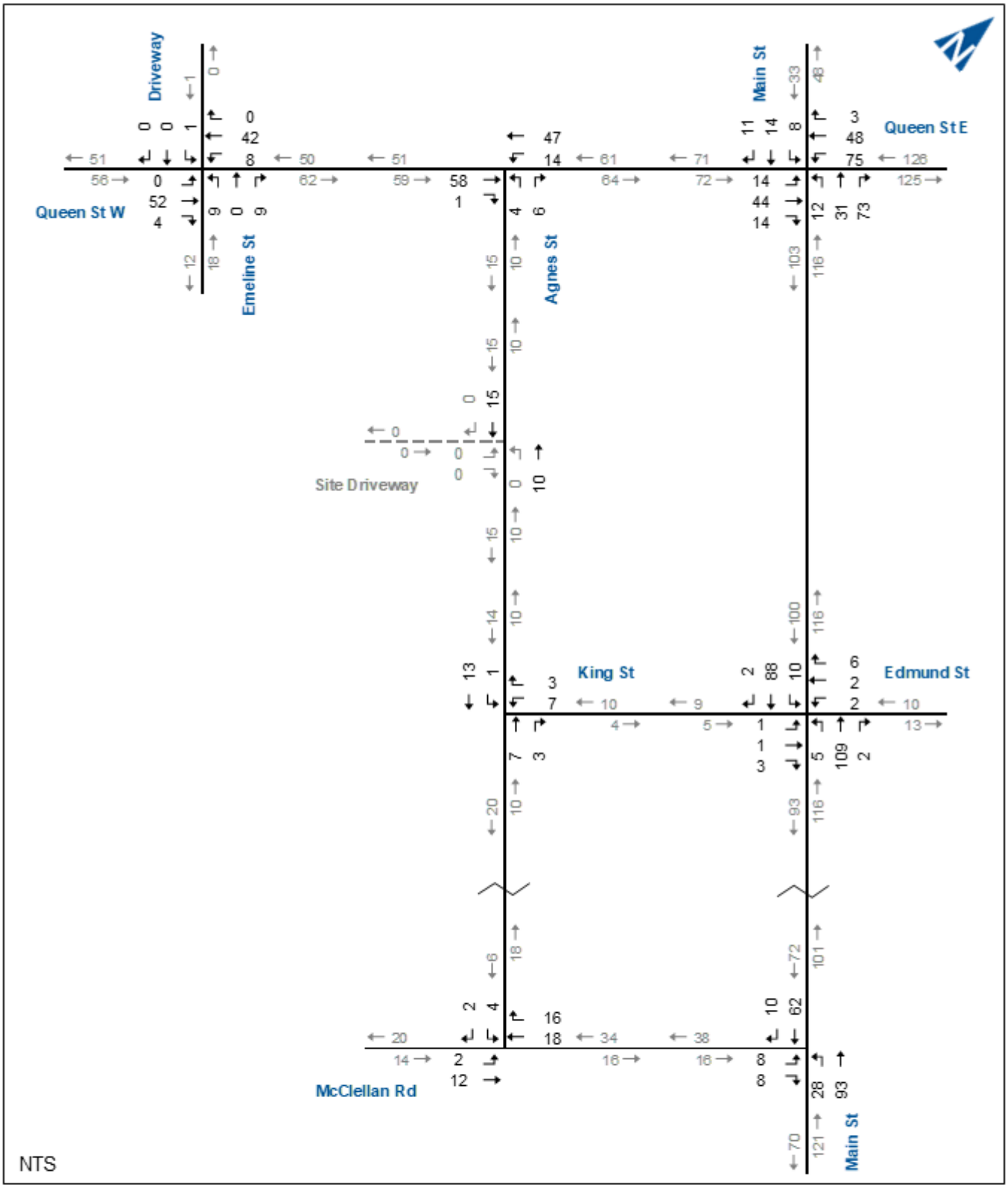
Figure 2.3 and **Figure 2.4** illustrate the base year (2022) traffic volumes during the weekday AM and PM peak hours. **Appendix B**

contains the raw TMC data for reference.

[8] Town of Caledon, *Transportation Master Plan*, October 2017, p99 of PDF.



Base Year (2022) AM Peak Hour Traffic Volumes



Base Year (2022) PM Peak Hour Traffic Volumes

2.5 Traffic Operations

Intersection level of service (LOS) is a recognized method of quantifying the delay experienced by drivers at intersections. The term "level of service" denotes how well (or poorly) a traffic movement operates under given traffic demands, lane arrangements, and controls. Control delay is the total delay associated with stopping for a signal or stop sign and includes four components; deceleration delay, stopped delay, queue move-up time and final acceleration delay. Each level is determined by the average amount of control delay per vehicle.

Table 2.1 contains the level of service criteria for signalized and stop-controlled intersections. LOS A indicates small, average control delays (less than 10 seconds per vehicle). In contrast, LOS F indicates intersection failure, which results in extensive vehicular queues and long delays (over 50 seconds per vehicle at an unsignalized intersection and over 80 seconds per vehicle at a signalized intersection). LOS D is typically considered acceptable peak hour performance in an urban setting, and lower LOS values are tolerable for short-term periods during peak hours when heavier traffic volumes are expected.

TABLE 2.1: VEHICLE LEVEL OF SERVICE DEFINITIONS

Level of Service	Signalized Intersections Average Total Delay (sec/veh)	Unsignalized Intersections Average Total Delay (sec/veh)
A	<= 10	<= 10
B	> 10 & <= 20	> 10 & <= 15
C	> 20 & <= 35	> 15 & <= 25
D	> 35 & <= 55	> 25 & <= 35
E	> 55 & <= 80	> 35 & <= 50
F	> 80	> 50

The Town of Caledon *Transportation Impact Studies Terms of Reference and Guidelines* [9] identifies critical movements as follows:

- Signalized intersections:
  - Volume to capacity (v/c) ratio for overall intersections, through movements or shared through/turning movements increased to 0.90 or above;

[9] Town of Caledon, *Transportation Impact Studies Terms of Reference and Guidelines*, March 2017.

- v/c ratios for individual through or turning movements increase to 1.00 or higher; or
- 95th percentile queue lengths for an individual movement exceed available lane storage.

- Unsignalized intersections:
  - LOS, based on average delay per vehicle, on individual movements, exceed LOS E; or
  - The estimated maximum queue length for an individual movement exceeds the available lane storage.

To assess the base year (2022) peak hour automobile conditions, an operational analysis was conducted for the weekday AM and PM peak hour traffic volumes at the study area intersections using Synchro software, which implements the methods of the Highway Capacity Manual. The key parameters used in the analysis include:

- Existing lane configurations;
- Heavy vehicle percentages derived from existing traffic count data;
- Conflicting pedestrian volumes derived from existing traffic count data;
- Calculated intersection peak hour factors (PHF), which facilitates an assessment of the busiest 15-minute period within the peak hour;
- SimTraffic was utilized to output vehicle queues at the all-way stop controlled intersection of Main Street and Queen Street West. 95th percentile queues were generated via an average of five simulation runs; and
- Synchro default values for all other inputs.

Table 2.2 summarizes the operational analysis results including the LOS, average delay in seconds, v/c ratios, and 95th percentile queue lengths in metres for the weekday AM and PM peak hours. Any critical movements are highlighted in yellow. **Appendix C** contains the Synchro analysis outputs for reference.

The analysis results indicate the study area intersections are operating at acceptable levels of services and well within capacity during the weekday AM and PM peak hours.

Since all turning lanes were shared with through lanes throughout the study area, the 95th percentile queue lengths were checked for all through lanes against provided storage lengths. The storage length for

a given lane was measured as the distance between the stop bars at a given intersection and the upstream intersection. No spillback issues were identified.

TABLE 2.2: BASE YEAR (2022) PEAK HOUR TRAFFIC OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																Overall
				Eastbound				Westbound				Northbound				Southbound				
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Main St & Queen St W/Queen St E	AWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	
			Delay	<	8	>	**8**	<	8	>	**8**	<	8	>	**8**	<	8	>	**8**	
			V/C	<	0.05	>		<	0.12	>		<	0.12	>		<	0.04	>		
			Q	<	15.3	>		<	17.2	>		<	18.9	>		<	15.2	>		
	Main St & King St/Edmund St	TWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	
			Delay	<	10	>	**10**	<	9	>	**9**	<	0	>	**0**	<	0	>	**0**	
			V/C	<	0.02	>		<	0.01	>		<	0	>		<	0	>		
			Q	<	0.4	>		<	0.3	>		<	0.0	>		<	0.0	>		
	Agnes St & Queen St W	TWSC	LOS		A	>	**A**	<	A		**A**	A		>	**A**					
			Delay		0	>	**0**	<	1		**1**	8		>	**8**					
			V/C		0.02	>		<	0			0.01		>						
			Q		0.0	>		<	0.1			0.2		>						
	Agnes St & King St	TWSC	LOS					A		>	**A**		A	>	**A**	<	A		**A**	
			Delay					8		>	**8**		0	>	**0**	<	3		**3**	
			V/C					0		>			0.01	>		<	0			
			Q					0.0		>			0.0	>		<	0.1			
	Emeline St/Driveway & Queen St W	TWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	
			Delay	<	0	>	**0**	<	1	>	**1**	<	9	>	**9**	<	0	>	**0**	
			V/C	<	0	>		<	0	>		<	0.02	>		<	0	>		
			Q	<	0.0	>		<	0.1	>		<	0.5	>		<	0.0	>		
	Main St & McClellan Rd	TWSC	LOS	A		>	**A**					<	A		**A**		A	>	**A**	
			Delay	9		>	**9**					<	0		**0**		0	>	**0**	
			V/C	0.05		>						<	0				0.05	>		
			Q	1.4		>						<	0.1				0.0	>		
	McClellan Rd & Agnes St	TWSC	LOS	<	A		**A**		A	>	**A**					A		>	**A**	
			Delay	<	0		**0**		0	>	**0**					9		>	**9**	
			V/C	<	0				0.01	>						0.01		>		
			Q	<	0.0				0.0	>						0.4		>		
PM Peak Hour	Main St & Queen St W/Queen St E	AWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	
			Delay	<	8	>	**8**	<	9	>	**9**	<	8	>	**8**	<	8	>	**8**	
			V/C	<	0.11	>		<	0.20	>		<	0.17	>		<	0.05	>		
			Q	<	16.9	>		<	20	>		<	20	>		<	14	>		
	Main St & King St/Edmund St	TWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	
			Delay	<	10	>	**10**	<	10	>	**10**	<	0	>	**0**	<	1	>	**1**	
			V/C	<	0.01	>		<	0.01	>		<	0	>		<	0.01	>		
			Q	<	0.2	>		<	0.3	>		<	0.1	>		<	0.2	>		
	Agnes St & Queen St W	TWSC	LOS		A	>	**A**	<	A		**A**	A		>	**A**					
			Delay		0	>	**0**	<	2		**2**	9		>	**9**					
			V/C		0.04	>		<	0.01			0.01		>						
			Q		0.0	>		<	0.3			0.3		>						
	Agnes St & King St	TWSC	LOS					A		>	**A**		A	>	**A**	<	A		**A**	
			Delay					9		>	**9**		0	>	**0**	<	0		**0**	
			V/C					0.01		>			0.01	>		<	0			
			Q					0.4		>			0.0	>		<	0.0			
	Emeline St/Driveway & Queen St W	TWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	
			Delay	<	0	>	**0**	<	1	>	**1**	<	9	>	**9**	<	10	>	**10**	
			V/C	<	0	>		<	0.01	>		<	0.03	>		<	0	>		
			Q	<	0.0	>		<	0.2	>		<	0.7	>		<	0.0	>		
	Main St & McClellan Rd	TWSC	LOS	A		>	**A**					<	A		**A**		A	>	**A**	
			Delay	9		>	**9**					<	2		**2**		0	>	**0**	
			V/C	0.02		>						<	0.02				0.05	>		
			Q	0.5		>						<	0.5				0.0	>		
	McClellan Rd & Agnes St	TWSC	LOS	<	A		**A**		A	>	**A**					A		>	**A**	
			Delay	<	1		**1**		0	>	**0**					9		>	**9**	
			V/C	<	0				0.02	>						0.01		>		
			Q	<	0.0				0.0	>						0.1		>		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
TWSC - Two-Way Stop Control
AWSC - All-Way Stop Control
< / > - Shared with through movement

3 Development Concept

The subject site is located at 14 Agnes Street in the community of Alton, in the Town of Caledon. The site is currently undeveloped.

The property owner proposes to create a new residential subdivision with 67 townhouse units in 14 blocks, 11 blocks of five townhouse units and three blocks of four townhouse units.

Out of the 67 townhouse units, 26 units will have a single garage and a single driveway in front, indicating two parking spaces per unit. The other 41 units provide double garages and double driveways in front, indicating four parking spaces per unit. The development additionally proposes 14 visitor parking spaces at grade.

Vehicle access is proposed via a private road connected with Agnes Street. The road provides two travel lanes (one lane in each direction) and a 4.5-metre median separating the directional traffic. The site access intersection is planned to operate unsignalized with the minor road (site access) leg operating under stop control.

During pre-study consultation, Town staff suggested a one-way road circulation (counter-clockwise) within the site to provide opportunities for wider boulevards and sidewalks, and a better transition space between the private and public realm of the street and dwelling. However, reducing lane width for a one-way road circulation would not free up lands for wider boulevards and sidewalks because the private road branching from the site will be a fire route and the minimum width of a fire route is six metres per the Town's fire department and the Ontario Building Code.[10]

Sidewalks within the site are proposed and a 1.5-metre sidewalk is proposed on the west side of Agnes Street between Queen Street West and Davis Drive to connect with the site.

A walkway in the northwest corner of the site is proposed and will be connected to a 1.5-metre sidewalk proposed on Emeline Street, which will connect to the existing sidewalk on the south side of Queen Street West.

Figure 3.1 illustrates the proposed development concept.

[10] Ontario Building Code, Section 3.2.5.6 Access Route Design, 2017. https://www.buildingcode.online/261.html

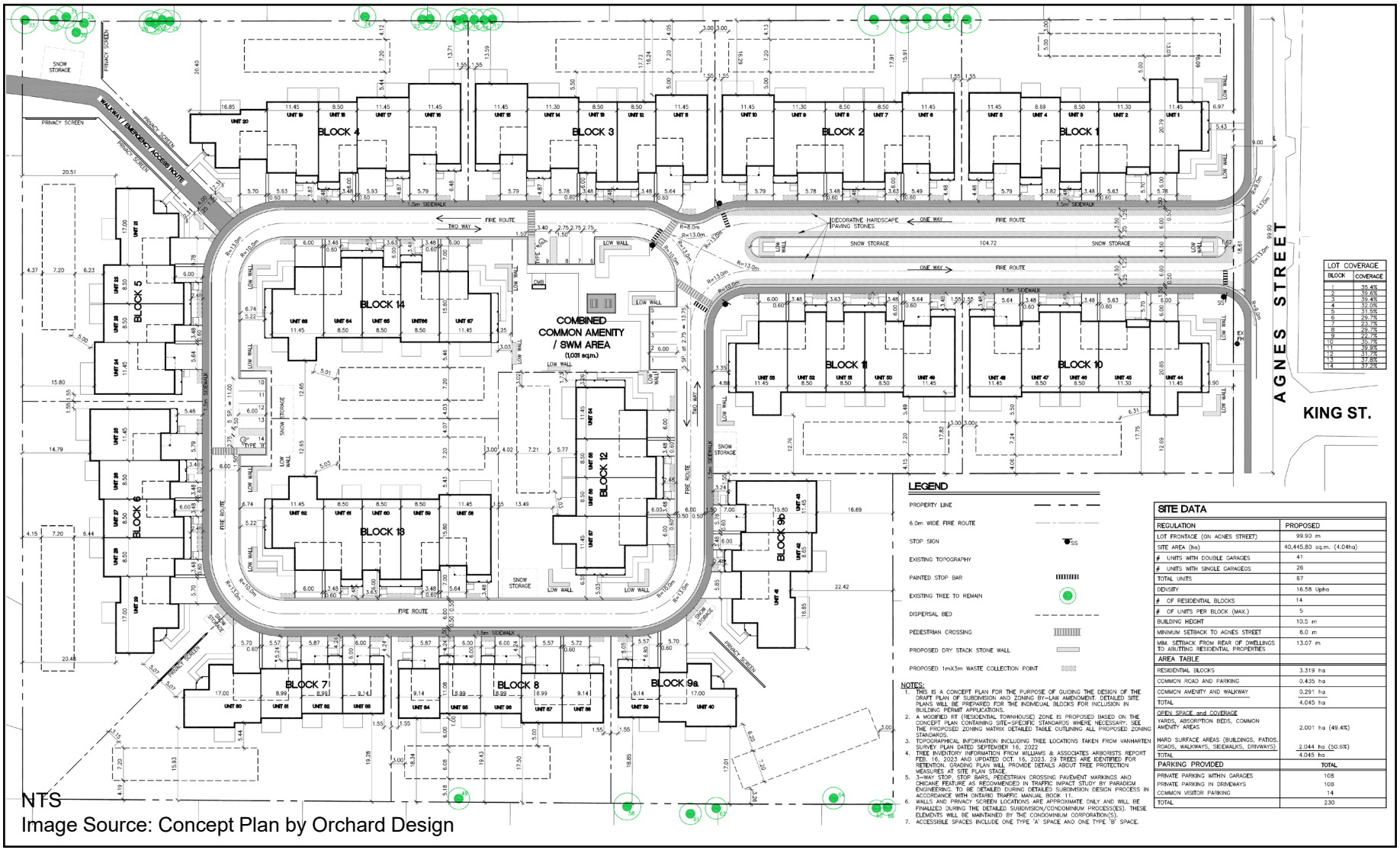


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Image Source: Concept Plan by Orchard Design

Concept Plan

4 Forecast Traffic Volumes

Traffic forecasts and analyses have been completed for a five-year horizon from the date of the study, herein represented by 2027.

Future traffic forecasts in the vicinity of the development consist of increased non-site traffic volumes (general background traffic growth), traffic related to other area developments, if any, and traffic forecast to be generated by the proposed development.

4.1 Forecast Background Traffic Volumes

4.1.1 Generalized Background Growth

General background traffic reflects increase in traffic unrelated to developments within the immediate vicinity of the subject site. This background traffic growth has been estimated using a compounded per annum growth rate.

For the purpose of this study, a traffic growth rate of 0.5 percent per annum was applied to base year counts to project general background growth for the study area roadways. This growth rate represents a conservative approach (i.e., errs on the high side), as the mid-block volumes on Main Street (received from the Town) indicate a negative growth between 2016 and 2020 (from 895 to 781), and between 2020 and 2022 (from 980 to 697).

It is also acknowledged this growth rate is reflective of the maturing community in Alton, which is anticipated to experience moderate growth, according to the Town of Caledon *Official Plan*.[11] [12]

4.1.2 Other Area Developments

According to the Town of Caledon *Development Application Map*[13], there were no approved or in-stream developments around the subject site. Town of Caledon staff originally did not advise of any background developments to be accounted for within the traffic forecasts.

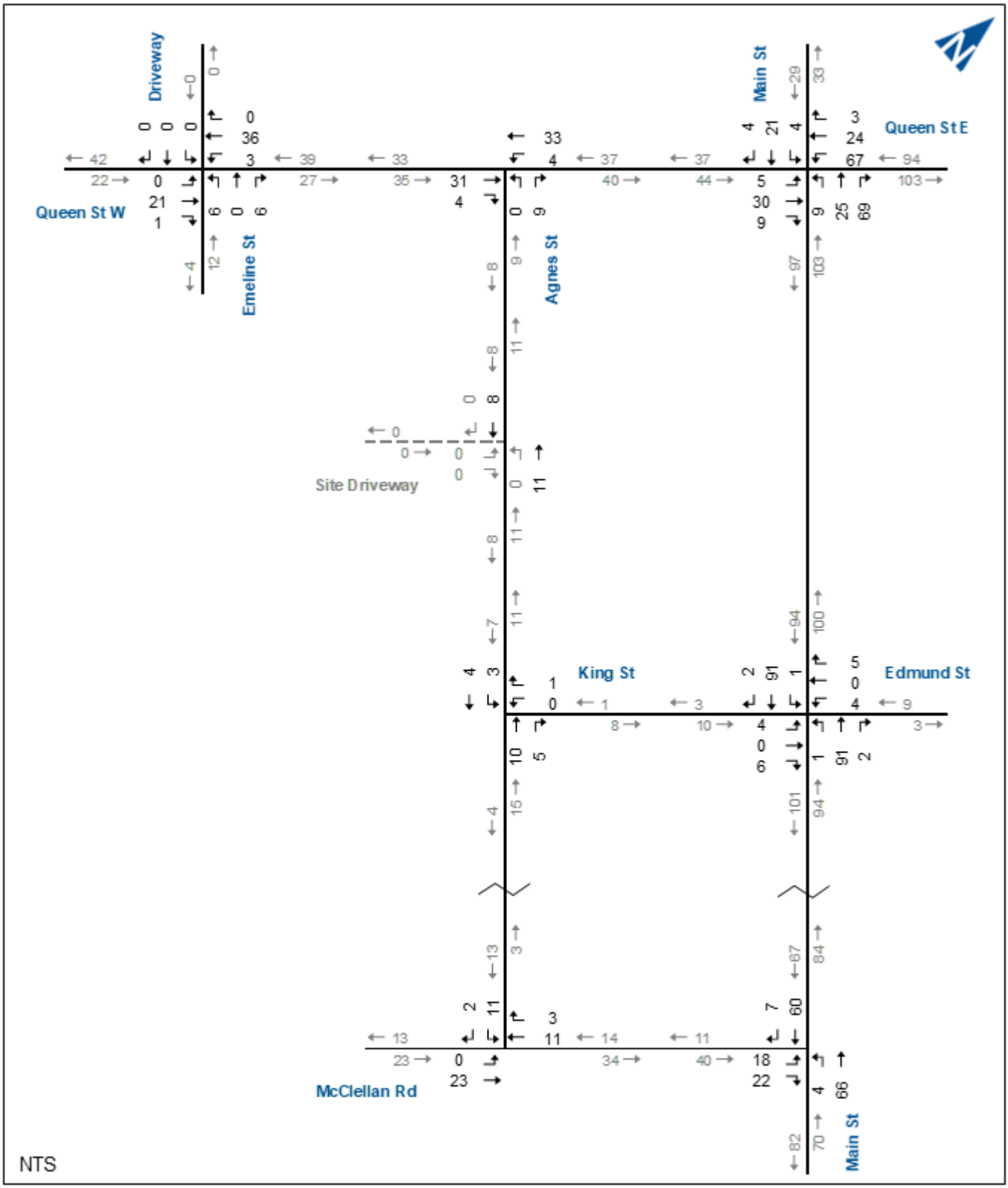
Following the application submission, staff advised of three nearby developments. The first was a subdivision of approximately 114 townhouse residential units southwest of Queen Street and

[11] Town of Caledon, *Official Plan, Section 1.4*, April 2018, p1-3.
[12] The Town of Caledon's draft revised Official Plan similarly states that "only a limited amount of growth will be permitted" in Villages and Hamlets such as Alton.
[13] Town of Caledon, *Development Application Map*, Accessed 1 December 2022. https://caledon.maps.arcgis.com/apps/instant/lookup/index.html?appid=554d71fd87dc4bbb83dc3e6973b08e16

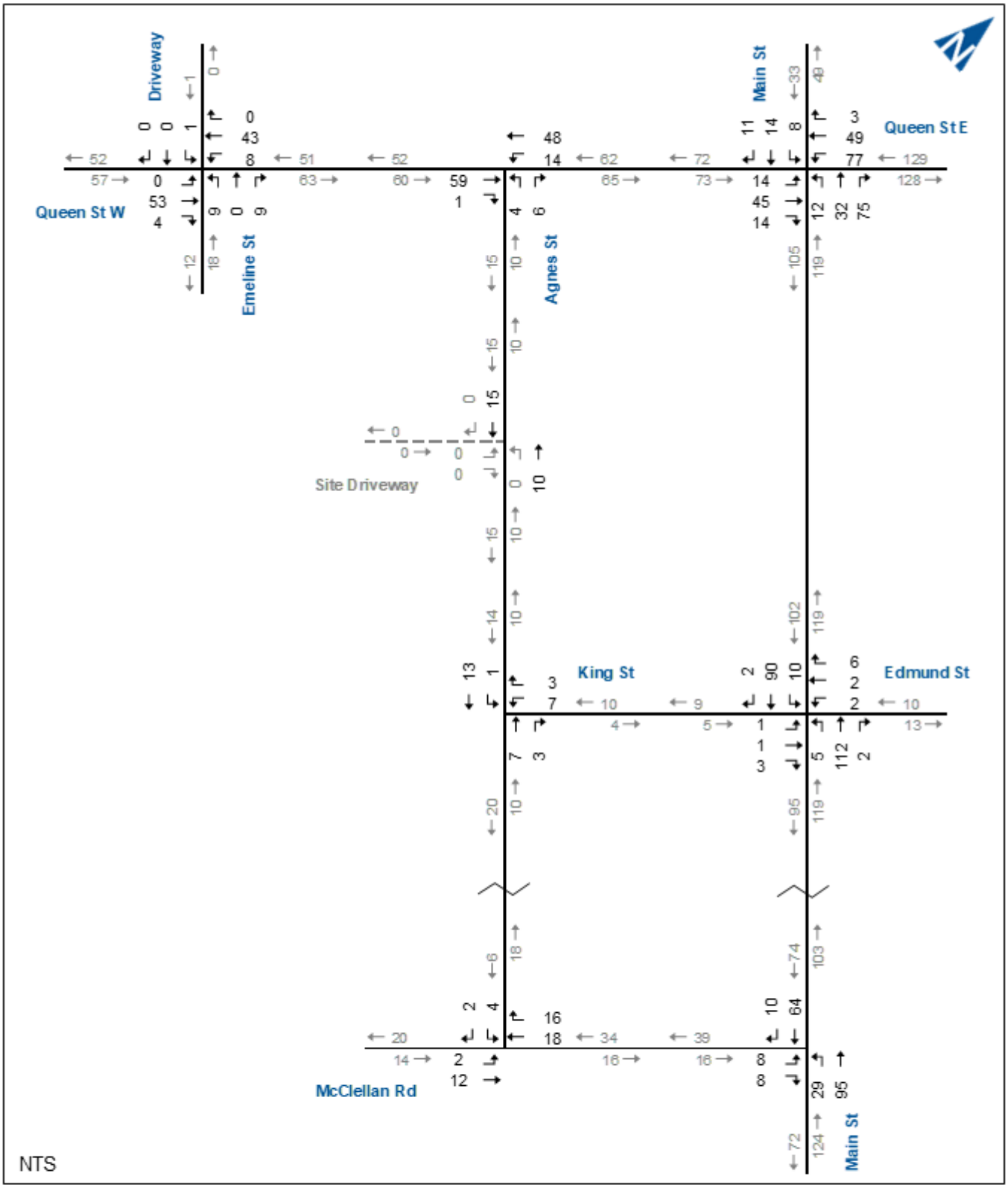
Mississauga Street. Given its location in the northwest portion of the community and absence of non-residential land uses nearby, it is reasonable to assume that traffic to/from this development would follow a similar distribution of origins and destinations to the subject site, described in **section 4.3**. Consequently, the majority of traffic would travel to/from the south from the site using Mississauga Road, while only a small portion would travel to/from the east via Queen Street and into the study area for this site. This means it would not be expected to have a significant impact on the study area intersections compared to the additional traffic arising from the background traffic growth. (The purpose of background traffic growth is to capture the effects of development beyond the study area, such as this.)

The other two developments (three detached homes at 1 Victoria Street and an expansion of the Osprey Valley Golf Course) would not generate significant traffic on study area streets during the AM and PM peak hours compared to existing traffic volumes.

Figure 4.1 and **Figure 4.2** illustrate the 2027 forecast background traffic volumes accounting for general background growth for the weekday AM and PM peak hours, respectively.



2027 AM Peak Hour Background Traffic Forecasts



2027 PM Peak Hour Background Traffic Forecasts

4.2 Site Trip Generation

Trip generation for the proposed development has been estimated using the Institute of Transportation Engineer's (ITE) *Trip Generation Manual (11th Edition)*,[14] which includes trip generation rates/equations for multifamily housing (low-rise) under land use code (LUC) 220. The description for LUC 220 as given by the Trip Generation Manual is as follows:

> *"LUC 220 (Multifamily Housing (Low-Rise)): includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have two or three floors (levels). Various configurations fit this description, including walk-up apartment, mansion apartment, and stacked townhouse."*

Based on the location of the subject site, the trip generation is for a "General Urban/Suburban" location that is "Not Close to Rail Transit". Fitted curve equations were utilized in calculating site-generated traffic.

For assessment purposes a conservative approach (i.e., errs on the high side) was taken by applying no reduction arising from the use of modes other than driving.

Table 4.1 summarizes the resultant weekday AM and PM peak hour site trip generation. The proposed development is forecast to generate a total of 44 and 49 vehicular trips during the weekday AM and PM peak hours, respectively.

TABLE 4.1: SITE TRIP GENERATION

Land Use	Units	AM Peak Hour				PM Peak Hour			
		Rate	In	Out	Total	Rate	In	Out	Total
LUC 220	67	Eqn.[1]	11	33	44	Eqn.[2]	31	18	49
Total			***11***	***33***	***44***		***31***	***18***	***49***

[1] AM: T = 0.31(X) + 22.85 (24% in, 76% out); [2] PM: T = 0.43(X) + 20.55 (63% in, 37% out).

4.3 Site Trip Distribution and Assignment

Directional distribution of traffic approaching and departing the subject lands is a function of several variables, including population densities, existing travel patterns and efficiency of the roadways leading to the site.

[14] Institute of Transportation Engineers, *Trip Generation Manual*, 11th ed., (Washington, DC: ITE, 2021).

The trip distribution for the subject lands was estimated based on travel patterns extracted from the 2016 Transportation Tomorrow Survey (TTS) data. Specifically, home-based inbound and outbound trips to and from Traffic Analysis Zone 3105 during the morning three-hour travel period (6:00 – 9:00 AM) and the afternoon three-hour travel period (4:00 – 7:00 PM) were assessed. Zone 3105 is bounded by Highpoint Road to the north, Beech Grove Sideroad to the south, Mississauga Road to the west, and Porterfield Road to the east.

It was assumed that trips to and from north or south would use Main Street, trips to and from east or west would use Queen Street West. **Table 4.2** summarizes the trip distribution used in this study. **Appendix F** includes the TTS queries and outputs for reference.

TABLE 4.2: TRIP DISTRIBUTION

Origin/Destination	AM Peak Hour		PM Peak Hour	
	In	Out	In	Out
North via Main Street	6%	42%	35%	42%
South via Main Street	61%	50%	48%	53%
East via Queen Street West	16%	8%	8%	5%
West via Queen Street West	17%	0%	9%	0%
Total	***100%***	***100%***	***100%***	***100%***

Following Town staff feedback, two possible trip assignments for the AM peak hour were analyzed. The AM peak hour (Base Case) traffic assignment assumes all southbound vehicles turn left at the intersection of Agnes Street and King Street to get onto Main Street. The AM peak hour (Sensitivity Test) assumes all southbound vehicles turn left at the intersection of Agnes Street and McClellan Road to get onto Main Street, bypassing Alton Public School and associated traffic.

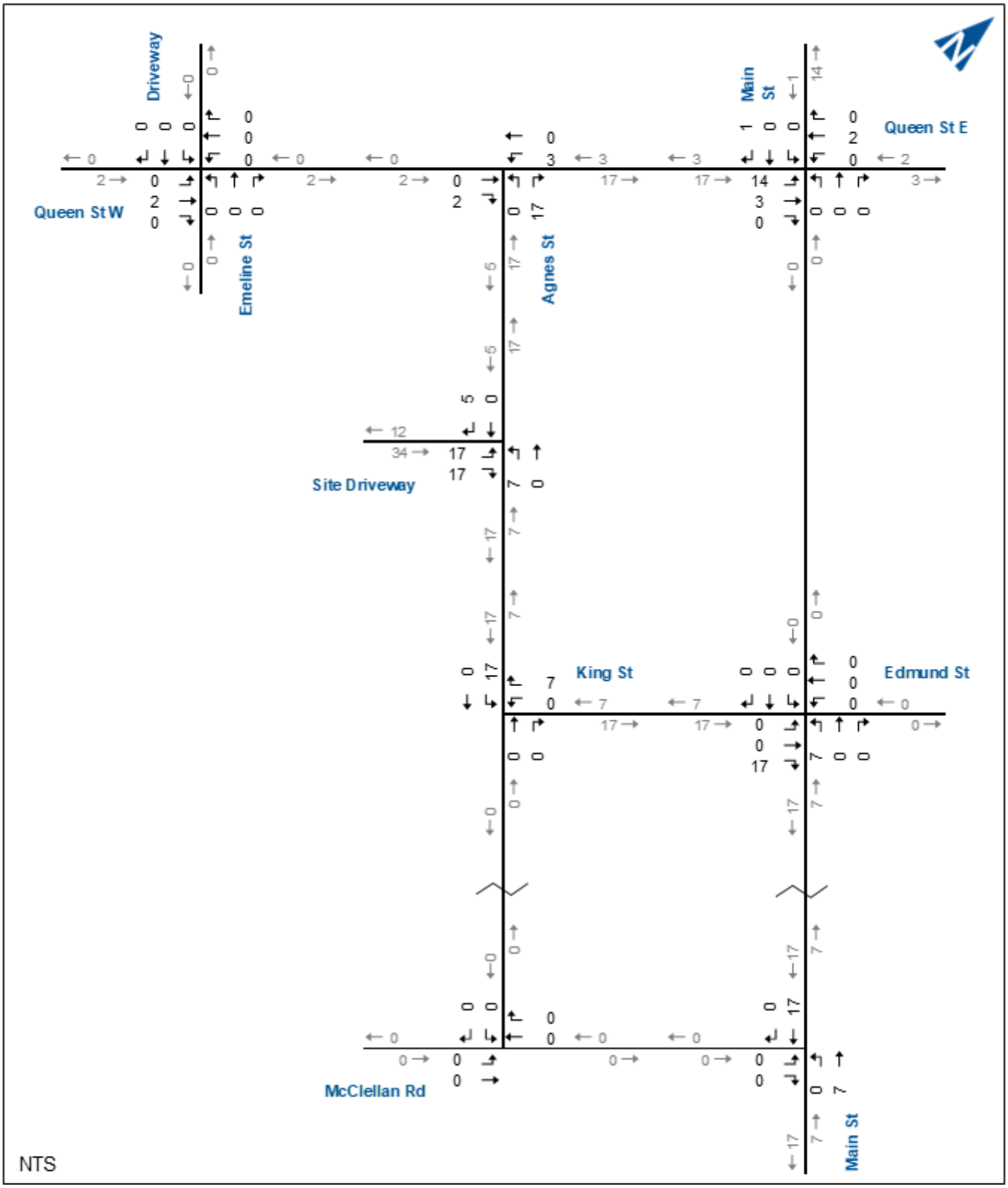
Figure 4.3, **Figure 4.4** and **Figure 4.5** illustrate the site-generated traffic assignments for the weekday AM peak hour (Base Case), AM peak hour (Sensitivity Test), and PM peak hour, respectively.

Slight differences with respect to the trip generation estimates are due to rounding.

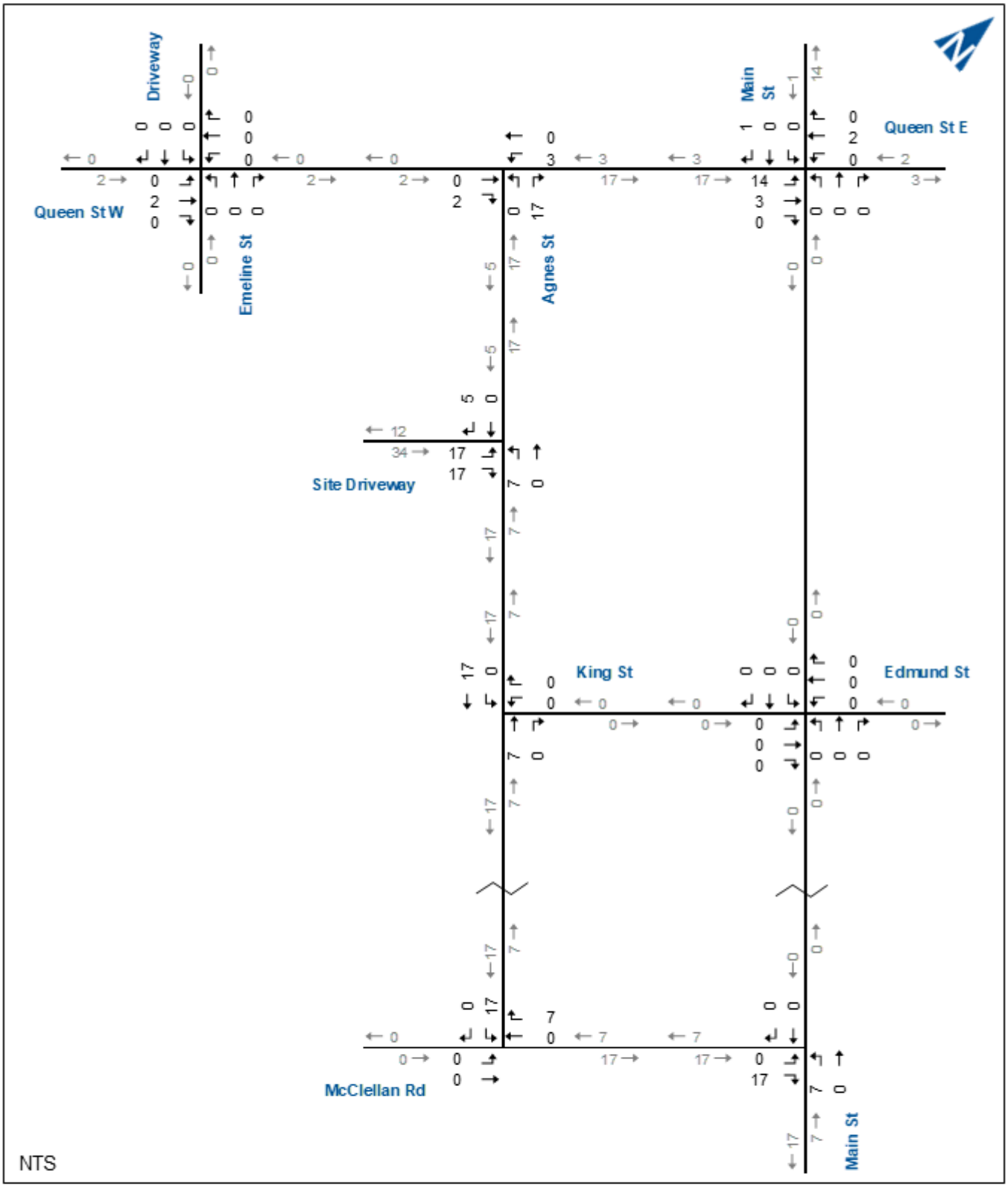
4.4 Future Total Traffic Volumes

The site traffic assignments were added to the 2027 background traffic forecasts to determine the future total traffic forecasts for the 2027 horizon year.

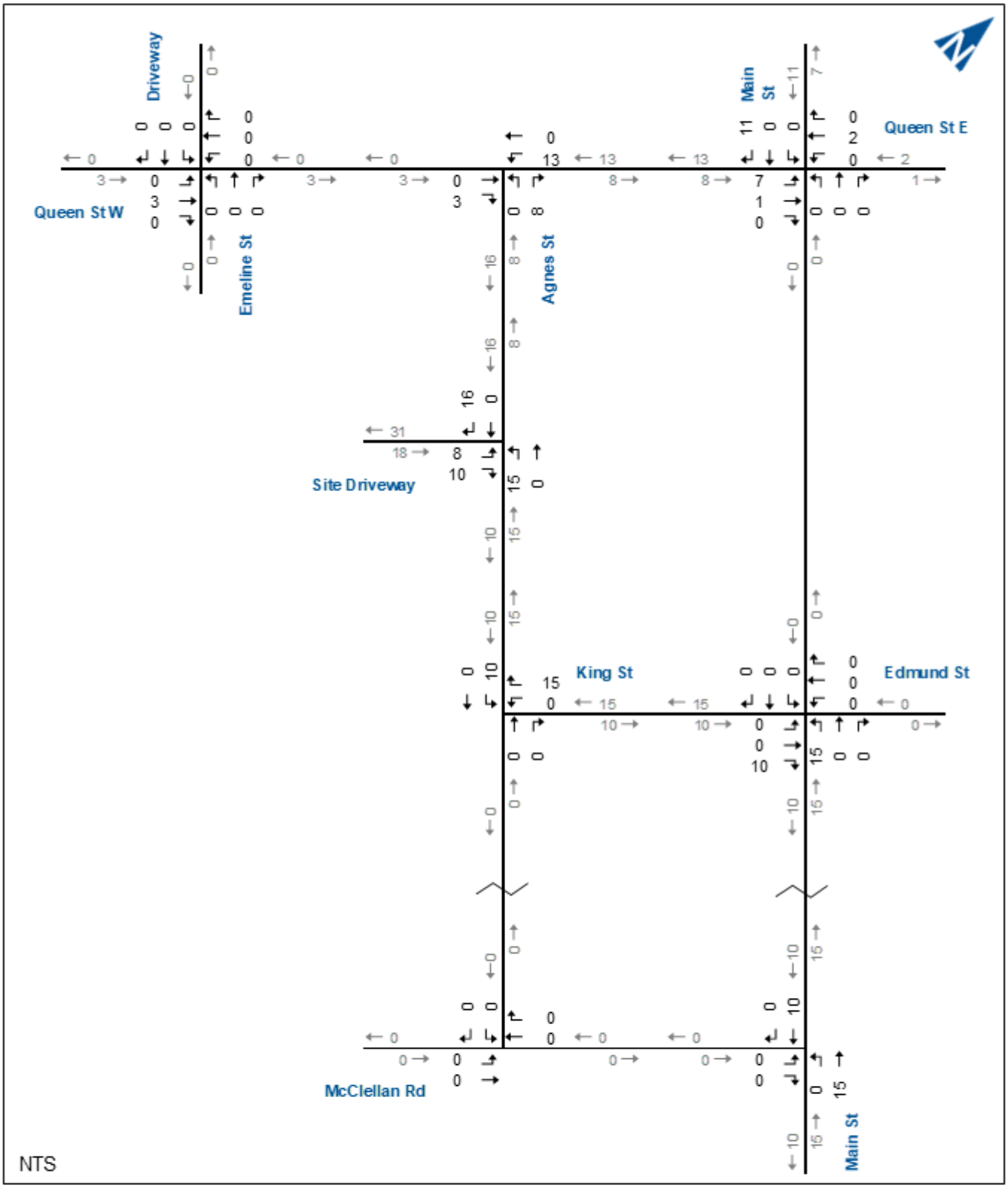
Figure 4.6, **Figure 4.7** and **Figure 4.8** illustrate the 2027 forecast total traffic volumes for the weekday AM peak hour (Base Case), AM peak hour (Sensitivity Test) and PM peak hour, respectively.



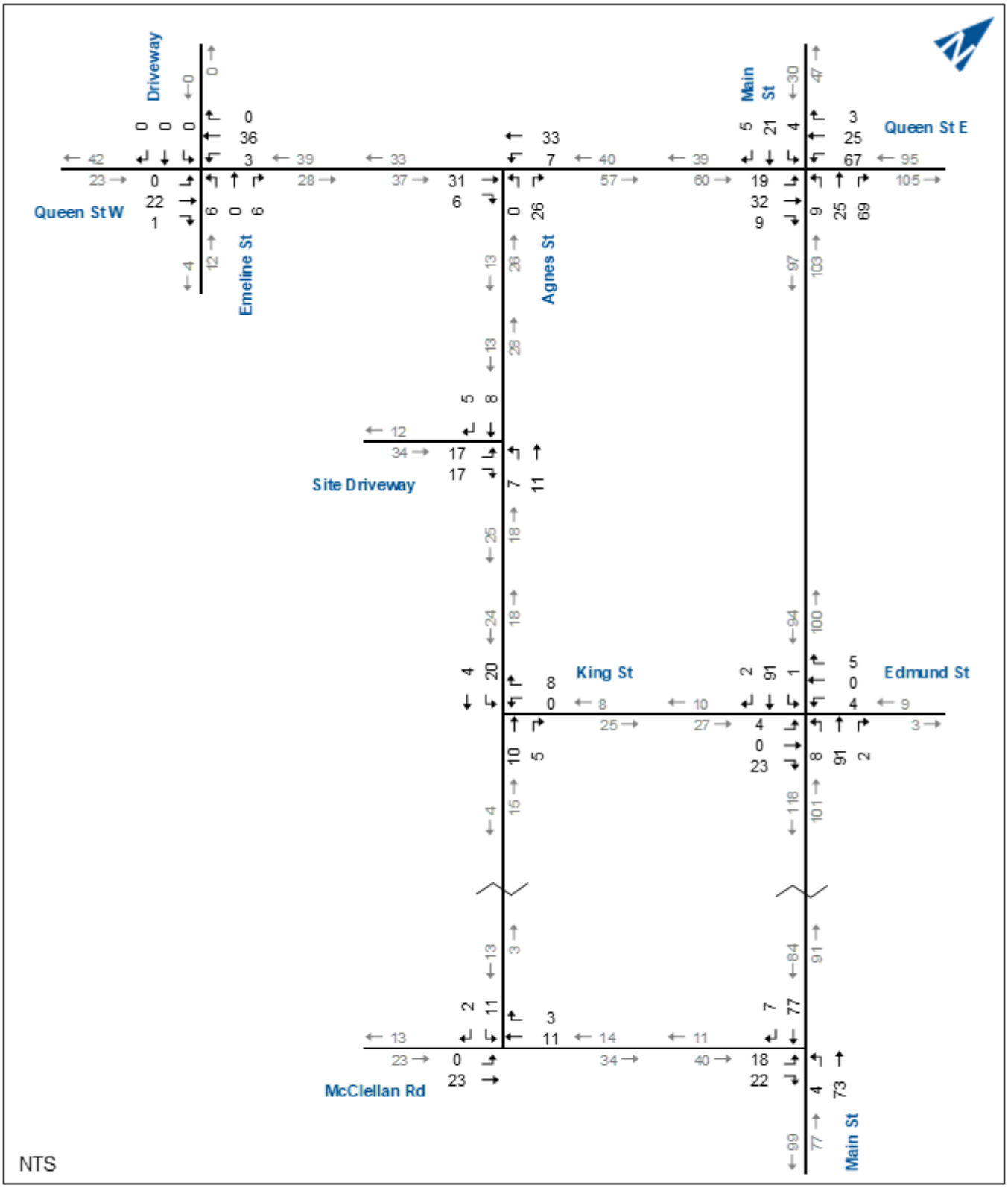
Site-Generated AM Peak Hour Traffic Forecasts (Base Case)



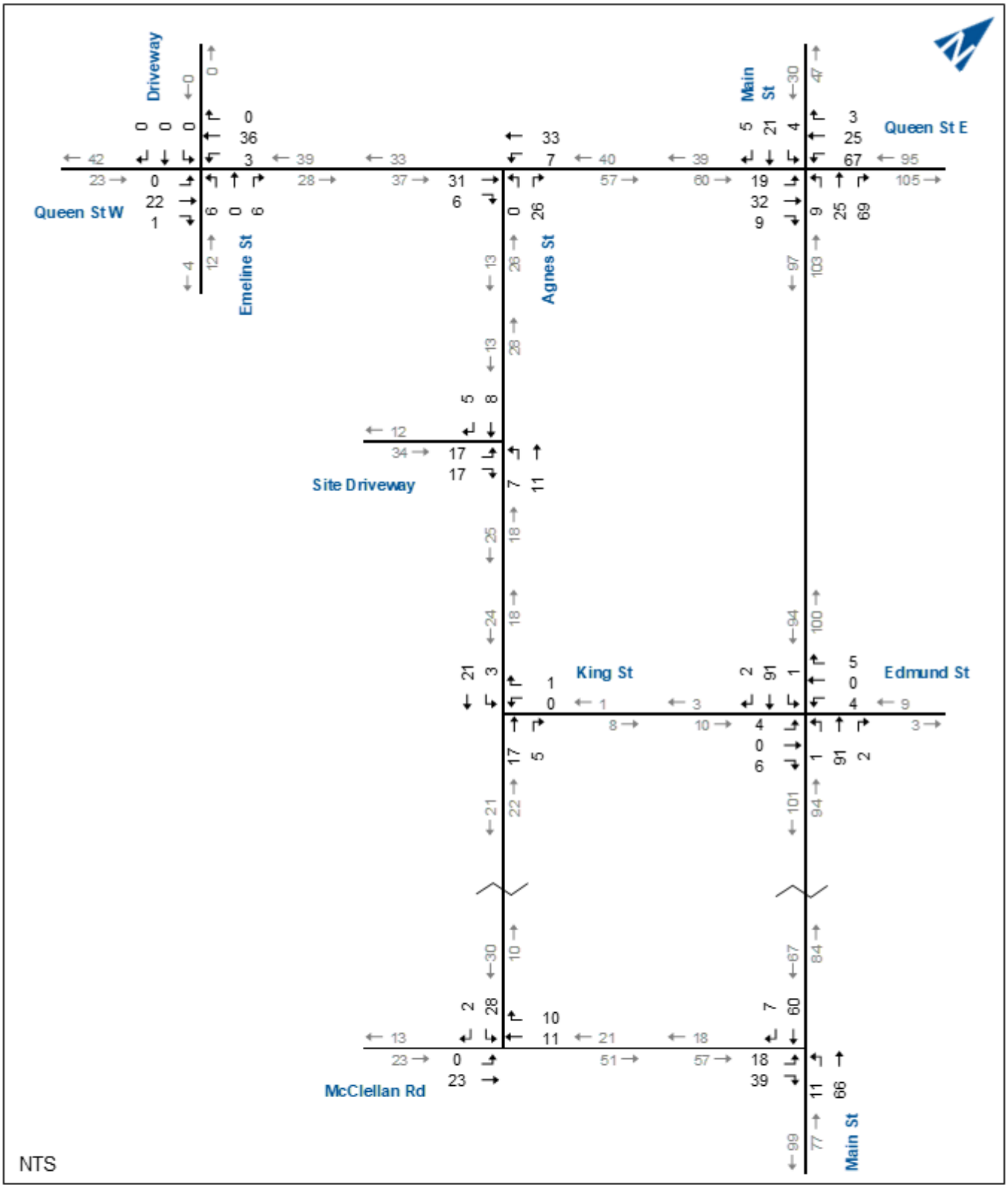
Site-Generated AM Peak Hour Traffic Forecasts (Sensitivity Test)



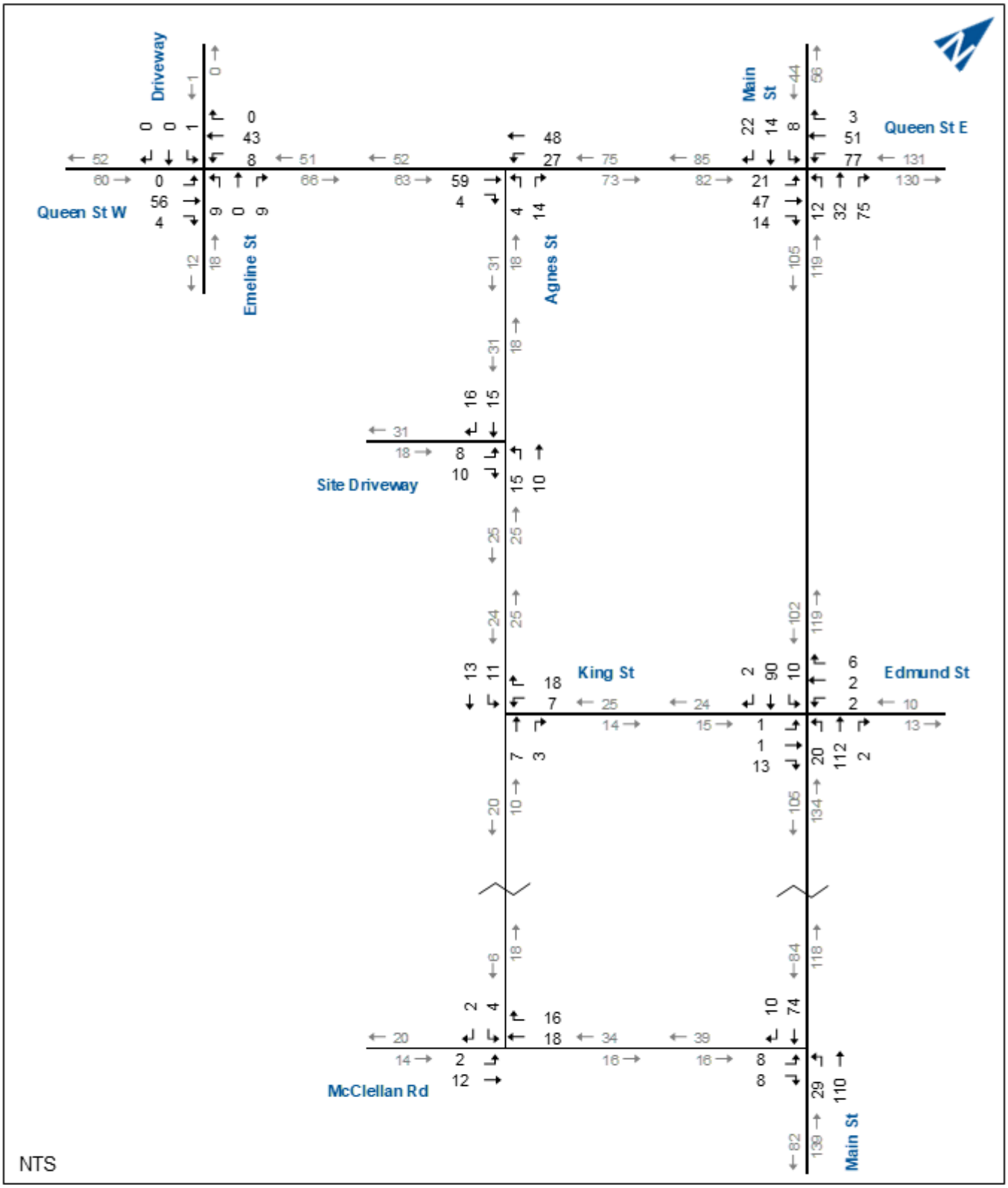
Site-Generated PM Peak Hour Traffic Forecasts



2027 AM Peak Hour Total Traffic Forecasts (Base Case)



2027 AM Peak Hour Total Traffic Forecasts (Sensitivity Test)



2027 PM Peak Hour Total Traffic Forecasts

5 Transportation Impact Analysis

5.1 Background Traffic Operations

To assess the automobile operating conditions for the future background traffic forecasts during the study peak hours, operational analyses were undertaken using the same methodology, parameters, lane arrangements and traffic control devices as in the analysis of base year conditions.

Table 5.1 summarizes the results of the operational analysis for the 2027 background traffic conditions for the AM and PM peak hours. Any movements identified as critical movements are highlighted within the results table. **Appendix D** contains the Synchro analysis outputs for reference.

All intersections and traffic movements are forecast to continue operating at acceptable levels of service and well within capacity under 2027 background traffic conditions. All vehicle movements are reported to be operating at a LOS of A. No critical movements are identified.

The 95th percentile queue lengths were checked for all through lanes against provided storage lengths. No spillback issues are identified.

TABLE 5.1: 2027 PEAK HOUR BACKGROUND TRAFFIC OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																Overall
				Eastbound				Westbound				Northbound				Southbound				
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Main St & Queen St W/Queen St E	AWSC	LOS	<	A	>	A	<	A	>	A	<	A	>	A	<	A	>	A	
			Delay	<	8	>	8	<	8	>	8	<	8	>	8	<	8	>	8	
			V/C	<	0.06	>		<	0.12	>		<	0.13	>		<	0.04	>		
			Q	<	15.3	>		<	15.7	>		<	19.5	>		<	14.9	>		
	Main St & King St/Edmund St	TWSC	LOS	<	A	>	A	<	A	>	A	<	A	>	A	<	A	>	A	
			Delay	<	10	>	10	<	9	>	9	<	0	>	0	<	0	>	0	
			V/C	<	0.02	>		<	0.01	>		<	0	>		<	0	>		
			Q	<	0.4	>		<	0.3	>		<	0.0	>		<	0.0	>		
	Agnes St & Queen St W	TWSC	LOS		A	>	A	<	A		A	A		>	A					
			Delay		0	>	0	<	1		1	8		>	8					
			V/C		0.02	>		<	0			0.01		>						
			Q		0.0	>		<	0.1			0.2		>						
	Agnes St & King St	TWSC	LOS					A		>	A		A	>	A	<	A		A	
			Delay					8		>	8		0	>	0	<	3		3	
			V/C					0		>			0.01	>		<	0			
			Q					0.0		>			0.0	>		<	0.1			
	Emeline St/Driveway & Queen St W	TWSC	LOS	<	A	>	A	<	A	>	A	<	A	>	A	<	A	>	A	
			Delay	<	0	>	0	<	1	>	1	<	9	>	9	<	0	>	0	
			V/C	<	0	>		<	0	>		<	0.02	>		<	0	>		
			Q	<	0.0	>		<	0.1	>		<	0.5	>		<	0.0	>		
	Main St & McClellan Rd	TWSC	LOS	A		>	A					<	A		A		A	>	A	
			Delay	9		>	9					<	0		0		0	>	0	
			V/C	0.06		>						<	0				0.05	>		
			Q	1.4		>						<	0.1				0.0	>		
	McClellan Rd & Agnes St	TWSC	LOS	<	A		A		A	>	A					A		>	A	
			Delay	<	0		0		0	>	0					9		>	9	
			V/C	<	0				0.01	>						0.01		>		
			Q	<	0.0				0.0	>						0.4		>		
PM Peak Hour	Main St & Queen St W/Queen St E	AWSC	LOS	<	A	>	A	<	A	>	A	<	A	>	A	<	A	>	A	
			Delay	<	8	>	8	<	9	>	9	<	8	>	8	<	8	>	8	
			V/C	<	0.11	>		<	0.20	>		<	0.17	>		<	0.05	>		
			Q	<	17	>		<	19.6	>		<	20.3	>		<	14.6	>		
	Main St & King St/Edmund St	TWSC	LOS	<	A	>	A	<	A	>	A	<	A	>	A	<	A	>	A	
			Delay	<	10	>	10	<	10	>	10	<	0	>	0	<	1	>	1	
			V/C	<	0.01	>		<	0.01	>		<	0	>		<	0.01	>		
			Q	<	0.2	>		<	0.3	>		<	0.1	>		<	0.2	>		
	Agnes St & Queen St W	TWSC	LOS		A	>	A	<	A		A	A		>	A					
			Delay		0	>	0	<	2		2	9		>	9					
			V/C		0.04	>		<	0.01			0.01		>						
			Q		0.0	>		<	0.3			0.3		>						
	Agnes St & King St	TWSC	LOS					A		>	A		A	>	A	<	A		A	
			Delay					9		>	9		0	>	0	<	0		0	
			V/C					0.01		>			0.01	>		<	0			
			Q					0.4		>			0.0	>		<	0.0			
	Emeline St/Driveway & Queen St W	TWSC	LOS	<	A	>	A	<	A	>	A	<	A	>	A	<	A	>	A	
			Delay	<	0	>	0	<	1	>	1	<	9	>	9	<	10	>	10	
			V/C	<	0	>		<	0.01	>		<	0.03	>		<	0	>		
			Q	<	0.0	>		<	0.2	>		<	0.7	>		<	0.0	>		
	Main St & McClellan Rd	TWSC	LOS	A		>	A					<	A		A		A	>	A	
			Delay	9		>	9					<	2		2		0	>	0	
			V/C	0.02		>						<	0.02				0.05	>		
			Q	0.5		>						<	0.5				0.0	>		
	McClellan Rd & Agnes St	TWSC	LOS	<	A		A		A	>	A					A		>	A	
			Delay	<	1		1		0	>	0					9		>	9	
			V/C	<	0				0.02	>						0.01		>		
			Q	<	0.0				0.0	>						0.1		>		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
TWSC - Two-Way Stop Control
AWSC - All-Way Stop Control
< / > - Shared with through movement

5.2 Total Traffic Operations

To assess the automobile operating conditions for the forecast future total traffic volumes during the study peak hours, operational analyses were undertaken using the same methodology, parameters, lane arrangements and traffic control devices as in the analysis of background conditions.

Table 5.2 and **Table 5.3** summarize the results of the operational analysis for the 2027 total traffic conditions for the weekday AM (Base Case) and PM peak hours, and AM peak hour (Sensitivity Test), respectively. Any movements identified as critical movements are highlighted within the results tables. **Appendix E** contains the Synchro analysis outputs for reference.

The results of the analysis indicate the study area intersections are forecast to operate at similar levels of service as noted under background conditions.

With the addition of site-generated traffic, the 2027 total traffic conditions are forecast to continue operating at acceptable levels of service and well within capacity during all study peak hours (including Base Case and Sensitivity Test). No critical movements are identified.

The 95th percentile queue lengths were checked for all through lanes against provided storage lengths. No spillback issues are identified.

The site access intersection is reported to operate at acceptable levels of service and well within capacity.

TABLE 5.2: 2027 PEAK HOUR TOTAL TRAFFIC OPERATIONS (BASE CASE)

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																Overall
				Eastbound				Westbound				Northbound				Southbound				
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Main St & Queen St W/Queen St E	AWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	
			Delay	<	8	>	**8**	<	8	>	**8**	<	8	>	**8**	<	8	>	**8**	
			V/C	<	0.08	>		<	0.13	>		<	0.13	>		<	0.04	>		
			Q	<	14.6	>		<	16.5	>		<	20.1	>		<	13.7	>		
	Main St & King St/Edmund St	TWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	
			Delay	<	10	>	**10**	<	10	>	**10**	<	1	>	**1**	<	0	>	**0**	
			V/C	<	0.04	>		<	0.01	>		<	0.01	>		<	0	>		
			Q	<	1.0	>		<	0.3	>		<	0.1	>		<	0.0	>		
	Agnes St & Queen St W	TWSC	LOS		A	>	**A**	<	A		**A**	A		>	**A**					
			Delay		0	>	**0**	<	1		**1**	9		>	**9**					
			V/C		0.02	>		<	0			0.03		>						
			Q		0.0	>		<	0.1			0.7		>						
	Agnes St & King St	TWSC	LOS					A		>	**A**		A	>	**A**	<	A		**A**	
			Delay					8		>	**8**		0	>	**0**	<	6		**6**	
			V/C					0.01		>			0.01	>		<	0.02			
			Q					0.3		>			0.0	>		<	0.5			
	Emeline St/Driveway & Queen St W	TWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	
			Delay	<	0	>	**0**	<	1	>	**1**	<	9	>	**9**	<	0	>	**0**	
			V/C	<	0	>		<	0	>		<	0.02	>		<	0	>		
			Q	<	0.0	>		<	0.1	>		<	0.5	>		<	0.0	>		
	Main St & McClellan Rd	TWSC	LOS	A		>	**A**					<	A		**A**		A	>	**A**	
			Delay	10		>	**10**					<	0		**0**		0	>	**0**	
			V/C	0.06		>						<	0				0.06	>		
			Q	1.5		>						<	0.1				0.0	>		
	McClellan Rd & Agnes St	TWSC	LOS	<	A		**A**		A	>	**A**					A		>	**A**	
			Delay	<	0		**0**		0	>	**0**					9		>	**9**	
			V/C	<	0				0.01	>						0.01		>		
			Q	<	0.0				0.0	>						0.4		>		
	Agnes St & Site Driveway	TWSC	LOS	A		>	**A**					<	A		**A**		A	>	**A**	
			Delay	9		>	**9**					<	3		**3**		0	>	**0**	
			V/C	0.04		>						<	0				0.01	>		
			Q	0.9		>						<	0.1				0.0	>		
PM Peak Hour	Main St & Queen St W/Queen St E	AWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	
			Delay	<	8	>	**8**	<	9	>	**9**	<	8	>	**8**	<	8	>	**8**	
			V/C	<	0.13	>		<	0.21	>		<	0.17	>		<	0.07	>		
			Q	<	17.4	>		<	19.8	>		<	21.6	>		<	15.5	>		
	Main St & King St/Edmund St	TWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	
			Delay	<	10	>	**10**	<	10	>	**10**	<	1	>	**1**	<	1	>	**1**	
			V/C	<	0.02	>		<	0.01	>		<	0.02	>		<	0.01	>		
			Q	<	0.5	>		<	0.4	>		<	0.5	>		<	0.2	>		
	Agnes St & Queen St W	TWSC	LOS		A	>	**A**	<	A		**A**	A		>	**A**					
			Delay		0	>	**0**	<	3		**3**	9		>	**9**					
			V/C		0.05	>		<	0.02			0.02		>						
			Q		0.0	>		<	0.5			0.6		>						
	Agnes St & King St	TWSC	LOS					A		>	**A**		A	>	**A**	<	A		**A**	
			Delay					9		>	**9**		0	>	**0**	<	3		**3**	
			V/C					0.03		>			0.01	>		<	0.01			
			Q					0.9		>			0.0	>		<	0.2			
	Emeline St/Driveway & Queen St W	TWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	
			Delay	<	0	>	**0**	<	1	>	**1**	<	9	>	**9**	<	10	>	**10**	
			V/C	<	0	>		<	0.01	>		<	0.03	>		<	0	>		
			Q	<	0.0	>		<	0.2	>		<	0.7	>		<	0.0	>		
	Main St & McClellan Rd	TWSC	LOS	A		>	**A**					<	A		**A**		A	>	**A**	
			Delay	10		>	**10**					<	2		**2**		0	>	**0**	
			V/C	0.02		>						<	0.02				0.05	>		
			Q	0.5		>						<	0.5				0.0	>		
	McClellan Rd & Agnes St	TWSC	LOS	<	A		**A**		A	>	**A**					A		>	**A**	
			Delay	<	1		**1**		0	>	**0**					9		>	**9**	
			V/C	<	0				0.02	>						0.01		>		
			Q	<	0.0				0.0	>						0.1		>		
	Agnes St & Site Driveway	TWSC	LOS	A		>	**A**					<	A		**A**		A	>	**A**	
			Delay	9		>	**9**					<	4		**4**		0	>	**0**	
			V/C	0.02		>						<	0.01				0.02	>		
			Q	0.5		>						<	0.2				0.0	>		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
TWSC - Two-Way Stop Control
AWSC - All-Way Stop Control
< / > - Shared with through movement

TABLE 5.3: 2027 AM PEAK HOUR TOTAL TRAFFIC OPERATIONS (SENSITIVITY TEST)

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																Overall
				Eastbound				Westbound				Northbound				Southbound				
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Main St & Queen St W/Queen St E	AWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	
			Delay	<	8	>	**8**	<	8	>	**8**	<	8	>	**8**	<	8	>	**8**	
			V/C	<	0.08	>		<	0.13	>		<	0.13	>		<	0.04	>		
			Q	<	14.6	>		<	16.5	>		<	20.1	>		<	13.7	>		
	Main St & King St/Edmund St	TWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	
			Delay	<	10	>	**10**	<	9	>	**9**	<	0	>	**0**	<	0	>	**0**	
			V/C	<	0.02	>		<	0.01	>		<	0	>		<	0	>		
			Q	<	0.4	>		<	0.3	>		<	0.0	>		<	0.0	>		
	Agnes St & Queen St W	TWSC	LOS		A	>	**A**	<	A		**A**	A		>	**A**					
			Delay		0	>	**0**	<	1		**1**	9		>	**9**					
			V/C		0.02	>		<	0			0.03		>						
			Q		0.0	>		<	0.1			0.7		>						
	Agnes St & King St	TWSC	LOS					A		>	**A**		A	>	**A**	<	A		**A**	
			Delay					8		>	**8**		0	>	**0**	<	1		**1**	
			V/C					0		>			0.02	>		<	0			
			Q					0.0		>			0.0	>		<	0.1			
	Emeline St/Driveway & Queen St W	TWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	
			Delay	<	0	>	**0**	<	1	>	**1**	<	9	>	**9**	<	0	>	**0**	
			V/C	<	0	>		<	0	>		<	0.02	>		<	0	>		
			Q	<	0.0	>		<	0.1	>		<	0.5	>		<	0.0	>		
	Main St & McClellan Rd	TWSC	LOS	A		>	**A**					<	A		**A**		A	>	**A**	
			Delay	9		>	**9**					<	1		**1**		0	>	**0**	
			V/C	0.08		>						<	0.01				0.05	>		
			Q	2.1		>						<	0.2				0.0	>		
	McClellan Rd & Agnes St	TWSC	LOS	<	A		**A**		A	>	**A**					A		>	**A**	
			Delay	<	0		**0**		0	>	**0**					9		>	**9**	
			V/C	<	0				0.01	>						0.03		>		
			Q	<	0.0				0.0	>						0.9		>		
	Agnes St & Site Driveway	TWSC	LOS	A		>	**A**					<	A		**A**		A	>	**A**	
			Delay	9		>	**9**					<	3		**3**		0	>	**0**	
			V/C	0.04		>						<	0				0.01	>		
			Q	0.9		>						<	0.1				0.0	>		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
TWSC - Two-Way Stop Control
AWSC - All-Way Stop Control
< / > - Shared with through movement

5.3 Assessment of Impacts

Table 5.4 provides a summary of how traffic volumes will increase with the addition of the traffic generated by the subject development (under Base Case). It is noted that majority of the intersections suggest a relatively high increase (over 10%) in traffic during the AM and PM peak hours; however, this only translated to a small increase in traffic volumes (under 30 vehicles). The additional site-generated traffic can be accommodated by the existing transportation network without the need for any geometric improvements.

TABLE 5.4: TRAFFIC VOLUME INCREASE

Intersection	2027 Background vs. 2027 Total Volume Increase (Total Entering)	
	AM Peak Hour	PM Peak Hour
Main Street & Queen Street West/Queen St East	18 (7%)	21 (6%)
Main Street & King Street	24 (11%)	25 (11%)
Agnes Street & Queen Street West	22 (27%)	24 (18%)
Agnes Street & King Street	24 (100%)	25 (72%)
Emeline Street & Queen Street West	2 (2%)	3 (2%)
Main Street & McClellan Road	24 (13%)	25 (12%)
McClellan Road & Agnes Street	0 (0%)	0 (0%)

No geometric roadway or intersection improvements are required to support the proposed residential development based on the following reasons:

- All study area intersections are reported to operate with acceptable levels of service and well within capacity under base year (2022) conditions;
- All study area intersections are forecasted to operate with acceptable levels of service and well within capacity under 2027 background and total conditions; and
- The site-generated traffic is considered minor as demonstrated in **Table 5.4** and is not expected to materially impact the existing road network.

6 Parking Review

6.1 Zoning By-law Requirements

The vehicular parking requirements for the subject site have been verified against the Town of Caledon's Zoning By-law.[15] Per Section 5 Table 5.1 in the Zoning By-law, the minimum number of parking spaces for townhouse units (four or more) is noted as 2.0 spaces per dwelling unit plus 0.25 spaces per unit designated for visitor parking.

Table 6.1 summarizes the required parking for the proposed development in comparison to the proposed parking supply.

TABLE 6.1: REQUIRED AND PROVIDED VEHICULAR PARKING

Type	Required Rate	Required Spaces	Proposed Spaces	Surplus/ (Deficit)
Resident (67 units)	2.0 spaces/unit	134	216	82
Visitor (67 units)	0.25 spaces/unit	17	14	(3)
Total	***2.25 spaces/unit***	***151***	***230***	***79***

As shown above, the proposed resident vehicular parking supply of 216 spaces exceeds the Town's by-law requirements; however, the visitor parking supply indicates a deficit of three spaces.

Two barrier-free parking spaces are provided at grade. The barrier-free parking requirement as noted in the Town of Caledon Zoning By-law 2015-058[16] is 4% of required parking spaces (ranging from 13 to 100 spaces). The required 17 visitor parking spaces would require a minimum of one barrier-free parking space. The proposed two barrier-free parking spaces exceed this requirement.

6.2 Parking Justification

There are 41 units with double garages and driveways, and hence four parking spaces dedicated to those units. These 41 units therefore have dedicated parking spaces in excess of the 2.25 spaces/unit required

[15] Town of Caledon, *Zoning By-law, Section 5 – Parking, Loading and Delivery Standards*, revised: 3 June 2022.

[16] Town of Caledon, *Zoning By-law 2015-058, Schedule K – Designated Accessible Parking Spaces*.

for Townhouses. As a result, they would not need to use the (shared) visitor parking spaces.

This means the 14 shared visitor parking spaces can be regarded as being for the benefit of the 26 units with single garages/driveways (and hence two dedicated spaces per unit). This more than satisfies the visitor parking requirement of 0.25 spaces/unit for these units. The two dedicated spaces satisfy the resident parking requirement of 2.0 spaces/unit.

Table 6.2 summarizes this information.

TABLE 6.2: PARKING JUSTIFICATION

Type	Required Rate	Required Spaces	Proposed Spaces	Surplus/ (Deficit)
Double-garage units				
Resident (41 units)	2.0 spaces/unit	82	164 (by unit)	71
Visitor (41 units)	0.25 spaces/unit	11		
Total		**93**	**164**	**71**
Single-garage units				
Resident (26 units)	2.0 spaces/unit	52	52 (by unit)	0
Visitor (26 units)	0.25 spaces/unit	7	14 (shared)	7
Total		**59**	**66**	**7**

Overall, the provision of double-garage units reduces the need for shared visitor parking, and hence the amount of parking provided is sufficient to satisfy the overall intent of the Zoning By-Law.

7 Access and Circulation Review

The proposed development is accessed via a pair of one-way driveways on Agnes Street. The one-way driveways are assumed to have standard signage at their starts and ends indicating permitted and forbidden movements, as well as suitable signage along their length.

7.1 Site Driveway Alignment

The site access driveway is located on the west side of Agnes Street, a short distance north of the existing intersection with King Street (on the east side). The distance is sufficient that drivers must treat the situation as two separate T-intersections; there is no reasonable way to drive 'straight' across from the site driveway to King Street (or vice versa).

As shown in **Figures 4.6 – 4.8**, the future total volumes on the site driveway, Agnes Street and King Street are all less than 30 vehicles per hour – or less than one vehicle every two minutes. Consequently, it is unlikely that a vehicle would be turning into or out of both intersections at the same time. Even under this unlikely scenario, the design of both intersections provides clear visibility in both directions. The driver of a vehicle turning out of the site driveway would be able to clearly observe any vehicle waiting to turn out of King Street (or vice versa), and act accordingly.

The intersection spacing would be similar to that on Main Street between the King Street and Edmund Street. Consequently, drivers going to/from the residential area on the site would be familiar with similar situations elsewhere in the community.

As a result, the proposed site driveway intersection configuration offers a reasonable way to provide access into and out of the site.

7.2 Internal Intersection Configuration

The site includes an internal intersection where the two one-way driveways connecting to Agnes Street meet the two ends of the (two-way) loop serving the majority the site. The one-way driveways are required to provide hard paving to 6m in width, to allow fire truck access.

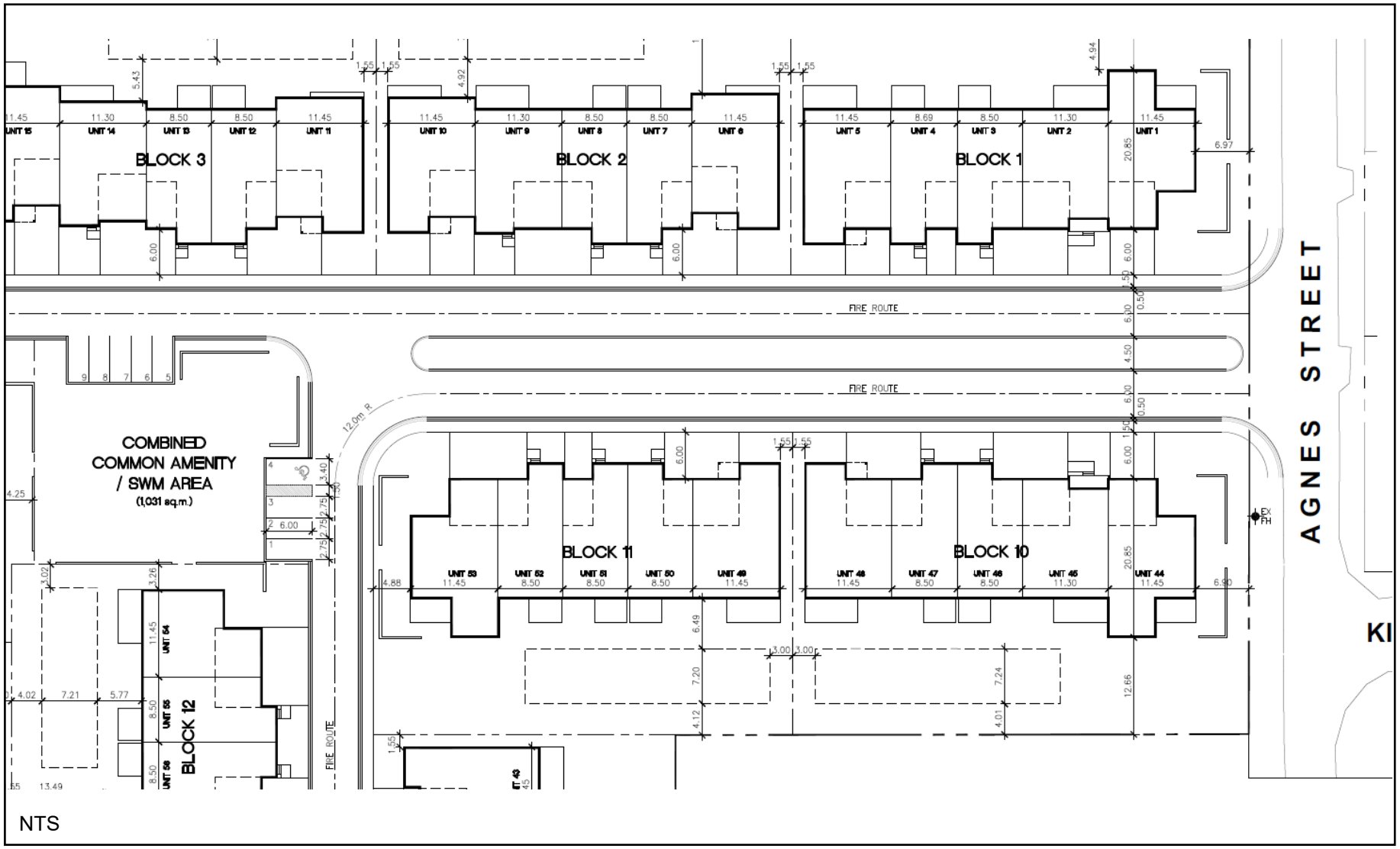
The west leg of internal intersection is aligned with the inbound one-way driveway. The original configuration for this intersection (shown in **Figure 7.0**) created concerns that a vehicle travelling eastbound through the intersection would end up travelling the wrong way on the inbound driveway if they proceeded straight through the intersection.

As a result, three alternative configurations for this intersection were considered:

- **Option 1 – wider medians (Figure 7.1)**: This design reduced the apparent width of the driveways by adding 2m of decorative paving either side of the median. This allowed the paved area to remain 6m wide, while reducing the asphalted are to 4m wide. Although this would discourage drivers from going the wrong way down the inbound driveway, vehicles approaching the intersection from the west would still be aligned with 'wrong' driveway.
- **Option 2 – traffic circle (Figure 7.2)**: This design employed a traffic circle in the internal intersection. This mean that drivers approaching from the west would be diverted around the traffic circle, directing them to the correct driveway. However, feedback from the Town's Chief Fire Prevention Officer indicated that it would create difficulties for fire truck access.
- **Option 3 – bump-out (Figure 7.3)**: This design added a 'bump' on the north side of the intersection, changing the angle of the west leg so that drivers approaching from the west would naturally be directed towards the correct driveway. This option would also allow more direct passage through the intersection for all movements than Option 2. The Town's Chief Fire Prevention Officer indicated that it was their preferred option.

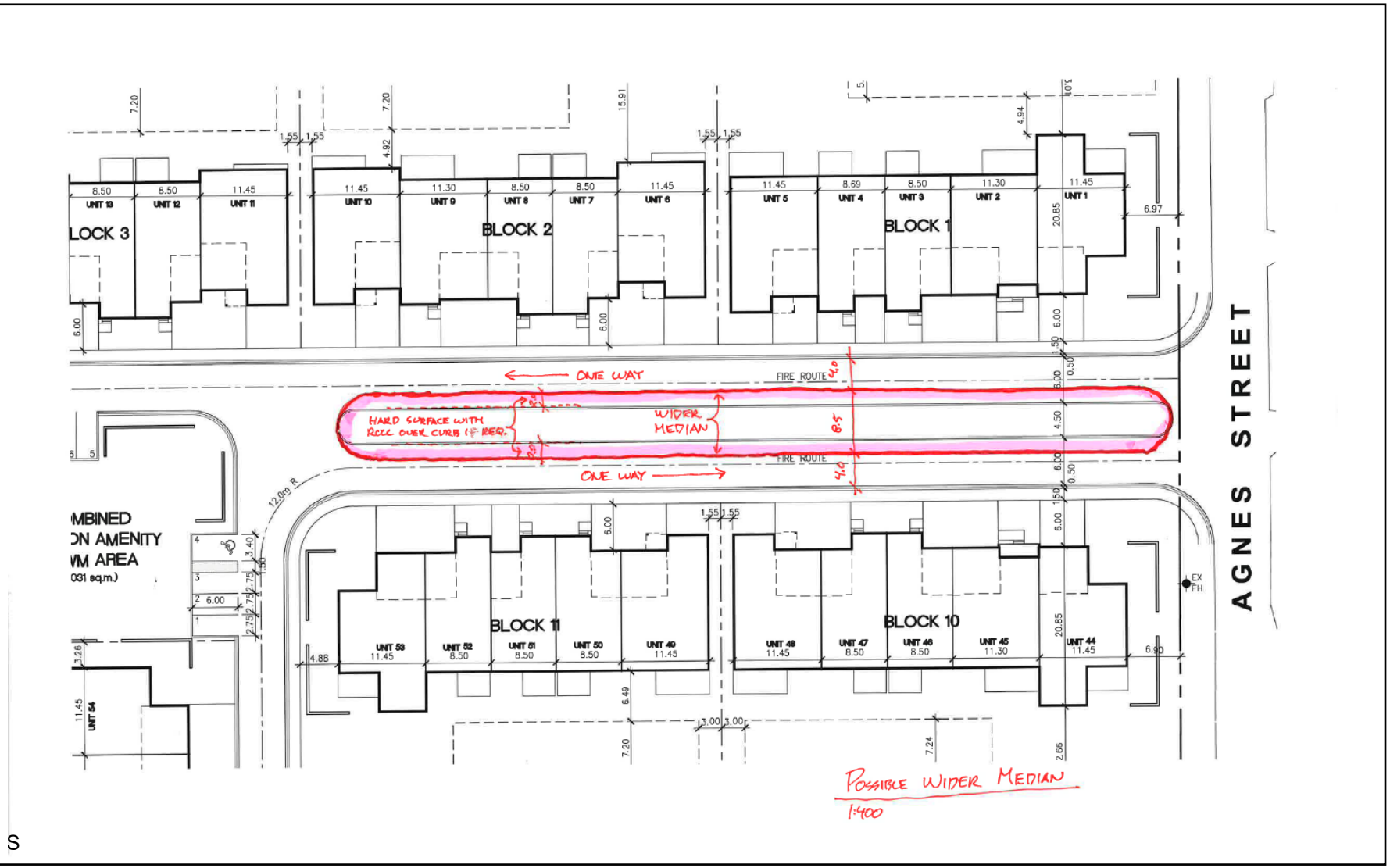
Option 3 was selected because it ensures drivers are naturally directed towards the correct driveway, provides the most direct movement, and is the preferred option of the Town's Chief Fire Prevention Officer. The correspondence with the Town's Chief Fire Prevention Officer is included in **Appendix A**.

In response to staff feedback, the driveway of unit 11 (on the northwest corner of intersection) was adjusted to the west. The intersection will be an all-way stop. This is reflected in the site plan shown in **Figure 3.1**.



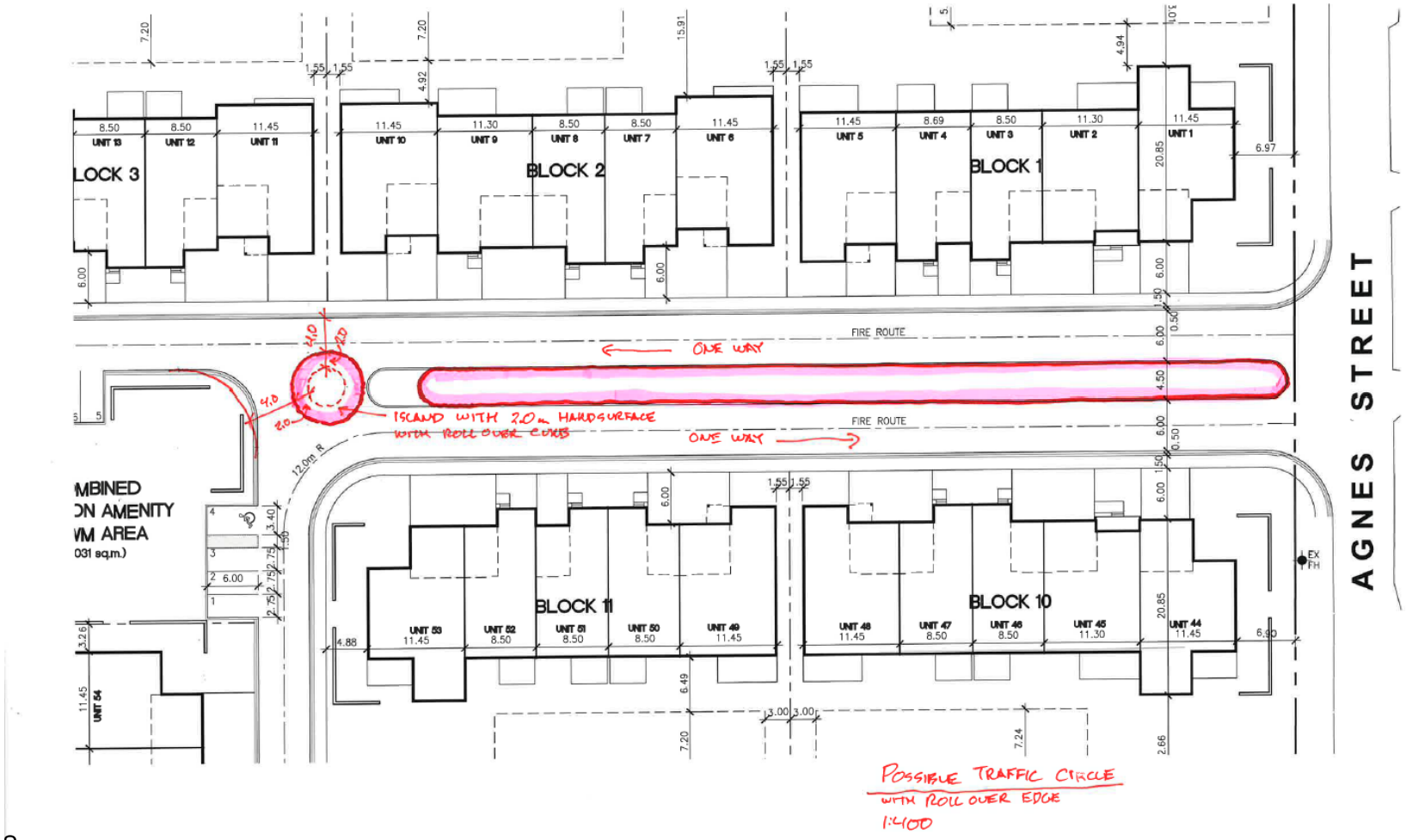
NTS

Internal Intersection Original Configuration



S

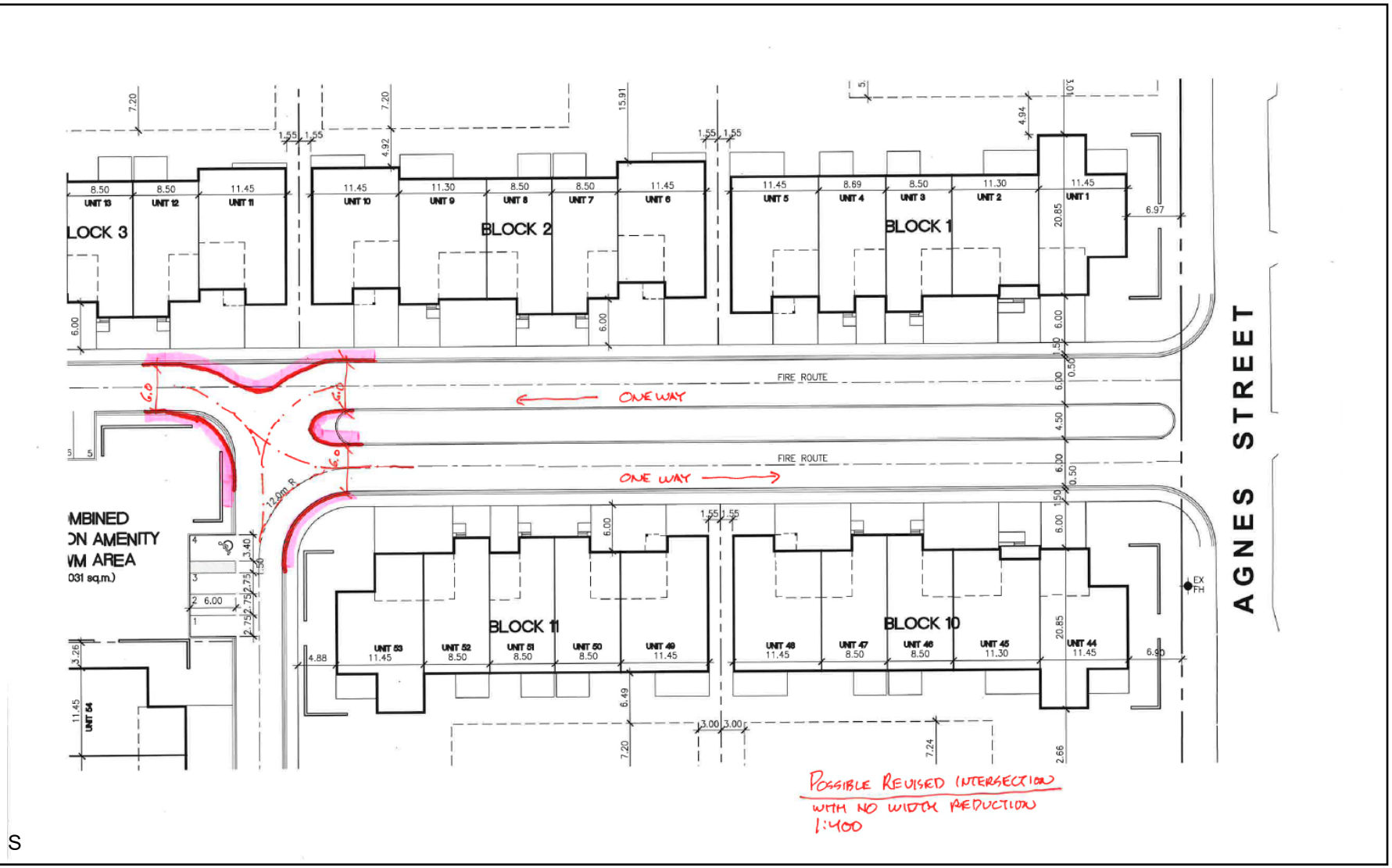
Internal Intersection
Option 1 – Wider Medians



S

paradigm TRANSPORTATION SOLUTIONS LIMITED

Internal Intersection Option 2 – Traffic Circle



Internal Intersection
Option 3 – Bump-out

Figure 7.3

7.3 Swept Path Analysis

AutoTURN software was used to review and confirm that the design of the site access, internal circulation, parking layout will accommodate design vehicles expected on-site. The site circulation assessment has been conducted for the following vehicle types as they apply to the land use:

- Passenger car;
- Pumper fire truck; and
- Region of Peel garbage truck.

No conflicts have been identified for the design vehicles. All vehicles will be able to enter, exit, and circulate around the site without any conflicts. As shown in Appendix G, drawing 01, this includes vehicles making a U-turn at the internal intersection from the inbound to the outbound driveway, as would be typically done by the residents of blocks 1 and 2 (when exiting the site) or blocks 11 and 12 (when entering the site).

Appendix G contains the vehicle manoeuvring diagrams for reference.

Paradigm has been informed by the site owner that snow removal will not be completed by the Town. Instead, it will be done by condo corporation using smaller snowplows. Consequently, no swept path analysis of municipal snow-plowing vehicles was conducted.

8 Conclusions and Recommendations

8.1 Conclusions

Based on the investigations carried out, it is concluded that:

- **Base Year (2022) Traffic Conditions**: The study area intersections operate with acceptable levels of service and well within capacity during the weekday AM and PM peak hours;
- **Development Trip Generation**: The development is estimated to generate 44 vehicular trips in the AM peak hour and 49 vehicular trips in the PM peak hour;
- **Background Traffic Conditions**: The study area intersections are forecast to operate with acceptable levels of service and well within capacity under the 2027 horizon;
- **Total Traffic Conditions**: The development of the subject site is forecast to have a negligible impact on traffic operations. The study intersections are forecast to operate at very similar levels of service as under background traffic conditions. All traffic movements are forecast to continue operating with acceptable levels of service and well within capacity.

  No geometric roadway or intersection improvements are required to support the proposed residential development;
- **Parking Review**: Vehicle parking supply for the proposed development does not meet the Town's Zoning By-law requirements with a deficit of three visitor parking spaces.

  Appropriate parking justification is provided to indicate deficit visitor parking spaces can be accommodated by additional resident parking supply; and
- **On-Site Circulation**: The site circulation assessment indicates a Passenger vehicle, fire truck and a Region of Peel Garbage Truck can enter, exit, and traverse the site without conflict.

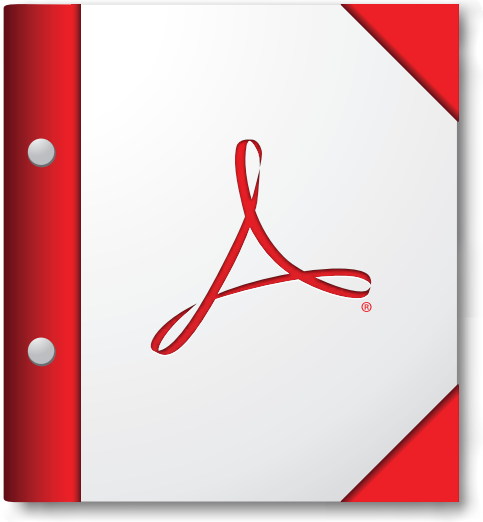
8.2 Recommendations

The following items are recommended based on the study results:

- The Town of Caledon recognize the conclusions drawn above; and
- From a transportation perspective, the required planning applications to allow the proposed residential development should be approved.

Appendix A

Pre-Study Consultation



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From: Jordan Grant - Work
To: Anthony Staniscia
Cc: Alex Mior; Jeremy Grant; Paul Tobia; Tom Willis; Bryan Bruce; Keith Reycraft; Khalid Mahmood
Subject: Re: (220188) 14 Agnes Street Caledon - Access & Circulation review
Date: February 8, 2023 11:10:07
Attachments: image002.png
image003.png
image005.png
image006.png
image008.png

Hi Anthony,

Thanks for getting back to us. Our team was leaning to option 3 as well. We have advised Peel Garbage that is your preferred option and unless they have any other comments, we will go with that.

The one-way part will only be the entry road with the boulevard. The other streets will be two-way, which is what led to the problem identified by Paradigm Engineering in the first place - ensuring people travelling eastbound on the north-westerly leg of the P loop know to go to the right when they hit the boulevarded section of road. Paradigm is satified the proposed solution addresses the issue satisfactorily.

We are aware of the need for fire route signs all around and these will be shown once we get to site plan stage. Our initial applications are only for Draft Plan and Zoning approvals.

Thanks again for the timely turnaround.

Jordan

Sent from my mobile device.

> On Feb 8, 2023, at 9:43 AM, Anthony Staniscia <anthony.staniscia@caledon.ca> wrote:
>
> Hi Jordan,
> For simplicity and best firetruck access I would approve the last option. The second option seems very tight to create a turning circle for a large firetruck. And option 1 does not meet the width requirement, the median breaks up the clear level width needed for an aerial truck to extend and set up the outriggers.
> Will the subdivision be one way all around? If so are there “one way” signs proposed and “no parking” street signs? You will also have to show fire route signs all the way around according to the By-Law.
> Regards,
>
> **Anthony Staniscia**
> Chief Fire Prevention Officer
> Fire and Emergency Services
> Office: 905.584.2272 x.4347
> Email: anthony.staniscia@caledon.ca
>
> **Town of Caledon** | www.caledon.ca | www.visitcaledon.ca | Follow us @CaledonFireES
>
> ---
>
> **From:** Jordan Grant - Work <jordan@seatongroup.com>
> **Sent:** Tuesday, February 07, 2023 8:46 AM
> **To:** Alex Mior <Alex.Mior@caledon.ca>
> **Cc:** Anthony Staniscia <anthony.staniscia@caledon.ca>
> **Subject:** Fwd: Fwd: (220188) 14 Agnes Street Caledon - Access & Circulation review
>
>
>
> Hi Alex,
>
> I just realized that Anthony suggested I copy you on the email below, which I forgot to do. This will keep you in the loop. I've also copied you on a similar email to the Peel Region garbage people.
>
> Regards,
>
> Jordan
>
> -------- Forwarded Message --------
> **Subject:**Fwd: (220188) 14 Agnes Street Caledon - Access & Circulation review
> **Date:**Fri, 3 Feb 2023 10:15:04 -0500
> **From:**Jordan Grant - Work <jordan@seatongroup.com>
> **To:**Anthony Staniscia <anthony.staniscia@caledon.ca>
> **CC:**Jeremy Grant <jeremy@seatongroup.com>, Bryan Bruce <bbruce@orcharddesign.ca>

Hi Anthony,

Further to our telephone conversation yesterday, our traffic engineer identified an issue with our concept plan regarding the potential for eastbound drivers getting confused when the road splits to form the entry boulevard and potentially driving the wrong way on the north (westbound) leg.

He and our site designer (Bryan Bruce, copied here) have come up with three alternative design tweaks to address the problem. All three are acceptable from the traffic engineer's point-of-view, but we need to see whether they work for fire access and waste collection as well. A markup showing all three is attached.

One of the alternatives entails narrowing the the two one-way entry road legs from 6 meters to 4 meters with an extra 4 m added to the centre boulevard. That may be best from an environmental perspective (turning paved area to greenspace). But we would need to determine whether Caledon Fire and Peel Garbage are okay with an exception to the normally-required 6.0m roadway width to 4.0m. This would only be for the two legs of the entry road that are one-way divided by a centre boulevard. Your previous comments asked for a secondary emergency access over the walkway at the NW end of the site, so these are not the only access points. (I just noticed your comment asked for it to be 4.0 m wide and we're currently showing 3.0 meters - we will fix that.)

The second option, entailing a turning circle gets a little tight to meet your required turning radii and would have to entail roll-over curbs and a 2 meter-wide hard surface that fire trucks could roll over.

The third may eliminate all the issues and would likely entail a 3-way stop. We'd have to double check the fire truck path if driving straight west - but I'm pretty sure it would work.

Could you please have a look at the attached and let us know whether one, two or all three alternatives would be acceptable?

Thanks,

Jordan Grant

SEATON GROUP
<!--[if !vml]--><!--[endif]--> JORDAN GRANT
President, Seaton Group
54 Fulton Avenue,
Toronto, ON, Canada, M4K 1X5
Tel: 416-486-4680 X232 Cell: 416-938-9619

-------- Forwarded Message --------
Subject:RE: (220188) 14 Agnes Street Caledon - Access & Circulation review
Date: Thu, 2 Feb 2023 21:18:19 +0000
From: Tom Willis <twillis@ptsl.com>
To: Bryan Bruce <bbruce@orcharddesign.ca>
CC: Jeremy Grant <jeremy@seatongroup.com>, Jordan Grant - Work <jordan@seatongroup.com>

Hi Bryan,

Thanks for putting those together so quickly. I think they are all perfectly feasible as shown; hopefully the Town can provide some quick feedback.

Regards,

Tom Willis, MMath
Senior Project Manager
(He/Him)

paradigm

Paradigm Transportation Solutions Limited
5A-150 Pinebush Road, Cambridge ON N1R 8J8
p: 416.479.9684 x503
c: 289.893.0250
w: www.ptsl.com

From: Bryan Bruce <bbruce@orcharddesign.ca>
Sent: February 2, 2023 15:17
To: Jordan Grant - Work <jordan@seatongroup.com>; Tom Willis <twillis@ptsl.com>
Cc: Jeremy Grant <jeremy@seatongroup.com>
Subject: RE: (220188) 14 Agnes Street Caledon - Access & Circulation review

Hi Everyone,
Attached are traffic options for discussion with the municipality.
I was able to squeeze in some time to mark-up the existing layout, which is quicker then sketching a new layout. Hopefully, they are legible.
There are 3 options. The first 2 are what we discussed on the call - if I misinterpreted anything, just let me know.
While drawing the first 2 options, I though of another. Tom, let me know if it's too convoluted from a traffic standpoint. It requires no fire route width reduction.
I added a curve to the road in front of unit 11. This would push anyone traveling west towards the south exit lane.

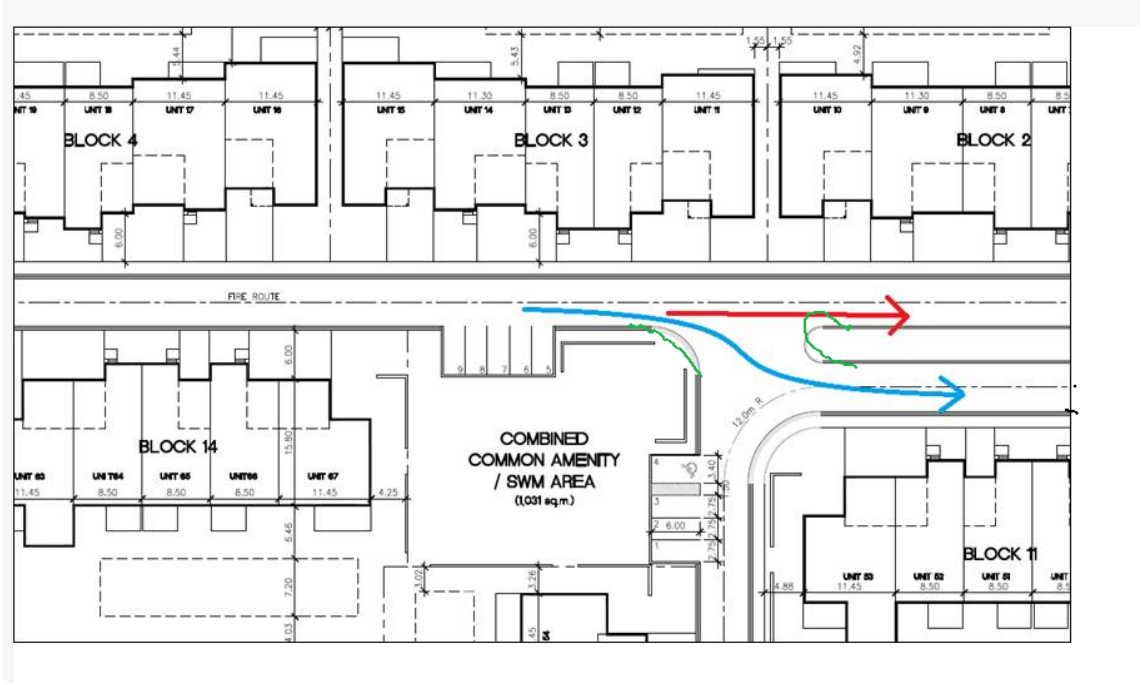
Thanks,
Bryan Bruce
Principal
Orchard Design Studio Inc.
(519) 620 0414 x 315

From: Jordan Grant - Work <jordan@seatongroup.com>
Sent: February 1, 2023 12:16
To: Tom Willis <twillis@ptsl.com>
Cc: Bryan Bruce <bbruce@orcharddesign.ca>; Keith Reycraft <reycraft@orcharddesign.ca>; Jeremy Grant <jeremy@seatongroup.com>
Subject: Re: (220188) 14 Agnes Street Caledon - Access & Circulation review

Tom, are you available tomorrow between 1 and 3?

Is there a design solution entailing changing the shape of the end of the island and perhaps changing the radius of the corner at the amenity block with signage that would solve this issue along the lines of the green lines in this sketch?

Jordan



From: Jordan Grant - Work <jordan@seatongroup.com>
Sent: February 1, 2023 11:47 AM
To: Jeremy Grant <jeremy@seatongroup.com>; Keith Reycraft <reycraft@orcharddesign.ca>; Bryan Bruce <bbruce@orcharddesign.ca>
Cc: Tom Willis <twillis@ptsl.com>

Subject: Fwd: (220188) 14 Agnes Street Caledon - Access & Circulation review

HI Jeremy, Bryan and Keith,

Please see the email below from Tom Willis, our traffic consultant. He has identified an issue with the end of the entry boulevard.

Can we please set up a call with Tom to discuss solutions? I have calls today at 1:00 and 3:00 but are open up until say 12:30, at 1:15 or 4:15. Tomorrow, could do a call at 9:00 am or between noon and 3 pm or Friday at 9:00 am or after 1:00pm.

Sorry for the short notice - can everyone, including Tom, please let me know your availability for any or all of these times?

Thanks,

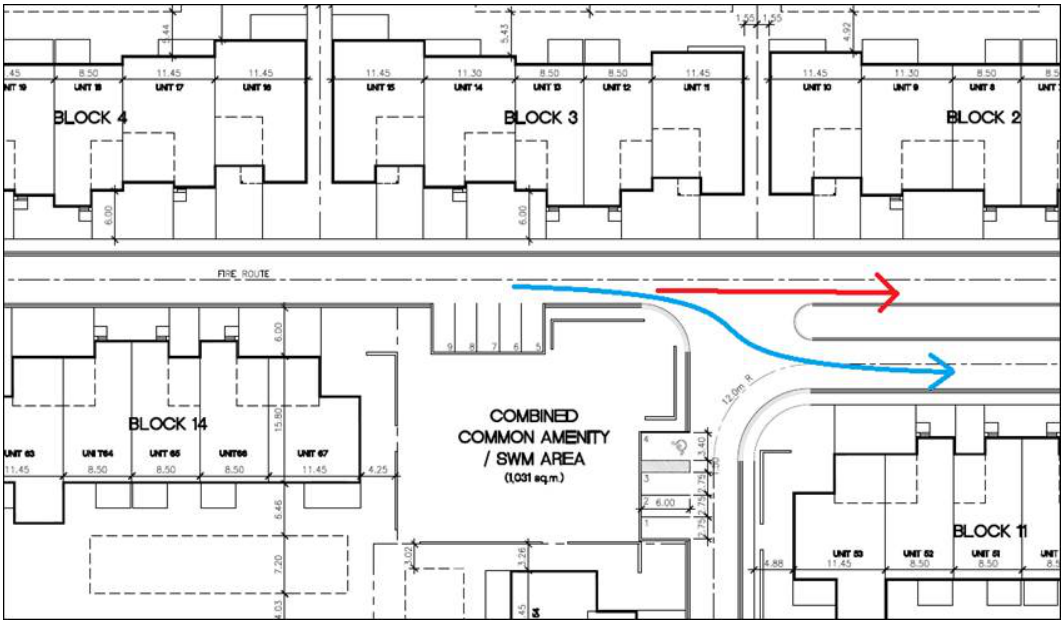
Jordan

-------- Forwarded Message --------
Subject:(220188) 14 Agnes Street Caledon - Access & Circulation review
Date: Mon, 30 Jan 2023 18:57:53 +0000
From: Tom Willis <twillis@ptsl.com>
To: Jordan Grant <jordan@seatongroup.com>

Hi Jordan,

We're finishing up our work with the access and circulation review, and have identified a potential issue. Vehicles exiting the site from Blocks 3/4/14 will want to go the wrong way down the entry road, as there is nothing in the design to direct them to the exit road.

The path they should be taking is shown below in blue; the path people will want to take is shown in red.



Could you please forward this email on to the relevant person on your design team, so we can discuss possible solutions?

With thanks,

Tom Willis, MMath
Senior Project Manager
(He/Him)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Road, Cambridge ON N1R 8J8
p: 416.479.9684 x503
c: 289.893.0250
w: www.ptsl.com

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Appendix B

Traffic Data

Agnes Street & McClellan Road - TMC

Wed Nov 23, 2022
Full Length (6 AM-9 AM, 4 PM-7 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1017688, Location: 43.855563, -80.064875, Site Code: 220188

Provided by: Paradigm Transportation Solutions Limited
5A-150 Pinebush Road,
Cambridge, ON, N1R 8J8, CA

Leg	McClellan Road					McClellan Road					Agnes Street					
Direction	Eastbound					Westbound					Southbound					
Time	T	L	U	**App**	Ped*	R	T	U	**App**	Ped*	R	L	U	**App**	Ped*	**Int**
2022-11-23 6:00AM	0	0	0	**0**	0	0	0	0	**0**	0	0	4	0	**4**	0	**4**
6:15AM	2	0	0	**2**	0	0	0	0	**0**	0	0	1	0	**1**	0	**3**
6:30AM	5	0	0	**5**	0	0	0	0	**0**	0	0	1	0	**1**	0	**6**
6:45AM	4	0	0	**4**	4	0	0	0	**0**	0	0	12	0	**12**	4	**16**
Hourly Total	11	0	0	**11**	4	0	0	0	**0**	0	0	18	0	**18**	4	**29**
7:00AM	5	0	0	**5**	2	1	1	0	**2**	0	0	3	0	**3**	3	**10**
7:15AM	1	0	0	**1**	0	0	0	0	**0**	0	0	6	0	**6**	0	**7**
7:30AM	8	0	0	**8**	0	1	1	0	**2**	0	0	3	0	**3**	2	**13**
7:45AM	5	0	0	**5**	0	0	0	0	**0**	0	0	2	0	**2**	0	**7**
Hourly Total	19	0	0	**19**	2	2	2	0	**4**	0	0	14	0	**14**	5	**37**
8:00AM	6	0	0	**6**	2	1	0	1	**2**	0	1	3	0	**4**	1	**12**
8:15AM	5	0	0	**5**	0	1	4	0	**5**	0	0	4	0	**4**	3	**14**
8:30AM	7	0	0	**7**	0	1	2	0	**3**	0	1	2	0	**3**	2	**13**
8:45AM	4	0	0	**4**	1	0	5	0	**5**	0	0	2	0	**2**	0	**11**
Hourly Total	22	0	0	**22**	3	3	11	1	**15**	0	2	11	0	**13**	6	**50**
4:00PM	5	0	0	**5**	0	2	6	0	**8**	0	1	1	0	**2**	1	**15**
4:15PM	0	0	0	**0**	1	3	4	0	**7**	0	0	2	0	**2**	2	**9**
4:30PM	3	0	0	**3**	1	2	5	0	**7**	0	1	2	0	**3**	1	**13**
4:45PM	3	0	0	**3**	2	5	6	0	**11**	0	0	1	0	**1**	0	**15**
Hourly Total	11	0	0	**11**	4	12	21	0	**33**	0	2	6	0	**8**	4	**52**
5:00PM	3	0	0	**3**	0	5	5	1	**11**	0	0	1	0	**1**	0	**15**
5:15PM	3	2	0	**5**	0	4	2	0	**6**	0	1	0	0	**1**	0	**12**
5:30PM	1	0	0	**1**	0	2	4	0	**6**	0	1	3	0	**4**	2	**11**
5:45PM	3	0	0	**3**	0	2	4	0	**6**	0	1	1	0	**2**	1	**11**
Hourly Total	10	2	0	**12**	0	13	15	1	**29**	0	3	5	0	**8**	3	**49**
6:00PM	0	0	0	**0**	0	2	2	0	**4**	0	1	2	0	**3**	1	**7**
6:15PM	0	0	0	**0**	0	5	4	0	**9**	0	0	0	0	**0**	0	**9**
6:30PM	5	0	0	**5**	0	3	3	0	**6**	0	1	1	0	**2**	4	**13**
6:45PM	1	0	0	**1**	0	2	1	0	**3**	0	0	1	0	**1**	2	**5**
Hourly Total	6	0	0	**6**	0	12	10	0	**22**	0	2	4	0	**6**	7	**34**
Total	79	2	0	**81**	13	42	59	2	**103**	0	9	58	0	**67**	29	**251**
% Approach	97.5%	2.5%	0%	**-**	-	40.8%	57.3%	1.9%	**-**	-	13.4%	86.6%	0%	**-**	-	-
% Total	31.5%	0.8%	0%	**32.3%**	-	16.7%	23.5%	0.8%	**41.0%**	-	3.6%	23.1%	0%	**26.7%**	-	-
Motorcycles	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Motorcycles	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Lights	77	2	0	**79**	-	40	57	0	**97**	-	8	57	0	**65**	-	241

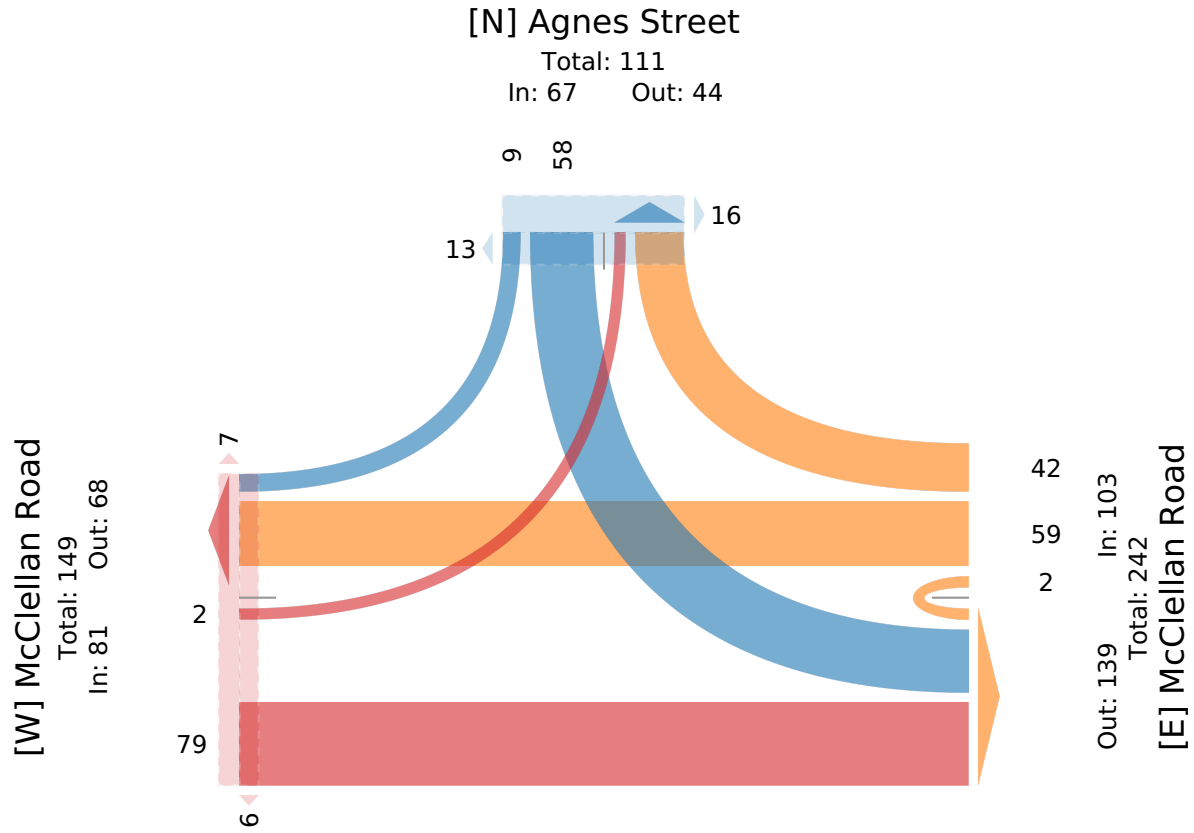
Leg Direction	McClellan Road Eastbound					McClellan Road Westbound					Agnes Street Southbound					
Time	T	L	U	**App**	Ped*	R	T	U	**App**	Ped*	R	L	U	**App**	Ped*	**Int**
% Lights	97.5%	100%	0%	**97.5%**	-	95.2%	96.6%	0%	**94.2%**	-	88.9%	98.3%	0%	**97.0%**	-	96.0%
Single-Unit Trucks	0	0	0	**0**	-	0	0	1	**1**	-	0	0	0	**0**	-	1
% Single-Unit Trucks	0%	0%	0%	**0%**	-	0%	0%	50.0%	**1.0%**	-	0%	0%	0%	**0%**	-	0.4%
Articulated Trucks	0	0	0	**0**	-	0	0	1	**1**	-	0	0	0	**0**	-	1
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0%	50.0%	**1.0%**	-	0%	0%	0%	**0%**	-	0.4%
Buses	2	0	0	**2**	-	2	2	0	**4**	-	1	1	0	**2**	-	8
% Buses	2.5%	0%	0%	**2.5%**	-	4.8%	3.4%	0%	**3.9%**	-	11.1%	1.7%	0%	**3.0%**	-	3.2%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	13	-	-	-	-	0	-	-	-	-	29	
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Agnes Street & McClellan Road - TMC

Wed Nov 23, 2022
Full Length (6 AM-9 AM, 4 PM-7 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1017688, Location: 43.855563, -80.064875, Site Code: 220188

Provided by: Paradigm Transportation Solutions Limited
5A-150 Pinebush Road,
Cambridge, ON, N1R 8J8, CA



Agnes Street & McClellan Road - TMC

Wed Nov 23, 2022
AM Peak (8 AM - 9 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1017688, Location: 43.855563, -80.064875, Site Code: 220188

Provided by: Paradigm Transportation Solutions Limited
5A-150 Pinebush Road,
Cambridge, ON, N1R 8J8, CA

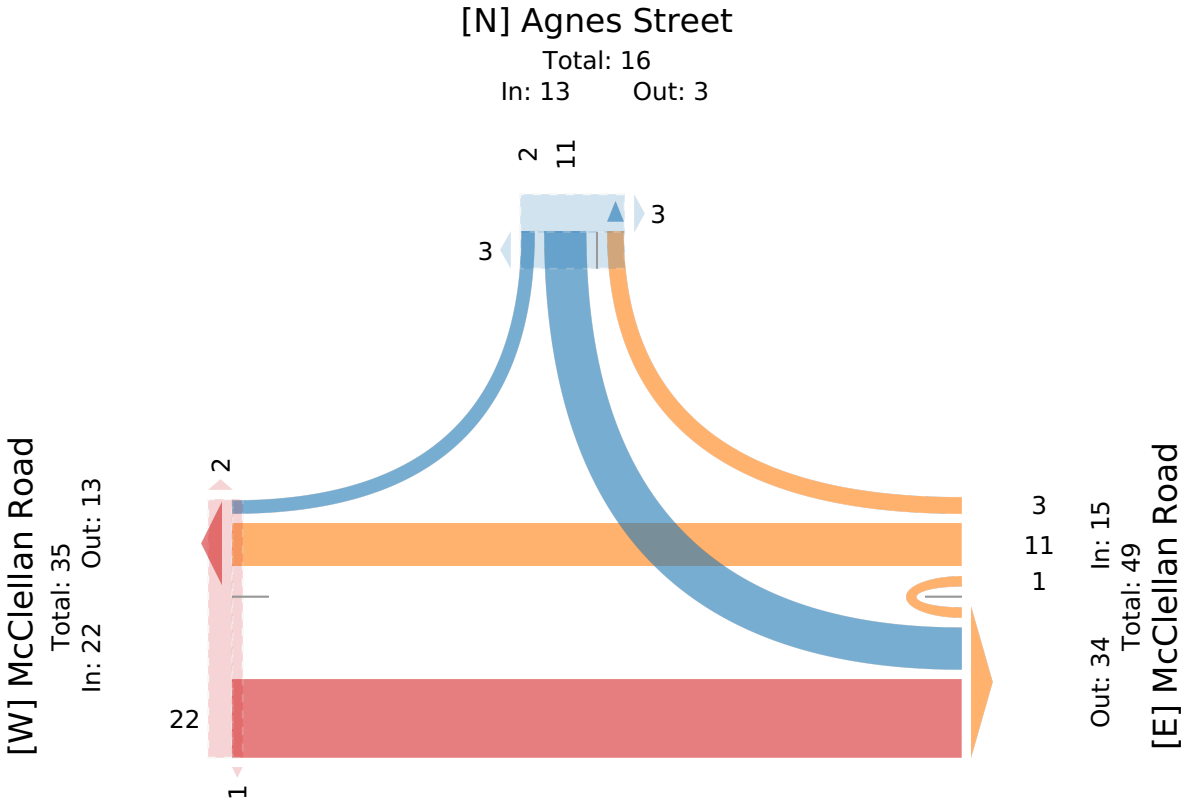
Leg Direction	McClellan Road Eastbound					McClellan Road Westbound					Agnes Street Southbound					
Time	T	L	U	**App**	Ped*	R	T	U	**App**	Ped*	R	L	U	**App**	Ped*	**Int**
2022-11-23 8:00AM	6	0	0	**6**	2	1	0	1	**2**	0	1	3	0	**4**	1	**12**
8:15AM	5	0	0	**5**	0	1	4	0	**5**	0	0	4	0	**4**	3	**14**
8:30AM	7	0	0	**7**	0	1	2	0	**3**	0	1	2	0	**3**	2	**13**
8:45AM	4	0	0	**4**	1	0	5	0	**5**	0	0	2	0	**2**	0	**11**
Total	22	0	0	**22**	3	3	11	1	**15**	0	2	11	0	**13**	6	**50**
% Approach	100%	0%	0%	**-**	-	20.0%	73.3%	6.7%	**-**	-	15.4%	84.6%	0%	**-**	-	-
% Total	44.0%	0%	0%	**44.0%**	-	6.0%	22.0%	2.0%	**30.0%**	-	4.0%	22.0%	0%	**26.0%**	-	-
PHF	0.786	-	-	**0.786**	-	0.750	0.550	0.250	**0.750**	-	0.500	0.688	-	**0.813**	-	0.893
Motorcycles	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Motorcycles	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Lights	21	0	0	**21**	-	2	10	0	**12**	-	1	11	0	**12**	-	45
% Lights	95.5%	0%	0%	**95.5%**	-	66.7%	90.9%	0%	**80.0%**	-	50.0%	100%	0%	**92.3%**	-	90.0%
Single-Unit Trucks	0	0	0	**0**	-	0	0	1	**1**	-	0	0	0	**0**	-	1
% Single-Unit Trucks	0%	0%	0%	**0%**	-	0%	0%	100%	**6.7%**	-	0%	0%	0%	**0%**	-	2.0%
Articulated Trucks	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Buses	1	0	0	**1**	-	1	1	0	**2**	-	1	0	0	**1**	-	4
% Buses	4.5%	0%	0%	**4.5%**	-	33.3%	9.1%	0%	**13.3%**	-	50.0%	0%	0%	**7.7%**	-	8.0%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	3	-	-	-	-	0	-	-	-	-	6	
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Agnes Street & McClellan Road - TMC

Wed Nov 23, 2022
AM Peak (8 AM - 9 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1017688, Location: 43.855563, -80.064875, Site Code: 220188

Provided by: Paradigm Transportation Solutions Limited
5A-150 Pinebush Road,
Cambridge, ON, N1R 8J8, CA



Agnes Street & McClellan Road - TMC

Wed Nov 23, 2022

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1017688, Location: 43.855563, -80.064875, Site Code: 220188

Provided by: Paradigm Transportation Solutions Limited
5A-150 Pinebush Road,
Cambridge, ON, N1R 8J8, CA

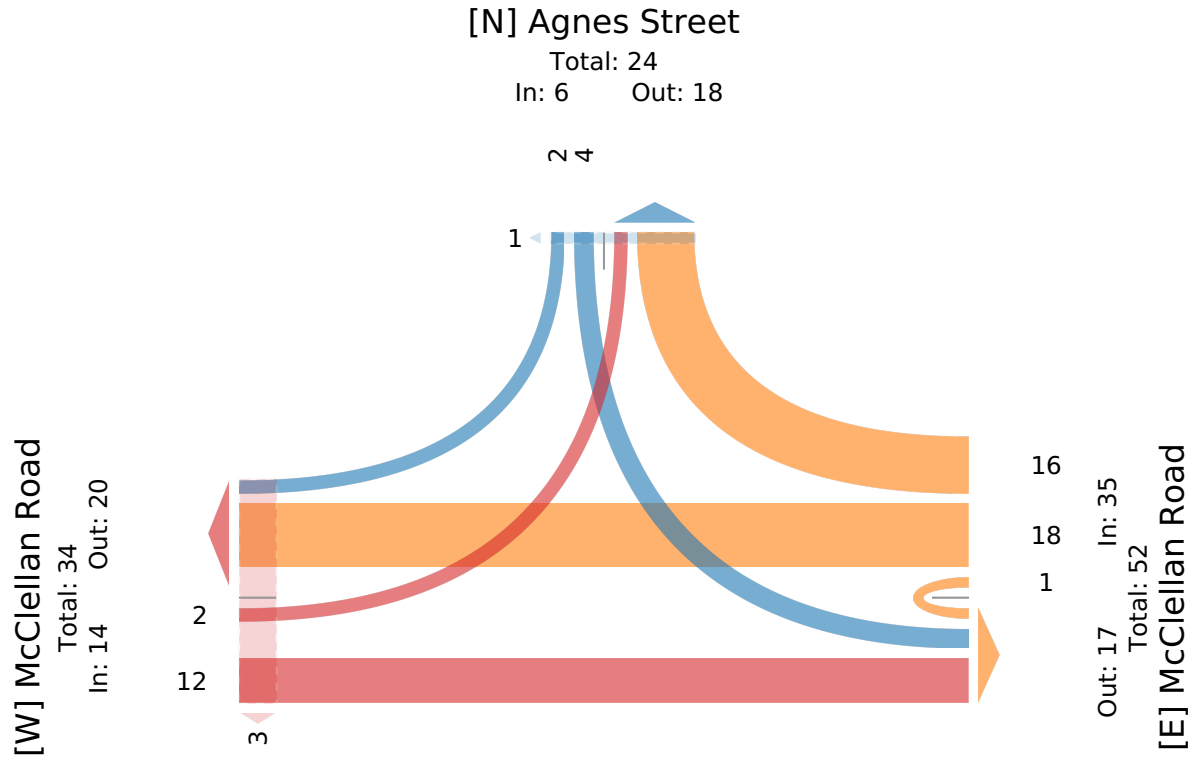
Leg	McClellan Road					McClellan Road					Agnes Street					
Direction	Eastbound					Westbound					Southbound					
Time	T	L	U	**App**	Ped*	R	T	U	**App**	Ped*	R	L	U	**App**	Ped*	**Int**
2022-11-23 4:30PM	3	0	0	**3**	1	2	5	0	**7**	0	1	2	0	**3**	1	**13**
4:45PM	3	0	0	**3**	2	5	6	0	**11**	0	0	1	0	**1**	0	**15**
5:00PM	3	0	0	**3**	0	5	5	1	**11**	0	0	1	0	**1**	0	**15**
5:15PM	3	2	0	**5**	0	4	2	0	**6**	0	1	0	0	**1**	0	**12**
Total	12	2	0	**14**	3	16	18	1	**35**	0	2	4	0	**6**	1	**55**
% Approach	85.7%	14.3%	0%	**-**	-	45.7%	51.4%	2.9%	**-**	-	33.3%	66.7%	0%	**-**	-	-
% Total	21.8%	3.6%	0%	**25.5%**	-	29.1%	32.7%	1.8%	**63.6%**	-	3.6%	7.3%	0%	**10.9%**	-	-
PHF	1.000	0.250	-	**0.700**	-	0.800	0.750	0.250	**0.795**	-	0.500	0.500	-	**0.500**	-	0.917
Motorcycles	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Motorcycles	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Lights	11	2	0	**13**	-	16	18	0	**34**	-	2	4	0	**6**	-	53
% Lights	91.7%	100%	0%	**92.9%**	-	100%	100%	0%	**97.1%**	-	100%	100%	0%	**100%**	-	96.4%
Single-Unit Trucks	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Single-Unit Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Articulated Trucks	0	0	0	**0**	-	0	0	1	**1**	-	0	0	0	**0**	-	1
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0%	100%	**2.9%**	-	0%	0%	0%	**0%**	-	1.8%
Buses	1	0	0	**1**	-	0	0	0	**0**	-	0	0	0	**0**	-	1
% Buses	8.3%	0%	0%	**7.1%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	1.8%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	3	-	-	-	-	0	-	-	-	-	1	
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Agnes Street & McClellan Road - TMC

Wed Nov 23, 2022
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1017688, Location: 43.855563, -80.064875, Site Code: 220188

Provided by: Paradigm Transportation Solutions Limited
5A-150 Pinebush Road,
Cambridge, ON, N1R 8J8, CA



Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Agnes Street & King Street
Site Code: 220188
Start Date: 10/12/2022

Turning Movement Data

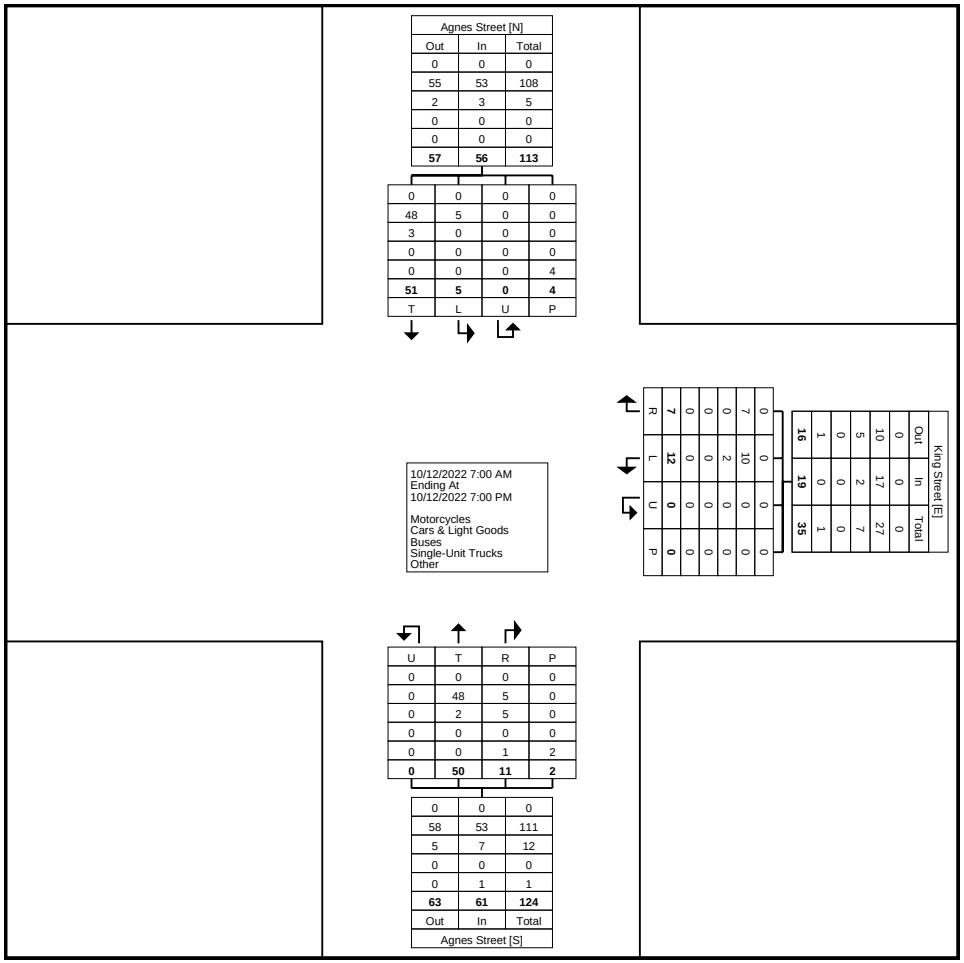
Start Time	King Street Westbound					Agnes Street Northbound					Agnes Street Southbound					
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Int. Total
7:00 AM	0	0	0	0	0	4	0	0	0	4	1	0	0	0	1	5
7:15 AM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	2
7:30 AM	0	0	0	0	0	2	1	0	0	3	0	1	0	0	1	4
7:45 AM	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	2
Hourly Total	0	0	0	0	0	9	1	0	0	10	1	2	0	0	3	13
8:00 AM	0	0	0	0	0	2	3	0	0	5	0	0	0	0	0	5
8:15 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
8:30 AM	0	0	0	0	0	4	1	0	0	5	3	1	0	0	4	9
8:45 AM	0	0	0	0	0	4	1	0	0	5	0	2	0	0	2	7
Hourly Total	0	1	0	0	1	10	5	0	0	15	3	4	0	0	7	23
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
9:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
9:30 AM	1	0	0	0	1	4	0	0	1	4	0	1	0	1	1	6
9:45 AM	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	2
Hourly Total	1	0	0	0	1	6	0	0	1	6	0	5	0	1	5	12
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	4	0	0	0	4	3	2	0	0	5	0	3	0	0	3	12
4:15 PM	2	1	0	0	3	1	0	0	0	1	0	7	0	0	7	11
4:30 PM	0	0	0	0	0	1	1	0	0	2	0	1	0	0	1	3
4:45 PM	1	2	0	0	3	2	0	0	0	2	1	2	0	0	3	8
Hourly Total	7	3	0	0	10	7	3	0	0	10	1	13	0	0	14	34
5:00 PM	1	0	0	0	1	4	0	0	0	4	0	3	0	0	3	8
5:15 PM	1	0	0	0	1	0	1	0	1	1	0	3	0	0	3	5
5:30 PM	0	0	0	0	0	1	1	0	0	2	0	5	0	0	5	7
5:45 PM	1	1	0	0	2	2	0	0	0	2	0	6	0	0	6	10
Hourly Total	3	1	0	0	4	7	2	0	1	9	0	17	0	0	17	30
6:00 PM	0	1	0	0	1	1	0	0	0	1	0	3	0	2	3	5
6:15 PM	1	0	0	0	1	3	0	0	0	3	0	4	0	0	4	8
6:30 PM	0	0	0	0	0	1	0	0	0	1	0	2	0	0	2	3
6:45 PM	0	1	0	0	1	6	0	0	0	6	0	1	0	1	1	8
Hourly Total	1	2	0	0	3	11	0	0	0	11	0	10	0	3	10	24
Grand Total	12	7	0	0	19	50	11	0	2	61	5	51	0	4	56	136
Approach %	63.2	36.8	0.0	-	-	82.0	18.0	0.0	-	-	8.9	91.1	0.0	-	-	-
Total %	8.8	5.1	0.0	-	14.0	36.8	8.1	0.0	-	44.9	3.7	37.5	0.0	-	41.2	-
Motorcycles	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0

Cars & Light Goods	10	7	0	-	17	48	5	0	-	53	5	48	0	-	53	123
% Cars & Light Goods	83.3	100.0	-	-	89.5	96.0	45.5	-	-	86.9	100.0	94.1	-	-	94.6	90.4
Buses	2	0	0	-	2	2	5	0	-	7	0	3	0	-	3	12
% Buses	16.7	0.0	-	-	10.5	4.0	45.5	-	-	11.5	0.0	5.9	-	-	5.4	8.8
Single-Unit Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Single-Unit Trucks	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Road	0	0	0	-	0	0	1	0	-	1	0	0	0	-	0	1
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	9.1	-	-	1.6	0.0	0.0	-	-	0.0	0.7
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	0.0	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	2	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Agnes Street & King Street
Site Code: 220188
Start Date: 10/12/2022



Turning Movement Data Plot

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Agnes Street & King Street
Site Code: 220188
Start Date: 10/12/2022

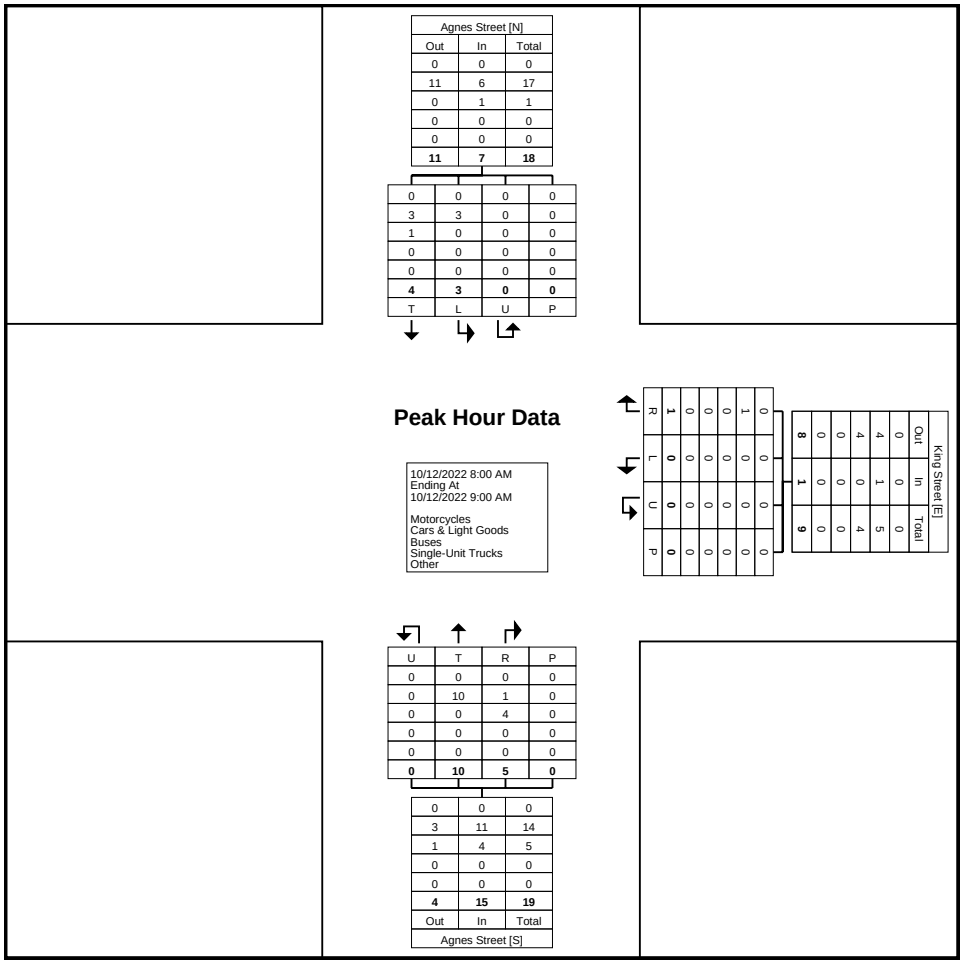
Turning Movement Peak Hour Data (8:00 AM)

Start Time	King Street Westbound					Agnes Street Northbound					Agnes Street Southbound					
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Int. Total
8:00 AM	0	0	0	0	0	2	3	0	0	5	0	0	0	0	0	5
8:15 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
8:30 AM	0	0	0	0	0	4	1	0	0	5	3	1	0	0	4	9
8:45 AM	0	0	0	0	0	4	1	0	0	5	0	2	0	0	2	7
Total	0	1	0	0	1	10	5	0	0	15	3	4	0	0	7	23
Approach %	0.0	100.0	0.0	-	-	66.7	33.3	0.0	-	-	42.9	57.1	0.0	-	-	-
Total %	0.0	4.3	0.0	-	4.3	43.5	21.7	0.0	-	65.2	13.0	17.4	0.0	-	30.4	-
PHF	0.000	0.250	0.000	-	0.250	0.625	0.417	0.000	-	0.750	0.250	0.500	0.000	-	0.438	0.639
Motorcycles	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Motorcycles	-	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	0	1	0	-	1	10	1	0	-	11	3	3	0	-	6	18
% Cars & Light Goods	-	100.0	-	-	100.0	100.0	20.0	-	-	73.3	100.0	75.0	-	-	85.7	78.3
Buses	0	0	0	-	0	0	4	0	-	4	0	1	0	-	1	5
% Buses	-	0.0	-	-	0.0	0.0	80.0	-	-	26.7	0.0	25.0	-	-	14.3	21.7
Single-Unit Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Single-Unit Trucks	-	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	-	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Agnes Street & King Street
Site Code: 220188
Start Date: 10/12/2022



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

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Agnes Street & King Street
Site Code: 220188
Start Date: 10/12/2022

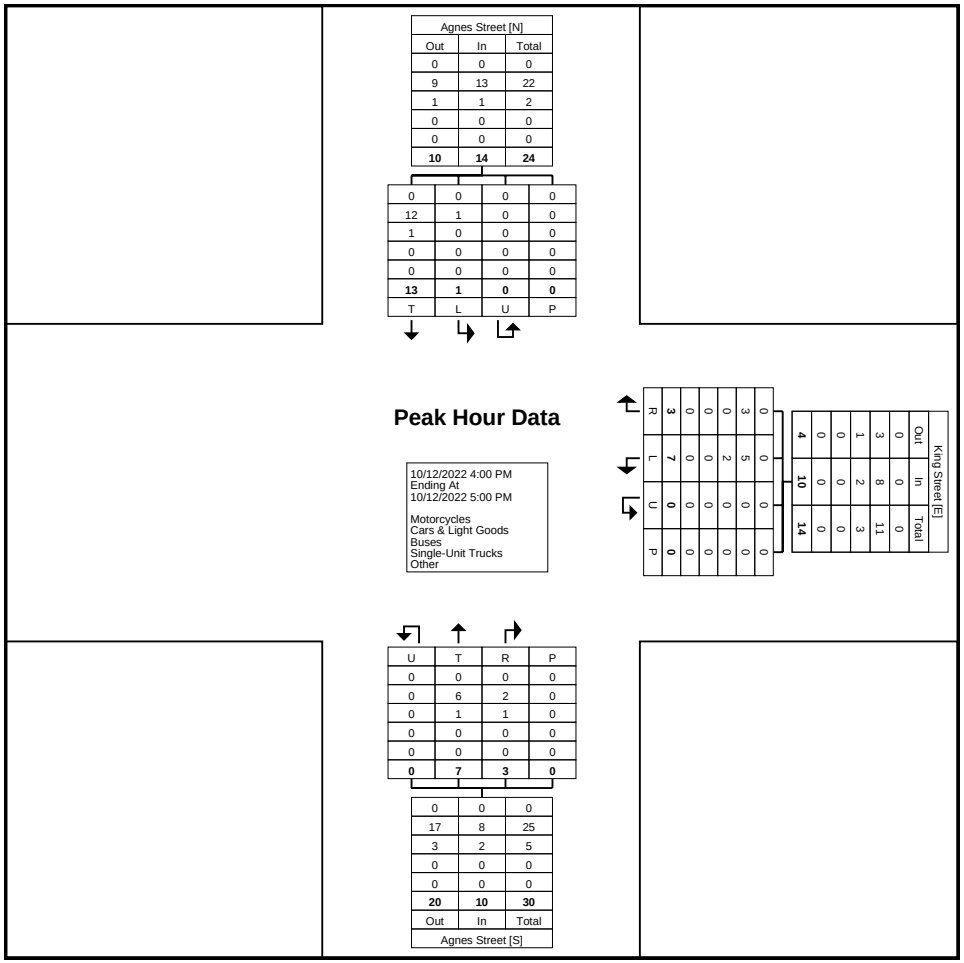
Turning Movement Peak Hour Data (4:00 PM)

Start Time	King Street Westbound					Agnes Street Northbound					Agnes Street Southbound					
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Int. Total
4:00 PM	4	0	0	0	4	3	2	0	0	5	0	3	0	0	3	12
4:15 PM	2	1	0	0	3	1	0	0	0	1	0	7	0	0	7	11
4:30 PM	0	0	0	0	0	1	1	0	0	2	0	1	0	0	1	3
4:45 PM	1	2	0	0	3	2	0	0	0	2	1	2	0	0	3	8
Total	7	3	0	0	10	7	3	0	0	10	1	13	0	0	14	34
Approach %	70.0	30.0	0.0	-	-	70.0	30.0	0.0	-	-	7.1	92.9	0.0	-	-	-
Total %	20.6	8.8	0.0	-	29.4	20.6	8.8	0.0	-	29.4	2.9	38.2	0.0	-	41.2	-
PHF	0.438	0.375	0.000	-	0.625	0.583	0.375	0.000	-	0.500	0.250	0.464	0.000	-	0.500	0.708
Motorcycles	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	5	3	0	-	8	6	2	0	-	8	1	12	0	-	13	29
% Cars & Light Goods	71.4	100.0	-	-	80.0	85.7	66.7	-	-	80.0	100.0	92.3	-	-	92.9	85.3
Buses	2	0	0	-	2	1	1	0	-	2	0	1	0	-	1	5
% Buses	28.6	0.0	-	-	20.0	14.3	33.3	-	-	20.0	0.0	7.7	-	-	7.1	14.7
Single-Unit Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Single-Unit Trucks	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Agnes Street & King Street
Site Code: 220188
Start Date: 10/12/2022



Turning Movement Peak Hour Data Plot (4:00 PM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Agnes Street & Queen Street
Site Code: 220188
Start Date: 10/12/2022

Turning Movement Data

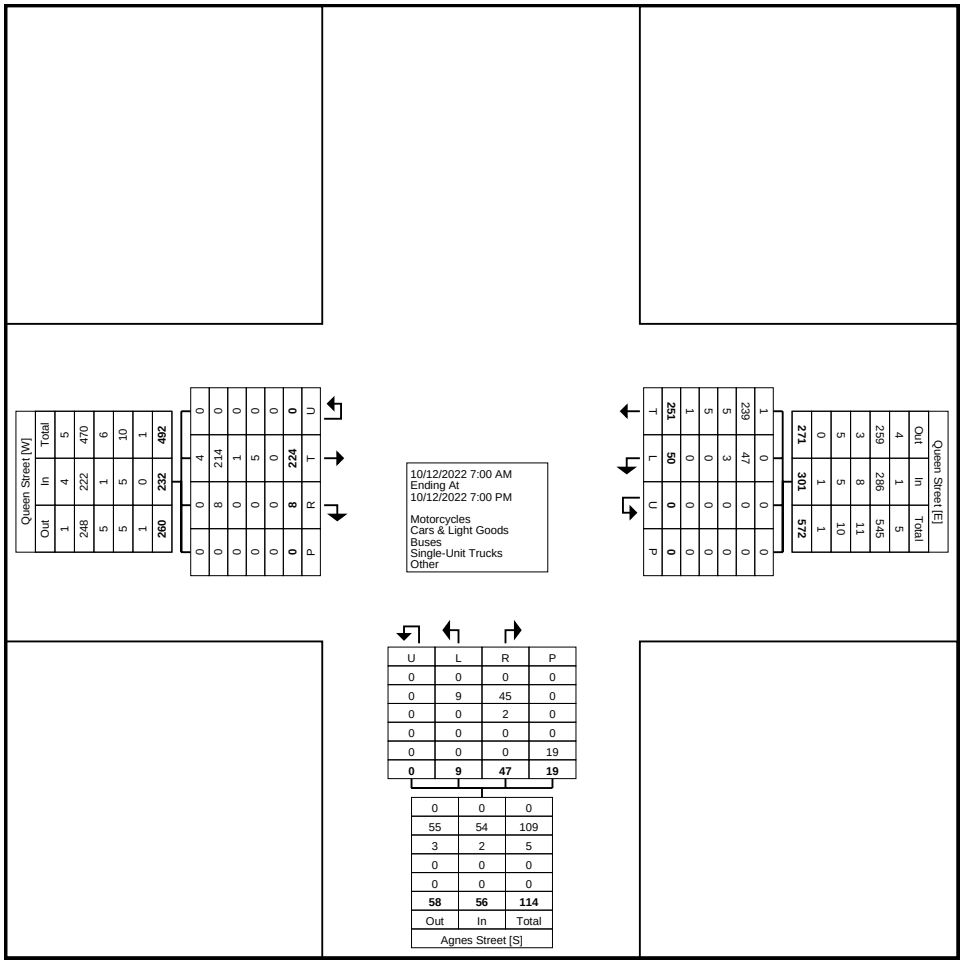
Start Time	Queen Street Eastbound					Queen Street Westbound					Agnes Street Northbound					
	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
7:00 AM	4	0	0	0	4	1	5	0	0	6	0	4	0	0	4	14
7:15 AM	7	0	0	0	7	0	6	0	0	6	0	2	0	0	2	15
7:30 AM	3	0	0	0	3	1	11	0	0	12	0	2	0	0	2	17
7:45 AM	11	0	0	0	11	1	13	0	0	14	0	1	0	0	1	26
Hourly Total	25	0	0	0	25	3	35	0	0	38	0	9	0	0	9	72
8:00 AM	7	0	0	0	7	0	8	0	0	8	0	2	0	0	2	17
8:15 AM	6	0	0	0	6	1	5	0	0	6	1	0	0	0	1	13
8:30 AM	8	3	0	0	11	0	6	0	0	6	0	4	0	3	4	21
8:45 AM	8	0	0	0	8	2	6	0	0	8	0	4	0	1	4	20
Hourly Total	29	3	0	0	32	3	25	0	0	28	1	10	0	4	11	71
9:00 AM	10	1	0	0	11	2	7	0	0	9	0	0	0	0	0	20
9:15 AM	4	0	0	0	4	0	13	0	0	13	0	1	0	0	1	18
9:30 AM	7	0	0	0	7	1	7	0	0	8	1	3	0	0	4	19
9:45 AM	14	0	0	0	14	1	4	0	0	5	0	1	0	0	1	20
Hourly Total	35	1	0	0	36	4	31	0	0	35	1	5	0	0	6	77
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	18	1	0	0	19	2	15	0	0	17	0	3	0	2	3	39
4:15 PM	17	0	0	0	17	7	14	0	0	21	2	0	0	1	2	40
4:30 PM	11	0	0	0	11	1	11	0	0	12	0	1	0	0	1	24
4:45 PM	12	0	0	0	12	4	7	0	0	11	2	2	0	1	4	27
Hourly Total	58	1	0	0	59	14	47	0	0	61	4	6	0	4	10	130
5:00 PM	18	1	0	0	19	1	9	0	0	10	0	3	0	2	3	32
5:15 PM	11	0	0	0	11	4	13	0	0	17	0	0	0	2	0	28
5:30 PM	5	0	0	0	5	5	8	0	0	13	0	1	0	1	1	19
5:45 PM	11	0	0	0	11	5	12	0	0	17	0	2	0	0	2	30
Hourly Total	45	1	0	0	46	15	42	0	0	57	0	6	0	5	6	109
6:00 PM	12	0	0	0	12	4	11	0	0	15	1	1	0	2	2	29
6:15 PM	7	2	0	0	9	2	5	0	0	7	0	3	0	0	3	19
6:30 PM	7	0	0	0	7	3	20	0	0	23	0	1	0	2	1	31
6:45 PM	6	0	0	0	6	2	35	0	0	37	2	6	0	2	8	51
Hourly Total	32	2	0	0	34	11	71	0	0	82	3	11	0	6	14	130
Grand Total	224	8	0	0	232	50	251	0	0	301	9	47	0	19	56	589
Approach %	96.6	3.4	0.0	-	-	16.6	83.4	0.0	-	-	16.1	83.9	0.0	-	-	-
Total %	38.0	1.4	0.0	-	39.4	8.5	42.6	0.0	-	51.1	1.5	8.0	0.0	-	9.5	-
Motorcycles	4	0	0	-	4	0	1	0	-	1	0	0	0	-	0	5
% Motorcycles	1.8	0.0	-	-	1.7	0.0	0.4	-	-	0.3	0.0	0.0	-	-	0.0	0.8

Cars & Light Goods	214	8	0	-	222	47	239	0	-	286	9	45	0	-	54	562
% Cars & Light Goods	95.5	100.0	-	-	95.7	94.0	95.2	-	-	95.0	100.0	95.7	-	-	96.4	95.4
Buses	1	0	0	-	1	3	5	0	-	8	0	2	0	-	2	11
% Buses	0.4	0.0	-	-	0.4	6.0	2.0	-	-	2.7	0.0	4.3	-	-	3.6	1.9
Single-Unit Trucks	5	0	0	-	5	0	5	0	-	5	0	0	0	-	0	10
% Single-Unit Trucks	2.2	0.0	-	-	2.2	0.0	2.0	-	-	1.7	0.0	0.0	-	-	0.0	1.7
Articulated Trucks	0	0	0	-	0	0	1	0	-	1	0	0	0	-	0	1
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	0.4	-	-	0.3	0.0	0.0	-	-	0.0	0.2
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	19	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Agnes Street & Queen Street
Site Code: 220188
Start Date: 10/12/2022



Turning Movement Data Plot

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Agnes Street & Queen Street
Site Code: 220188
Start Date: 10/12/2022

Turning Movement Peak Hour Data (8:30 AM)

Start Time	Queen Street Eastbound					Queen Street Westbound					Agnes Street Northbound					
	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
8:30 AM	8	3	0	0	11	0	6	0	0	6	0	4	0	3	4	21
8:45 AM	8	0	0	0	8	2	6	0	0	8	0	4	0	1	4	20
9:00 AM	10	1	0	0	11	2	7	0	0	9	0	0	0	0	0	20
9:15 AM	4	0	0	0	4	0	13	0	0	13	0	1	0	0	1	18
Total	30	4	0	0	34	4	32	0	0	36	0	9	0	4	9	79
Approach %	88.2	11.8	0.0	-	-	11.1	88.9	0.0	-	-	0.0	100.0	0.0	-	-	-
Total %	38.0	5.1	0.0	-	43.0	5.1	40.5	0.0	-	45.6	0.0	11.4	0.0	-	11.4	-
PHF	0.750	0.333	0.000	-	0.773	0.500	0.615	0.000	-	0.692	0.000	0.563	0.000	-	0.563	0.940
Motorcycles	3	0	0	-	3	0	0	0	-	0	0	0	0	-	0	3
% Motorcycles	10.0	0.0	-	-	8.8	0.0	0.0	-	-	0.0	-	0.0	-	-	0.0	3.8
Cars & Light Goods	26	4	0	-	30	4	28	0	-	32	0	9	0	-	9	71
% Cars & Light Goods	86.7	100.0	-	-	88.2	100.0	87.5	-	-	88.9	-	100.0	-	-	100.0	89.9
Buses	0	0	0	-	0	0	2	0	-	2	0	0	0	-	0	2
% Buses	0.0	0.0	-	-	0.0	0.0	6.3	-	-	5.6	-	0.0	-	-	0.0	2.5
Single-Unit Trucks	1	0	0	-	1	0	2	0	-	2	0	0	0	-	0	3
% Single-Unit Trucks	3.3	0.0	-	-	2.9	0.0	6.3	-	-	5.6	-	0.0	-	-	0.0	3.8
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	-	0.0	-	-	0.0	0.0
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	-	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

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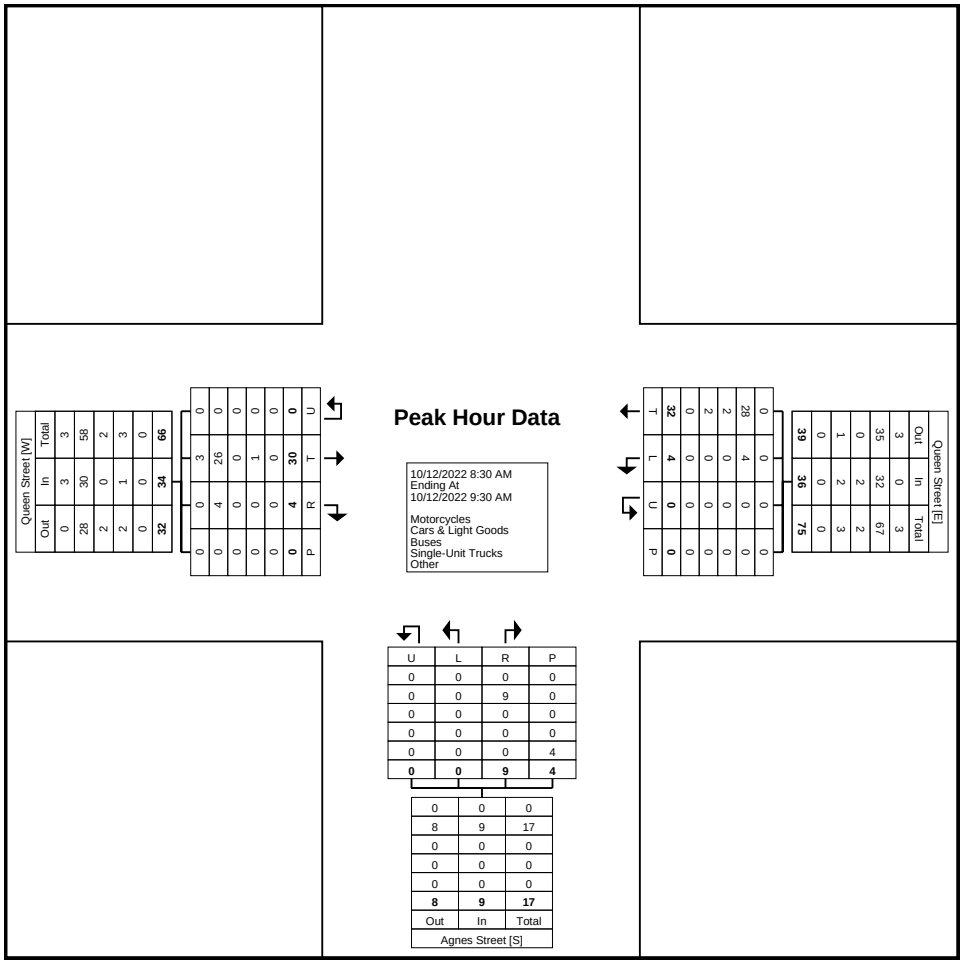
Start Date: 10/12/2022



Queen Street [W]	Total	In	Out
	3	3	0
	58	30	28
	2	0	2
	3	1	2
	0	0	0
	66	**34**	**32**

U	T	R	P
0	0	0	0
0	3	26	0
0	0	0	0
0	1	0	0
0	0	0	0
0	**30**	**4**	**0**

T	L	U	P
0	0	0	0
28	4	0	0
2	0	0	0
2	0	0	0
0	4	0	0
32	**4**	**0**	**0**

Queen Street [E]	Out	In	Total
	3	0	3
	35	32	67
	0	2	2
	1	2	3
	0	0	0
	39	**36**	**75**

U	L	R	P
0	0	0	0
0	0	9	0
0	0	0	0
0	0	0	0
0	0	0	4
0	**0**	**9**	**4**

Agnes Street [S]		
0	0	0
8	9	17
0	0	0
0	0	0
0	0	0
8	**9**	**17**
Out	In	Total

Turning Movement Peak Hour Data Plot (8:30 AM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Agnes Street & Queen Street
Site Code: 220188
Start Date: 10/12/2022

Turning Movement Peak Hour Data (4:00 PM)

Start Time	Queen Street Eastbound					Queen Street Westbound					Agnes Street Northbound					
	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
4:00 PM	18	1	0	0	19	2	15	0	0	17	0	3	0	2	3	39
4:15 PM	17	0	0	0	17	7	14	0	0	21	2	0	0	1	2	40
4:30 PM	11	0	0	0	11	1	11	0	0	12	0	1	0	0	1	24
4:45 PM	12	0	0	0	12	4	7	0	0	11	2	2	0	1	4	27
Total	58	1	0	0	59	14	47	0	0	61	4	6	0	4	10	130
Approach %	98.3	1.7	0.0	-	-	23.0	77.0	0.0	-	-	40.0	60.0	0.0	-	-	-
Total %	44.6	0.8	0.0	-	45.4	10.8	36.2	0.0	-	46.9	3.1	4.6	0.0	-	7.7	-
PHF	0.806	0.250	0.000	-	0.776	0.500	0.783	0.000	-	0.726	0.500	0.500	0.000	-	0.625	0.813
Motorcycles	1	0	0	-	1	0	1	0	-	1	0	0	0	-	0	2
% Motorcycles	1.7	0.0	-	-	1.7	0.0	2.1	-	-	1.6	0.0	0.0	-	-	0.0	1.5
Cars & Light Goods	55	1	0	-	56	13	44	0	-	57	4	5	0	-	9	122
% Cars & Light Goods	94.8	100.0	-	-	94.9	92.9	93.6	-	-	93.4	100.0	83.3	-	-	90.0	93.8
Buses	0	0	0	-	0	1	1	0	-	2	0	1	0	-	1	3
% Buses	0.0	0.0	-	-	0.0	7.1	2.1	-	-	3.3	0.0	16.7	-	-	10.0	2.3
Single-Unit Trucks	2	0	0	-	2	0	1	0	-	1	0	0	0	-	0	3
% Single-Unit Trucks	3.4	0.0	-	-	3.4	0.0	2.1	-	-	1.6	0.0	0.0	-	-	0.0	2.3
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

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5A-150 Pinebush Rd

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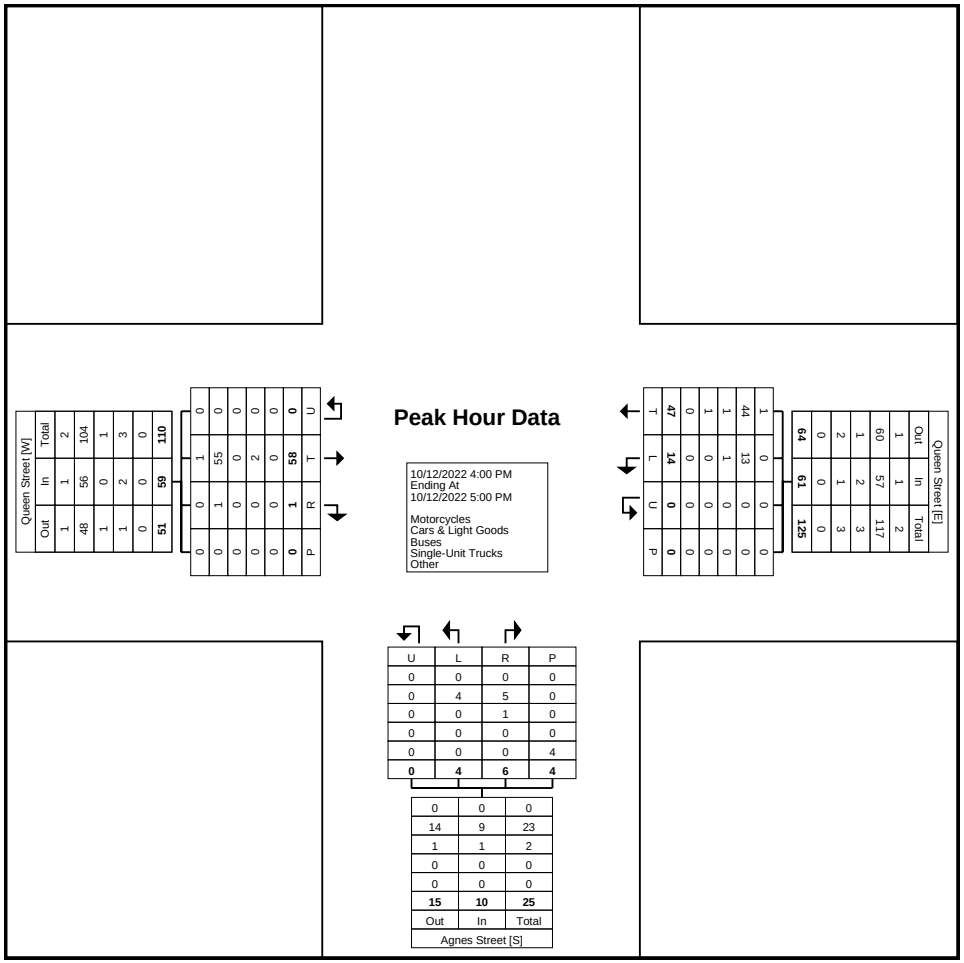
Start Date: 10/12/2022



Turning Movement Peak Hour Data Plot (4:00 PM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Emeline Street & Queen Street
Site Code: 220188
Start Date: 10/12/2022

Turning Movement Data

Start Time	Queen Street Eastbound						Queen Street Westbound						Emeline Street Northbound						Southbound Approach Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:00 AM	0	4	0	0	0	4	0	5	0	0	0	5	1	0	0	0	0	1	0	0	0	0	0	0	10
7:15 AM	0	6	0	0	0	6	0	7	0	0	0	7	1	0	0	0	0	1	0	0	0	0	0	0	14
7:30 AM	0	1	0	0	0	1	0	11	0	0	0	11	3	0	2	0	0	5	0	0	0	0	0	0	17
7:45 AM	0	9	1	0	0	10	3	9	0	0	0	12	2	0	2	0	0	4	0	0	0	0	0	0	26
Hourly Total	0	20	1	0	0	21	3	32	0	0	0	35	7	0	4	0	0	11	0	0	0	0	0	0	67
8:00 AM	0	4	0	0	0	4	0	8	0	0	0	8	0	0	2	0	0	2	0	0	0	0	0	0	14
8:15 AM	0	6	0	0	0	6	0	6	0	0	0	6	1	0	0	0	0	1	0	0	0	0	0	0	13
8:30 AM	0	9	0	0	0	9	1	5	0	0	0	6	1	0	2	0	1	3	0	0	0	0	0	0	18
8:45 AM	0	5	1	0	0	6	0	6	0	0	0	6	0	0	0	0	1	0	0	0	0	0	0	0	12
Hourly Total	0	24	1	0	0	25	1	25	0	0	0	26	2	0	4	0	2	6	0	0	0	0	0	0	57
9:00 AM	0	9	1	0	0	10	0	7	0	0	0	7	0	0	2	0	1	2	0	0	0	0	0	0	19
9:15 AM	0	2	0	1	0	3	0	11	0	0	0	11	1	0	1	0	1	2	0	0	0	0	0	0	16
9:30 AM	0	6	1	0	0	7	0	9	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	16
9:45 AM	0	13	0	0	0	13	0	2	0	0	0	2	1	0	0	0	2	1	0	0	0	0	0	0	16
Hourly Total	0	30	2	1	0	33	0	29	0	0	0	29	2	0	3	0	4	5	0	0	0	0	0	0	67
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	17	1	0	0	18	1	14	0	0	0	15	5	0	1	0	0	6	1	0	0	0	0	1	40
4:15 PM	0	14	0	0	0	14	3	11	0	0	0	14	0	0	2	0	4	2	0	0	0	0	0	0	30
4:30 PM	0	11	1	0	0	12	4	8	0	0	0	12	3	0	3	0	0	6	0	0	0	0	0	0	30
4:45 PM	0	10	2	0	0	12	0	9	0	0	0	9	1	0	3	0	1	4	0	0	0	0	0	0	25
Hourly Total	0	52	4	0	0	56	8	42	0	0	0	50	9	0	9	0	5	18	1	0	0	0	0	1	125
5:00 PM	0	16	2	0	0	18	3	6	0	0	0	9	1	0	2	0	0	3	0	0	0	0	0	0	30
5:15 PM	0	10	1	0	0	11	2	9	0	0	0	11	0	0	1	0	1	1	0	0	0	0	0	0	23
5:30 PM	0	4	1	0	0	5	2	7	0	0	0	9	0	0	1	0	1	1	0	0	0	0	0	0	15
5:45 PM	0	9	2	0	0	11	1	12	0	0	0	13	1	0	1	0	0	2	0	0	0	0	0	0	26
Hourly Total	0	39	6	0	0	45	8	34	0	0	0	42	2	0	5	0	2	7	0	0	0	0	0	0	94
6:00 PM	0	8	3	0	0	11	3	7	0	0	0	10	0	0	2	0	0	2	0	0	0	0	0	0	23
6:15 PM	0	9	3	0	0	12	0	7	0	0	0	7	0	0	0	0	2	0	0	0	0	0	0	0	19
6:30 PM	0	5	1	0	0	6	0	18	0	0	0	18	1	0	2	0	1	3	0	0	0	0	0	0	27
6:45 PM	0	5	0	0	0	5	1	36	1	0	0	38	3	0	2	0	2	5	0	0	0	0	0	0	48
Hourly Total	0	27	7	0	0	34	4	68	1	0	0	73	4	0	6	0	5	10	0	0	0	0	0	0	117
Grand Total	0	192	21	1	0	214	24	230	1	0	0	255	26	0	31	0	18	57	1	0	0	0	0	1	527
Approach %	0.0	89.7	9.8	0.5	-	-	9.4	90.2	0.4	0.0	-	-	45.6	0.0	54.4	0.0	-	-	100.0	0.0	0.0	0.0	-	-	-
Total %	0.0	36.4	4.0	0.2	-	40.6	4.6	43.6	0.2	0.0	-	48.4	4.9	0.0	5.9	0.0	-	10.8	0.2	0.0	0.0	0.0	-	0.2	-
Motorcycles	0	3	0	0	-	3	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	4

% Motorcycles	-	1.6	0.0	0.0	-	1.4	0.0	0.4	0.0	-	-	0.4	0.0	-	0.0	-	-	0.0	0.0	-	-	-	-	0.0	0.8
Cars & Light Goods	0	183	19	1	-	203	21	220	1	0	-	242	23	0	31	0	-	54	1	0	0	0	-	1	500
% Cars & Light Goods	-	95.3	90.5	100.0	-	94.9	87.5	95.7	100.0	-	-	94.9	88.5	-	100.0	-	-	94.7	100.0	-	-	-	-	100.0	94.9
Buses	0	1	2	0	-	3	2	4	0	0	-	6	2	0	0	0	-	2	0	0	0	0	-	0	11
% Buses	-	0.5	9.5	0.0	-	1.4	8.3	1.7	0.0	-	-	2.4	7.7	-	0.0	-	-	3.5	0.0	-	-	-	-	0.0	2.1
Single-Unit Trucks	0	5	0	0	-	5	0	5	0	0	-	5	1	0	0	0	-	1	0	0	0	0	-	0	11
% Single-Unit Trucks	-	2.6	0.0	0.0	-	2.3	0.0	2.2	0.0	-	-	2.0	3.8	-	0.0	-	-	1.8	0.0	-	-	-	-	0.0	2.1
Articulated Trucks	0	0	0	0	-	0	1	0	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	4.2	0.0	0.0	-	-	0.4	0.0	-	0.0	-	-	0.0	0.0	-	-	-	-	0.0	0.2
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	0.0	-	-	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	18	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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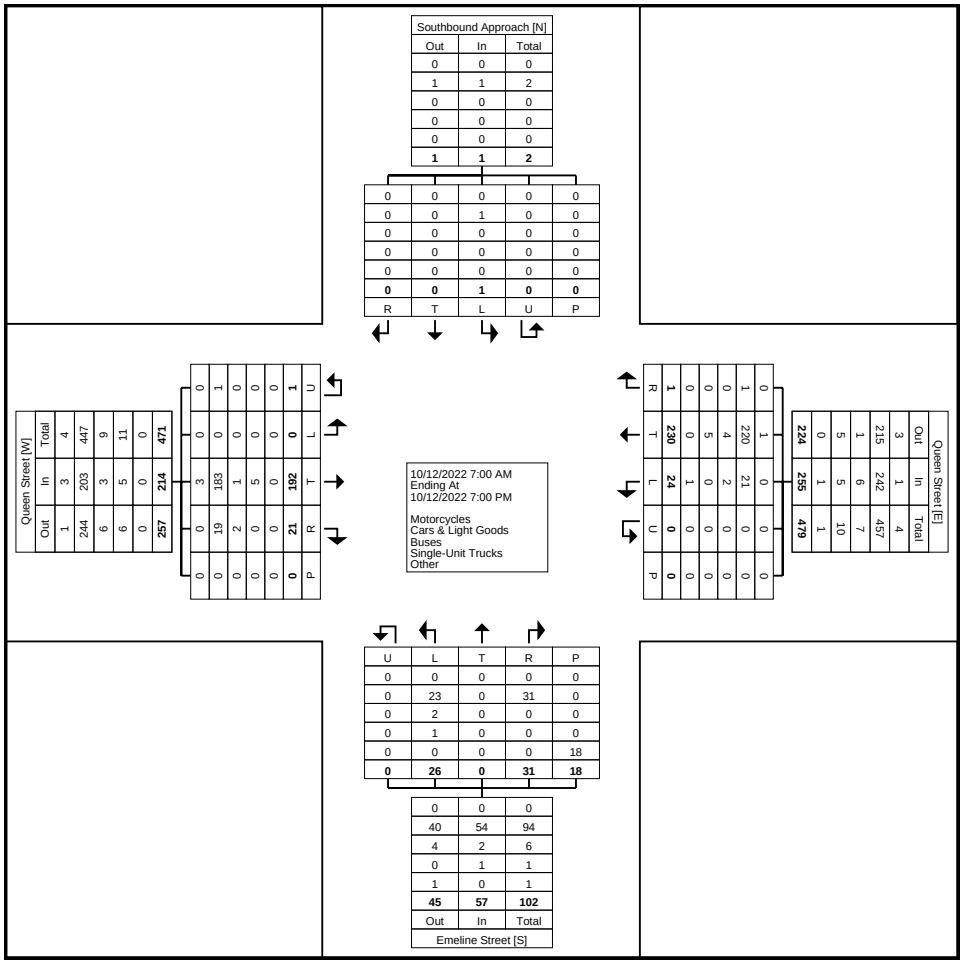
Count Name: Emeline Street & Queen Street
Site Code: 220188
Start Date: 10/12/2022
Page No: 3



Turning Movement Data Plot

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Emeline Street & Queen Street
Site Code: 220188
Start Date: 10/12/2022

Turning Movement Peak Hour Data (7:15 AM)

Start Time	Queen Street Eastbound						Queen Street Westbound						Emeline Street Northbound						Southbound Approach Southbound						
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Int. Total
7:15 AM	0	6	0	0	0	6	0	7	0	0	0	7	1	0	0	0	0	1	0	0	0	0	0	0	14
7:30 AM	0	1	0	0	0	1	0	11	0	0	0	11	3	0	2	0	0	5	0	0	0	0	0	0	17
7:45 AM	0	9	1	0	0	10	3	9	0	0	0	12	2	0	2	0	0	4	0	0	0	0	0	0	26
8:00 AM	0	4	0	0	0	4	0	8	0	0	0	8	0	0	2	0	0	2	0	0	0	0	0	0	14
Total	0	20	1	0	0	21	3	35	0	0	0	38	6	0	6	0	0	12	0	0	0	0	0	0	71
Approach %	0.0	95.2	4.8	0.0	-	-	7.9	92.1	0.0	0.0	-	-	50.0	0.0	50.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	-
Total %	0.0	28.2	1.4	0.0	-	29.6	4.2	49.3	0.0	0.0	-	53.5	8.5	0.0	8.5	0.0	-	16.9	0.0	0.0	0.0	0.0	-	0.0	-
PHF	0.000	0.556	0.250	0.000	-	0.525	0.250	0.795	0.000	0.000	-	0.792	0.500	0.000	0.750	0.000	-	0.600	0.000	0.000	0.000	0.000	-	0.000	0.683
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Motorcycles	-	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	0.0	-	0.0	-	-	0.0	-	-	-	-	-	-	0.0
Cars & Light Goods	0	18	0	0	-	18	1	35	0	0	-	36	6	0	6	0	-	12	0	0	0	0	-	0	66
% Cars & Light Goods	-	90.0	0.0	-	-	85.7	33.3	100.0	-	-	-	94.7	100.0	-	100.0	-	-	100.0	-	-	-	-	-	-	93.0
Buses	0	1	1	0	-	2	1	0	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	3
% Buses	-	5.0	100.0	-	-	9.5	33.3	0.0	-	-	-	2.6	0.0	-	0.0	-	-	0.0	-	-	-	-	-	-	4.2
Single-Unit Trucks	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1
% Single-Unit Trucks	-	5.0	0.0	-	-	4.8	0.0	0.0	-	-	-	0.0	0.0	-	0.0	-	-	0.0	-	-	-	-	-	-	1.4
Articulated Trucks	0	0	0	0	-	0	1	0	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Articulated Trucks	-	0.0	0.0	-	-	0.0	33.3	0.0	-	-	-	2.6	0.0	-	0.0	-	-	0.0	-	-	-	-	-	-	1.4
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	0.0	-	0.0	-	-	0.0	-	-	-	-	-	-	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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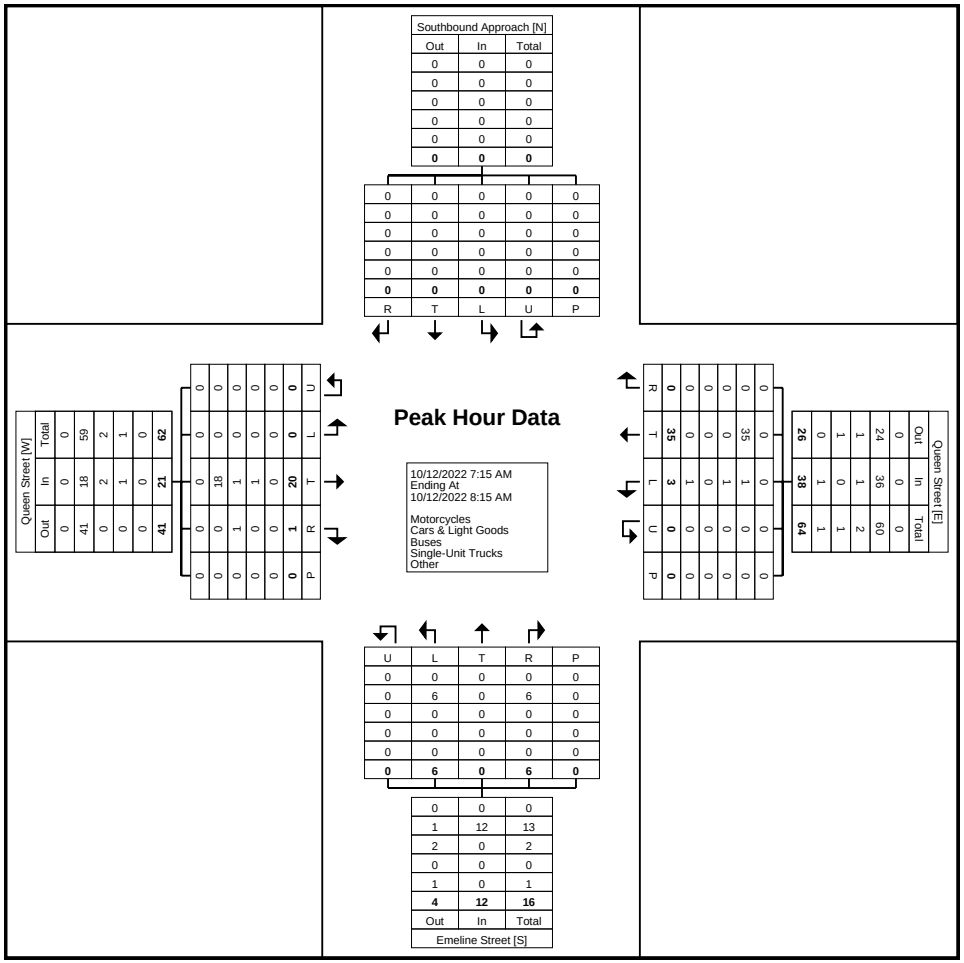

Turning Movement Peak Hour Data Plot (7:15 AM)

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Count Name: Emeline Street & Queen Street
Site Code: 220188
Start Date: 10/12/2022

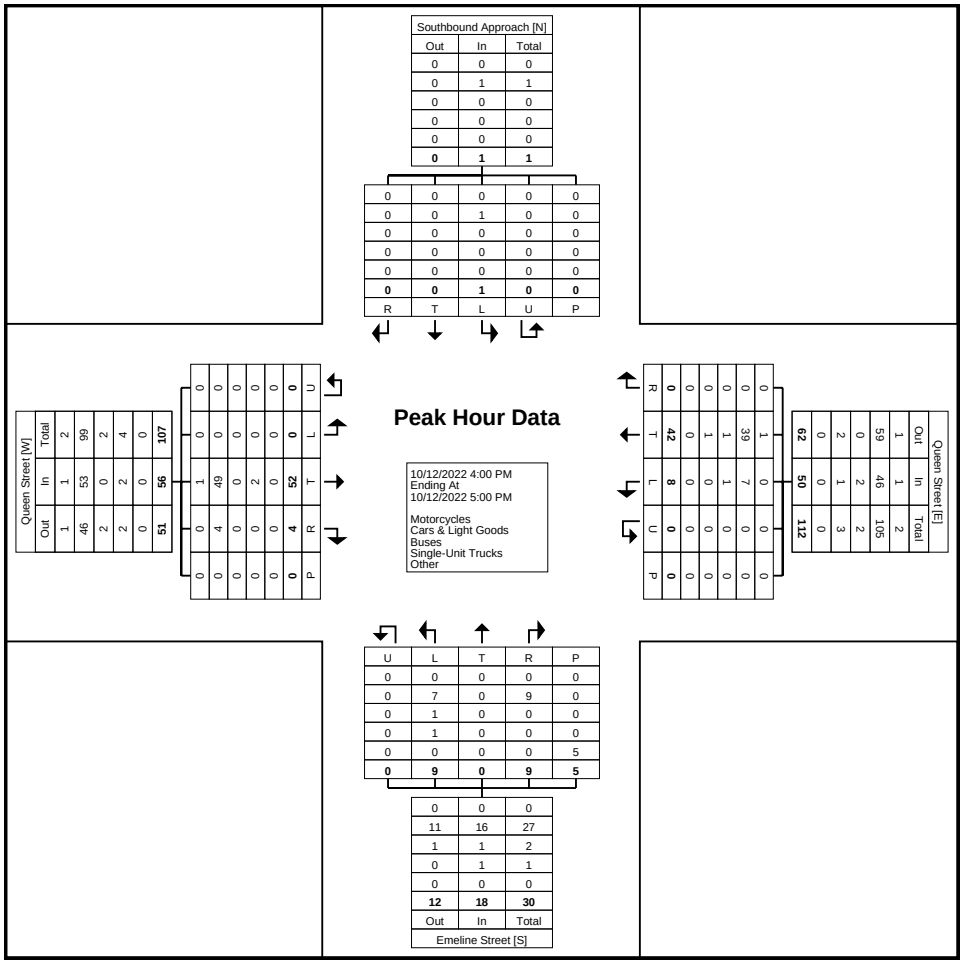
Turning Movement Peak Hour Data (4:00 PM)

Start Time	Queen Street Eastbound						Queen Street Westbound						Emeline Street Northbound						Southbound Approach Southbound						
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Int. Total
4:00 PM	0	17	1	0	0	18	1	14	0	0	0	15	5	0	1	0	0	6	1	0	0	0	0	1	40
4:15 PM	0	14	0	0	0	14	3	11	0	0	0	14	0	0	2	0	4	2	0	0	0	0	0	0	30
4:30 PM	0	11	1	0	0	12	4	8	0	0	0	12	3	0	3	0	0	6	0	0	0	0	0	0	30
4:45 PM	0	10	2	0	0	12	0	9	0	0	0	9	1	0	3	0	1	4	0	0	0	0	0	0	25
Total	0	52	4	0	0	56	8	42	0	0	0	50	9	0	9	0	5	18	1	0	0	0	0	1	125
Approach %	0.0	92.9	7.1	0.0	-	-	16.0	84.0	0.0	0.0	-	-	50.0	0.0	50.0	0.0	-	-	100.0	0.0	0.0	0.0	-	-	-
Total %	0.0	41.6	3.2	0.0	-	44.8	6.4	33.6	0.0	0.0	-	40.0	7.2	0.0	7.2	0.0	-	14.4	0.8	0.0	0.0	0.0	-	0.8	-
PHF	0.000	0.765	0.500	0.000	-	0.778	0.500	0.750	0.000	0.000	-	0.833	0.450	0.000	0.750	0.000	-	0.750	0.250	0.000	0.000	0.000	-	0.250	0.781
Motorcycles	0	1	0	0	-	1	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	2
% Motorcycles	-	1.9	0.0	-	-	1.8	0.0	2.4	-	-	-	2.0	0.0	-	0.0	-	-	0.0	0.0	-	-	-	-	0.0	1.6
Cars & Light Goods	0	49	4	0	-	53	7	39	0	0	-	46	7	0	9	0	-	16	1	0	0	0	-	1	116
% Cars & Light Goods	-	94.2	100.0	-	-	94.6	87.5	92.9	-	-	-	92.0	77.8	-	100.0	-	-	88.9	100.0	-	-	-	-	100.0	92.8
Buses	0	0	0	0	-	0	1	1	0	0	-	2	1	0	0	0	-	1	0	0	0	0	-	0	3
% Buses	-	0.0	0.0	-	-	0.0	12.5	2.4	-	-	-	4.0	11.1	-	0.0	-	-	5.6	0.0	-	-	-	-	0.0	2.4
Single-Unit Trucks	0	2	0	0	-	2	0	1	0	0	-	1	1	0	0	0	-	1	0	0	0	0	-	0	4
% Single-Unit Trucks	-	3.8	0.0	-	-	3.6	0.0	2.4	-	-	-	2.0	11.1	-	0.0	-	-	5.6	0.0	-	-	-	-	0.0	3.2
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	-	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	0.0	-	0.0	-	-	0.0	0.0	-	-	-	-	0.0	0.0
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	0.0	-	-	0.0	0.0	0.0	-	-	-	0.0	0.0	-	0.0	-	-	0.0	0.0	-	-	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	5	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Emeline Street & Queen Street
Site Code: 220188
Start Date: 10/12/2022
Page No: 7



Turning Movement Peak Hour Data Plot (4:00 PM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: King Street & Main Street
Site Code: 220188
Start Date: 10/12/2022

Turning Movement Data

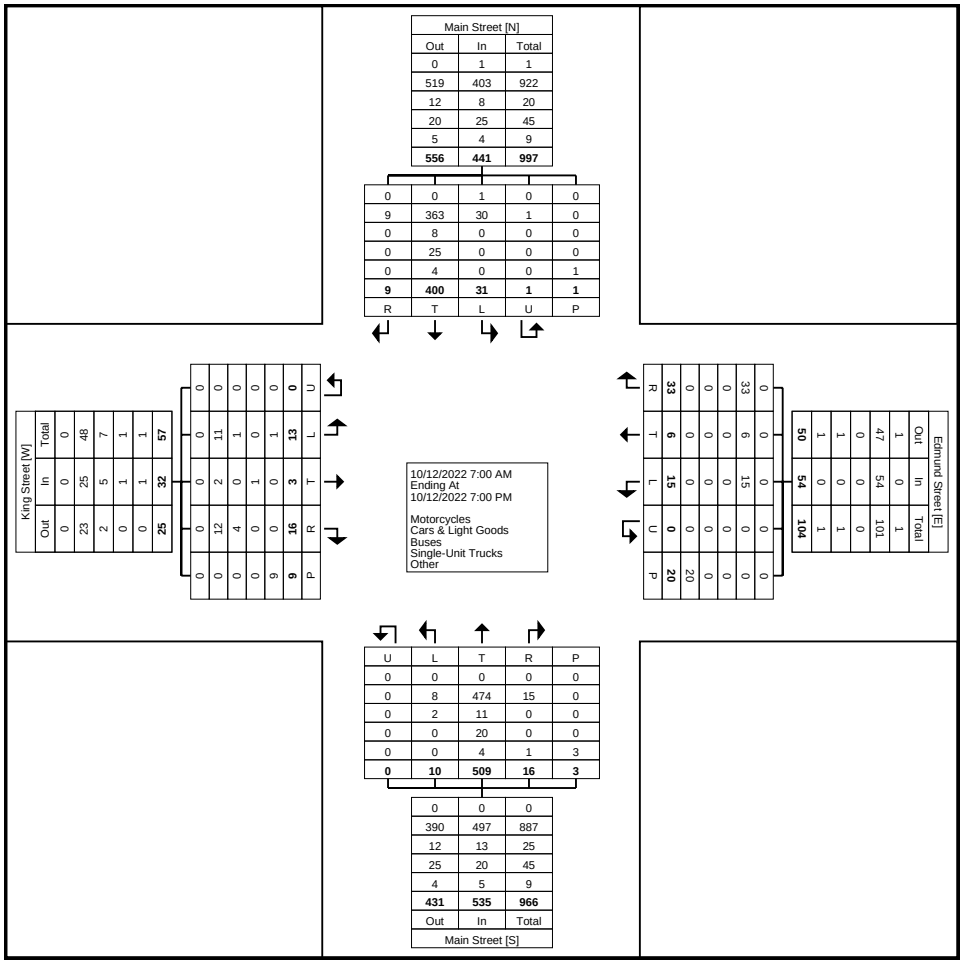
Start Time	King Street Eastbound						Edmund Street Westbound						Main Street Northbound						Main Street Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:00 AM	0	0	1	0	0	1	1	0	0	0	0	1	0	3	0	0	0	3	0	15	0	0	0	15	20
7:15 AM	1	0	1	0	0	2	1	0	0	0	0	1	0	8	0	0	0	8	1	17	0	0	0	18	29
7:30 AM	0	0	1	0	0	1	0	0	4	0	0	4	0	16	0	0	0	16	1	20	0	0	0	21	42
7:45 AM	0	0	1	0	0	1	1	0	2	0	0	3	0	14	0	0	1	14	1	14	0	0	0	15	33
Hourly Total	1	0	4	0	0	5	3	0	6	0	0	9	0	41	0	0	1	41	3	66	0	0	0	69	124
8:00 AM	1	0	2	0	0	3	0	0	1	0	1	1	0	19	0	0	0	19	0	26	1	1	0	28	51
8:15 AM	2	0	2	0	0	4	0	0	1	0	2	1	1	21	1	0	0	23	0	30	1	0	0	31	59
8:30 AM	0	0	1	0	1	1	3	0	2	0	1	5	0	33	1	0	0	34	1	14	0	0	0	15	55
8:45 AM	1	0	1	0	1	2	1	0	1	0	2	2	0	16	0	0	0	16	0	19	0	0	0	19	39
Hourly Total	4	0	6	0	2	10	4	0	5	0	6	9	1	89	2	0	0	92	1	89	2	1	0	93	204
9:00 AM	0	1	1	0	1	2	1	0	2	0	0	3	0	20	0	0	0	20	1	15	0	0	0	16	41
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	10	1	11	0	0	0	12	22
9:30 AM	0	1	0	0	0	1	0	1	1	0	0	2	0	20	1	0	0	21	1	8	0	0	0	9	33
9:45 AM	1	0	0	0	2	1	0	0	1	0	0	1	0	16	1	0	0	17	0	22	0	0	0	22	41
Hourly Total	1	2	1	0	3	4	1	1	4	0	0	6	0	66	2	0	0	68	3	56	0	0	0	59	137
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	0	2	0	0	2	1	0	2	0	1	3	2	31	0	0	0	33	3	27	0	0	0	30	68
4:15 PM	1	0	1	0	0	2	0	1	0	0	0	1	2	30	0	0	0	32	6	23	1	0	0	30	65
4:30 PM	0	1	0	0	0	1	0	0	1	0	3	1	0	29	0	0	0	29	1	17	0	0	1	18	49
4:45 PM	0	0	0	0	0	0	1	1	3	0	1	5	1	19	2	0	0	22	0	21	1	0	0	22	49
Hourly Total	1	1	3	0	0	5	2	2	6	0	5	10	5	109	2	0	0	116	10	88	2	0	1	100	231
5:00 PM	3	0	0	0	0	3	0	0	1	0	3	1	0	27	3	0	0	30	2	19	1	0	0	22	56
5:15 PM	1	0	0	0	0	1	1	0	0	0	3	1	1	19	2	0	0	22	4	15	0	0	0	19	43
5:30 PM	0	0	1	0	1	1	1	0	1	0	0	2	1	22	1	0	0	24	1	17	0	0	0	18	45
5:45 PM	0	0	0	0	0	0	1	2	3	0	0	6	0	24	0	0	0	24	2	11	3	0	0	16	46
Hourly Total	4	0	1	0	1	5	3	2	5	0	6	10	2	92	6	0	0	100	9	62	4	0	0	75	190
6:00 PM	1	0	0	0	0	1	0	0	2	0	0	2	1	15	1	0	0	17	0	21	1	0	0	22	42
6:15 PM	1	0	0	0	1	1	0	0	1	0	0	1	1	28	1	0	0	30	1	4	0	0	0	5	37
6:30 PM	0	0	1	0	2	1	1	0	3	0	1	4	0	29	2	0	2	31	2	6	0	0	0	8	44
6:45 PM	0	0	0	0	0	0	1	1	1	0	2	3	0	40	0	0	0	40	2	8	0	0	0	10	53
Hourly Total	2	0	1	0	3	3	2	1	7	0	3	10	2	112	4	0	2	118	5	39	1	0	0	45	176
Grand Total	13	3	16	0	9	32	15	6	33	0	20	54	10	509	16	0	3	535	31	400	9	1	1	441	1062
Approach %	40.6	9.4	50.0	0.0	-	-	27.8	11.1	61.1	0.0	-	-	1.9	95.1	3.0	0.0	-	-	7.0	90.7	2.0	0.2	-	-	-
Total %	1.2	0.3	1.5	0.0	-	3.0	1.4	0.6	3.1	0.0	-	5.1	0.9	47.9	1.5	0.0	-	50.4	2.9	37.7	0.8	0.1	-	41.5	-
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	0	-	1	1

% Motorcycles	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	3.2	0.0	0.0	0.0	-	0.2	0.1
Cars & Light Goods	11	2	12	0	-	25	15	6	33	0	-	54	8	474	15	0	-	497	30	363	9	1	-	403	979
% Cars & Light Goods	84.6	66.7	75.0	-	-	78.1	100.0	100.0	100.0	-	-	100.0	80.0	93.1	93.8	-	-	92.9	96.8	90.8	100.0	100.0	-	91.4	92.2
Buses	1	0	4	0	-	5	0	0	0	0	-	0	2	11	0	0	-	13	0	8	0	0	-	8	26
% Buses	7.7	0.0	25.0	-	-	15.6	0.0	0.0	0.0	-	-	0.0	20.0	2.2	0.0	-	-	2.4	0.0	2.0	0.0	0.0	-	1.8	2.4
Single-Unit Trucks	0	1	0	0	-	1	0	0	0	0	-	0	0	20	0	0	-	20	0	25	0	0	-	25	46
% Single-Unit Trucks	0.0	33.3	0.0	-	-	3.1	0.0	0.0	0.0	-	-	0.0	0.0	3.9	0.0	-	-	3.7	0.0	6.3	0.0	0.0	-	5.7	4.3
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	3	0	0	-	3	0	4	0	0	-	4	7
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.6	0.0	-	-	0.6	0.0	1.0	0.0	0.0	-	0.9	0.7
Bicycles on Road	1	0	0	0	-	1	0	0	0	0	-	0	0	1	1	0	-	2	0	0	0	0	-	0	3
% Bicycles on Road	7.7	0.0	0.0	-	-	3.1	0.0	0.0	0.0	-	-	0.0	0.0	0.2	6.3	-	-	0.4	0.0	0.0	0.0	0.0	-	0.0	0.3
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	9	-	-	-	-	-	20	-	-	-	-	-	3	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: King Street & Main Street
Site Code: 220188
Start Date: 10/12/2022
Page No: 3



Turning Movement Data Plot

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: King Street & Main Street
Site Code: 220188
Start Date: 10/12/2022

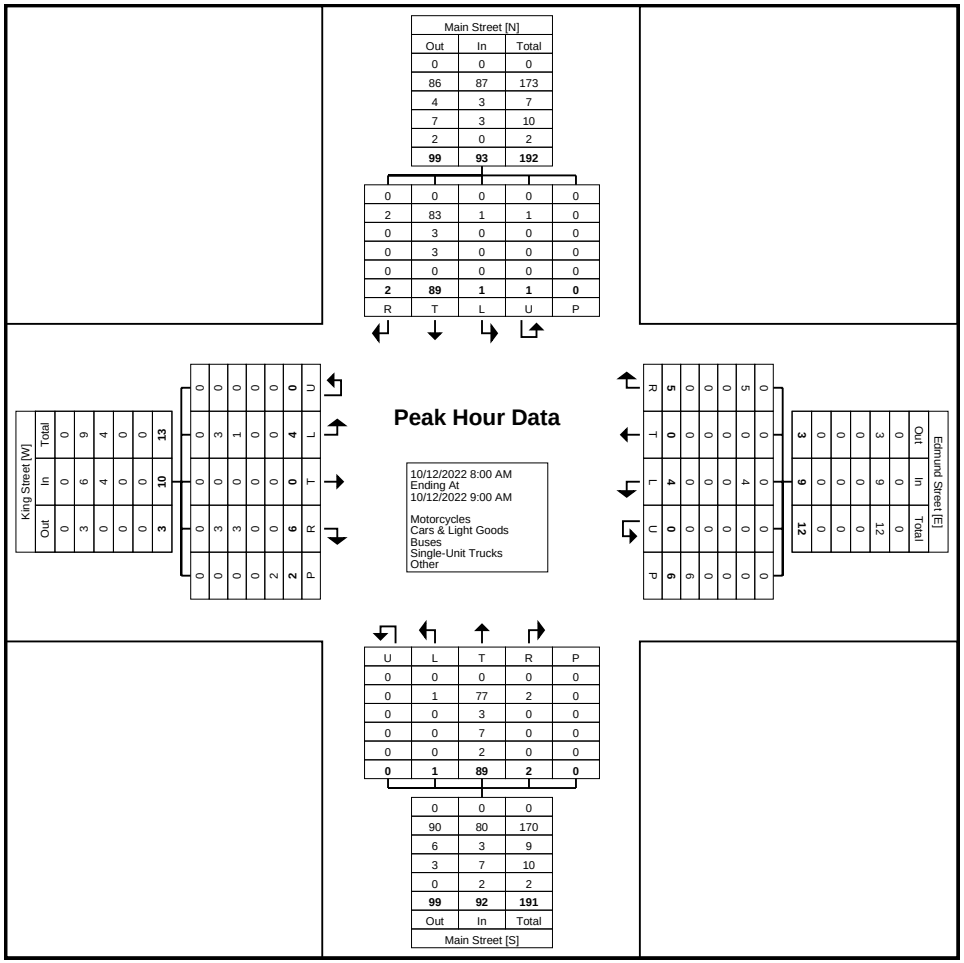
Turning Movement Peak Hour Data (8:00 AM)

Start Time	King Street Eastbound						Edmund Street Westbound						Main Street Northbound						Main Street Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
8:00 AM	1	0	2	0	0	3	0	0	1	0	1	1	0	19	0	0	0	19	0	26	1	1	0	28	51
8:15 AM	2	0	2	0	0	4	0	0	1	0	2	1	1	21	1	0	0	23	0	30	1	0	0	31	59
8:30 AM	0	0	1	0	1	1	3	0	2	0	1	5	0	33	1	0	0	34	1	14	0	0	0	15	55
8:45 AM	1	0	1	0	1	2	1	0	1	0	2	2	0	16	0	0	0	16	0	19	0	0	0	19	39
Total	4	0	6	0	2	10	4	0	5	0	6	9	1	89	2	0	0	92	1	89	2	1	0	93	204
Approach %	40.0	0.0	60.0	0.0	-	-	44.4	0.0	55.6	0.0	-	-	1.1	96.7	2.2	0.0	-	-	1.1	95.7	2.2	1.1	-	-	-
Total %	2.0	0.0	2.9	0.0	-	4.9	2.0	0.0	2.5	0.0	-	4.4	0.5	43.6	1.0	0.0	-	45.1	0.5	43.6	1.0	0.5	-	45.6	-
PHF	0.500	0.000	0.750	0.000	-	0.625	0.333	0.000	0.625	0.000	-	0.450	0.250	0.674	0.500	0.000	-	0.676	0.250	0.742	0.500	0.250	-	0.750	0.864
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Motorcycles	0.0	-	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Cars & Light Goods	3	0	3	0	-	6	4	0	5	0	-	9	1	77	2	0	-	80	1	83	2	1	-	87	182
% Cars & Light Goods	75.0	-	50.0	-	-	60.0	100.0	-	100.0	-	-	100.0	100.0	86.5	100.0	-	-	87.0	100.0	93.3	100.0	100.0	-	93.5	89.2
Buses	1	0	3	0	-	4	0	0	0	0	-	0	0	3	0	0	-	3	0	3	0	0	-	3	10
% Buses	25.0	-	50.0	-	-	40.0	0.0	-	0.0	-	-	0.0	0.0	3.4	0.0	-	-	3.3	0.0	3.4	0.0	0.0	-	3.2	4.9
Single-Unit Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	7	0	0	-	7	0	3	0	0	-	3	10
% Single-Unit Trucks	0.0	-	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	0.0	7.9	0.0	-	-	7.6	0.0	3.4	0.0	0.0	-	3.2	4.9
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	2	0	0	-	2	0	0	0	0	-	0	2
% Articulated Trucks	0.0	-	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	0.0	2.2	0.0	-	-	2.2	0.0	0.0	0.0	0.0	-	0.0	1.0
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	-	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	-	6	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: King Street & Main Street
Site Code: 220188
Start Date: 10/12/2022



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

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: King Street & Main Street
Site Code: 220188
Start Date: 10/12/2022

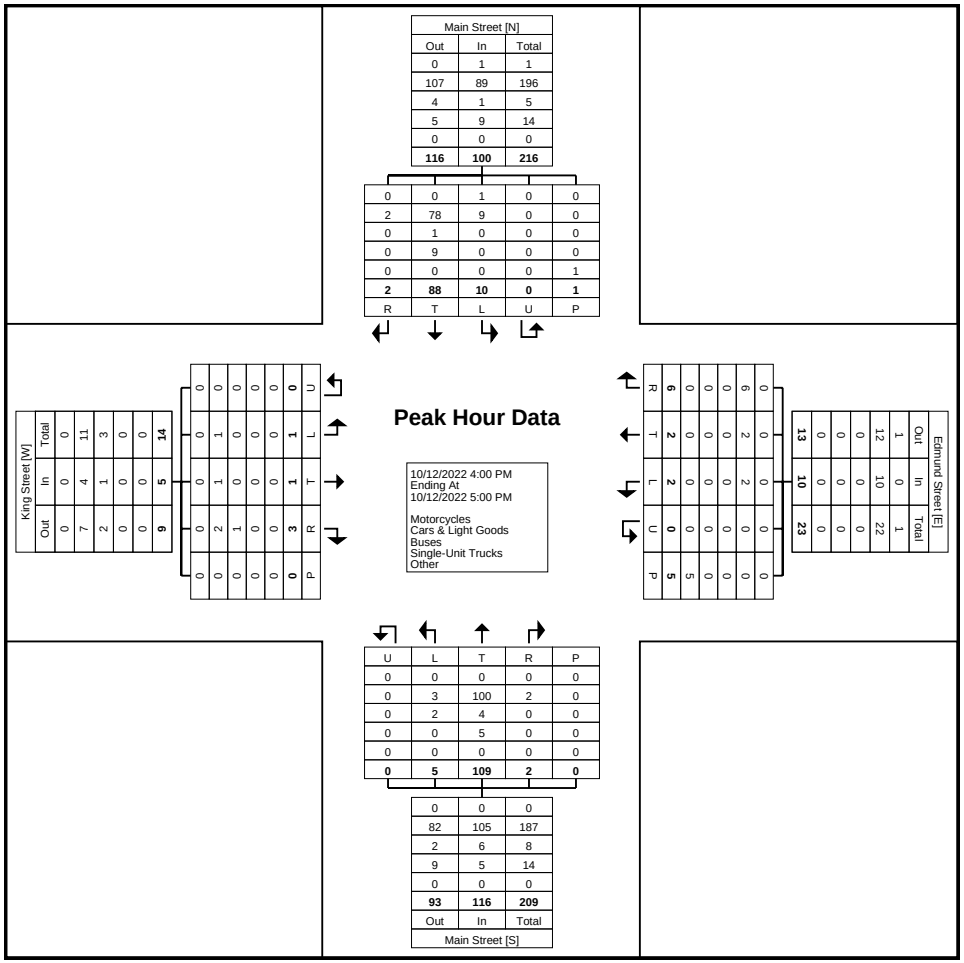
Turning Movement Peak Hour Data (4:00 PM)

Start Time	King Street Eastbound						Edmund Street Westbound						Main Street Northbound						Main Street Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
4:00 PM	0	0	2	0	0	2	1	0	2	0	1	3	2	31	0	0	0	33	3	27	0	0	0	30	68
4:15 PM	1	0	1	0	0	2	0	1	0	0	0	1	2	30	0	0	0	32	6	23	1	0	0	30	65
4:30 PM	0	1	0	0	0	1	0	0	1	0	3	1	0	29	0	0	0	29	1	17	0	0	1	18	49
4:45 PM	0	0	0	0	0	0	1	1	3	0	1	5	1	19	2	0	0	22	0	21	1	0	0	22	49
Total	1	1	3	0	0	5	2	2	6	0	5	10	5	109	2	0	0	116	10	88	2	0	1	100	231
Approach %	20.0	20.0	60.0	0.0	-	-	20.0	20.0	60.0	0.0	-	-	4.3	94.0	1.7	0.0	-	-	10.0	88.0	2.0	0.0	-	-	-
Total %	0.4	0.4	1.3	0.0	-	2.2	0.9	0.9	2.6	0.0	-	4.3	2.2	47.2	0.9	0.0	-	50.2	4.3	38.1	0.9	0.0	-	43.3	-
PHF	0.250	0.250	0.375	0.000	-	0.625	0.500	0.500	0.500	0.000	-	0.500	0.625	0.879	0.250	0.000	-	0.879	0.417	0.815	0.500	0.000	-	0.833	0.849
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	0	-	1	1
% Motorcycles	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	10.0	0.0	0.0	-	-	1.0	0.4
Cars & Light Goods	1	1	2	0	-	4	2	2	6	0	-	10	3	100	2	0	-	105	9	78	2	0	-	89	208
% Cars & Light Goods	100.0	100.0	66.7	-	-	80.0	100.0	100.0	100.0	-	-	100.0	60.0	91.7	100.0	-	-	90.5	90.0	88.6	100.0	-	-	89.0	90.0
Buses	0	0	1	0	-	1	0	0	0	0	-	0	2	4	0	0	-	6	0	1	0	0	-	1	8
% Buses	0.0	0.0	33.3	-	-	20.0	0.0	0.0	0.0	-	-	0.0	40.0	3.7	0.0	-	-	5.2	0.0	1.1	0.0	-	-	1.0	3.5
Single-Unit Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	5	0	0	-	5	0	9	0	0	-	9	14
% Single-Unit Trucks	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	4.6	0.0	-	-	4.3	0.0	10.2	0.0	-	-	9.0	6.1
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	5	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: King Street & Main Street
Site Code: 220188
Start Date: 10/12/2022
Page No: 7



Turning Movement Peak Hour Data Plot (4:00 PM)

McClellan Road & Main Street - TMC

Wed Nov 23, 2022
Full Length (6 AM-9 AM, 4 PM-7 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1017689, Location: 43.856716, -80.063795, Site Code: 220188

Provided by: Paradigm Transportation Solutions Limited
5A-150 Pinebush Road,
Cambridge, ON, N1R 8J8, CA

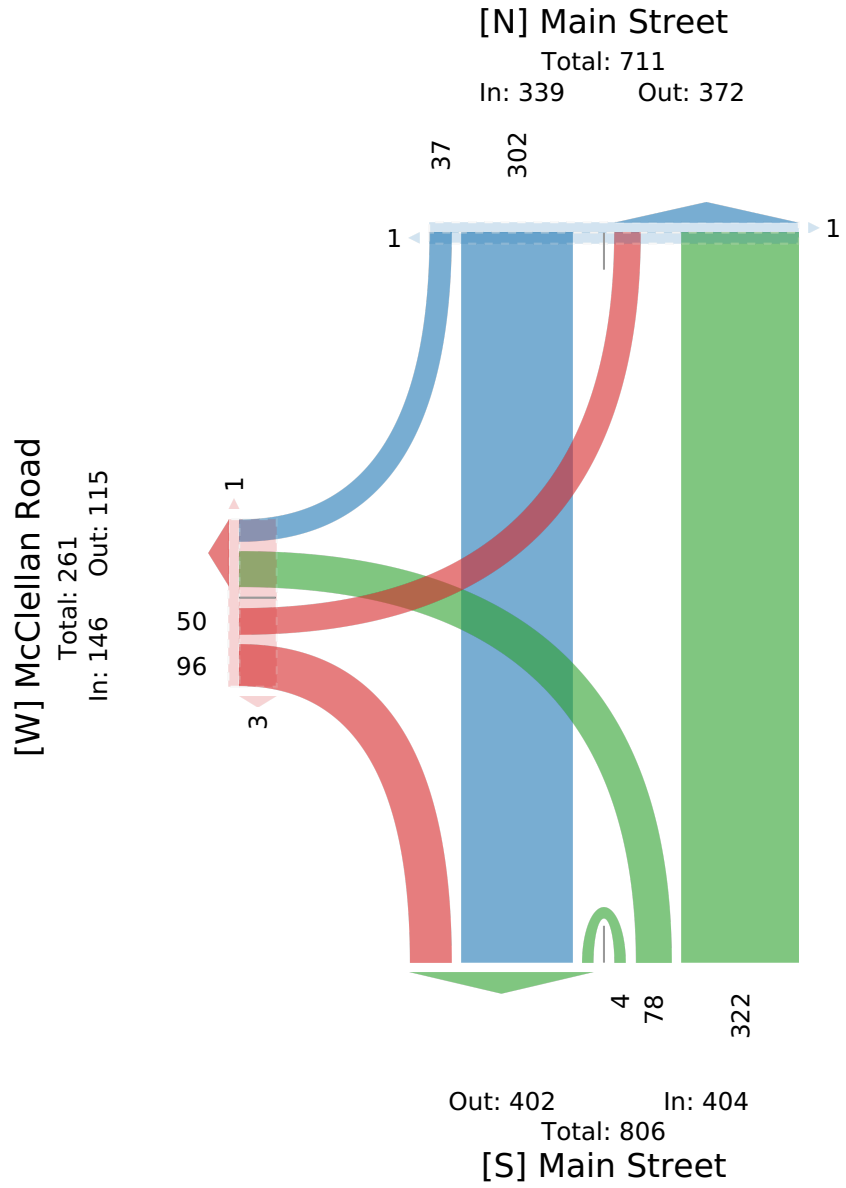
Leg	McClellan Road					Main Street					Main Street					
Direction	Eastbound					Northbound					Southbound					
Time	R	L	U	**App**	Ped*	T	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
2022-11-23 6:00AM	4	0	0	**4**	0	4	0	0	**4**	0	0	9	0	**9**	0	**17**
6:15AM	3	0	0	**3**	0	0	0	0	**0**	0	0	19	0	**19**	0	**22**
6:30AM	4	1	0	**5**	0	4	0	0	**4**	0	0	15	0	**15**	0	**24**
6:45AM	16	1	0	**17**	0	2	1	0	**3**	0	1	14	0	**15**	1	**35**
Hourly Total	27	2	0	**29**	0	10	1	0	**11**	0	1	57	0	**58**	1	**98**
7:00AM	7	0	0	**7**	2	2	2	0	**4**	0	1	16	0	**17**	0	**28**
7:15AM	6	1	0	**7**	1	11	0	0	**11**	0	0	15	0	**15**	0	**33**
7:30AM	7	2	0	**9**	0	5	2	0	**7**	0	0	9	0	**9**	1	**25**
7:45AM	8	0	0	**8**	0	13	0	0	**13**	0	0	10	0	**10**	0	**31**
Hourly Total	28	3	0	**31**	3	31	4	0	**35**	0	1	50	0	**51**	1	**117**
8:00AM	6	6	0	**12**	0	18	1	0	**19**	0	1	14	0	**15**	0	**46**
8:15AM	4	6	0	**10**	0	11	2	0	**13**	0	3	16	0	**19**	0	**42**
8:30AM	3	6	0	**9**	0	22	1	0	**23**	0	3	19	0	**22**	0	**54**
8:45AM	4	3	0	**7**	0	12	1	0	**13**	0	3	6	0	**9**	0	**29**
Hourly Total	17	21	0	**38**	0	63	5	0	**68**	0	10	55	0	**65**	0	**171**
4:00PM	2	3	0	**5**	1	23	6	0	**29**	0	3	20	0	**23**	0	**57**
4:15PM	1	1	0	**2**	0	19	9	0	**28**	0	0	14	0	**14**	0	**44**
4:30PM	4	0	0	**4**	0	25	4	0	**29**	0	3	15	0	**18**	0	**51**
4:45PM	1	4	0	**5**	0	26	9	1	**36**	0	4	13	0	**17**	0	**58**
Hourly Total	8	8	0	**16**	1	93	28	1	**122**	0	10	62	0	**72**	0	**210**
5:00PM	2	3	0	**5**	0	24	9	0	**33**	0	2	14	0	**16**	0	**54**
5:15PM	4	2	0	**6**	0	16	6	2	**24**	0	1	11	0	**12**	0	**42**
5:30PM	4	0	0	**4**	0	17	3	1	**21**	0	4	14	0	**18**	0	**43**
5:45PM	2	2	0	**4**	0	16	3	0	**19**	0	3	10	0	**13**	0	**36**
Hourly Total	12	7	0	**19**	0	73	21	3	**97**	0	10	49	0	**59**	0	**175**
6:00PM	1	1	0	**2**	0	16	4	0	**20**	0	1	9	0	**10**	0	**32**
6:15PM	0	1	0	**1**	0	13	7	0	**20**	0	1	14	0	**15**	0	**36**
6:30PM	1	4	0	**5**	0	13	5	0	**18**	0	2	3	0	**5**	0	**28**
6:45PM	2	3	0	**5**	0	10	3	0	**13**	0	1	3	0	**4**	0	**22**
Hourly Total	4	9	0	**13**	0	52	19	0	**71**	0	5	29	0	**34**	0	**118**
Total	96	50	0	**146**	4	322	78	4	**404**	0	37	302	0	**339**	2	**889**
% Approach	65.8%	34.2%	0%	**-**	-	79.7%	19.3%	1.0%	**-**	-	10.9%	89.1%	0%	**-**	-	-
% Total	10.8%	5.6%	0%	**16.4%**	-	36.2%	8.8%	0.4%	**45.4%**	-	4.2%	34.0%	0%	**38.1%**	-	-
Motorcycles	0	0	0	**0**	-	0	0	0	**0**	-	1	0	0	**1**	-	1
% Motorcycles	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	2.7%	0%	0%	**0.3%**	-	0.1%
Lights	91	49	0	**140**	-	302	74	3	**379**	-	34	288	0	**322**	-	841

Leg	McClellan Road					Main Street					Main Street					
Direction	Eastbound					Northbound					Southbound					
Time	R	L	U	**App**	Ped*	T	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
% Lights	94.8%	98.0%	0%	**95.9%**	-	93.8%	94.9%	75.0%	**93.8%**	-	91.9%	95.4%	0%	**95.0%**	-	94.6%
Single-Unit Trucks	2	1	0	**3**	-	9	2	1	**12**	-	0	5	0	**5**	-	20
% Single-Unit Trucks	2.1%	2.0%	0%	**2.1%**	-	2.8%	2.6%	25.0%	**3.0%**	-	0%	1.7%	0%	**1.5%**	-	2.2%
Articulated Trucks	0	0	0	**0**	-	5	0	0	**5**	-	0	4	0	**4**	-	9
% Articulated Trucks	0%	0%	0%	**0%**	-	1.6%	0%	0%	**1.2%**	-	0%	1.3%	0%	**1.2%**	-	1.0%
Buses	3	0	0	**3**	-	5	2	0	**7**	-	2	5	0	**7**	-	17
% Buses	3.1%	0%	0%	**2.1%**	-	1.6%	2.6%	0%	**1.7%**	-	5.4%	1.7%	0%	**2.1%**	-	1.9%
Bicycles on Road	0	0	0	**0**	-	1	0	0	**1**	-	0	0	0	**0**	-	1
% Bicycles on Road	0%	0%	0%	**0%**	-	0.3%	0%	0%	**0.2%**	-	0%	0%	0%	**0%**	-	0.1%
Pedestrians	-	-	-	-	4	-	-	-	-	0	-	-	-	-	2	
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

McClellan Road & Main Street - TMC
Wed Nov 23, 2022
Full Length (6 AM-9 AM, 4 PM-7 PM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1017689, Location: 43.856716, -80.063795, Site Code: 220188

Provided by: Paradigm Transportation Solutions Limited
5A-150 Pinebush Road,
Cambridge, ON, N1R 8J8, CA



McClellan Road & Main Street - TMC

Wed Nov 23, 2022
AM Peak (7:45 AM - 8:45 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1017689, Location: 43.856716, -80.063795, Site Code: 220188

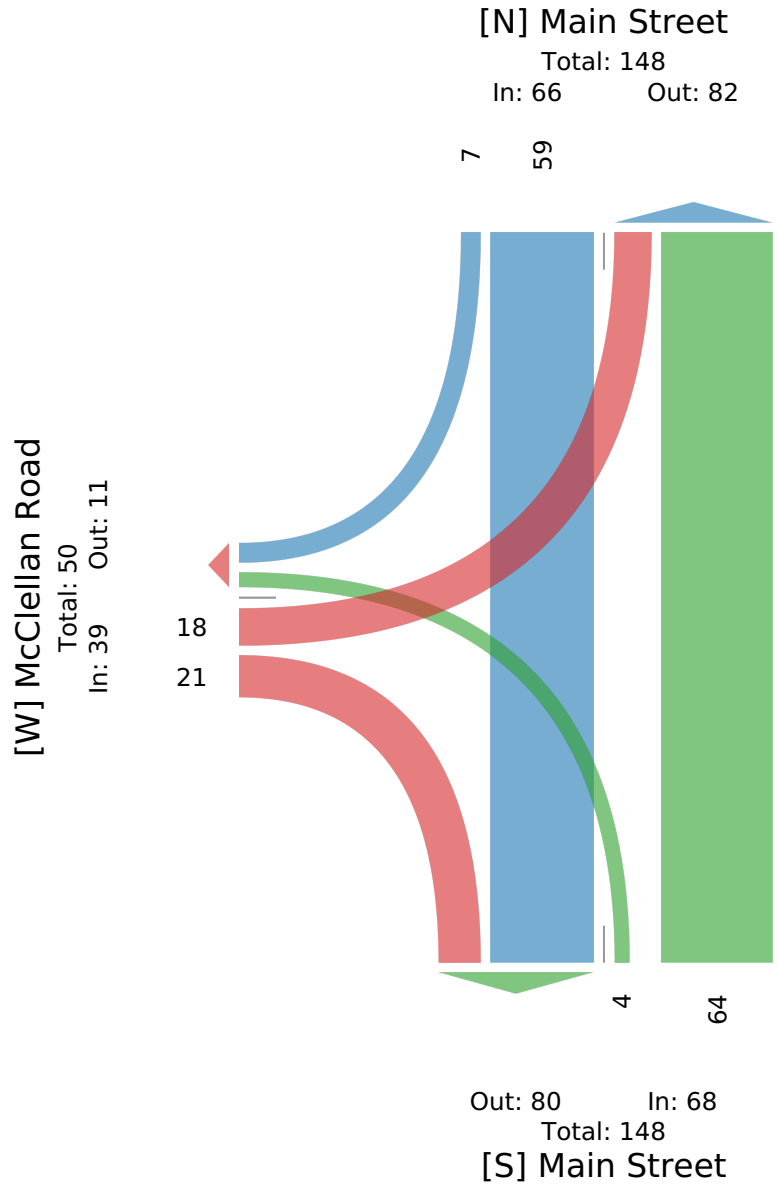
Provided by: Paradigm Transportation Solutions Limited
5A-150 Pinebush Road,
Cambridge, ON, N1R 8J8, CA

Leg Direction	McClellan Road Eastbound					Main Street Northbound					Main Street Southbound					
Time	R	L	U	**App**	Ped*	T	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
2022-11-23 7:45AM	8	0	0	**8**	0	13	0	0	**13**	0	0	10	0	**10**	0	**31**
8:00AM	6	6	0	**12**	0	18	1	0	**19**	0	1	14	0	**15**	0	**46**
8:15AM	4	6	0	**10**	0	11	2	0	**13**	0	3	16	0	**19**	0	**42**
8:30AM	3	6	0	**9**	0	22	1	0	**23**	0	3	19	0	**22**	0	**54**
Total	21	18	0	**39**	0	64	4	0	**68**	0	7	59	0	**66**	0	**173**
% Approach	53.8%	46.2%	0%	**-**	-	94.1%	5.9%	0%	**-**	-	10.6%	89.4%	0%	**-**	-	-
% Total	12.1%	10.4%	0%	**22.5%**	-	37.0%	2.3%	0%	**39.3%**	-	4.0%	34.1%	0%	**38.2%**	-	-
PHF	0.656	0.750	-	**0.813**	-	0.727	0.500	-	**0.739**	-	0.583	0.776	-	**0.750**	-	0.801
Motorcycles	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Motorcycles	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Lights	19	17	0	**36**	-	61	3	0	**64**	-	6	56	0	**62**	-	162
% Lights	90.5%	94.4%	0%	**92.3%**	-	95.3%	75.0%	0%	**94.1%**	-	85.7%	94.9%	0%	**93.9%**	-	93.6%
Single-Unit Trucks	1	1	0	**2**	-	1	1	0	**2**	-	0	0	0	**0**	-	4
% Single-Unit Trucks	4.8%	5.6%	0%	**5.1%**	-	1.6%	25.0%	0%	**2.9%**	-	0%	0%	0%	**0%**	-	2.3%
Articulated Trucks	0	0	0	**0**	-	2	0	0	**2**	-	0	2	0	**2**	-	4
% Articulated Trucks	0%	0%	0%	**0%**	-	3.1%	0%	0%	**2.9%**	-	0%	3.4%	0%	**3.0%**	-	2.3%
Buses	1	0	0	**1**	-	0	0	0	**0**	-	1	1	0	**2**	-	3
% Buses	4.8%	0%	0%	**2.6%**	-	0%	0%	0%	**0%**	-	14.3%	1.7%	0%	**3.0%**	-	1.7%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

McClellan Road & Main Street - TMC
Wed Nov 23, 2022
AM Peak (7:45 AM - 8:45 AM)
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1017689, Location: 43.856716, -80.063795, Site Code: 220188

Provided by: Paradigm Transportation Solutions Limited
5A-150 Pinebush Road,
Cambridge, ON, N1R 8J8, CA



McClellan Road & Main Street - TMC

Wed Nov 23, 2022

PM Peak (4 PM - 5 PM) - Overall Peak Hour

All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1017689, Location: 43.856716, -80.063795, Site Code: 220188

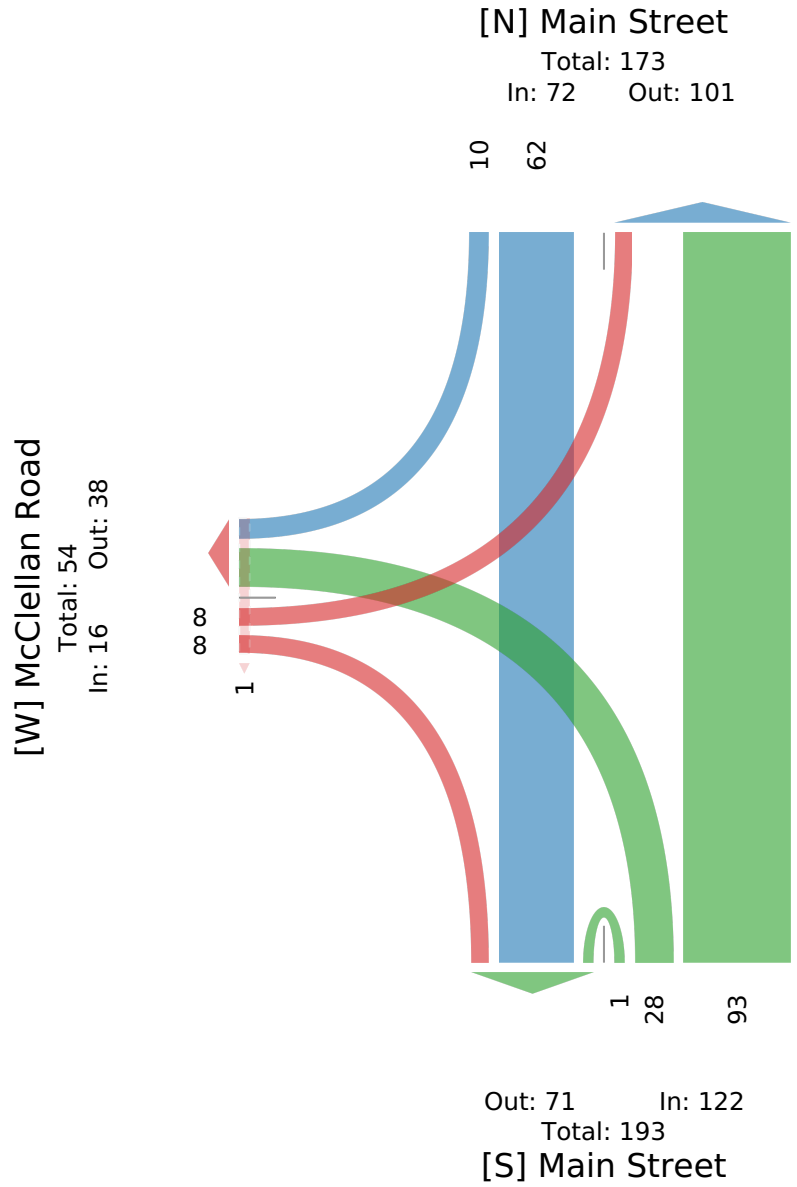
Provided by: Paradigm Transportation Solutions Limited
5A-150 Pinebush Road,
Cambridge, ON, N1R 8J8, CA

Leg	McClellan Road					Main Street					Main Street					
Direction	Eastbound					Northbound					Southbound					
Time	R	L	U	**App**	Ped*	T	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
2022-11-23 4:00PM	2	3	0	**5**	1	23	6	0	**29**	0	3	20	0	**23**	0	**57**
4:15PM	1	1	0	**2**	0	19	9	0	**28**	0	0	14	0	**14**	0	**44**
4:30PM	4	0	0	**4**	0	25	4	0	**29**	0	3	15	0	**18**	0	**51**
4:45PM	1	4	0	**5**	0	26	9	1	**36**	0	4	13	0	**17**	0	**58**
Total	8	8	0	**16**	1	93	28	1	**122**	0	10	62	0	**72**	0	**210**
% Approach	50.0%	50.0%	0%	**-**	-	76.2%	23.0%	0.8%	**-**	-	13.9%	86.1%	0%	**-**	-	-
% Total	3.8%	3.8%	0%	**7.6%**	-	44.3%	13.3%	0.5%	**58.1%**	-	4.8%	29.5%	0%	**34.3%**	-	-
PHF	0.500	0.500	-	**0.800**	-	0.894	0.778	0.250	**0.847**	-	0.625	0.775	-	**0.783**	-	0.905
Motorcycles	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Motorcycles	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Lights	7	8	0	**15**	-	86	28	0	**114**	-	10	58	0	**68**	-	197
% Lights	87.5%	100%	0%	**93.8%**	-	92.5%	100%	0%	**93.4%**	-	100%	93.5%	0%	**94.4%**	-	93.8%
Single-Unit Trucks	0	0	0	**0**	-	1	0	1	**2**	-	0	3	0	**3**	-	5
% Single-Unit Trucks	0%	0%	0%	**0%**	-	1.1%	0%	100%	**1.6%**	-	0%	4.8%	0%	**4.2%**	-	2.4%
Articulated Trucks	0	0	0	**0**	-	1	0	0	**1**	-	0	0	0	**0**	-	1
% Articulated Trucks	0%	0%	0%	**0%**	-	1.1%	0%	0%	**0.8%**	-	0%	0%	0%	**0%**	-	0.5%
Buses	1	0	0	**1**	-	5	0	0	**5**	-	0	1	0	**1**	-	7
% Buses	12.5%	0%	0%	**6.3%**	-	5.4%	0%	0%	**4.1%**	-	0%	1.6%	0%	**1.4%**	-	3.3%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

McClellan Road & Main Street - TMC
Wed Nov 23, 2022
PM Peak (4 PM - 5 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1017689, Location: 43.856716, -80.063795, Site Code: 220188

Provided by: Paradigm Transportation Solutions Limited
5A-150 Pinebush Road,
Cambridge, ON, N1R 8J8, CA



Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Queen Street & Main Street
Site Code: 220188
Start Date: 10/12/2022

Turning Movement Data

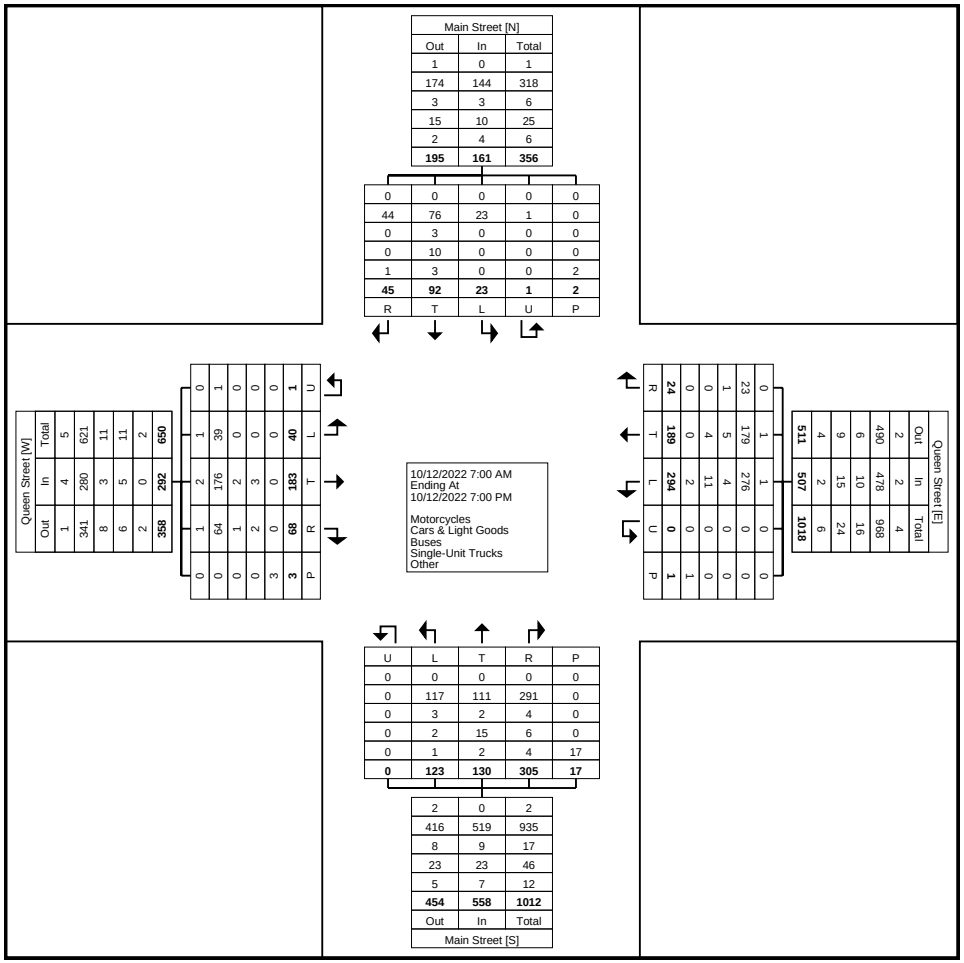
Start Time	Queen Street Eastbound						Queen Street Westbound						Main Street Northbound						Main Street Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:00 AM	0	5	2	0	0	7	9	2	0	0	0	11	2	0	2	0	0	4	1	3	2	0	0	6	28
7:15 AM	2	4	2	0	0	8	12	3	0	0	0	15	1	2	5	0	0	8	0	7	1	0	0	8	39
7:30 AM	2	4	0	0	0	6	14	7	0	0	0	21	2	5	13	0	0	20	1	5	3	0	0	9	56
7:45 AM	2	7	2	0	0	11	13	11	0	0	0	24	2	2	13	0	0	17	2	4	1	0	0	7	59
Hourly Total	6	20	6	0	0	32	48	23	0	0	0	71	7	9	33	0	0	49	4	19	7	0	0	30	182
8:00 AM	1	6	3	0	0	10	20	5	0	0	0	25	1	6	13	0	4	20	2	5	3	0	0	10	65
8:15 AM	1	3	2	0	0	6	26	2	2	0	0	30	2	6	20	0	0	28	0	6	0	0	0	6	70
8:30 AM	1	13	2	0	0	16	6	5	1	0	0	12	4	10	21	0	1	35	0	5	0	0	0	5	68
8:45 AM	1	4	5	0	1	10	10	7	1	0	0	18	2	4	12	0	1	18	0	7	0	0	0	7	53
Hourly Total	4	26	12	0	1	42	62	19	4	0	0	85	9	26	66	0	6	101	2	23	3	0	0	28	256
9:00 AM	0	6	3	0	0	9	9	8	0	0	0	17	4	6	8	0	0	18	2	3	0	0	0	5	49
9:15 AM	1	3	1	0	0	5	8	2	1	0	0	11	11	2	4	0	0	17	1	2	2	0	0	5	38
9:30 AM	1	7	1	0	0	9	5	7	3	0	0	15	3	2	17	0	0	22	0	2	1	0	0	3	49
9:45 AM	0	7	7	0	0	14	13	7	0	0	0	20	3	0	12	0	4	15	0	3	2	1	0	6	55
Hourly Total	2	23	12	0	0	37	35	24	4	0	0	63	21	10	41	0	4	72	3	10	5	1	0	19	191
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	4	15	4	0	0	23	24	15	1	0	0	40	2	9	21	0	2	32	1	3	3	0	0	7	102
4:15 PM	2	13	3	0	2	18	27	17	1	0	0	45	3	9	20	0	0	32	3	3	4	0	2	10	105
4:30 PM	4	8	2	0	0	14	12	9	1	0	0	22	2	6	21	0	0	29	2	3	3	0	0	8	73
4:45 PM	4	8	5	0	0	17	12	7	0	0	0	19	5	7	11	0	1	23	2	5	1	0	0	8	67
Hourly Total	14	44	14	0	2	72	75	48	3	0	0	126	12	31	73	0	3	116	8	14	11	0	2	33	347
5:00 PM	1	17	2	0	0	20	18	5	3	0	0	26	9	10	12	0	0	31	1	2	2	0	0	5	82
5:15 PM	0	8	6	0	0	14	9	13	3	0	0	25	3	11	6	0	3	20	2	4	3	0	0	9	68
5:30 PM	3	5	3	0	0	11	15	12	4	0	0	31	4	3	15	0	0	22	1	2	0	0	0	3	67
5:45 PM	3	10	2	0	0	15	12	13	1	0	0	26	4	8	15	0	0	27	1	3	3	0	0	7	75
Hourly Total	7	40	13	0	0	60	54	43	11	0	0	108	20	32	48	0	3	100	5	11	8	0	0	24	292
6:00 PM	4	5	8	1	0	18	11	11	0	0	0	22	3	6	8	0	0	17	1	2	4	0	0	7	64
6:15 PM	1	11	1	0	0	13	2	2	0	0	1	4	6	8	16	0	0	30	0	3	3	0	0	6	53
6:30 PM	2	5	1	0	0	8	3	7	0	0	0	10	18	4	9	0	0	31	0	4	2	0	0	6	55
6:45 PM	0	9	1	0	0	10	4	12	2	0	0	18	27	4	11	0	1	42	0	6	2	0	0	8	78
Hourly Total	7	30	11	1	0	49	20	32	2	0	1	54	54	22	44	0	1	120	1	15	11	0	0	27	250
Grand Total	40	183	68	1	3	292	294	189	24	0	1	507	123	130	305	0	17	558	23	92	45	1	2	161	1518
Approach %	13.7	62.7	23.3	0.3	-	-	58.0	37.3	4.7	0.0	-	-	22.0	23.3	54.7	0.0	-	-	14.3	57.1	28.0	0.6	-	-	-
Total %	2.6	12.1	4.5	0.1	-	19.2	19.4	12.5	1.6	0.0	-	33.4	8.1	8.6	20.1	0.0	-	36.8	1.5	6.1	3.0	0.1	-	10.6	-
Motorcycles	1	2	1	0	-	4	1	1	0	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	6

% Motorcycles	2.5	1.1	1.5	0.0	-	1.4	0.3	0.5	0.0	-	-	0.4	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.4
Cars & Light Goods	39	176	64	1	-	280	276	179	23	0	-	478	117	111	291	0	-	519	23	76	44	1	-	144	1421
% Cars & Light Goods	97.5	96.2	94.1	100.0	-	95.9	93.9	94.7	95.8	-	-	94.3	95.1	85.4	95.4	-	-	93.0	100.0	82.6	97.8	100.0	-	89.4	93.6
Buses	0	2	1	0	-	3	4	5	1	0	-	10	3	2	4	0	-	9	0	3	0	0	-	3	25
% Buses	0.0	1.1	1.5	0.0	-	1.0	1.4	2.6	4.2	-	-	2.0	2.4	1.5	1.3	-	-	1.6	0.0	3.3	0.0	0.0	-	1.9	1.6
Single-Unit Trucks	0	3	2	0	-	5	11	4	0	0	-	15	2	15	6	0	-	23	0	10	0	0	-	10	53
% Single-Unit Trucks	0.0	1.6	2.9	0.0	-	1.7	3.7	2.1	0.0	-	-	3.0	1.6	11.5	2.0	-	-	4.1	0.0	10.9	0.0	0.0	-	6.2	3.5
Articulated Trucks	0	0	0	0	-	0	2	0	0	0	-	2	1	1	3	0	-	5	0	2	0	0	-	2	9
% Articulated Trucks	0.0	0.0	0.0	0.0	-	0.0	0.7	0.0	0.0	-	-	0.4	0.8	0.8	1.0	-	-	0.9	0.0	2.2	0.0	0.0	-	1.2	0.6
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	1	1	0	-	2	0	1	1	0	-	2	4
% Bicycles on Road	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.8	0.3	-	-	0.4	0.0	1.1	2.2	0.0	-	1.2	0.3
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	17	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Queen Street & Main Street
Site Code: 220188
Start Date: 10/12/2022



Turning Movement Data Plot

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Queen Street & Main Street
Site Code: 220188
Start Date: 10/12/2022

Turning Movement Peak Hour Data (7:45 AM)

Start Time	Queen Street Eastbound						Queen Street Westbound						Main Street Northbound						Main Street Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:45 AM	2	7	2	0	0	11	13	11	0	0	0	24	2	2	13	0	0	17	2	4	1	0	0	7	59
8:00 AM	1	6	3	0	0	10	20	5	0	0	0	25	1	6	13	0	4	20	2	5	3	0	0	10	65
8:15 AM	1	3	2	0	0	6	26	2	2	0	0	30	2	6	20	0	0	28	0	6	0	0	0	6	70
8:30 AM	1	13	2	0	0	16	6	5	1	0	0	12	4	10	21	0	1	35	0	5	0	0	0	5	68
Total	5	29	9	0	0	43	65	23	3	0	0	91	9	24	67	0	5	100	4	20	4	0	0	28	262
Approach %	11.6	67.4	20.9	0.0	-	-	71.4	25.3	3.3	0.0	-	-	9.0	24.0	67.0	0.0	-	-	14.3	71.4	14.3	0.0	-	-	-
Total %	1.9	11.1	3.4	0.0	-	16.4	24.8	8.8	1.1	0.0	-	34.7	3.4	9.2	25.6	0.0	-	38.2	1.5	7.6	1.5	0.0	-	10.7	-
PHF	0.625	0.558	0.750	0.000	-	0.672	0.625	0.523	0.375	0.000	-	0.758	0.563	0.600	0.798	0.000	-	0.714	0.500	0.833	0.333	0.000	-	0.700	0.936
Motorcycles	0	2	0	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	2
% Motorcycles	0.0	6.9	0.0	-	-	4.7	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.8
Cars & Light Goods	5	26	8	0	-	39	65	20	2	0	-	87	7	17	62	0	-	86	4	17	4	0	-	25	237
% Cars & Light Goods	100.0	89.7	88.9	-	-	90.7	100.0	87.0	66.7	-	-	95.6	77.8	70.8	92.5	-	-	86.0	100.0	85.0	100.0	-	-	89.3	90.5
Buses	0	0	1	0	-	1	0	3	1	0	-	4	1	1	2	0	-	4	0	2	0	0	-	2	11
% Buses	0.0	0.0	11.1	-	-	2.3	0.0	13.0	33.3	-	-	4.4	11.1	4.2	3.0	-	-	4.0	0.0	10.0	0.0	-	-	7.1	4.2
Single-Unit Trucks	0	1	0	0	-	1	0	0	0	0	-	0	0	5	1	0	-	6	0	1	0	0	-	1	8
% Single-Unit Trucks	0.0	3.4	0.0	-	-	2.3	0.0	0.0	0.0	-	-	0.0	0.0	20.8	1.5	-	-	6.0	0.0	5.0	0.0	-	-	3.6	3.1
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	1	1	2	0	-	4	0	0	0	0	-	0	4
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	11.1	4.2	3.0	-	-	4.0	0.0	0.0	0.0	-	-	0.0	1.5
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	5	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

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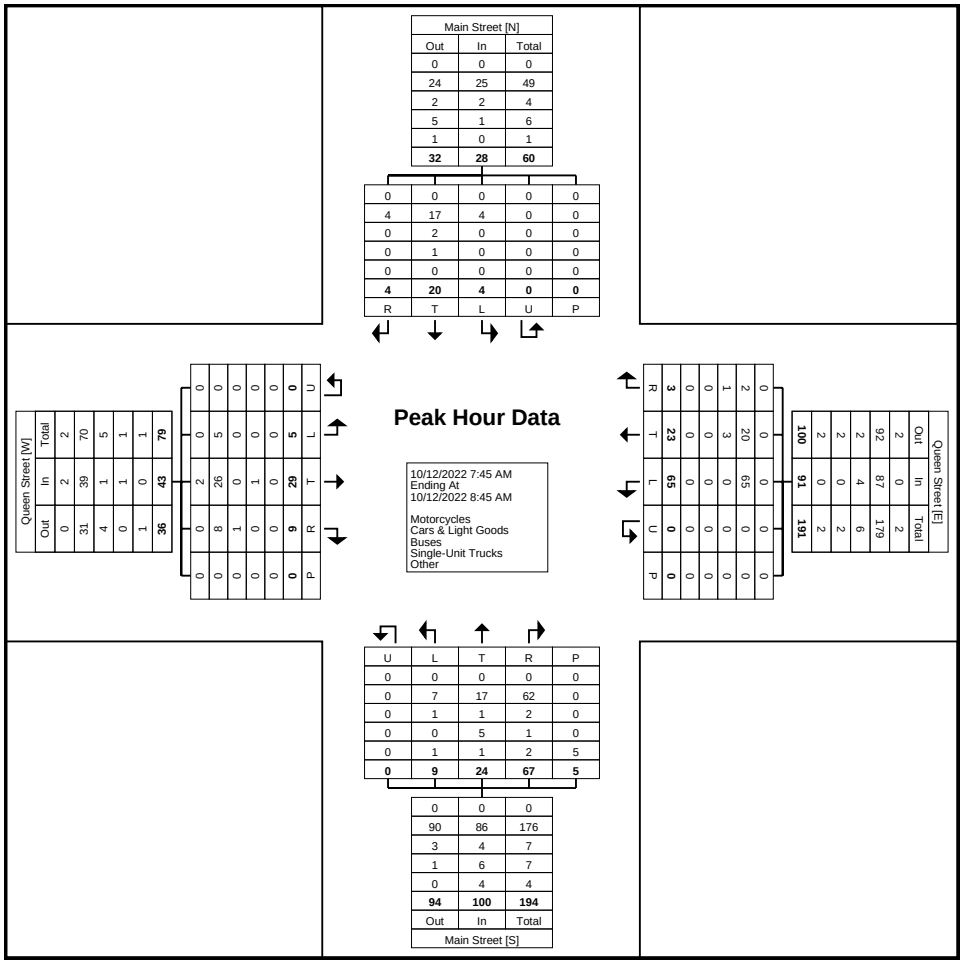
Start Date: 10/12/2022



Turning Movement Peak Hour Data Plot (7:45 AM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Queen Street & Main Street
Site Code: 220188
Start Date: 10/12/2022

Turning Movement Peak Hour Data (4:00 PM)

Start Time	Queen Street Eastbound						Queen Street Westbound						Main Street Northbound						Main Street Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
4:00 PM	4	15	4	0	0	23	24	15	1	0	0	40	2	9	21	0	2	32	1	3	3	0	0	7	102
4:15 PM	2	13	3	0	2	18	27	17	1	0	0	45	3	9	20	0	0	32	3	3	4	0	2	10	105
4:30 PM	4	8	2	0	0	14	12	9	1	0	0	22	2	6	21	0	0	29	2	3	3	0	0	8	73
4:45 PM	4	8	5	0	0	17	12	7	0	0	0	19	5	7	11	0	1	23	2	5	1	0	0	8	67
Total	14	44	14	0	2	72	75	48	3	0	0	126	12	31	73	0	3	116	8	14	11	0	2	33	347
Approach %	19.4	61.1	19.4	0.0	-	-	59.5	38.1	2.4	0.0	-	-	10.3	26.7	62.9	0.0	-	-	24.2	42.4	33.3	0.0	-	-	-
Total %	4.0	12.7	4.0	0.0	-	20.7	21.6	13.8	0.9	0.0	-	36.3	3.5	8.9	21.0	0.0	-	33.4	2.3	4.0	3.2	0.0	-	9.5	-
PHF	0.875	0.733	0.700	0.000	-	0.783	0.694	0.706	0.750	0.000	-	0.700	0.600	0.861	0.869	0.000	-	0.906	0.667	0.700	0.688	0.000	-	0.825	0.826
Motorcycles	1	0	0	0	-	1	1	1	0	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	3
% Motorcycles	7.1	0.0	0.0	-	-	1.4	1.3	2.1	0.0	-	-	1.6	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.9
Cars & Light Goods	13	41	13	0	-	67	69	44	3	0	-	116	11	27	69	0	-	107	8	11	11	0	-	30	320
% Cars & Light Goods	92.9	93.2	92.9	-	-	93.1	92.0	91.7	100.0	-	-	92.1	91.7	87.1	94.5	-	-	92.2	100.0	78.6	100.0	-	-	90.9	92.2
Buses	0	1	0	0	-	1	1	1	0	0	-	2	1	1	2	0	-	4	0	0	0	0	-	0	7
% Buses	0.0	2.3	0.0	-	-	1.4	1.3	2.1	0.0	-	-	1.6	8.3	3.2	2.7	-	-	3.4	0.0	0.0	0.0	-	-	0.0	2.0
Single-Unit Trucks	0	2	1	0	-	3	4	2	0	0	-	6	0	3	2	0	-	5	0	3	0	0	-	3	17
% Single-Unit Trucks	0.0	4.5	7.1	-	-	4.2	5.3	4.2	0.0	-	-	4.8	0.0	9.7	2.7	-	-	4.3	0.0	21.4	0.0	-	-	9.1	4.9
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

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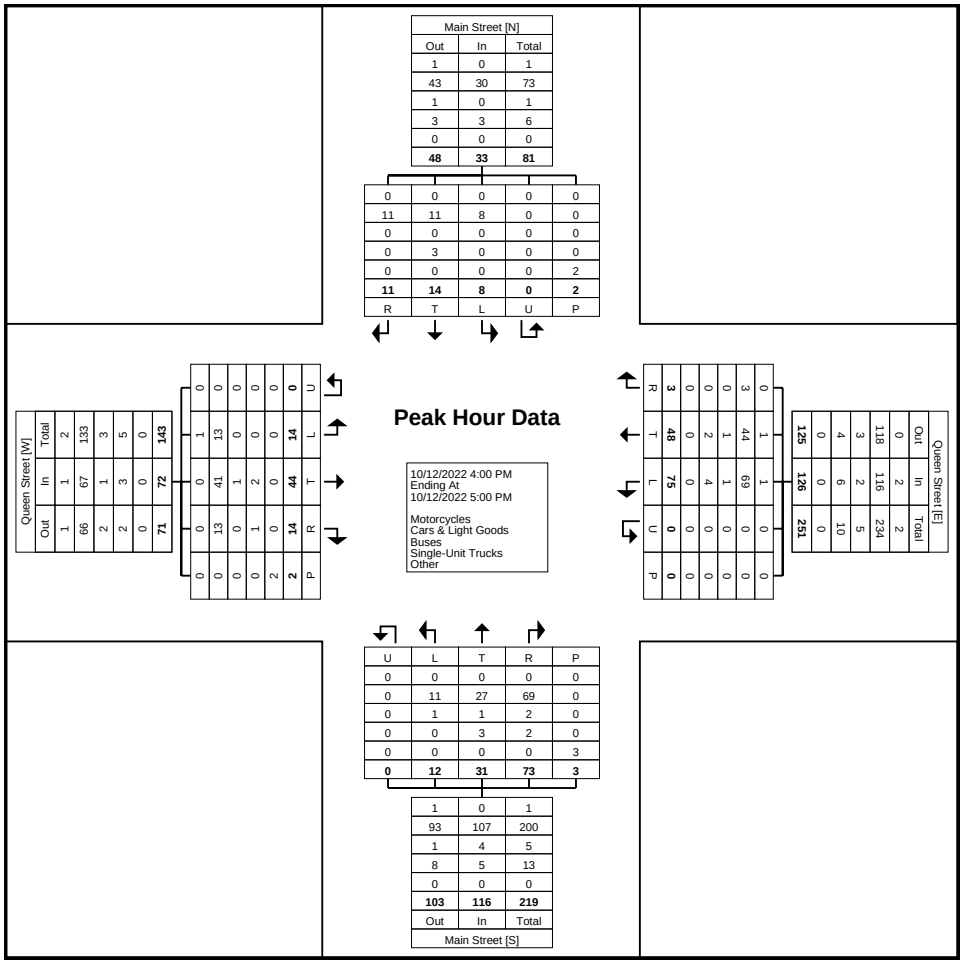


Turning Movement Peak Hour Data Plot (4:00 PM)

Appendix C

Base Year (2022) Traffic Operations Report

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	29	9	65	23	3	9	24	67	4	20	4
Future Volume (vph)	5	29	9	65	23	3	9	24	67	4	20	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.971			0.996			0.910			0.981	
Flt Protected		0.995			0.965			0.995			0.993	
Satd. Flow (prot)	0	1758	0	0	1751	0	0	1504	0	0	1670	0
Flt Permitted		0.995			0.965			0.995			0.993	
Satd. Flow (perm)	0	1758	0	0	1751	0	0	1504	0	0	1670	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		238.5			352.8			153.9			161.8	
Travel Time (s)		21.5			31.8			13.9			14.6	
Confl. Peds. (#/hr)			5	5								
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	11%	0%	13%	33%	22%	29%	8%	0%	15%	0%
Adj. Flow (vph)	5	31	10	69	24	3	10	26	71	4	21	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	0	0	96	0	0	107	0	0	29	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	25.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	5	29	9	65	23	3	9	24	67	4	20	4
Future Volume (vph)	5	29	9	65	23	3	9	24	67	4	20	4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	31	10	69	24	3	10	26	71	4	21	4

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	46	96	107	29
Volume Left (vph)	5	69	10	4
Volume Right (vph)	10	3	71	4
Hadj (s)	-0.03	0.20	-0.13	0.13
Departure Headway (s)	4.3	4.5	4.1	4.5
Degree Utilization, x	0.05	0.12	0.12	0.04
Capacity (veh/h)	807	772	836	772
Control Delay (s)	7.5	8.0	7.7	7.6
Approach Delay (s)	7.5	8.0	7.7	7.6
Approach LOS	A	A	A	A

Intersection Summary					
Delay	7.8				
Level of Service	A				
Intersection Capacity Utilization	25.4%	ICU Level of Service		A	
Analysis Period (min)	15				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	0	6	4	0	5	1	89	2	1	89	2
Future Volume (vph)	4	0	6	4	0	5	1	89	2	1	89	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.921			0.926			0.997			0.997	
Flt Protected		0.980			0.978							
Satd. Flow (prot)	0	1229	0	0	1721	0	0	1667	0	0	1774	0
Flt Permitted		0.980			0.978							
Satd. Flow (perm)	0	1229	0	0	1721	0	0	1667	0	0	1774	0
Link Speed (k/h)		40			50			40			40	
Link Distance (m)		215.6			102.4			412.7			153.9	
Travel Time (s)		19.4			7.4			37.1			13.9	
Confl. Peds. (#/hr)							2		6	6		2
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	25%	0%	50%	0%	0%	0%	0%	14%	0%	0%	7%	0%
Adj. Flow (vph)	5	0	7	5	0	6	1	103	2	1	103	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	12	0	0	11	0	0	106	0	0	106	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	16.9%	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)	4	0	6	4	0	5	1	89	2	1	89	2
Future Volume (Veh/h)	4	0	6	4	0	5	1	89	2	1	89	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	5	0	7	5	0	6	1	103	2	1	103	2
Pedestrians		2			6							
Lane Width (m)		3.6			3.6							
Walking Speed (m/s)		1.2			1.2							
Percent Blockage		0			1							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	220	221	106	225	221	110	107			111		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	220	221	106	225	221	110	107			111		
tC, single (s)	7.3	6.5	6.7	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.8	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	99	99	100	99	100			100		
cM capacity (veh/h)	680	676	831	721	676	944	1494			1484		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	12	11	106	106
Volume Left	5	5	1	1
Volume Right	7	6	2	2
cSH	761	827	1494	1484
Volume to Capacity	0.02	0.01	0.00	0.00
Queue Length 95th (m)	0.4	0.3	0.0	0.0
Control Delay (s)	9.8	9.4	0.1	0.1
Lane LOS	A	A	A	A
Approach Delay (s)	9.8	9.4	0.1	0.1
Approach LOS	A	A		

Intersection Summary				
Average Delay		1.0		
Intersection Capacity Utilization		16.9%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	30	4	4	32	0	9
Future Volume (vph)	30	4	4	32	0	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.985				0.865	
Flt Protected				0.995		
Satd. Flow (prot)	1872	0	0	1890	1644	0
Flt Permitted				0.995		
Satd. Flow (perm)	1872	0	0	1890	1644	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	285.1			238.5	113.2	
Travel Time (s)	25.7			21.5	10.2	
Confl. Peds. (#/hr)		4	4			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	32	4	4	34	0	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	0	0	38	10	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	15.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	30	4	4	32	0	9
Future Volume (Veh/h)	30	4	4	32	0	9
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	32	4	4	34	0	10
Pedestrians					4	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			40		80	38
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			40		80	38
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	99
cM capacity (veh/h)			1577		922	1036

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	36	38	10
Volume Left	0	4	0
Volume Right	4	0	10
cSH	1700	1577	1036
Volume to Capacity	0.02	0.00	0.01
Queue Length 95th (m)	0.0	0.1	0.2
Control Delay (s)	0.0	0.8	8.5
Lane LOS		A	A
Approach Delay (s)	0.0	0.8	8.5
Approach LOS			A

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	15.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	1	10	5	3	4
Future Volume (vph)	0	1	10	5	3	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865		0.955			
Flt Protected						0.978
Satd. Flow (prot)	1644	0	1432	0	0	1635
Flt Permitted						0.978
Satd. Flow (perm)	1644	0	1432	0	0	1635
Link Speed (k/h)	40		40			50
Link Distance (m)	215.6		431.2			26.1
Travel Time (s)	19.4		38.8			1.9
Peak Hour Factor	0.64	0.64	0.64	0.64	0.64	0.64
Heavy Vehicles (%)	0%	0%	0%	80%	0%	25%
Adj. Flow (vph)	0	2	16	8	5	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2	0	24	0	0	11
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	1	10	5	3	4
Future Volume (Veh/h)	0	1	10	5	3	4
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.64	0.64	0.64	0.64	0.64	0.64
Hourly flow rate (vph)	0	2	16	8	5	6
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	36	20			24	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	36	20			24	
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			100	
cM capacity (veh/h)	979	1064			1604	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	24	11
Volume Left	0	0	5
Volume Right	2	8	0
cSH	1064	1700	1604
Volume to Capacity	0.00	0.01	0.00
Queue Length 95th (m)	0.0	0.0	0.1
Control Delay (s)	8.4	0.0	3.3
Lane LOS	A		A
Approach Delay (s)	8.4	0.0	3.3
Approach LOS	A		

Intersection Summary					
Average Delay		1.4			
Intersection Capacity Utilization		13.3%	ICU Level of Service		A
Analysis Period (min)		15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Volume (vph)	0	20	1	3	35	0	6	0	6	0	0	0
Future Volume (vph)	0	20	1	3	35	0	6	0	6	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995						0.932				
Flt Protected					0.996			0.976				
Satd. Flow (prot)	0	1673	0	0	1804	0	0	1728	0	0	1900	0
Flt Permitted					0.996			0.976				
Satd. Flow (perm)	0	1673	0	0	1804	0	0	1728	0	0	1900	0
Link Speed (k/h)		40			40			40			50	
Link Distance (m)		157.4			285.1			360.3			48.4	
Travel Time (s)		14.2			25.7			32.4			3.5	
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Heavy Vehicles (%)	0%	10%	100%	67%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	29	1	4	51	0	9	0	9	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	30	0	0	55	0	0	18	0	0	0	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	14.3%	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	20	1	3	35	0	6	0	6	0	0	0
Future Volume (Veh/h)	0	20	1	3	35	0	6	0	6	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Hourly flow rate (vph)	0	29	1	4	51	0	9	0	9	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	51			30			88	88	30	98	89	51
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	51			30			88	88	30	98	89	51
tC, single (s)	4.1			4.8			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.8			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	100	99	100	100	100
cM capacity (veh/h)	1568			1249			899	803	1051	880	802	1023

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	30	55	18	0
Volume Left	0	4	9	0
Volume Right	1	0	9	0
cSH	1568	1249	969	1700
Volume to Capacity	0.00	0.00	0.02	0.00
Queue Length 95th (m)	0.0	0.1	0.5	0.0
Control Delay (s)	0.0	0.6	8.8	0.0
Lane LOS		A	A	A
Approach Delay (s)	0.0	0.6	8.8	0.0
Approach LOS			A	A

Intersection Summary						
Average Delay	1.9					
Intersection Capacity Utilization	14.3%	ICU Level of Service			A	
Analysis Period (min)	15					

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	18	21	4	64	59	7
Future Volume (vph)	18	21	4	64	59	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.928				0.985	
Flt Protected	0.977			0.997		
Satd. Flow (prot)	1593	0	0	1784	1766	0
Flt Permitted	0.977			0.997		
Satd. Flow (perm)	1593	0	0	1784	1766	0
Link Speed (k/h)	50			40	50	
Link Distance (m)	169.5			203.1	412.7	
Travel Time (s)	12.2			18.3	29.7	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	6%	10%	25%	5%	5%	14%
Adj. Flow (vph)	23	26	5	80	74	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	49	0	0	85	83	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
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)	18	21	4	64	59	7
Future Volume (Veh/h)	18	21	4	64	59	7
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	22	26	5	80	74	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	168	78	83			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	168	78	83			
tC, single (s)	6.5	6.3	4.3			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.4			
p0 queue free %	97	97	100			
cM capacity (veh/h)	810	960	1381			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	48	85	83
Volume Left	22	5	0
Volume Right	26	0	9
cSH	885	1381	1700
Volume to Capacity	0.05	0.00	0.05
Queue Length 95th (m)	1.4	0.1	0.0
Control Delay (s)	9.3	0.5	0.0
Lane LOS	A	A	
Approach Delay (s)	9.3	0.5	0.0
Approach LOS	A		

Intersection Summary				
Average Delay	2.3			
Intersection Capacity Utilization	16.6%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	22	11	3	11	2
Future Volume (vph)	0	22	11	3	11	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.973		0.981	
Flt Protected					0.959	
Satd. Flow (prot)	0	1810	1625	0	1668	0
Flt Permitted					0.959	
Satd. Flow (perm)	0	1810	1625	0	1668	0
Link Speed (k/h)		50	50		40	
Link Distance (m)		240.2	169.5		431.2	
Travel Time (s)		17.3	12.2		38.8	
Confl. Peds. (#/hr)	6			6		3
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	5%	9%	33%	0%	50%
Adj. Flow (vph)	0	25	12	3	12	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	25	15	0	14	0
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	16.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	22	11	3	11	2
Future Volume (Veh/h)	0	22	11	3	11	2
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	25	12	3	12	2
Pedestrians		3			6	
Lane Width (m)		3.6			3.6	
Walking Speed (m/s)		1.2			1.2	
Percent Blockage		0			1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	21				44	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	21				44	22
tC, single (s)	4.1				6.4	6.7
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.8
p0 queue free %	100				99	100
cM capacity (veh/h)	1600				966	924

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	25	15	14
Volume Left	0	0	12
Volume Right	0	3	2
cSH	1600	1700	960
Volume to Capacity	0.00	0.01	0.01
Queue Length 95th (m)	0.0	0.0	0.4
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	2.3		
Intersection Capacity Utilization	16.1%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection: 1: Main St & Queen St W/Queen St E

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	17.9	21.8	22.5	21.1
Average Queue (m)	7.9	10.3	10.5	6.2
95th Queue (m)	15.3	17.2	18.9	15.2
Link Distance (m)	221.8	343.1	135.2	152.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	44	14	75	48	3	12	31	73	8	14	11
Future Volume (vph)	14	44	14	75	48	3	12	31	73	8	14	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.974			0.996			0.915			0.956	
Flt Protected		0.990			0.971			0.995			0.988	
Satd. Flow (prot)	0	1734	0	0	1726	0	0	1610	0	0	1648	0
Flt Permitted		0.990			0.971			0.995			0.988	
Satd. Flow (perm)	0	1734	0	0	1726	0	0	1610	0	0	1648	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		238.5			352.8			153.9			161.8	
Travel Time (s)		21.5			31.8			13.9			14.6	
Confl. Peds. (#/hr)	2		3	3		2	2					2
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	7%	7%	7%	6%	0%	8%	13%	5%	0%	21%	0%
Adj. Flow (vph)	17	53	17	90	58	4	14	37	88	10	17	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	87	0	0	152	0	0	139	0	0	40	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.7%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	14	44	14	75	48	3	12	31	73	8	14	11
Future Volume (vph)	14	44	14	75	48	3	12	31	73	8	14	11
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	17	53	17	90	58	4	14	37	88	10	17	13

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	87	152	139	40
Volume Left (vph)	17	90	14	10
Volume Right (vph)	17	4	88	13
Hadj (s)	0.02	0.21	-0.23	0.01
Departure Headway (s)	4.5	4.6	4.3	4.6
Degree Utilization, x	0.11	0.20	0.17	0.05
Capacity (veh/h)	759	739	792	719
Control Delay (s)	8.1	8.7	8.1	7.9
Approach Delay (s)	8.1	8.7	8.1	7.9
Approach LOS	A	A	A	A

Intersection Summary					
Delay			8.3		
Level of Service			A		
Intersection Capacity Utilization		27.7%	ICU Level of Service		A
Analysis Period (min)			15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	3	2	2	6	5	109	2	10	88	2
Future Volume (vph)	1	1	3	2	2	6	5	109	2	10	88	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.910			0.914			0.998			0.998	
Flt Protected		0.992			0.991			0.998			0.995	
Satd. Flow (prot)	0	1406	0	0	1721	0	0	1731	0	0	1720	0
Flt Permitted		0.992			0.991			0.998			0.995	
Satd. Flow (perm)	0	1406	0	0	1721	0	0	1731	0	0	1720	0
Link Speed (k/h)		40			50			40			40	
Link Distance (m)		215.6			102.4			412.7			153.9	
Travel Time (s)		19.4			7.4			37.1			13.9	
Confl. Peds. (#/hr)	1					1			5	5		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	33%	0%	0%	0%	40%	8%	0%	0%	11%	0%
Adj. Flow (vph)	1	1	4	2	2	7	6	128	2	12	104	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	6	0	0	11	0	0	136	0	0	118	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary					
Area Type:	Other				
Control Type: Unsignalized					
Intersection Capacity Utilization	18.9%		ICU Level of Service A		
Analysis Period (min)	15				

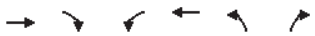
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1	3	2	2	6	5	109	2	10	88	2
Future Volume (Veh/h)	1	1	3	2	2	6	5	109	2	10	88	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	1	1	4	2	2	7	6	128	2	12	104	2
Pedestrians					5						1	
Lane Width (m)					3.6						3.6	
Walking Speed (m/s)					1.2						1.2	
Percent Blockage					0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	279	276	105	280	276	135	106			135		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	279	276	105	280	276	135	106			135		
tC, single (s)	7.1	6.5	6.5	7.1	6.5	6.2	4.5			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.6	3.5	4.0	3.3	2.6			2.2		
p0 queue free %	100	100	100	100	100	99	100			99		
cM capacity (veh/h)	661	624	871	661	624	915	1279			1456		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	6	11	136	118
Volume Left	1	2	6	12
Volume Right	4	7	2	2
cSH	779	792	1279	1456
Volume to Capacity	0.01	0.01	0.00	0.01
Queue Length 95th (m)	0.2	0.3	0.1	0.2
Control Delay (s)	9.7	9.6	0.4	0.8
Lane LOS	A	A	A	A
Approach Delay (s)	9.7	9.6	0.4	0.8
Approach LOS	A	A		

Intersection Summary				
Average Delay	1.2			
Intersection Capacity Utilization	18.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	58	1	14	47	4	6
Future Volume (vph)	58	1	14	47	4	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.998				0.921	
Flt Protected				0.989	0.980	
Satd. Flow (prot)	1896	0	0	1783	1560	0
Flt Permitted				0.989	0.980	
Satd. Flow (perm)	1896	0	0	1783	1560	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	285.1			238.5	113.2	
Travel Time (s)	25.7			21.5	10.2	
Confl. Peds. (#/hr)		4	4			
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	0%	7%	0%	17%
Adj. Flow (vph)	72	1	17	58	5	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	73	0	0	75	12	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	19.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	58	1	14	47	4	6
Future Volume (Veh/h)	58	1	14	47	4	6
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	72	1	17	58	5	7
Pedestrians					4	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			77		168	76
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			77		168	76
tC, single (s)			4.1		6.4	6.4
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.5
p0 queue free %			99		99	99
cM capacity (veh/h)			1529		815	941

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	73	75	12
Volume Left	0	17	5
Volume Right	1	0	7
cSH	1700	1529	884
Volume to Capacity	0.04	0.01	0.01
Queue Length 95th (m)	0.0	0.3	0.3
Control Delay (s)	0.0	1.7	9.1
Lane LOS		A	A
Approach Delay (s)	0.0	1.7	9.1
Approach LOS			A

Intersection Summary			
Average Delay		1.5	
Intersection Capacity Utilization		19.9%	ICU Level of Service A
Analysis Period (min)		15	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	7	3	7	3	1	13
Future Volume (vph)	7	3	7	3	1	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.961		0.961			
Flt Protected	0.966					0.997
Satd. Flow (prot)	1461	0	1529	0	0	1761
Flt Permitted	0.966					0.997
Satd. Flow (perm)	1461	0	1529	0	0	1761
Link Speed (k/h)	40		40			50
Link Distance (m)	215.6		431.2			26.1
Travel Time (s)	19.4		38.8			1.9
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71
Heavy Vehicles (%)	29%	0%	14%	33%	0%	8%
Adj. Flow (vph)	10	4	10	4	1	18
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	14	0	0	19
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.3%			ICU Level of Service A
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	7	3	7	3	1	13
Future Volume (Veh/h)	7	3	7	3	1	13
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71
Hourly flow rate (vph)	10	4	10	4	1	18
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	32	12			14	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	32	12			14	
tC, single (s)	6.7	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.8	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	917	1074			1617	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	14	14	19
Volume Left	10	0	1
Volume Right	4	4	0
cSH	957	1700	1617
Volume to Capacity	0.01	0.01	0.00
Queue Length 95th (m)	0.4	0.0	0.0
Control Delay (s)	8.8	0.0	0.4
Lane LOS	A		A
Approach Delay (s)	8.8	0.0	0.4
Approach LOS	A		

Intersection Summary			
Average Delay		2.8	
Intersection Capacity Utilization		13.3%	ICU Level of Service A
Analysis Period (min)		15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	52	4	8	42	0	9	0	9	1	0	0
Future Volume (vph)	0	52	4	8	42	0	9	0	9	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.991						0.932				
Flt Protected					0.992			0.976			0.950	
Satd. Flow (prot)	0	1815	0	0	1774	0	0	1557	0	0	1805	0
Flt Permitted					0.992			0.976			0.950	
Satd. Flow (perm)	0	1815	0	0	1774	0	0	1557	0	0	1805	0
Link Speed (k/h)		40			40			40			50	
Link Distance (m)		157.4			285.1			360.3			48.4	
Travel Time (s)		14.2			25.7			32.4			3.5	
Confl. Peds. (#/hr)			5	5								
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	0%	4%	0%	13%	5%	0%	22%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	67	5	10	54	0	12	0	12	1	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	72	0	0	64	0	0	24	0	0	1	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 19.0%			ICU Level of Service A
Analysis Period (min) 15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	52	4	8	42	0	9	0	9	1	0	0
Future Volume (Veh/h)	0	52	4	8	42	0	9	0	9	1	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	0	67	5	10	54	0	12	0	12	1	0	0
Pedestrians								5				
Lane Width (m)								3.6				
Walking Speed (m/s)								1.2				
Percent Blockage								0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	54			77			148	148	74	156	151	54
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	54			77			148	148	74	156	151	54
tC, single (s)	4.1			4.2			7.3	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.7	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			98	100	99	100	100	100
cM capacity (veh/h)	1564			1449			766	738	989	799	736	1019

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	72	64	24	1
Volume Left	0	10	12	1
Volume Right	5	0	12	0
cSH	1564	1449	863	799
Volume to Capacity	0.00	0.01	0.03	0.00
Queue Length 95th (m)	0.0	0.2	0.7	0.0
Control Delay (s)	0.0	1.2	9.3	9.5
Lane LOS		A	A	A
Approach Delay (s)	0.0	1.2	9.3	9.5
Approach LOS			A	A

Intersection Summary				
Average Delay	1.9			
Intersection Capacity Utilization	19.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	8	8	28	93	62	10
Future Volume (vph)	8	8	28	93	62	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.932				0.981	
Flt Protected	0.976			0.988		
Satd. Flow (prot)	1623	0	0	1769	1772	0
Flt Permitted	0.976			0.988		
Satd. Flow (perm)	1623	0	0	1769	1772	0
Link Speed (k/h)	50			40	50	
Link Distance (m)	169.5			203.1	412.7	
Travel Time (s)	12.2			18.3	29.7	
Confl. Peds. (#/hr)			1			1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	13%	0%	8%	6%	0%
Adj. Flow (vph)	9	9	31	102	68	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	18	0	0	133	79	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	23.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	8	28	93	62	10
Future Volume (Veh/h)	8	8	28	93	62	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	9	9	31	102	68	11
Pedestrians	1					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	238	74	80			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	238	74	80			
tC, single (s)	6.4	6.3	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	99	99	98			
cM capacity (veh/h)	738	956	1529			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	18	133	79
Volume Left	9	31	0
Volume Right	9	0	11
cSH	833	1529	1700
Volume to Capacity	0.02	0.02	0.05
Queue Length 95th (m)	0.5	0.5	0.0
Control Delay (s)	9.4	1.8	0.0
Lane LOS	A	A	
Approach Delay (s)	9.4	1.8	0.0
Approach LOS	A		

Intersection Summary			
Average Delay		1.8	
Intersection Capacity Utilization		23.1%	ICU Level of Service A
Analysis Period (min)		15	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	12	18	16	4	2
Future Volume (vph)	2	12	18	16	4	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.938		0.955	
Flt Protected		0.993			0.968	
Satd. Flow (prot)	0	1764	1782	0	1756	0
Flt Permitted		0.993			0.968	
Satd. Flow (perm)	0	1764	1782	0	1756	0
Link Speed (k/h)		50	50		40	
Link Distance (m)		240.2	169.5		431.2	
Travel Time (s)		17.3	12.2		38.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	8%	0%	0%	0%	0%
Adj. Flow (vph)	2	13	20	17	4	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	15	37	0	6	0
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.3%			ICU Level of Service A
Analysis Period (min) 15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	12	18	16	4	2
Future Volume (Veh/h)	2	12	18	16	4	2
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	13	20	17	4	2
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	37				46	28
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	37				46	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)	1587				969	1052

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	15	37	6
Volume Left	2	0	4
Volume Right	0	17	2
cSH	1587	1700	995
Volume to Capacity	0.00	0.02	0.01
Queue Length 95th (m)	0.0	0.0	0.1
Control Delay (s)	1.0	0.0	8.6
Lane LOS	A		A
Approach Delay (s)	1.0	0.0	8.6
Approach LOS			A

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection: 1: Main St & Queen St W/Queen St E

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	19.7	23.8	26.4	17.7
Average Queue (m)	10.0	12.3	11.2	5.7
95th Queue (m)	16.9	20.0	20.0	14.0
Link Distance (m)	221.8	343.1	135.2	152.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Appendix D

2027 Background Traffic Operations Report

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Volume (vph)	5	30	9	67	24	3	9	25	69	4	21	4
Future Volume (vph)	5	30	9	67	24	3	9	25	69	4	21	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.971			0.996			0.910			0.982	
Flt Protected		0.995			0.966			0.995			0.993	
Satd. Flow (prot)	0	1759	0	0	1752	0	0	1503	0	0	1669	0
Flt Permitted		0.995			0.966			0.995			0.993	
Satd. Flow (perm)	0	1759	0	0	1752	0	0	1503	0	0	1669	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		238.5			352.8			153.9			161.8	
Travel Time (s)		21.5			31.8			13.9			14.6	
Confl. Peds. (#/hr)			5	5								
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	11%	0%	13%	33%	22%	29%	8%	0%	15%	0%
Adj. Flow (vph)	5	32	10	71	26	3	10	27	73	4	22	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	47	0	0	100	0	0	110	0	0	30	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	25.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	5	30	9	67	24	3	9	25	69	4	21	4
Future Volume (vph)	5	30	9	67	24	3	9	25	69	4	21	4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	32	10	71	26	3	10	27	73	4	22	4

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	47	100	110	30
Volume Left (vph)	5	71	10	4
Volume Right (vph)	10	3	73	4
Hadj (s)	-0.03	0.20	-0.13	0.13
Departure Headway (s)	4.3	4.5	4.1	4.5
Degree Utilization, x	0.06	0.12	0.13	0.04
Capacity (veh/h)	804	770	833	758
Control Delay (s)	7.5	8.1	7.7	7.7
Approach Delay (s)	7.5	8.1	7.7	7.7
Approach LOS	A	A	A	A

Intersection Summary					
Delay		7.8			
Level of Service		A			
Intersection Capacity Utilization		25.7%	ICU Level of Service		A
Analysis Period (min)		15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	0	6	4	0	5	1	91	2	1	91	2
Future Volume (vph)	4	0	6	4	0	5	1	91	2	1	91	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.921			0.926			0.998			0.998	
Flt Protected		0.980			0.978							
Satd. Flow (prot)	0	1229	0	0	1721	0	0	1669	0	0	1775	0
Flt Permitted		0.980			0.978							
Satd. Flow (perm)	0	1229	0	0	1721	0	0	1669	0	0	1775	0
Link Speed (k/h)		40			50			40			40	
Link Distance (m)		215.6			102.4			412.7			153.9	
Travel Time (s)		19.4			7.4			37.1			13.9	
Confl. Peds. (#/hr)							2		6	6		2
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	25%	0%	50%	0%	0%	0%	0%	14%	0%	0%	7%	0%
Adj. Flow (vph)	5	0	7	5	0	6	1	106	2	1	106	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	12	0	0	11	0	0	109	0	0	109	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	16.9%	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)	4	0	6	4	0	5	1	91	2	1	91	2
Future Volume (Veh/h)	4	0	6	4	0	5	1	91	2	1	91	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	5	0	7	5	0	6	1	106	2	1	106	2
Pedestrians		2			6							
Lane Width (m)		3.6			3.6							
Walking Speed (m/s)		1.2			1.2							
Percent Blockage		0			1							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	226	227	109	231	227	113	110			114		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	226	227	109	231	227	113	110			114		
tC, single (s)	7.3	6.5	6.7	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.8	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	99	99	100	99	100			100		
cM capacity (veh/h)	674	670	828	714	670	941	1490			1480		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	12	11	109	109
Volume Left	5	5	1	1
Volume Right	7	6	2	2
cSH	756	822	1490	1480
Volume to Capacity	0.02	0.01	0.00	0.00
Queue Length 95th (m)	0.4	0.3	0.0	0.0
Control Delay (s)	9.8	9.4	0.1	0.1
Lane LOS	A	A	A	A
Approach Delay (s)	9.8	9.4	0.1	0.1
Approach LOS	A	A		

Intersection Summary					
Average Delay		1.0			
Intersection Capacity Utilization		16.9%	ICU Level of Service		A
Analysis Period (min)		15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	31	4	4	33	0	9
Future Volume (vph)	31	4	4	33	0	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.985				0.865	
Flt Protected				0.995		
Satd. Flow (prot)	1872	0	0	1890	1644	0
Flt Permitted				0.995		
Satd. Flow (perm)	1872	0	0	1890	1644	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	285.1			238.5	113.2	
Travel Time (s)	25.7			21.5	10.2	
Confl. Peds. (#/hr)		4	4			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	33	4	4	35	0	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	37	0	0	39	10	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	15.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	31	4	4	33	0	9
Future Volume (Veh/h)	31	4	4	33	0	9
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	33	4	4	35	0	10
Pedestrians					4	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			41		82	39
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			41		82	39
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	99
cM capacity (veh/h)			1576		920	1035

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	37	39	10
Volume Left	0	4	0
Volume Right	4	0	10
cSH	1700	1576	1035
Volume to Capacity	0.02	0.00	0.01
Queue Length 95th (m)	0.0	0.1	0.2
Control Delay (s)	0.0	0.8	8.5
Lane LOS		A	A
Approach Delay (s)	0.0	0.8	8.5
Approach LOS			A

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	15.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	1	10	5	3	4
Future Volume (vph)	0	1	10	5	3	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865		0.955			
Flt Protected						0.978
Satd. Flow (prot)	1644	0	1432	0	0	1635
Flt Permitted						0.978
Satd. Flow (perm)	1644	0	1432	0	0	1635
Link Speed (k/h)	40		40			50
Link Distance (m)	215.6		431.2			26.1
Travel Time (s)	19.4		38.8			1.9
Peak Hour Factor	0.64	0.64	0.64	0.64	0.64	0.64
Heavy Vehicles (%)	0%	0%	0%	80%	0%	25%
Adj. Flow (vph)	0	2	16	8	5	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2	0	24	0	0	11
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	1	10	5	3	4
Future Volume (Veh/h)	0	1	10	5	3	4
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.64	0.64	0.64	0.64	0.64	0.64
Hourly flow rate (vph)	0	2	16	8	5	6
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	36	20			24	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	36	20			24	
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			100	
cM capacity (veh/h)	979	1064			1604	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	24	11
Volume Left	0	0	5
Volume Right	2	8	0
cSH	1064	1700	1604
Volume to Capacity	0.00	0.01	0.00
Queue Length 95th (m)	0.0	0.0	0.1
Control Delay (s)	8.4	0.0	3.3
Lane LOS	A		A
Approach Delay (s)	8.4	0.0	3.3
Approach LOS	A		

Intersection Summary				
Average Delay		1.4		
Intersection Capacity Utilization		13.3%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	0	21	1	3	36	0	6	0	6	0	0	0
Future Volume (vph)	0	21	1	3	36	0	6	0	6	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996						0.932				
Flt Protected					0.997			0.976				
Satd. Flow (prot)	0	1677	0	0	1809	0	0	1728	0	0	1900	0
Flt Permitted					0.997			0.976				
Satd. Flow (perm)	0	1677	0	0	1809	0	0	1728	0	0	1900	0
Link Speed (k/h)		40			40			40			50	
Link Distance (m)		157.4			285.1			360.3			48.4	
Travel Time (s)		14.2			25.7			32.4			3.5	
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Heavy Vehicles (%)	0%	10%	100%	67%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	31	1	4	53	0	9	0	9	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	32	0	0	57	0	0	18	0	0	0	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	14.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	0	21	1	3	36	0	6	0	6	0	0	0
Future Volume (Veh/h)	0	21	1	3	36	0	6	0	6	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Hourly flow rate (vph)	0	31	1	4	53	0	9	0	9	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	53			32			92	92	32	102	93	53
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	53			32			92	92	32	102	93	53
tC, single (s)	4.1			4.8			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.8			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	100	99	100	100	100
cM capacity (veh/h)	1566			1246			894	799	1048	874	798	1020

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	32	57	18	0
Volume Left	0	4	9	0
Volume Right	1	0	9	0
cSH	1566	1246	965	1700
Volume to Capacity	0.00	0.00	0.02	0.00
Queue Length 95th (m)	0.0	0.1	0.5	0.0
Control Delay (s)	0.0	0.6	8.8	0.0
Lane LOS		A	A	A
Approach Delay (s)	0.0	0.6	8.8	0.0
Approach LOS			A	A

Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	14.4%	ICU Level of Service		A
Analysis Period (min)	15			

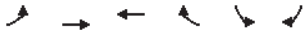
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	18	22	4	66	60	7
Future Volume (vph)	18	22	4	66	60	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.926				0.986	
Flt Protected	0.978			0.997		
Satd. Flow (prot)	1590	0	0	1785	1768	0
Flt Permitted	0.978			0.997		
Satd. Flow (perm)	1590	0	0	1785	1768	0
Link Speed (k/h)	50			40	50	
Link Distance (m)	169.5			203.1	412.7	
Travel Time (s)	12.2			18.3	29.7	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	6%	10%	25%	5%	5%	14%
Adj. Flow (vph)	23	28	5	83	75	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	51	0	0	88	84	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	16.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	18	22	4	66	60	7
Future Volume (Veh/h)	18	22	4	66	60	7
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	22	28	5	82	75	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	172	80	84			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	172	80	84			
tC, single (s)	6.5	6.3	4.3			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.4			
p0 queue free %	97	97	100			
cM capacity (veh/h)	806	959	1380			

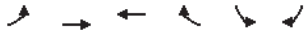
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	50	87	84
Volume Left	22	5	0
Volume Right	28	0	9
cSH	885	1380	1700
Volume to Capacity	0.06	0.00	0.05
Queue Length 95th (m)	1.4	0.1	0.0
Control Delay (s)	9.3	0.5	0.0
Lane LOS	A	A	
Approach Delay (s)	9.3	0.5	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	16.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	23	11	3	11	2
Future Volume (vph)	0	23	11	3	11	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.973		0.981	
Flt Protected					0.959	
Satd. Flow (prot)	0	1810	1625	0	1668	0
Flt Permitted					0.959	
Satd. Flow (perm)	0	1810	1625	0	1668	0
Link Speed (k/h)		50	50		40	
Link Distance (m)		240.2	169.5		431.2	
Travel Time (s)		17.3	12.2		38.8	
Confl. Peds. (#/hr)	6			6		3
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	5%	9%	33%	0%	50%
Adj. Flow (vph)	0	26	12	3	12	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	26	15	0	14	0
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	16.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	23	11	3	11	2
Future Volume (Veh/h)	0	23	11	3	11	2
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	26	12	3	12	2
Pedestrians		3			6	
Lane Width (m)		3.6			3.6	
Walking Speed (m/s)		1.2			1.2	
Percent Blockage		0			1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	21				46	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	21				46	22
tC, single (s)	4.1				6.4	6.7
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.8
p0 queue free %	100				99	100
cM capacity (veh/h)	1600				965	924

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	26	15	14
Volume Left	0	0	12
Volume Right	0	3	2
cSH	1600	1700	959
Volume to Capacity	0.00	0.01	0.01
Queue Length 95th (m)	0.0	0.0	0.4
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	2.2		
Intersection Capacity Utilization	16.1%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection: 1: Main St & Queen St W/Queen St E

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	19.3	18.8	22.6	21.0
Average Queue (m)	8.1	10.0	11.0	5.9
95th Queue (m)	15.3	15.7	19.5	14.9
Link Distance (m)	221.8	343.1	135.2	152.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	45	14	77	49	3	12	32	75	8	14	11
Future Volume (vph)	14	45	14	77	49	3	12	32	75	8	14	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.974			0.997			0.915			0.956	
Flt Protected		0.990			0.971			0.995			0.988	
Satd. Flow (prot)	0	1734	0	0	1728	0	0	1609	0	0	1648	0
Flt Permitted		0.990			0.971			0.995			0.988	
Satd. Flow (perm)	0	1734	0	0	1728	0	0	1609	0	0	1648	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		238.5			352.8			153.9			161.8	
Travel Time (s)		21.5			31.8			13.9			14.6	
Confl. Peds. (#/hr)	2		3	3		2	2					2
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	7%	7%	7%	6%	0%	8%	13%	5%	0%	21%	0%
Adj. Flow (vph)	17	54	17	93	59	4	14	39	90	10	17	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	88	0	0	156	0	0	143	0	0	40	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.1%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	14	45	14	77	49	3	12	32	75	8	14	11
Future Volume (vph)	14	45	14	77	49	3	12	32	75	8	14	11
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	17	54	17	93	59	4	14	39	90	10	17	13

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	88	156	143	40
Volume Left (vph)	17	93	14	10
Volume Right (vph)	17	4	90	13
Hadj (s)	0.02	0.21	-0.23	0.01
Departure Headway (s)	4.5	4.6	4.3	4.7
Degree Utilization, x	0.11	0.20	0.17	0.05
Capacity (veh/h)	755	737	789	715
Control Delay (s)	8.1	8.8	8.2	7.9
Approach Delay (s)	8.1	8.8	8.2	7.9
Approach LOS	A	A	A	A

Intersection Summary					
Delay			8.4		
Level of Service			A		
Intersection Capacity Utilization			28.1%	ICU Level of Service	A
Analysis Period (min)			15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	3	2	2	6	5	112	2	10	90	2
Future Volume (vph)	1	1	3	2	2	6	5	112	2	10	90	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.910			0.914			0.998			0.998	
Flt Protected		0.992			0.991			0.998			0.995	
Satd. Flow (prot)	0	1406	0	0	1721	0	0	1732	0	0	1720	0
Flt Permitted		0.992			0.991			0.998			0.995	
Satd. Flow (perm)	0	1406	0	0	1721	0	0	1732	0	0	1720	0
Link Speed (k/h)		40			50			40			40	
Link Distance (m)		215.6			102.4			412.7			153.9	
Travel Time (s)		19.4			7.4			37.1			13.9	
Confl. Peds. (#/hr)	1					1			5	5		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	33%	0%	0%	0%	40%	8%	0%	0%	11%	0%
Adj. Flow (vph)	1	1	4	2	2	7	6	132	2	12	106	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	6	0	0	11	0	0	140	0	0	120	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary				
Area Type:	Other			
Control Type: Unsignalized				
Intersection Capacity Utilization	19.1%		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	1	3	2	2	6	5	112	2	10	90	2
Future Volume (Veh/h)	1	1	3	2	2	6	5	112	2	10	90	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	1	1	4	2	2	7	6	132	2	12	106	2
Pedestrians					5						1	
Lane Width (m)					3.6						3.6	
Walking Speed (m/s)					1.2						1.2	
Percent Blockage					0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	285	282	107	286	282	139	108			139		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	285	282	107	286	282	139	108			139		
tC, single (s)	7.1	6.5	6.5	7.1	6.5	6.2	4.5			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.6	3.5	4.0	3.3	2.6			2.2		
p0 queue free %	100	100	100	100	100	99	100			99		
cM capacity (veh/h)	655	619	869	655	619	910	1276			1451		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	6	11	140	120
Volume Left	1	2	6	12
Volume Right	4	7	2	2
cSH	775	787	1276	1451
Volume to Capacity	0.01	0.01	0.00	0.01
Queue Length 95th (m)	0.2	0.3	0.1	0.2
Control Delay (s)	9.7	9.6	0.4	0.8
Lane LOS	A	A	A	A
Approach Delay (s)	9.7	9.6	0.4	0.8
Approach LOS	A	A		

Intersection Summary				
Average Delay	1.1			
Intersection Capacity Utilization	19.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	59	1	14	48	4	6
Future Volume (vph)	59	1	14	48	4	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.998				0.921	
Flt Protected				0.989	0.980	
Satd. Flow (prot)	1896	0	0	1782	1560	0
Flt Permitted				0.989	0.980	
Satd. Flow (perm)	1896	0	0	1782	1560	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	285.1			238.5	113.2	
Travel Time (s)	25.7			21.5	10.2	
Confl. Peds. (#/hr)		4	4			
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	0%	7%	0%	17%
Adj. Flow (vph)	73	1	17	59	5	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	74	0	0	76	12	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	20.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	59	1	14	48	4	6
Future Volume (Veh/h)	59	1	14	48	4	6
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	73	1	17	59	5	7
Pedestrians					4	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			78		170	78
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			78		170	78
tC, single (s)			4.1		6.4	6.4
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.5
p0 queue free %			99		99	99
cM capacity (veh/h)			1528		812	940

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	74	76	12
Volume Left	0	17	5
Volume Right	1	0	7
cSH	1700	1528	882
Volume to Capacity	0.04	0.01	0.01
Queue Length 95th (m)	0.0	0.3	0.3
Control Delay (s)	0.0	1.7	9.1
Lane LOS		A	A
Approach Delay (s)	0.0	1.7	9.1
Approach LOS			A

Intersection Summary			
Average Delay		1.5	
Intersection Capacity Utilization		20.0%	ICU Level of Service A
Analysis Period (min)		15	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	7	3	7	3	1	13
Future Volume (vph)	7	3	7	3	1	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.961		0.961			
Flt Protected	0.966					0.997
Satd. Flow (prot)	1461	0	1529	0	0	1761
Flt Permitted	0.966					0.997
Satd. Flow (perm)	1461	0	1529	0	0	1761
Link Speed (k/h)	40		40			50
Link Distance (m)	215.6		431.2			26.1
Travel Time (s)	19.4		38.8			1.9
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71
Heavy Vehicles (%)	29%	0%	14%	33%	0%	8%
Adj. Flow (vph)	10	4	10	4	1	18
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	14	0	0	19
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.3%			ICU Level of Service A
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	7	3	7	3	1	13
Future Volume (Veh/h)	7	3	7	3	1	13
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71
Hourly flow rate (vph)	10	4	10	4	1	18
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	32	12			14	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	32	12			14	
tC, single (s)	6.7	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.8	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	917	1074			1617	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	14	14	19
Volume Left	10	0	1
Volume Right	4	4	0
cSH	957	1700	1617
Volume to Capacity	0.01	0.01	0.00
Queue Length 95th (m)	0.4	0.0	0.0
Control Delay (s)	8.8	0.0	0.4
Lane LOS	A		A
Approach Delay (s)	8.8	0.0	0.4
Approach LOS	A		

Intersection Summary			
Average Delay		2.8	
Intersection Capacity Utilization		13.3%	ICU Level of Service A
Analysis Period (min)		15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	53	4	8	43	0	9	0	9	1	0	0
Future Volume (vph)	0	53	4	8	43	0	9	0	9	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.991						0.932				
Flt Protected					0.992			0.976			0.950	
Satd. Flow (prot)	0	1815	0	0	1774	0	0	1557	0	0	1805	0
Flt Permitted					0.992			0.976			0.950	
Satd. Flow (perm)	0	1815	0	0	1774	0	0	1557	0	0	1805	0
Link Speed (k/h)		40			40			40			50	
Link Distance (m)		157.4			285.1			360.3			48.4	
Travel Time (s)		14.2			25.7			32.4			3.5	
Confl. Peds. (#/hr)			5	5								
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	0%	4%	0%	13%	5%	0%	22%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	68	5	10	55	0	12	0	12	1	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	73	0	0	65	0	0	24	0	0	1	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 19.1%		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)	0	53	4	8	43	0	9	0	9	1	0	0
Future Volume (Veh/h)	0	53	4	8	43	0	9	0	9	1	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	0	68	5	10	55	0	12	0	12	1	0	0
Pedestrians								5				
Lane Width (m)								3.6				
Walking Speed (m/s)								1.2				
Percent Blockage								0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	55			78			150	150	76	158	153	55
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	55			78			150	150	76	158	153	55
tC, single (s)	4.1			4.2			7.3	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.7	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			98	100	99	100	100	100
cM capacity (veh/h)	1563			1447			764	737	987	796	734	1018

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	73	65	24	1
Volume Left	0	10	12	1
Volume Right	5	0	12	0
cSH	1563	1447	861	796
Volume to Capacity	0.00	0.01	0.03	0.00
Queue Length 95th (m)	0.0	0.2	0.7	0.0
Control Delay (s)	0.0	1.2	9.3	9.5
Lane LOS		A	A	A
Approach Delay (s)	0.0	1.2	9.3	9.5
Approach LOS			A	A

Intersection Summary				
Average Delay	1.9			
Intersection Capacity Utilization	19.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	8	8	29	95	64	10
Future Volume (vph)	8	8	29	95	64	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.932				0.982	
Flt Protected	0.976			0.988		
Satd. Flow (prot)	1623	0	0	1769	1774	0
Flt Permitted	0.976			0.988		
Satd. Flow (perm)	1623	0	0	1769	1774	0
Link Speed (k/h)	50			40	50	
Link Distance (m)	169.5			203.1	412.7	
Travel Time (s)	12.2			18.3	29.7	
Confl. Peds. (#/hr)			1			1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	13%	0%	8%	6%	0%
Adj. Flow (vph)	9	9	32	104	70	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	18	0	0	136	81	0
Sign Control	Stop			Free	Free	

Intersection Summary				
Area Type:	Other			
Control Type: Unsignalized				
Intersection Capacity Utilization	23.3%		ICU Level of Service	A
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	8	29	95	64	10
Future Volume (Veh/h)	8	8	29	95	64	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	9	9	32	104	70	11
Pedestrians	1					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	244	76	82			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	244	76	82			
tC, single (s)	6.4	6.3	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	99	99	98			
cM capacity (veh/h)	732	954	1527			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	18	136	81
Volume Left	9	32	0
Volume Right	9	0	11
cSH	828	1527	1700
Volume to Capacity	0.02	0.02	0.05
Queue Length 95th (m)	0.5	0.5	0.0
Control Delay (s)	9.4	1.9	0.0
Lane LOS	A	A	
Approach Delay (s)	9.4	1.9	0.0
Approach LOS	A		

Intersection Summary			
Average Delay		1.8	
Intersection Capacity Utilization		23.3%	ICU Level of Service A
Analysis Period (min)		15	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	12	18	16	4	2
Future Volume (vph)	2	12	18	16	4	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.938		0.955	
Flt Protected		0.993			0.968	
Satd. Flow (prot)	0	1764	1782	0	1756	0
Flt Permitted		0.993			0.968	
Satd. Flow (perm)	0	1764	1782	0	1756	0
Link Speed (k/h)		50	50		40	
Link Distance (m)		240.2	169.5		431.2	
Travel Time (s)		17.3	12.2		38.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	8%	0%	0%	0%	0%
Adj. Flow (vph)	2	13	20	17	4	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	15	37	0	6	0
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.3%			ICU Level of Service A
Analysis Period (min) 15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	12	18	16	4	2
Future Volume (Veh/h)	2	12	18	16	4	2
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	13	20	17	4	2
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	37				46	28
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	37				46	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)	1587				969	1052

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	15	37	6
Volume Left	2	0	4
Volume Right	0	17	2
cSH	1587	1700	995
Volume to Capacity	0.00	0.02	0.01
Queue Length 95th (m)	0.0	0.0	0.1
Control Delay (s)	1.0	0.0	8.6
Lane LOS	A		A
Approach Delay (s)	1.0	0.0	8.6
Approach LOS			A

Intersection Summary			
Average Delay		1.1	
Intersection Capacity Utilization		13.3%	ICU Level of Service
Analysis Period (min)		15	

Intersection: 1: Main St & Queen St W/Queen St E

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	20.2	23.4	24.0	17.3
Average Queue (m)	10.1	12.2	11.5	6.2
95th Queue (m)	17.0	19.6	20.3	14.6
Link Distance (m)	221.8	343.1	135.2	152.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Appendix E

2027 Total Traffic Operations Report

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	19	32	9	67	25	3	9	25	69	4	21	5
Future Volume (vph)	19	32	9	67	25	3	9	25	69	4	21	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.979			0.996			0.910			0.978	
Flt Protected		0.985			0.966			0.995			0.994	
Satd. Flow (prot)	0	1773	0	0	1750	0	0	1503	0	0	1669	0
Flt Permitted		0.985			0.966			0.995			0.994	
Satd. Flow (perm)	0	1773	0	0	1750	0	0	1503	0	0	1669	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		238.5			352.8			153.9			161.8	
Travel Time (s)		21.5			31.8			13.9			14.6	
Confl. Peds. (#/hr)			5	5								
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	11%	0%	13%	33%	22%	29%	8%	0%	15%	0%
Adj. Flow (vph)	20	34	10	71	27	3	10	27	73	4	22	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	64	0	0	101	0	0	110	0	0	31	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	24.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	19	32	9	67	25	3	9	25	69	4	21	5
Future Volume (vph)	19	32	9	67	25	3	9	25	69	4	21	5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	20	34	10	71	27	3	10	27	73	4	22	5

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	64	101	110	31
Volume Left (vph)	20	71	10	4
Volume Right (vph)	10	3	73	5
Hadj (s)	0.03	0.20	-0.13	0.11
Departure Headway (s)	4.4	4.5	4.2	4.5
Degree Utilization, x	0.08	0.13	0.13	0.04
Capacity (veh/h)	793	764	821	751
Control Delay (s)	7.7	8.1	7.8	7.7
Approach Delay (s)	7.7	8.1	7.8	7.7
Approach LOS	A	A	A	A

Intersection Summary					
Delay		7.9			
Level of Service		A			
Intersection Capacity Utilization		24.5%	ICU Level of Service		A
Analysis Period (min)		15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	0	23	4	0	5	8	91	2	1	91	2
Future Volume (vph)	4	0	23	4	0	5	8	91	2	1	91	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.886			0.926			0.998			0.998	
Flt Protected		0.992			0.978			0.996				
Satd. Flow (prot)	0	1143	0	0	1721	0	0	1676	0	0	1775	0
Flt Permitted		0.992			0.978			0.996				
Satd. Flow (perm)	0	1143	0	0	1721	0	0	1676	0	0	1775	0
Link Speed (k/h)		40			50			40			40	
Link Distance (m)		215.6			102.4			412.7			153.9	
Travel Time (s)		19.4			7.4			37.1			13.9	
Confl. Peds. (#/hr)							2		6	6		2
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	25%	0%	50%	0%	0%	0%	0%	14%	0%	0%	7%	0%
Adj. Flow (vph)	5	0	27	5	0	6	9	106	2	1	106	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	32	0	0	11	0	0	117	0	0	109	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	20.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	0	23	4	0	5	8	91	2	1	91	2
Future Volume (Veh/h)	4	0	23	4	0	5	8	91	2	1	91	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	5	0	27	5	0	6	9	106	2	1	106	2
Pedestrians		2			6							
Lane Width (m)		3.6			3.6							
Walking Speed (m/s)		1.2			1.2							
Percent Blockage		0			1							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	242	243	109	267	243	113	110			114		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	242	243	109	267	243	113	110			114		
tC, single (s)	7.3	6.5	6.7	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.8	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	97	99	100	99	99			100		
cM capacity (veh/h)	654	653	828	657	653	941	1490			1480		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	32	11	117	109
Volume Left	5	5	9	1
Volume Right	27	6	2	2
cSH	795	786	1490	1480
Volume to Capacity	0.04	0.01	0.01	0.00
Queue Length 95th (m)	1.0	0.3	0.1	0.0
Control Delay (s)	9.7	9.6	0.6	0.1
Lane LOS	A	A	A	A
Approach Delay (s)	9.7	9.6	0.6	0.1
Approach LOS	A	A		

Intersection Summary				
Average Delay		1.8		
Intersection Capacity Utilization		20.6%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	31	6	7	33	0	26
Future Volume (vph)	31	6	7	33	0	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.979				0.865	
Flt Protected				0.992		
Satd. Flow (prot)	1860	0	0	1885	1644	0
Flt Permitted				0.992		
Satd. Flow (perm)	1860	0	0	1885	1644	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	285.1			238.5	113.2	
Travel Time (s)	25.7			21.5	10.2	
Confl. Peds. (#/hr)		4	4			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	33	6	7	35	0	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	39	0	0	42	28	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	17.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	31	6	7	33	0	26
Future Volume (Veh/h)	31	6	7	33	0	26
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	33	6	7	35	0	28
Pedestrians					4	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			43		89	40
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			43		89	40
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	97
cM capacity (veh/h)			1573		909	1034

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	39	42	28
Volume Left	0	7	0
Volume Right	6	0	28
cSH	1700	1573	1034
Volume to Capacity	0.02	0.00	0.03
Queue Length 95th (m)	0.0	0.1	0.7
Control Delay (s)	0.0	1.2	8.6
Lane LOS		A	A
Approach Delay (s)	0.0	1.2	8.6
Approach LOS			A

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	17.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	8	10	5	20	4
Future Volume (vph)	0	8	10	5	20	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865		0.955			
Flt Protected						0.960
Satd. Flow (prot)	1644	0	1432	0	0	1753
Flt Permitted						0.960
Satd. Flow (perm)	1644	0	1432	0	0	1753
Link Speed (k/h)	40		40			50
Link Distance (m)	215.6		431.2			26.1
Travel Time (s)	19.4		38.8			1.9
Peak Hour Factor	0.64	0.64	0.64	0.64	0.64	0.64
Heavy Vehicles (%)	0%	0%	0%	80%	0%	25%
Adj. Flow (vph)	0	13	16	8	31	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	13	0	24	0	0	37
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	18.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	8	10	5	20	4
Future Volume (Veh/h)	0	8	10	5	20	4
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.64	0.64	0.64	0.64	0.64	0.64
Hourly flow rate (vph)	0	12	16	8	31	6
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	88	20			24	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	88	20			24	
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	99			98	
cM capacity (veh/h)	900	1064			1604	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	12	24	37
Volume Left	0	0	31
Volume Right	12	8	0
cSH	1064	1700	1604
Volume to Capacity	0.01	0.01	0.02
Queue Length 95th (m)	0.3	0.0	0.5
Control Delay (s)	8.4	0.0	6.1
Lane LOS	A		A
Approach Delay (s)	8.4	0.0	6.1
Approach LOS	A		

Intersection Summary				
Average Delay		4.5		
Intersection Capacity Utilization		18.0%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Volume (vph)	0	22	1	3	36	0	6	0	6	0	0	0
Future Volume (vph)	0	22	1	3	36	0	6	0	6	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996						0.932				
Flt Protected					0.997			0.976				
Satd. Flow (prot)	0	1679	0	0	1809	0	0	1728	0	0	1900	0
Flt Permitted					0.997			0.976				
Satd. Flow (perm)	0	1679	0	0	1809	0	0	1728	0	0	1900	0
Link Speed (k/h)		40			40			40			50	
Link Distance (m)		157.4			285.1			360.3			48.4	
Travel Time (s)		14.2			25.7			32.4			3.5	
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Heavy Vehicles (%)	0%	10%	100%	67%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	32	1	4	53	0	9	0	9	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	0	0	57	0	0	18	0	0	0	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	14.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Volume (veh/h)	0	22	1	3	36	0	6	0	6	0	0	0
Future Volume (Veh/h)	0	22	1	3	36	0	6	0	6	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Hourly flow rate (vph)	0	32	1	4	53	0	9	0	9	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	53			33			94	94	32	102	94	53
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	53			33			94	94	32	102	94	53
tC, single (s)	4.1			4.8			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.8			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	100	99	100	100	100
cM capacity (veh/h)	1566			1245			893	798	1047	873	797	1020

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	33	57	18	0
Volume Left	0	4	9	0
Volume Right	1	0	9	0
cSH	1566	1245	964	1700
Volume to Capacity	0.00	0.00	0.02	0.00
Queue Length 95th (m)	0.0	0.1	0.5	0.0
Control Delay (s)	0.0	0.6	8.8	0.0
Lane LOS		A	A	A
Approach Delay (s)	0.0	0.6	8.8	0.0
Approach LOS			A	A

Intersection Summary					
Average Delay	1.8				
Intersection Capacity Utilization	14.4%	ICU Level of Service		A	
Analysis Period (min)	15				

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	18	22	4	73	77	7
Future Volume (vph)	18	22	4	73	77	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.926				0.988	
Flt Protected	0.978			0.997		
Satd. Flow (prot)	1590	0	0	1786	1775	0
Flt Permitted	0.978			0.997		
Satd. Flow (perm)	1590	0	0	1786	1775	0
Link Speed (k/h)	50			40	50	
Link Distance (m)	169.5			203.1	412.7	
Travel Time (s)	12.2			18.3	29.7	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	6%	10%	25%	5%	5%	14%
Adj. Flow (vph)	23	28	5	91	96	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	51	0	0	96	105	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	17.1%	ICU Level of Service A	
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	18	22	4	73	77	7
Future Volume (Veh/h)	18	22	4	73	77	7
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	22	28	5	91	96	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	202	100	105			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	202	100	105			
tC, single (s)	6.5	6.3	4.3			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.4			
p0 queue free %	97	97	100			
cM capacity (veh/h)	775	933	1354			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	50	96	105
Volume Left	22	5	0
Volume Right	28	0	9
cSH	857	1354	1700
Volume to Capacity	0.06	0.00	0.06
Queue Length 95th (m)	1.5	0.1	0.0
Control Delay (s)	9.5	0.4	0.0
Lane LOS	A	A	
Approach Delay (s)	9.5	0.4	0.0
Approach LOS	A		

Intersection Summary				
Average Delay	2.0			
Intersection Capacity Utilization	17.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	23	11	3	11	2
Future Volume (vph)	0	23	11	3	11	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.973		0.981	
Flt Protected					0.959	
Satd. Flow (prot)	0	1810	1625	0	1668	0
Flt Permitted					0.959	
Satd. Flow (perm)	0	1810	1625	0	1668	0
Link Speed (k/h)		50	50		40	
Link Distance (m)		240.2	169.5		431.2	
Travel Time (s)		17.3	12.2		38.8	
Confl. Peds. (#/hr)	6			6		3
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	5%	9%	33%	0%	50%
Adj. Flow (vph)	0	26	12	3	12	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	26	15	0	14	0
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	16.1%	ICU Level of Service	A
Analysis Period (min)	15		

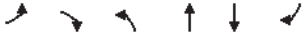
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	23	11	3	11	2
Future Volume (Veh/h)	0	23	11	3	11	2
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	26	12	3	12	2
Pedestrians		3			6	
Lane Width (m)		3.6			3.6	
Walking Speed (m/s)		1.2			1.2	
Percent Blockage		0			1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	21				46	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	21				46	22
tC, single (s)	4.1				6.4	6.7
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.8
p0 queue free %	100				99	100
cM capacity (veh/h)	1600				965	924

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	26	15	14
Volume Left	0	0	12
Volume Right	0	3	2
cSH	1600	1700	959
Volume to Capacity	0.00	0.01	0.01
Queue Length 95th (m)	0.0	0.0	0.4
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	2.2		
Intersection Capacity Utilization	16.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	17	17	7	11	8	5
Future Volume (vph)	17	17	7	11	8	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.932				0.952	
Flt Protected	0.976			0.980		
Satd. Flow (prot)	1694	0	0	1825	1773	0
Flt Permitted	0.976			0.980		
Satd. Flow (perm)	1694	0	0	1825	1773	0
Link Speed (k/h)	40			50	40	
Link Distance (m)	81.8			26.1	113.2	
Travel Time (s)	7.4			1.9	10.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	18	8	12	9	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	0	0	20	14	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	16.8%	ICU Level of Service A	
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	17	17	7	11	8	5
Future Volume (Veh/h)	17	17	7	11	8	5
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)	18	18	8	12	9	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)						
pX, platoon unblocked						
vC, conflicting volume	40	12	14			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	40	12	14			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	98	100			
cM capacity (veh/h)	967	1069	1604			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	36	20	14
Volume Left	18	8	0
Volume Right	18	0	5
cSH	1016	1604	1700
Volume to Capacity	0.04	0.00	0.01
Queue Length 95th (m)	0.9	0.1	0.0
Control Delay (s)	8.7	2.9	0.0
Lane LOS	A	A	
Approach Delay (s)	8.7	2.9	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	5.3		
Intersection Capacity Utilization	16.8%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection: 1: Main St & Queen St W/Queen St E

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	16.0	20.1	21.9	18.6
Average Queue (m)	7.8	10.2	11.8	5.0
95th Queue (m)	14.6	16.5	20.1	13.7
Link Distance (m)	221.8	343.1	135.2	152.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	47	14	77	51	3	12	32	75	8	14	22
Future Volume (vph)	21	47	14	77	51	3	12	32	75	8	14	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.977			0.997			0.915			0.932	
Flt Protected		0.988			0.971			0.995			0.991	
Satd. Flow (prot)	0	1743	0	0	1728	0	0	1609	0	0	1646	0
Flt Permitted		0.988			0.971			0.995			0.991	
Satd. Flow (perm)	0	1743	0	0	1728	0	0	1609	0	0	1646	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		238.5			352.8			153.9			161.8	
Travel Time (s)		21.5			31.8			13.9			14.6	
Confl. Peds. (#/hr)	2		3	3		2	2					2
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	7%	7%	7%	6%	0%	8%	13%	5%	0%	21%	0%
Adj. Flow (vph)	25	57	17	93	61	4	14	39	90	10	17	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	99	0	0	158	0	0	143	0	0	54	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.6%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	21	47	14	77	51	3	12	32	75	8	14	22
Future Volume (vph)	21	47	14	77	51	3	12	32	75	8	14	22
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	25	57	17	93	61	4	14	39	90	10	17	27

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	99	158	143	54
Volume Left (vph)	25	93	14	10
Volume Right (vph)	17	4	90	27
Hadj (s)	0.04	0.21	-0.23	-0.15
Departure Headway (s)	4.6	4.7	4.4	4.5
Degree Utilization, x	0.13	0.21	0.17	0.07
Capacity (veh/h)	744	728	777	732
Control Delay (s)	8.2	8.9	8.3	7.9
Approach Delay (s)	8.2	8.9	8.3	7.9
Approach LOS	A	A	A	A

Intersection Summary					
Delay			8.4		
Level of Service			A		
Intersection Capacity Utilization			28.6%	ICU Level of Service	A
Analysis Period (min)			15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	13	2	2	6	20	112	2	10	90	2
Future Volume (vph)	1	1	13	2	2	6	20	112	2	10	90	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.881			0.914			0.998			0.998	
Flt Protected		0.997			0.991			0.992			0.995	
Satd. Flow (prot)	0	1293	0	0	1721	0	0	1668	0	0	1720	0
Flt Permitted		0.997			0.991			0.992			0.995	
Satd. Flow (perm)	0	1293	0	0	1721	0	0	1668	0	0	1720	0
Link Speed (k/h)		40			50			40			40	
Link Distance (m)		215.6			102.4			412.7			153.9	
Travel Time (s)		19.4			7.4			37.1			13.9	
Confl. Peds. (#/hr)	1					1			5	5		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	33%	0%	0%	0%	40%	8%	0%	0%	11%	0%
Adj. Flow (vph)	1	1	15	2	2	7	24	132	2	12	106	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	17	0	0	11	0	0	158	0	0	120	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary				
Area Type:	Other			
Control Type: Unsignalized				
Intersection Capacity Utilization	21.6%		ICU Level of Service	A
Analysis Period (min)	15			

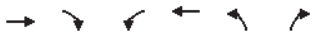
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1	13	2	2	6	20	112	2	10	90	2
Future Volume (Veh/h)	1	1	13	2	2	6	20	112	2	10	90	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	1	1	15	2	2	7	24	132	2	12	106	2
Pedestrians					5						1	
Lane Width (m)					3.6						3.6	
Walking Speed (m/s)					1.2						1.2	
Percent Blockage					0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	321	318	107	332	318	139	108			139		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	321	318	107	332	318	139	108			139		
tC, single (s)	7.1	6.5	6.5	7.1	6.5	6.2	4.5			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.6	3.5	4.0	3.3	2.6			2.2		
p0 queue free %	100	100	98	100	100	99	98			99		
cM capacity (veh/h)	614	583	869	596	583	910	1276			1451		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	17	11	158	120
Volume Left	1	2	24	12
Volume Right	15	7	2	2
cSH	825	760	1276	1451
Volume to Capacity	0.02	0.01	0.02	0.01
Queue Length 95th (m)	0.5	0.4	0.5	0.2
Control Delay (s)	9.5	9.8	1.3	0.8
Lane LOS	A	A	A	A
Approach Delay (s)	9.5	9.8	1.3	0.8
Approach LOS	A	A		

Intersection Summary				
Average Delay	1.9			
Intersection Capacity Utilization	21.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	59	4	27	48	4	14
Future Volume (vph)	59	4	27	48	4	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.991				0.896	
Flt Protected				0.982	0.989	
Satd. Flow (prot)	1883	0	0	1786	1488	0
Flt Permitted				0.982	0.989	
Satd. Flow (perm)	1883	0	0	1786	1488	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	285.1			238.5	113.2	
Travel Time (s)	25.7			21.5	10.2	
Confl. Peds. (#/hr)		4	4			
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	0%	7%	0%	17%
Adj. Flow (vph)	73	5	33	59	5	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	78	0	0	92	22	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	20.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	59	4	27	48	4	14
Future Volume (Veh/h)	59	4	27	48	4	14
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	73	5	33	59	5	17
Pedestrians					4	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			82		204	80
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			82		204	80
tC, single (s)			4.1		6.4	6.4
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.5
p0 queue free %			98		99	98
cM capacity (veh/h)			1523		769	938

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	78	92	22
Volume Left	0	33	5
Volume Right	5	0	17
cSH	1700	1523	893
Volume to Capacity	0.05	0.02	0.02
Queue Length 95th (m)	0.0	0.5	0.6
Control Delay (s)	0.0	2.8	9.1
Lane LOS		A	A
Approach Delay (s)	0.0	2.8	9.1
Approach LOS			A

Intersection Summary				
Average Delay			2.4	
Intersection Capacity Utilization			20.7%	ICU Level of Service A
Analysis Period (min)			15	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	7	18	7	3	11	13
Future Volume (vph)	7	18	7	3	11	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.904		0.961			
Flt Protected	0.986					0.978
Satd. Flow (prot)	1564	0	1529	0	0	1781
Flt Permitted	0.986					0.978
Satd. Flow (perm)	1564	0	1529	0	0	1781
Link Speed (k/h)	40		40			50
Link Distance (m)	215.6		431.2			26.1
Travel Time (s)	19.4		38.8			1.9
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71
Heavy Vehicles (%)	29%	0%	14%	33%	0%	8%
Adj. Flow (vph)	10	25	10	4	15	18
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	0	14	0	0	33
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.0%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	7	18	7	3	11	13
Future Volume (Veh/h)	7	18	7	3	11	13
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71
Hourly flow rate (vph)	10	25	10	4	15	18
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	60	12			14	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	60	12			14	
tC, single (s)	6.7	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.8	3.3			2.2	
p0 queue free %	99	98			99	
cM capacity (veh/h)	875	1074			1617	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	35	14	33
Volume Left	10	0	15
Volume Right	25	4	0
cSH	1009	1700	1617
Volume to Capacity	0.03	0.01	0.01
Queue Length 95th (m)	0.9	0.0	0.2
Control Delay (s)	8.7	0.0	3.3
Lane LOS	A		A
Approach Delay (s)	8.7	0.0	3.3
Approach LOS	A		

Intersection Summary			
Average Delay		5.1	
Intersection Capacity Utilization		18.0%	ICU Level of Service A
Analysis Period (min)		15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	56	4	8	43	0	9	0	9	1	0	0
Future Volume (vph)	0	56	4	8	43	0	9	0	9	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.991						0.932				
Flt Protected					0.992			0.976			0.950	
Satd. Flow (prot)	0	1815	0	0	1774	0	0	1557	0	0	1805	0
Flt Permitted					0.992			0.976			0.950	
Satd. Flow (perm)	0	1815	0	0	1774	0	0	1557	0	0	1805	0
Link Speed (k/h)		40			40			40			50	
Link Distance (m)		157.4			285.1			360.3			48.4	
Travel Time (s)		14.2			25.7			32.4			3.5	
Confl. Peds. (#/hr)			5	5								
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	0%	4%	0%	13%	5%	0%	22%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	72	5	10	55	0	12	0	12	1	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	77	0	0	65	0	0	24	0	0	1	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	19.1%	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)	0	56	4	8	43	0	9	0	9	1	0	0
Future Volume (Veh/h)	0	56	4	8	43	0	9	0	9	1	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	0	72	5	10	55	0	12	0	12	1	0	0
Pedestrians								5				
Lane Width (m)								3.6				
Walking Speed (m/s)								1.2				
Percent Blockage								0				
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	55			82			154	154	80	162	157	55
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	55			82			154	154	80	162	157	55
tC, single (s)	4.1			4.2			7.3	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.7	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			98	100	99	100	100	100
cM capacity (veh/h)	1563			1443			759	733	982	792	731	1018

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	77	65	24	1
Volume Left	0	10	12	1
Volume Right	5	0	12	0
cSH	1563	1443	857	792
Volume to Capacity	0.00	0.01	0.03	0.00
Queue Length 95th (m)	0.0	0.2	0.7	0.0
Control Delay (s)	0.0	1.2	9.3	9.6
Lane LOS		A	A	A
Approach Delay (s)	0.0	1.2	9.3	9.6
Approach LOS			A	A

Intersection Summary				
Average Delay	1.9			
Intersection Capacity Utilization	19.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	8	8	29	110	74	10
Future Volume (vph)	8	8	29	110	74	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.932				0.984	
Flt Protected	0.976			0.990		
Satd. Flow (prot)	1623	0	0	1769	1776	0
Flt Permitted	0.976			0.990		
Satd. Flow (perm)	1623	0	0	1769	1776	0
Link Speed (k/h)	50			40	50	
Link Distance (m)	169.5			203.1	412.7	
Travel Time (s)	12.2			18.3	29.7	
Confl. Peds. (#/hr)			1			1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	13%	0%	8%	6%	0%
Adj. Flow (vph)	9	9	32	121	81	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	18	0	0	153	92	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	24.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	8	29	110	74	10
Future Volume (Veh/h)	8	8	29	110	74	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	9	9	32	121	81	11
Pedestrians	1					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	272	88	93			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	272	88	93			
tC, single (s)	6.4	6.3	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	99	99	98			
cM capacity (veh/h)	705	941	1513			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	18	153	92
Volume Left	9	32	0
Volume Right	9	0	11
cSH	806	1513	1700
Volume to Capacity	0.02	0.02	0.05
Queue Length 95th (m)	0.5	0.5	0.0
Control Delay (s)	9.6	1.7	0.0
Lane LOS	A	A	
Approach Delay (s)	9.6	1.7	0.0
Approach LOS	A		

Intersection Summary			
Average Delay		1.6	
Intersection Capacity Utilization		24.1%	ICU Level of Service A
Analysis Period (min)		15	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	12	18	16	4	2
Future Volume (vph)	2	12	18	16	4	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.938		0.955	
Flt Protected		0.993			0.968	
Satd. Flow (prot)	0	1764	1782	0	1756	0
Flt Permitted		0.993			0.968	
Satd. Flow (perm)	0	1764	1782	0	1756	0
Link Speed (k/h)		50	50		40	
Link Distance (m)		240.2	169.5		431.2	
Travel Time (s)		17.3	12.2		38.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	8%	0%	0%	0%	0%
Adj. Flow (vph)	2	13	20	17	4	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	15	37	0	6	0
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.3%			ICU Level of Service A
Analysis Period (min) 15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	12	18	16	4	2
Future Volume (Veh/h)	2	12	18	16	4	2
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	13	20	17	4	2
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	37				46	28
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	37				46	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)	1587				969	1052

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	15	37	6
Volume Left	2	0	4
Volume Right	0	17	2
cSH	1587	1700	995
Volume to Capacity	0.00	0.02	0.01
Queue Length 95th (m)	0.0	0.0	0.1
Control Delay (s)	1.0	0.0	8.6
Lane LOS	A		A
Approach Delay (s)	1.0	0.0	8.6
Approach LOS			A

Intersection Summary			
Average Delay		1.1	
Intersection Capacity Utilization		13.3%	ICU Level of Service A
Analysis Period (min)		15	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	8	10	15	10	15	16
Future Volume (vph)	8	10	15	10	15	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.926				0.930	
Flt Protected	0.978			0.971		
Satd. Flow (prot)	1687	0	0	1809	1732	0
Flt Permitted	0.978			0.971		
Satd. Flow (perm)	1687	0	0	1809	1732	0
Link Speed (k/h)	40			50	40	
Link Distance (m)	81.8			26.1	113.2	
Travel Time (s)	7.4			1.9	10.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	9	11	16	11	16	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	20	0	0	27	33	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.0%			ICU Level of Service A
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	10	15	10	15	16
Future Volume (Veh/h)	8	10	15	10	15	16
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)	9	11	16	11	16	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	68	24	33			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	68	24	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 %	99	99	99			
cM capacity (veh/h)	928	1052	1579			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	20	27	33
Volume Left	9	16	0
Volume Right	11	0	17
cSH	992	1579	1700
Volume to Capacity	0.02	0.01	0.02
Queue Length 95th (m)	0.5	0.2	0.0
Control Delay (s)	8.7	4.4	0.0
Lane LOS	A	A	
Approach Delay (s)	8.7	4.4	0.0
Approach LOS	A		

Intersection Summary				
Average Delay		3.6		
Intersection Capacity Utilization		18.0%	ICU Level of Service	A
Analysis Period (min)		15		

Intersection: 1: Main St & Queen St W/Queen St E

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	20.8	24.1	26.2	21.7
Average Queue (m)	9.8	12.2	12.2	7.1
95th Queue (m)	17.4	19.8	21.6	15.5
Link Distance (m)	221.8	343.1	135.2	152.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Volume (vph)	19	32	9	67	25	3	9	25	69	4	21	5
Future Volume (vph)	19	32	9	67	25	3	9	25	69	4	21	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.979			0.996			0.910			0.978	
Flt Protected		0.985			0.966			0.995			0.994	
Satd. Flow (prot)	0	1773	0	0	1750	0	0	1503	0	0	1669	0
Flt Permitted		0.985			0.966			0.995			0.994	
Satd. Flow (perm)	0	1773	0	0	1750	0	0	1503	0	0	1669	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		238.5			352.8			153.9			161.8	
Travel Time (s)		21.5			31.8			13.9			14.6	
Confl. Peds. (#/hr)			5	5								
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	11%	0%	13%	33%	22%	29%	8%	0%	15%	0%
Adj. Flow (vph)	20	34	10	71	27	3	10	27	73	4	22	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	64	0	0	101	0	0	110	0	0	31	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	24.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	19	32	9	67	25	3	9	25	69	4	21	5
Future Volume (vph)	19	32	9	67	25	3	9	25	69	4	21	5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	20	34	10	71	27	3	10	27	73	4	22	5

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	64	101	110	31
Volume Left (vph)	20	71	10	4
Volume Right (vph)	10	3	73	5
Hadj (s)	0.03	0.20	-0.13	0.11
Departure Headway (s)	4.4	4.5	4.2	4.5
Degree Utilization, x	0.08	0.13	0.13	0.04
Capacity (veh/h)	793	764	821	751
Control Delay (s)	7.7	8.1	7.8	7.7
Approach Delay (s)	7.7	8.1	7.8	7.7
Approach LOS	A	A	A	A

Intersection Summary			
Delay	7.9		
Level of Service	A		
Intersection Capacity Utilization	24.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	0	6	4	0	5	1	91	2	1	91	2
Future Volume (vph)	4	0	6	4	0	5	1	91	2	1	91	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.921			0.926			0.998			0.998	
Flt Protected		0.980			0.978							
Satd. Flow (prot)	0	1229	0	0	1721	0	0	1669	0	0	1775	0
Flt Permitted		0.980			0.978							
Satd. Flow (perm)	0	1229	0	0	1721	0	0	1669	0	0	1775	0
Link Speed (k/h)		40			50			40			40	
Link Distance (m)		215.6			102.4			412.7			153.9	
Travel Time (s)		19.4			7.4			37.1			13.9	
Confl. Peds. (#/hr)							2		6	6		2
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	25%	0%	50%	0%	0%	0%	0%	14%	0%	0%	7%	0%
Adj. Flow (vph)	5	0	7	5	0	6	1	106	2	1	106	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	12	0	0	11	0	0	109	0	0	109	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	16.9%	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)	4	0	6	4	0	5	1	91	2	1	91	2
Future Volume (Veh/h)	4	0	6	4	0	5	1	91	2	1	91	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	5	0	7	5	0	6	1	106	2	1	106	2
Pedestrians		2			6							
Lane Width (m)		3.6			3.6							
Walking Speed (m/s)		1.2			1.2							
Percent Blockage		0			1							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	226	227	109	231	227	113	110			114		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	226	227	109	231	227	113	110			114		
tC, single (s)	7.3	6.5	6.7	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.8	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	99	99	100	99	100			100		
cM capacity (veh/h)	674	670	828	714	670	941	1490			1480		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	12	11	109	109
Volume Left	5	5	1	1
Volume Right	7	6	2	2
cSH	756	822	1490	1480
Volume to Capacity	0.02	0.01	0.00	0.00
Queue Length 95th (m)	0.4	0.3	0.0	0.0
Control Delay (s)	9.8	9.4	0.1	0.1
Lane LOS	A	A	A	A
Approach Delay (s)	9.8	9.4	0.1	0.1
Approach LOS	A	A		

Intersection Summary					
Average Delay		1.0			
Intersection Capacity Utilization		16.9%	ICU Level of Service		A
Analysis Period (min)		15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	31	6	7	33	0	26
Future Volume (vph)	31	6	7	33	0	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.979				0.865	
Flt Protected				0.992		
Satd. Flow (prot)	1860	0	0	1885	1644	0
Flt Permitted				0.992		
Satd. Flow (perm)	1860	0	0	1885	1644	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	285.1			238.5	113.2	
Travel Time (s)	25.7			21.5	10.2	
Confl. Peds. (#/hr)		4	4			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	33	6	7	35	0	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	39	0	0	42	28	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	17.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	31	6	7	33	0	26
Future Volume (Veh/h)	31	6	7	33	0	26
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	33	6	7	35	0	28
Pedestrians					4	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			43		89	40
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			43		89	40
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	97
cM capacity (veh/h)			1573		909	1034

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	39	42	28
Volume Left	0	7	0
Volume Right	6	0	28
cSH	1700	1573	1034
Volume to Capacity	0.02	0.00	0.03
Queue Length 95th (m)	0.0	0.1	0.7
Control Delay (s)	0.0	1.2	8.6
Lane LOS		A	A
Approach Delay (s)	0.0	1.2	8.6
Approach LOS			A

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	17.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	1	17	5	3	21
Future Volume (vph)	0	1	17	5	3	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865		0.969			
Flt Protected						0.993
Satd. Flow (prot)	1644	0	1556	0	0	1550
Flt Permitted						0.993
Satd. Flow (perm)	1644	0	1556	0	0	1550
Link Speed (k/h)	40		40			50
Link Distance (m)	215.6		431.2			26.1
Travel Time (s)	19.4		38.8			1.9
Peak Hour Factor	0.64	0.64	0.64	0.64	0.64	0.64
Heavy Vehicles (%)	0%	0%	0%	80%	0%	25%
Adj. Flow (vph)	0	2	27	8	5	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2	0	35	0	0	38
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	13.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	1	17	5	3	21
Future Volume (Veh/h)	0	1	17	5	3	21
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.64	0.64	0.64	0.64	0.64	0.64
Hourly flow rate (vph)	0	2	27	8	5	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	74	31			35	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	74	31			35	
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			100	
cM capacity (veh/h)	932	1049			1589	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	2	35	38
Volume Left	0	0	5
Volume Right	2	8	0
cSH	1049	1700	1589
Volume to Capacity	0.00	0.02	0.00
Queue Length 95th (m)	0.0	0.0	0.1
Control Delay (s)	8.4	0.0	1.0
Lane LOS	A		A
Approach Delay (s)	8.4	0.0	1.0
Approach LOS	A		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	13.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	22	1	3	36	0	6	0	6	0	0	0
Future Volume (vph)	0	22	1	3	36	0	6	0	6	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996						0.932				
Flt Protected					0.997			0.976				
Satd. Flow (prot)	0	1679	0	0	1809	0	0	1728	0	0	1900	0
Flt Permitted					0.997			0.976				
Satd. Flow (perm)	0	1679	0	0	1809	0	0	1728	0	0	1900	0
Link Speed (k/h)		40			40			40			50	
Link Distance (m)		157.4			285.1			360.3			48.4	
Travel Time (s)		14.2			25.7			32.4			3.5	
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Heavy Vehicles (%)	0%	10%	100%	67%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	32	1	4	53	0	9	0	9	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	0	0	57	0	0	18	0	0	0	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	14.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	22	1	3	36	0	6	0	6	0	0	0
Future Volume (Veh/h)	0	22	1	3	36	0	6	0	6	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Hourly flow rate (vph)	0	32	1	4	53	0	9	0	9	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	53			33			94	94	32	102	94	53
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	53			33			94	94	32	102	94	53
tC, single (s)	4.1			4.8			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.8			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	100	99	100	100	100
cM capacity (veh/h)	1566			1245			893	798	1047	873	797	1020

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	33	57	18	0
Volume Left	0	4	9	0
Volume Right	1	0	9	0
cSH	1566	1245	964	1700
Volume to Capacity	0.00	0.00	0.02	0.00
Queue Length 95th (m)	0.0	0.1	0.5	0.0
Control Delay (s)	0.0	0.6	8.8	0.0
Lane LOS		A	A	A
Approach Delay (s)	0.0	0.6	8.8	0.0
Approach LOS			A	A

Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	14.4%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	18	39	11	66	60	7
Future Volume (vph)	18	39	11	66	60	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.908				0.986	
Flt Protected	0.984			0.993		
Satd. Flow (prot)	1561	0	0	1749	1768	0
Flt Permitted	0.984			0.993		
Satd. Flow (perm)	1561	0	0	1749	1768	0
Link Speed (k/h)	50			40	50	
Link Distance (m)	169.5			203.1	412.7	
Travel Time (s)	12.2			18.3	29.7	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	6%	10%	25%	5%	5%	14%
Adj. Flow (vph)	23	49	14	83	75	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	72	0	0	97	84	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	20.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	18	39	11	66	60	7
Future Volume (Veh/h)	18	39	11	66	60	7
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	22	49	14	82	75	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	190	80	84			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	190	80	84			
tC, single (s)	6.5	6.3	4.3			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.4			
p0 queue free %	97	95	99			
cM capacity (veh/h)	782	959	1380			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	71	96	84
Volume Left	22	14	0
Volume Right	49	0	9
cSH	896	1380	1700
Volume to Capacity	0.08	0.01	0.05
Queue Length 95th (m)	2.1	0.2	0.0
Control Delay (s)	9.4	1.2	0.0
Lane LOS	A	A	
Approach Delay (s)	9.4	1.2	0.0
Approach LOS	A		

Intersection Summary				
Average Delay	3.1			
Intersection Capacity Utilization	20.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	23	11	10	28	2
Future Volume (vph)	0	23	11	10	28	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.935		0.992	
Flt Protected					0.955	
Satd. Flow (prot)	0	1810	1475	0	1747	0
Flt Permitted					0.955	
Satd. Flow (perm)	0	1810	1475	0	1747	0
Link Speed (k/h)		50	50		40	
Link Distance (m)		240.2	169.5		431.2	
Travel Time (s)		17.3	12.2		38.8	
Confl. Peds. (#/hr)	6			6		3
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	5%	9%	33%	0%	50%
Adj. Flow (vph)	0	26	12	11	31	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	26	23	0	33	0
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	16.1%	ICU Level of Service	A
Analysis Period (min)	15		

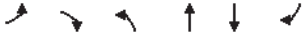
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	23	11	10	28	2
Future Volume (Veh/h)	0	23	11	10	28	2
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	26	12	11	31	2
Pedestrians		3			6	
Lane Width (m)		3.6			3.6	
Walking Speed (m/s)		1.2			1.2	
Percent Blockage		0			1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	29				50	26
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	29				50	26
tC, single (s)	4.1				6.4	6.7
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.8
p0 queue free %	100				97	100
cM capacity (veh/h)	1589				960	920

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	26	23	33
Volume Left	0	0	31
Volume Right	0	11	2
cSH	1589	1700	957
Volume to Capacity	0.00	0.01	0.03
Queue Length 95th (m)	0.0	0.0	0.9
Control Delay (s)	0.0	0.0	8.9
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.9
Approach LOS			A

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	16.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	17	17	7	11	8	5
Future Volume (vph)	17	17	7	11	8	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.932				0.952	
Flt Protected	0.976			0.980		
Satd. Flow (prot)	1694	0	0	1825	1773	0
Flt Permitted	0.976			0.980		
Satd. Flow (perm)	1694	0	0	1825	1773	0
Link Speed (k/h)	40			50	40	
Link Distance (m)	81.8			26.1	113.2	
Travel Time (s)	7.4			1.9	10.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	18	8	12	9	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	0	0	20	14	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	16.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	17	17	7	11	8	5
Future Volume (Veh/h)	17	17	7	11	8	5
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)	18	18	8	12	9	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)						
pX, platoon unblocked						
vC, conflicting volume	40	12	14			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	40	12	14			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	98	100			
cM capacity (veh/h)	967	1069	1604			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	36	20	14
Volume Left	18	8	0
Volume Right	18	0	5
cSH	1016	1604	1700
Volume to Capacity	0.04	0.00	0.01
Queue Length 95th (m)	0.9	0.1	0.0
Control Delay (s)	8.7	2.9	0.0
Lane LOS	A	A	
Approach Delay (s)	8.7	2.9	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	5.3		
Intersection Capacity Utilization	16.8%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix F

TTS Outputs for Trip Distribution

Project: 14 Agnes Street
Project #: 220188
Task: 2016 TTS Trip Distribution

Number	Description
1 - 625	Toronto
1001 - 1334	Durham
2001 - 2877	York
3001 - 3879	Peel
4001 - 4197	Halton
5001 - 5253	Hamilton
6001 - 6366	Niagara
7001 - 7576	Waterloo
8001 - 8207	Guelph
8301 - 8380	Wellington
8401 - 8405	Orangeville
8411 - 8417	Dufferin
8501 - 8532	Barrie
8551 - 8667	Simcoe
8681 - 8685	Orillia
8701 - 8717	Kawartha Lakes
8801 - 8825	City of Peterborough
8851 - 8855	Peterborough
8901 - 8949	Brantford
8950 - 8960	Brant
9001 - 9016	Northumberland
9017 - 9068	External
9800, 9998	External Undefined
9999	Unknown/Refused

Tue Oct 11 2022 15:56:30 GMT-0400 (Eastern Daylight Time) - Run Time: 2299ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of destination - gta06_dest
Column: Start time of trip - start_time

RowG:
ColG:(600-859)(1600-1859)
TblG:

Filters:
2006 GTA zone of origin - gta06_orig In 3105

Trip 2016
Table:

Outbound

		AM	PM		AM %	PM %
		1	2			
king	2652	21	0	East via Queen Street	8%	0%
caledon	3012	17	0	South via Main Street	6%	0%
caledon	3152	10	0	South via Main Street	4%	0%
caledon	3194	10	0	South via Main Street	4%	0%
brampton	3325	17	0	South via Main Street	6%	0%
brampton	3377	0	23	South via Main Street	0%	10%
brampton	3381	10	0	South via Main Street	4%	0%
brampton	3419	8	0	South via Main Street	3%	0%
brampton	3461	17	0	South via Main Street	6%	0%
brampton	3467	0	40	South via Main Street	0%	17%
misssissauga	3603	10	0	South via Main Street	4%	0%
misssissauga	3609	6	0	South via Main Street	2%	0%
misssissauga	3625	19	0	South via Main Street	7%	0%
misssissauga	3674	0	25	South via Main Street	0%	11%
halton hills	4163	0	24	South via Main Street	0%	10%
guelph	8121	13	0	South via Main Street	5%	0%
wellington	8366	0	14	South via Main Street	0%	6%
orangeville	8401	0	30	North via Main Street	0%	13%
orangeville	8402	29	27	North via Main Street	11%	11%
orangeville	8403	13	27	North via Main Street	5%	11%
orangeville	8404	7	0	North via Main Street	3%	0%
orangeville	8405	32	0	North via Main Street	12%	0%
mono	8415	32	14	North via Main Street	12%	6%
essa	8563	0	13	East via Queen Street	0%	5%
	Total	271	237		TOTAL	
				South via Main Street	51%	53%
				North via Main Street	42%	41%
				East via Queen St	8%	5%
				West via Queen Street	0	0

Tue Oct 11 2022 15:58:59 GMT-0400 (Eastern Daylight Time) - Run Time: 2700ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of origin - gta06_orig
Column: Start time of trip - start_time

RowG:
ColG:(600-859)(1600-1859)
TblG:

Filters:
2006 GTA zone of destination - gta06_dest In 3105

Trip 2016
Table:

Inbound

		AM	PM		AM %	PM %
		1	2			
etobicoke	378	0	6	South via Main Street	0%	2%
markham	2365	0	8	South via Main Street	0%	3%
king	2652	0	21	East via King Street	0%	8%
caledon	3103	21	0	South via Main Street	10%	0%
caledon	3107	36	0	West via Queen Street	17%	0%
caledon	3152	0	10	South via Main Street	0%	4%
caledon	3194	0	10	South via Main Street	0%	4%
caledon	3196	0	26	West via Queen Street	0%	9%
brampton	3328	0	10	South via Main Street	0%	4%
brampton	3377	23	0	South via Main Street	11%	0%
brampton	3381	0	10	South via Main Street	0%	4%
brampton	3461	17	0	South via Main Street	8%	0%
brampton	3467	40	0	South via Main Street	19%	0%
brampton	3497	0	46	South via Main Street	0%	17%
brampton	3515	7	0	South via Main Street	3%	0%
mississau	3625	0	19	South via Main Street	0%	7%
mississau	3674	25	0	South via Main Street	12%	0%
guelph	8121	0	13	South via Main Street	0%	5%
orangevill	8402	0	27	North via Main Street	0%	10%
orangevill	8403	13	27	North via Main Street	6%	10%
orangevill	8405	0	43	North via Main Street	0%	16%
barrie	8509	21	0	East via King Street	10%	0%
essa	8563	13	0	East via King Street	6%	0%
	Total	216	276		TOTAL	
				South via Main Street	62%	48%
				North via Main Street	6%	35%
				East via Queen St	16%	8%
				West via Queen Street	17%	9%

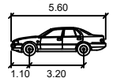
Appendix G

AutoTURN Vehicle Turning Diagrams

THIS AUTOTURN SWEPT PATH ANALYSIS HAS BEEN PREPARED USING BASE PLANS PROVIDED BY OTHERS. THE PRACTITIONER HAS NOT INSPECTED THE ACCURACY AND/OR THE COMPLETENESS OF THESE BASE PLANS AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

NO.	DATE	INITIAL	REVISION DETAIL

DESIGN VEHICLE:



P

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

AUTOTURN ASSESSMENT
14 AGNES STREET
CALEDON, ON

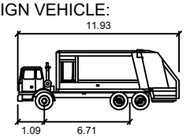
paradigm TRANSPORTATION SOLUTIONS LIMITED

PROJECT NO.: 230683	DATE: NOVEMBER 2023	SCALE: 1:750	DRAWING NO.: 01
DRAWN: LC	DESIGN: LC	CHECK: SC	

THIS AUTOTURN SWEPT PATH ANALYSIS HAS BEEN PREPARED USING BASE PLANS PROVIDED BY OTHERS. THE PRACTITIONER HAS NOT INSPECTED THE ACCURACY AND/OR THE COMPLETENESS OF THESE BASE PLANS AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

NO.	DATE	INITIAL	REVISION DETAIL

DESIGN VEHICLE:



RPeel Waste

	meters
Width	: 2.77
Track	: 2.77
Lock to Lock Time	: 6.0
Steering Angle	: 31.1

AUTOTURN ASSESSMENT
14 AGNES STREET
CALEDON, ON

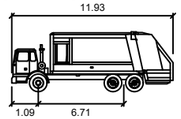
paradigm TRANSPORTATION SOLUTIONS LIMITED

PROJECT NO.: 230683	DATE: NOVEMBER 2023	SCALE: 1:750	DRAWING NO.: 02
DRAWN: LC	DESIGN: LC	CHECK: SC	

THIS AUTOTURN SWEPT PATH ANALYSIS HAS BEEN PREPARED USING BASE PLANS PROVIDED BY OTHERS. THE PRACTITIONER HAS NOT INSPECTED THE ACCURACY AND/OR THE COMPLETENESS OF THESE BASE PLANS AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

NO.	DATE	INITIAL	REVISION DETAIL

DESIGN VEHICLE:



RPeel Waste

	meters
Width	: 2.77
Track	: 2.77
Lock to Lock Time	: 6.0
Steering Angle	: 31.1

AUTOTURN ASSESSMENT
14 AGNES STREET
CALEDON, ON

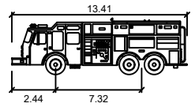
paradigm TRANSPORTATION SOLUTIONS LIMITED

PROJECT NO.: 230683	DATE: NOVEMBER 2023	SCALE: 1:750	DRAWING NO.: 03
DRAWN: LC	DESIGN: LC	CHECK: SC	

THIS AUTOTURN SWEPT PATH ANALYSIS HAS BEEN PREPARED USING BASE PLANS PROVIDED BY OTHERS. THE PRACTITIONER HAS NOT INSPECTED THE ACCURACY AND/OR THE COMPLETENESS OF THESE BASE PLANS AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

NO.	DATE	INITIAL	REVISION DETAIL

DESIGN VEHICLE:



Pumper Fire Truck

	meters
Width	: 2.59
Track	: 2.59
Lock to Lock Time	: 6.0
Steering Angle	: 37.8

AUTOTURN ASSESSMENT
14 AGNES STREET
CALEDON, ON

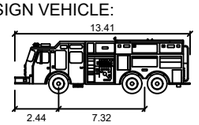
paradigm TRANSPORTATION SOLUTIONS LIMITED

PROJECT NO.: 230683	DATE: NOVEMBER 2023	SCALE: 1:750	DRAWING NO.: 04
DRAWN: LC	DESIGN: LC	CHECK: SC	

THIS AUTOTURN SWEPT PATH ANALYSIS HAS BEEN PREPARED USING BASE PLANS PROVIDED BY OTHERS. THE PRACTITIONER HAS NOT INSPECTED THE ACCURACY AND/OR THE COMPLETENESS OF THESE BASE PLANS AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

NO.	DATE	INITIAL	REVISION DETAIL

DESIGN VEHICLE:



Pumper Fire Truck

	meters
Width	: 2.59
Track	: 2.59
Lock to Lock Time	: 6.0
Steering Angle	: 37.8

AUTOTURN ASSESSMENT
14 AGNES STREET
CALEDON, ON

paradigm TRANSPORTATION SOLUTIONS LIMITED

PROJECT NO.: 230683	DATE: NOVEMBER 2023	SCALE: 1:750	DRAWING NO.:
DRAWN: LC	DESIGN: LC	CHECK: SC	05